BC hydro

Integrated Resource Plan

Appendix 3A-4

2013 Resource Options Report Update

Resource Options Database (RODAT) Summary Sheets

BC hydro

Table of Contents

Demand-Side Management

DSM Energy Option 1 1
DSM Energy Option 2 3
DSM Energy Option 3 5
DSM Energy Option 4 7
DSM Energy Option 5 9
DSM Capacity Option - Industrial Load Curtailment 11
DSM Capacity Option - Capacity-Focused Programs 13

Wood Based Biomass

WBBio_SP 15
WBBio_EPR 17
WBBio_PG 19
WBBio_WPR 21
WBBio_MAC 23
WBBio_KM 25
WBBio_VI 27
WBBio_LM 29
WBBio_WK 31
WBBio_EK 33
Biogas 35
Foothills Blvd 35
Cache Creek 37
Mission Flats 39
Bailey 41
Ecowaste 43
Minnie's Pit 45
Campbell Mtn 47
Glenmore 49
Greater Vernon 51
Alberni Valley 53
Campbell River 55
Comox Valley 57
Municipal Solid Waste (MSW) 59
MSW2_LM 59
MSW3_SE 61

MSW1_VI 63

Onshore Wind

Wind_BC15 65
Wind_NC10 67
Wind_NC11 69
Wind_PC22 71
Wind_PC23 73
Wind_PC24 75
Wind_PC25 77
Wind_PC45 79
Wind_SI37 81
Wind_SI38 83
Wind_BC17 85
Wind_SI01 87
Wind_SI02 89
Wind_SI03 91
Wind_SI04 93
Wind_SI05 95
Wind_SI06 97
Wind_SI08 99
Wind_SI09 101
Wind_SI10 103
Wind_SI15 105
Wind_SI16 107
Wind_SI18 109
Wind_SI19 111
Wind_SI20 113
Wind_SI22 115
Wind_SI23 117
Wind_SI26 119
Wind_SI28 121
Wind_SI29 123
Wind_SI30 125
Wind_SI31 127
Wind_SI27 129
Wind_BC07 131

Wind_BC08 133
Wind_BC09 135
Wind_BC19 137
Wind_BC20 139
Wind_BC21 141
Wind_BC22 143
Wind_BC23 145
Wind_BC24 147
Wind_BC25 149
Wind_NC01 151
Wind_NC02 153
Wind_NC05 155
Wind_NC06 157
Wind_NC07 159
Wind_NC08 161
Wind_NC09 163
Wind_NC12 165
Wind_BC10 167
Wind_BC11 169
Wind_BC12 171
Wind_BC13 173
Wind_BC18 175
Wind_BC26 177
Wind_PC01 179
Wind_PC02 181
Wind_PC03 183
Wind_PC04 185
Wind_PC05 187
Wind_PC06 189
Wind_PC07 191
Wind_PC08 193
Wind_PC09 195
Wind_PC10 197
Wind_PC11 199
Wind_PC12 201
Wind_PC13 203
Wind_PC14 205

Wind_PC15 207
Wind_PC16 209
Wind_PC17 211
Wind_PC18 213
Wind_PC19 215
Wind_PC20 217
Wind_PC21 219
Wind_PC26 221
Wind_PC27 223
Wind_PC28 225
Wind_PC29 227
Wind_PC32 229
Wind_PC34 231
Wind_PC36 233
Wind_PC37 235
Wind_PC38 237
Wind_PC40 239
Wind_PC41 241
Wind_PC42 243
Wind_PC43 245
Wind_PC44 247
Wind_PC47 249
Wind_PC48 251
Wind_SI11 253
Wind_SI12 255
Wind_SI13 257
Wind_SI14 259
Wind_SI32 261
Wind_VI02 263
Wind_VI04 265
Wind_VI05 267
Wind_VI06 269
Wind_VI07 271
Wind_VI08 273
Wind_VI10 275
Wind_VI11 277
Wind_VI12 279

Wind_VI13 281
Wind_VI14 283
Wind_VI15 285

Offshore Wind

Wind_OBC14-1 287
Wind_OBC3 289
Wind_OBC7-1 291
Wind_OBC8-1 293
Wind_OBC24-1 295
Wind_OBC25-1 297
Wind_OBC28 299
Wind_OBC29 301

Geothermal

Canoe Creek / Valemont 303
Harrison Hot Springs 305
Mt. Cayley 307
Mt. Garibaldi 309
Pebble Creek 311
South Meager Creek 313
Hoodoo Mountain 315
Lakelse Lake 317
Mt. Edziza 319
Hudson's Hope 321
Upper Arrow Lake 323
Kootenay Lake 325
Lower Arrow Lake 327
Okanagan Valley 329
Mt. Silverthrone 331

Run-of-River Hydro

ROR_160-170_CI 333
ROR_170-180_CI 335
ROR_180-190_CI 337
ROR_120-130_EK 339
ROR_130-150_EK 341
ROR_150-170_EK 343

ROR_170-190_EK 345
ROR_100-110_KN 347
ROR_110-130_KN 349
ROR_130-150_KN 351
ROR_150-170_KN 353
ROR_170-190_KN 355
ROR_190-210_KN 357
ROR_90-100_KN 359
ROR_100-110_LM 361
ROR_120-130_LM 363
ROR_130-140_LM 365
ROR_140-150_LM 367
ROR_150-160_LM 369
ROR_160-170_LM 371
ROR_170-180_LM 373
ROR_180-190_LM 375
ROR_190-210_LM 377
ROR_80-100_LM 379
ROR_120-130_MCA 381
ROR_140-160_MCA 383
ROR_160-180_MCA 385
ROR_180-200_MCA 387
ROR_110-120_BQL 389
ROR_110-120_NC 391
ROR_120-140_NC 393
ROR_140-160_BQL 395
ROR_140-160_NC 397
ROR_160-180_NC 399
ROR_170-190_BQL 401
ROR_180-200_NC 403
ROR_190-200_BQL 405
ROR_120-140_REV 407
ROR_140-150_REV 409
ROR_150-160_REV 411
ROR_160-180_REV 413
ROR_180-200_REV 415
ROR_120-130_SE 417

ROR_130-150_SE 419
ROR_150-170_SE 421
ROR_170-190_SE 423
ROR_190-210_SE 425
ROR_100-110_VI 427
ROR_110-120_VI 429
ROR_120-130_VI 431
ROR_130-140_VI 433
ROR_140-150_VI 435
ROR_160-170_VI 437
ROR_170-180_VI 439
ROR_180-200_VI 441

Pumped Storage

Haynon - Chochiwa 443
Blinch - Stave 445
Burwell - Seymour 447
Kenyon - Stave 449
Palisade - Seymour 451
Upper Deserted - Un-named 453
Upper Misery - Lower Misery 455
Upper Vancouver - Lower Vancouver 457
Pumped Storage at Mica Generating Station 459

Large Hydro

Site C Clean Energy Project 461

Resource Smart

GMS Units 1-5 Capacity Increase 463
Revelstoke Unit 6 465

Natural Gas

100 MW Simple Cycle Gas Turbine - KL 467
250 MW Combined Cycle Gas Turbine 469
50 MW Combined Cycle Gas Turbine 471
500 MW Combined Cycle Gas Turbine 473

Co-Generation

Small Co-generation projects 475

Coal

750 MW Integrated Gasification Combined Cycle 477

Transmission

TO-01 479
TO-02 481
TO-03 483
TO-04 485
TO-05 487
TO-06 489
TO-07 491
TO-08 493
TO-09 495
TO-10 497
TO-11 499
TO-12 501
TO-13 503
TO-14 505
TO-15 507
TO-16 509
TO-17 511
TO-18 513
TO-19 515
TO-20 517
TO-21 519

RESOURCE OPTIONS DATABASE

Project: DSM Energy Option 1

Resource Category: Demand-Side Management Region: Province Wide

Project Description

Option 1 represents a scaling back of the current DSM activities to generally meet 66% of the load growth over the 20-year planning period, based on the 2012 Load Forecast.

A set of codes and standards and conservation rate structures (similar to that in Energy Option 2) form the foundation for this option. These tools are then complemented by a mix of programs to support and facilitate customer energy saving actions. Program energy savings are reduced from Energy Option 2, particularly over the near and mid term, while maintaining customer coverage for equity and comprehensiveness.

Technical Information

Projected Capacity Savings by 2020 (MW)	1196
Projected Annual Energy Savings by 2020 (GWh)	6120

* The savings are with transmission and distribution losses for the energy options, and are at Customer Meter for the capacity options.

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	
Fixed Operating & Maintenance Cost ($1000s/year)	
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$32
Project Life (Years)	
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class						
	Remoteness - Linear Disturbance Density: ^{2}	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class						
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class						

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**						
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: DSM Energy Option 1

Resource Category: Demand-Side Management Region: Province Wide

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
$ (million)	$1,897	$745	$451

Employment	Direct	Indirect	Induced
Person-Years	31,755	11,028	5,345

Provincial Government Revenues	Direct	Indirect	Induced
$ (million)	$190.399	$98.992	$59.631

With regard to the economic development attributes, the BC Stats model split the DSM expenditures into many categories, including consumer spending, labour, imported equipment, and locally manufactured equipment. In comparison to the supply side options, the expenditures were not divided between capital and operations. As such the economic development outputs have been represented as one single number.

Data Confidence

Level of Study	Design
Resource Type Uncertainty	Medium
Cost Uncertainty	Medium

The resource acquisition activities are similar to Energy Option 2 which is in implementation. This option has been risk adjusted. Further experience is required to assess long-term deliverability risk.

RESOURCE OPTIONS DATABASE

Project: DSM Energy Option 2

Resource Category: Demand-Side Management Region: Province Wide

Project Description

Energy Option 2 is an update of BC Hydro's current DSM plan, that was included in the 2008 Long Term Acquisition Plan and the 2012 Draft IRP. This option includes a balanced offering of codes and standards, conservation rate structures, and programs. It reflects updates for new information such as the 2012 Load Forecast and current economic conditions and also reflects adjustments to program expenditures in the near-term to manage energy portfolio costs.

Technical Information

Projected Capacity Savings by 2020 (MW)	1421
Projected Annual Energy Savings by 2020 (GWh)	7606

* The savings are with transmission and distribution losses for the energy options, and are at Customer Meter for the capacity options.

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	
Fixed Operating & Maintenance Cost ($1000s/year)	
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$32
Project Life (Years)	
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class						
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class						
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class						

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**						
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: DSM Energy Option 2

Resource Category: Demand-Side Management Region: Province Wide

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
$ (million)	$2,036	$855	$494

Employment	Direct	Indirect	Induced
Person-Years	34,088	12,630	5,855

Provincial Government Revenues	Direct	Indirect	Induced
$ (million)	$204.382	$113.753	$65.329

With regard to the economic development attributes, the BC Stats model split the DSM expenditures into many categories, including consumer spending, labour, imported equipment, and locally manufactured equipment. In comparison to the supply side options, the expenditures were not divided between capital and operations. As such the economic development outputs have been represented as one single number.

Data Confidence

Level of Study	Implementation
Resource Type Uncertainty	Medium
Cost Uncertainty	Medium

This option is currently being implemented. This option has been risk-adjusted. Further experience is required to assess long-term deliverability risk.

RESOURCE OPTIONS DATABASE

Project: DSM Energy Option 3

Resource Category: Demand-Side Management Region: Province Wide

Project Description

Energy Option 3 has been updated for new load forecast and economic information and expands program activity based on a higher threshold for cost-effectiveness and provides additional energy savings. Codes and standards and rate structures are the same as Option 2.

Technical Information

Projected Capacity Savings by 2020 (MW)	1511
Projected Annual Energy Savings by 2020 (GWh)	8299

* The savings are with transmission and distribution losses for the energy options, and are at Customer Meter for the capacity options.

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	
Fixed Operating & Maintenance Cost ($1000s/year)	
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$35
Project Life (Years)	
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class						
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class						
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class						

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**						
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: DSM Energy Option 3

Resource Category: Demand-Side Management Region: Province Wide

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
$ (million)	$2,388	$969	$573

Employment	Direct	Indirect	Induced
Person-Years	39,979	14,270	6,785

Provincial Government Revenues	Direct	Indirect	Induced
$ (million)	$239.698	$129.139	$75.696

With regard to the economic development attributes, the BC Stats model split the DSM expenditures into many categories, including consumer spending, labour, imported equipment, and locally manufactured equipment. In comparison to the supply side options, the expenditures were not divided between capital and operations. As such the economic development outputs have been represented as one single number.

Data Confidence

Level of Study	Design
Resource Type Uncertainty	Medium
Cost Uncertainty	Medium

The resource acquisition activities are similar to Energy Option 2 which is in implementation. This option has been risk adjusted. Further experience is required to assess long-term deliverability risk.

RESOURCE OPTIONS DATABASE

Project: DSM Energy Option 4

Resource Category: Demand-Side Management Region: Province Wide

Project Description

Energy Option 4 goes beyond Energy Option 3 by expanding the codes and standards and conservation rate structure tools and adding initial steps to facilitate the achievement of the societal transformation reflected in Energy Option 5. Some program curtailment relative to Energy Option 3 occurs as an element in the transition to Energy Option 4.

This option represents a bridge to Energy Option 5 by undertaking activities and pilot initiatives that facilitate the market and social transformations represented by that option.

Technical Information

Projected Capacity Savings by 2020 (MW)	1491
Projected Annual Energy Savings by 2020 (GWh)	9446

* The savings are with transmission and distribution losses for the energy options, and are at Customer Meter for the capacity options.

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	
Fixed Operating & Maintenance Cost ($1000s/year)	
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$47
Project Life (Years)	
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class						
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class						
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class						

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**						
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: DSM Energy Option 4

Resource Category: Demand-Side Management Region: Province Wide

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
$ (million)	$3,978	$1,729	$965

Employment	Direct	Indirect	Induced
Person-Years	66,581	25,503	11,432

Provincial Government Revenues	Direct	Indirect	Induced
$ (million)	$399.181	$230.257	$127.550

With regard to the economic development attributes, the BC Stats model split the DSM expenditures into many categories, including consumer spending, labour, imported equipment, and locally manufactured equipment. In comparison to the supply side options, the expenditures were not divided between capital and operations. As such the economic development outputs have been represented as one single number.

Data Confidence

Level of Study	Design
Resource Type Uncertainty	High
Cost Uncertainty	Medium-High

This option employs more untested and therefore uncertain tactics relative to Energy Option 3.

RESOURCE OPTIONS DATABASE

Project: DSM Energy Option 5

Resource Category: Demand-Side Management Region: Province Wide

Project Description

Energy Option 5 reflects an aggressive effort to change market parameters and societal norms and patterns to save electricity. It contains aggressive codes and standards and conservation rate structures, with programs positioned as enablers or even disappearing over time.

Technical Information

Projected Capacity Savings by 2020 (MW)	1585
Projected Annual Energy Savings by 2020 (GWh)	9610

* The savings are with transmission and distribution losses for the energy options, and are at Customer Meter for the capacity options.

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	
Fixed Operating & Maintenance Cost ($1000s/year)	
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$49
Project Life (Years)	
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class						
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class						
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class						

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**						
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: DSM Energy Option 5

Resource Category: Demand-Side Management Region: Province Wide

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
$ (million)	$4,576	$1,876	$1,085

Employment	Direct	Indirect	Induced
Person-Years	76,605	27,501	12,849

Provincial Government Revenues	Direct	Indirect	Induced
$ (million)	$459.267	$250.394	$143.356

With regard to the economic development attributes, the BC Stats model split the DSM expenditures into many categories, including consumer spending, labour, imported equipment, and locally manufactured equipment. In comparison to the supply side options, the expenditures were not divided between capital and operations. As such the economic development outputs have been represented as one single number.

Data Confidence

Level of Study	Concept
Resource Type Uncertainty	High
Cost Uncertainty	High

The strategies and concepts behind this option diverge substantially from Energy Option 3.

RESOURCE OPTIONS DATABASE

Project: DSM Capacity Option - Industrial Load Curtailment

Resource Category: Demand-Side Management Region: Province Wide

Project Description

Industrial load curtailment targets large customers who agree to curtail load on short notice in return for financial payment.

BC Hydro has implemented load curtailment as an operational contingency for several years.

Technical Information

Projected Capacity Savings by 2020 (MW)	383
Projected Annual Energy Savings by 2020 (GWh)	

* The savings are with transmission and distribution losses for the energy options, and are at Customer Meter for the capacity options.

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	
Fixed Operating & Maintenance Cost ($1000s/year)	
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	
Variable Taxes ($1000s)	
Unit Capacity Cost at Point of Interconnection ($/kW-yr)	$31
Project Life (Years)	
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class						
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class						
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class						

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**						
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: DSM Capacity Option - Industrial Load Curtailment

Resource Category: Demand-Side Management Region: Province Wide

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
$ (million)			

Employment	Direct	Indirect	Induced
Person-Years			

Provincial Government Revenues	Direct	Indirect	Induced
$ (million)			

The calculation of the economic development attributes for the three capacity focused options was not completed as these options were not considered in portfolio decisions. If capacity focused DSM options are considered in future portfolio outputs, the economic development attributes will be calculated and provided.

Data Confidence

Level of Study	Feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	Medium

Industrial Load Curtailment has been undertaken in the past as an operational resource, but has yet to be considered as a firm resource for long term resource planning.

RESOURCE OPTIONS DATABASE

Project: DSM Capacity Option - Capacity-Focused Programs

Resource Category: Demand-Side Management Region: Province Wide

Project Description

Capacity Option 3 contains programs that leverage equipment and load management systems to enable peak load reductions to occur (automatically or with intervention by the utility).

Programs have been targeted at capacity savings in all three customer sectors (residential, commercial, and industrial). They are designed to provide savings that can be dispatched under utility control.

Technical Information

Projected Capacity Savings by 2020 (MW)	191
Projected Annual Energy Savings by 2020 (GWh)	

* The savings are with transmission and distribution losses for the energy options, and are at Customer Meter for the capacity options.

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	
Fixed Operating & Maintenance Cost ($1000s/year)	
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	
Variable Taxes ($1000s)	
Unit Capacity Cost at Point of Interconnection ($/kW-yr)	$55
Project Life (Years)	
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class						
	Remoteness - Linear Disturbance Density: ^{2}	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class						
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class						

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**						
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: DSM Capacity Option - Capacity-Focused Programs

Resource Category: Demand-Side Management Region: Province Wide

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
$ (million)			

Employment	Direct	Indirect	Induced
Person-Years			

Provincial Government Revenues	Direct	Indirect	Induced
$ (million)			

The calculation of the economic development attributes for the three capacity focused options was not completed as these options were not considered in portfolio decisions. If capacity focused DSM options are considered in future portfolio outputs, the economic development attributes will be calculated and provided.

Data Confidence

Level of Study	Feasibility
Resource Type Uncertainty	High
Cost Uncertainty	High

Capacity-focused programs have not generally been undertaken in low-cost hydro-electric based jurisdictions, so experience will need to be gained.

RESOURCE OPTIONS DATABASE

Project: WBBio_SP

Resource Category: Wood Based Biomass Region: Peace River

Project Description

Wood based biomass potential considering woodwaste, roadside debris and pulp log potential. Total potential in South Peace estimated at 56 MW (446 GWh) but plant size in the range of 35 MW is more typical.

Technical Information

Installed Capacity (MW)	56
Average Annual Energy (GWh/year)	446
Dependable Capacity (MW)	56
Annual Firm Energy (GWh/year)	446

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$265,454
Fixed Operating & Maintenance Cost ($1000s/year)	$9,290.9
Variable Operating & Maintenance Cost ($/MWh)	$43.2
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$132
Project Life (Years)	15
Project Lead Time (Years)	0

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		2.1	7.9			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	3.6	0.8	2.3	3.3		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.1	0.2	2.5	0.0	7.2	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	10.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: WBBio_SP

Resource Category: Wood Based Biomass Region: Peace River

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.039	0.360	0.540	0.026	
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh		0.180	0.360		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$92	$58	$30
Operation $/Year (million)	$11	$10	$3

Employment	Direct	Indirect	Induced
Construction Person-Years	1,128	727	361
Operation FTEs (Full-Time Equivalents)	101	132	40

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$15.270	$8.890	$4.025
Operation $/Year (million)	$1.220	$1.846	$0.449

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Medium
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: WBBio_EPR

Resource Category: Wood Based Biomass Region: North Coast

Project Description

Wood based biomass potential considering woodwaste, roadside debris and pulp log potential.

Technical Information

Installed Capacity (MW)	12.3
Average Annual Energy (GWh/year)	98.2
Dependable Capacity (MW)	12.3
Annual Firm Energy (GWh/year)	98.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$58,422
Fixed Operating & Maintenance Cost ($1000s/year)	$2,044.8
Variable Operating & Maintenance Cost ($/MWh)	$34.3
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$123
Project Life (Years)	15
Project Lead Time (Years)	0

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		6.4	3.6			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	2.4	0.8	3.8	3.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.1	0.0	9.8	0.1		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.0	10.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: WBBio_EPR

Resource Category: Wood Based Biomass Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.039	0.360	0.540	0.026	
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh		0.180	0.360		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$20	$13	$7
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	248	160	79
Operation FTEs (Full-Time Equivalents)	22	21	8

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.361	$1.956	$0.886
Operation $/Year (million)	$0.262	$0.292	$0.088

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Medium
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: WBBio_PG

Resource Category: Wood Based Biomass Region: North Coast

Project Description

Wood based biomass potential considering woodwaste, roadside debris and pulp log potential.

Technical Information

Installed Capacity (MW)	13.3
Average Annual Energy (GWh/year)	105.8
Dependable Capacity (MW)	13.3
Annual Firm Energy (GWh/year)	105.8

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$62,968
Fixed Operating & Maintenance Cost ($1000s/year)	$2,203.9
Variable Operating & Maintenance Cost ($/MWh)	$48.2
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$137
Project Life (Years)	15
Project Lead Time (Years)	0

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	3.1	4.8	2.2			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	2.3	0.5	2.7	4.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		8.1	1.9			

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.0	10.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: WBBio_PG

Resource Category: Wood Based Biomass Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.039	0.360	0.540	0.026	
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh		0.180	0.360		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$22	$14	$7
Operation $/Year (million)	$3	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	268	173	86
Operation FTEs (Full-Time Equivalents)	28	31	10

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.622	$2.109	$0.955
Operation $/Year (million)	$0.335	$0.422	$0.117

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Medium
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: WBBio_WPR

Resource Category: Wood Based Biomass Region: North Coast

Project Description

Wood based biomass potential considering woodwaste, roadside debris and pulp log potential.

Technical Information

Installed Capacity (MW)	12.2
Average Annual Energy (GWh/year)	97.1
Dependable Capacity (MW)	12.2
Annual Firm Energy (GWh/year)	97.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$57,765
Fixed Operating & Maintenance Cost ($1000s/year)	$2,021.8
Variable Operating & Maintenance Cost ($/MWh)	$33.7
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$122
Project Life (Years)	15
Project Lead Time (Years)	0

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		10.0				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	4.5	0.6	1.9	3.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	1.0	0.0	8.5			

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	9.5	0.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: WBBio_WPR

Resource Category: Wood Based Biomass Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.039	0.360	0.540	0.026	
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh		0.180	0.360		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$20	$13	$7
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	246	158	79
Operation FTEs (Full-Time Equivalents)	21	22	8

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.323	$1.934	$0.876
Operation $/Year (million)	$0.258	$0.308	$0.088

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Medium
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: WBBio_MAC

Resource Category: Wood Based Biomass Region: Central Interior

Project Description

Wood based biomass potential considering woodwaste, roadside debris and pulp log potential.

Technical Information

Installed Capacity (MW)	40.8
Average Annual Energy (GWh/year)	324.9
Dependable Capacity (MW)	40.8
Annual Firm Energy (GWh/year)	324.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$193,381
Fixed Operating & Maintenance Cost ($1000s/year)	$6,768.4
Variable Operating & Maintenance Cost ($/MWh)	$48.2
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$137
Project Life (Years)	15
Project Lead Time (Years)	0

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		9.2	0.8			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	2.2	1.0	3.8	3.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class			0.0	0.0	10.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	2.3	7.7		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: WBBio_MAC

Resource Category: Wood Based Biomass Region: Central Interior

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.039	0.360	0.540	0.026	
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh		0.180	0.360		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$67	$42	$22
Operation $/Year (million)	$10	$7	$3

Employment	Direct	Indirect	Induced
Construction Person-Years	822	530	263
Operation FTEs (Full-Time Equivalents)	90	89	33

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$11.124	$6.476	$2.932
Operation $/Year (million)	$1.085	$1.212	$0.366

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Medium
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: WBBio_KM

Resource Category: Wood Based Biomass Region: Kelly Nicola

Project Description

Wood based biomass potential considering woodwaste, roadside debris and pulp log potential. Total potential in Kamloop estimated at 60 MW (476 GWh) but plant size in the range of 35 MW is more typical.

Technical Information

Installed Capacity (MW)	60
Average Annual Energy (GWh/year)	476.5
Dependable Capacity (MW)	60
Annual Firm Energy (GWh/year)	476.5

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$283,564
Fixed Operating & Maintenance Cost ($1000s/year)	$9,924.8
Variable Operating & Maintenance Cost ($/MWh)	$52.6
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$141
Project Life (Years)	15
Project Lead Time (Years)	0

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	1.4	8.6				
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	1.2	0.6	3.2	5.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					10.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	10.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: WBBio_KM

Resource Category: Wood Based Biomass Region: Kelly Nicola

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.039	0.360	0.540	0.026	
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh		0.180	0.360		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$98	$62	$33
Operation $/Year (million)	$14	$11	$4

Employment	Direct	Indirect	Induced
Construction Person-Years	1,205	777	385
Operation FTEs (Full-Time Equivalents)	131	148	50

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$16.312	$9.496	$4.299
Operation $/Year (million)	$1.585	$2.043	$0.557

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Medium
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: WBBio_VI

Resource Category: Wood Based Biomass Region: Vancouver Island

Project Description

Wood based biomass potential considering woodwaste, roadside debris and pulp log potential. Total potential on Vancouver Island estimated at 89 MW (707 GWh) but plant size in the range of 35 MW is more typical.

Technical Information

Installed Capacity (MW)	88.7
Average Annual Energy (GWh/year)	707.1
Dependable Capacity (MW)	88.7
Annual Firm Energy (GWh/year)	707.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$420,838
Fixed Operating & Maintenance Cost ($1000s/year)	$14,729.3
Variable Operating & Maintenance Cost ($/MWh)	$43.6
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$132
Project Life (Years)	15
Project Lead Time (Years)	0

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	5.3	0.2	4.5			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	3.5	0.3	1.6	4.7		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					6.1	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	6.1	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: WBBio_VI

Resource Category: Wood Based Biomass Region: Vancouver Island

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.039	0.360	0.540	0.026	
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh		0.180	0.360		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$145	$92	$48
Operation $/Year (million)	$19	$15	$6

Employment	Direct	Indirect	Induced
Construction Person-Years	1,789	1,153	572
Operation FTEs (Full-Time Equivalents)	179	190	66

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$24.209	$14.093	$6.381
Operation $/Year (million)	$2.154	$2.576	$0.742

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Medium
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: WBBio_LM

Resource Category: Wood Based Biomass Region: Lower Mainland

Project Description

Wood based biomass potential considering woodwaste, roadside debris and pulp log potential. Total potential in Lower Mainland estimated at 89 MW (707 GWh) but plant size in the range of 35 MW is more typical.

Technical Information

Installed Capacity (MW)	88.7
Average Annual Energy (GWh/year)	707.1
Dependable Capacity (MW)	88.7
Annual Firm Energy (GWh/year)	707.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$420,838
Fixed Operating & Maintenance Cost ($1000s/year)	$14,729.3
Variable Operating & Maintenance Cost ($/MWh)	$44.3
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$133
Project Life (Years)	15
Project Lead Time (Years)	0

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	1.4	7.3	1.3			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	0.3	0.2	2.5	7.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					9.7	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	9.8	0.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: WBBio_LM

Resource Category: Wood Based Biomass Region: Lower Mainland

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.039	0.360	0.540	0.026	
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh		0.180	0.360		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$145	$92	$48
Operation $/Year (million)	$18	$15	$6

Employment	Direct	Indirect	Induced
Construction Person-Years	1,789	1,153	572
Operation FTEs (Full-Time Equivalents)	170	203	66

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$24.209	$14.093	$6.381
Operation $/Year (million)	$2.050	$2.793	$0.735

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Medium
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: WBBio_WK

Resource Category: Wood Based Biomass Region: Selkirk

Project Description

Wood based biomass potential considering woodwaste, roadside debris and pulp log potential. Total potential in West Kootenay estimated at 66 MW (530 GWh) but plant size in the range of 35 MW is more typical.

Technical Information

Installed Capacity (MW)	66.5
Average Annual Energy (GWh/year)	529.9
Dependable Capacity (MW)	66.5
Annual Firm Energy (GWh/year)	529.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$315,365
Fixed Operating & Maintenance Cost ($1000s/year)	$11,037.8
Variable Operating & Maintenance Cost ($/MWh)	$42.6
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$131
Project Life (Years)	15
Project Lead Time (Years)	0

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		2.2	7.8			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	2.3	0.8	2.7	4.3		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		0.1	0.4	0.0	9.5	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	10.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: WBBio_WK

Resource Category: Wood Based Biomass Region: Selkirk

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.039	0.360	0.540	0.026	
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh		0.180	0.360		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$109	$69	$36
Operation $/Year (million)	$13	$12	$4

Employment	Direct	Indirect	Induced
Construction Person-Years	1,340	864	429
Operation FTEs (Full-Time Equivalents)	119	158	48

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$18.141	$10.561	$4.782
Operation $/Year (million)	$1.436	$2.228	$0.531

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Medium
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: WBBio_EK

Resource Category: Wood Based Biomass Region: East Kootenay

Project Description

Wood based biomass potential considering woodwaste, roadside debris and pulp log potential.

Technical Information

Installed Capacity (MW)	28.2
Average Annual Energy (GWh/year)	224.9
Dependable Capacity (MW)	28.2
Annual Firm Energy (GWh/year)	224.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$133,846
Fixed Operating & Maintenance Cost ($1000s/year)	$4,684.6
Variable Operating & Maintenance Cost ($/MWh)	$50.4
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$139
Project Life (Years)	15
Project Lead Time (Years)	0

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		10.0				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	2.4	0.8	3.2	3.6		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class			0.1	1.2	8.8	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	10.0	0.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: WBBio_EK

Resource Category: Wood Based Biomass Region: East Kootenay

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.039	0.360	0.540	0.026	
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh		0.180	0.360		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$46	$29	$15
Operation $/Year (million)	$7	$5	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	569	367	182
Operation FTEs (Full-Time Equivalents)	62	66	23

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$7.700	$4.482	$2.029
Operation $/Year (million)	$0.749	$0.902	$0.258

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Medium
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Foothills Blvd

Resource Category: Biogas Region: Central Interior

Project Description

Biogas - Landfill Site with Existing capture system.

Technical Information

Installed Capacity (MW)	2.1
Average Annual Energy (GWh/year)	16.7
Dependable Capacity (MW)	2
Annual Firm Energy (GWh/year)	16.7

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$5,483
Fixed Operating & Maintenance Cost ($1000s/year)	$658.2
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$70
Project Life (Years)	20
Project Lead Time (Years)	1

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class			80.0			
	Remoteness - Linear Disturbance Density^2:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class				80.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class				80.0		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.0	80.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Foothills Blvd

Resource Category: Biogas Region: Central Interior

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.108	1.670	4.460	4.860	
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh			0.015		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$2	$2	$1
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	24	21	9
Operation FTEs (Full-Time Equivalents)	2	1	1

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.277	$0.235	$0.104
Operation $/Year (million)	$0.025	$0.011	$0.007

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Cache Creek

Resource Category: Biogas Region: Kelly Nicola

Project Description

Biogas - Landfill Site with Existing capture system.

Technical Information

Installed Capacity (MW)	3.5
Average Annual Energy (GWh/year)	27.4
Dependable Capacity (MW)	3.3
Annual Firm Energy (GWh/year)	27.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$9,216
Fixed Operating & Maintenance Cost ($1000s/year)	$1,116.6
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$73
Project Life (Years)	20
Project Lead Time (Years)	1

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		36.0				
	Remoteness - Linear Disturbance Density^2:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class			4.1	31.9		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					36.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	36.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Cache Creek

Resource Category: Biogas Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.108	1.670	4.460	4.860	
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh			0.015		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$3	$3	$1
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	40	36	15
Operation FTEs (Full-Time Equivalents)	3	2	1

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.455	$0.396	$0.172
Operation $/Year (million)	$0.043	$0.018	$0.012

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Mission Flats

Resource Category: Biogas Region: Kelly Nicola

Project Description

Biogas - Landfill Site with No existing capture system.

Technical Information

Installed Capacity (MW)	0.7
Average Annual Energy (GWh/year)	5.7
Dependable Capacity (MW)	0.7
Annual Firm Energy (GWh/year)	5.7

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$2,848
Fixed Operating & Maintenance Cost ($1000s/year)	$332.5
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$106
Project Life (Years)	20
Project Lead Time (Years)	1

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		32.0				
	Remoteness - Linear Disturbance Density^2:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class			3.5	28.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					32.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	32.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Mission Flats

Resource Category: Biogas Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.108	1.670	4.460	4.860	
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh			0.015		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$1	$1	$0
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	11	11	5
Operation FTEs (Full-Time Equivalents)	1	1	0

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.128	$0.124	$0.051
Operation $/Year (million)	$0.013	$0.006	$0.004

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Bailey

Resource Category: Biogas Region: Lower Mainland

Project Description

Biogas - Landfill Site with No existing capture system.

Technical Information

Installed Capacity (MW)	1.5
Average Annual Energy (GWh/year)	11.8
Dependable Capacity (MW)	1.4
Annual Firm Energy (GWh/year)	11.8

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$3,343
Fixed Operating & Maintenance Cost ($1000s/year)	$376.3
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$59
Project Life (Years)	20
Project Lead Time (Years)	1

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	31.5	3.5				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class			16.3	18.7		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					35.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	35.0	0.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Bailey

Resource Category: Biogas Region: Lower Mainland

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.108	1.670	4.460	4.860	
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh			0.015		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$1	$1	$1
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	17	13	6
Operation FTEs (Full-Time Equivalents)	1	1	0

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.195	$0.141	$0.069
Operation $/Year (million)	$0.014	$0.006	$0.004

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Ecowaste

Resource Category: Biogas Region: Lower Mainland

Project Description

Biogas - Landfill Site with Existing capture system.

Technical Information

Installed Capacity (MW)	1.6
Average Annual Energy (GWh/year)	13
Dependable Capacity (MW)	1.6
Annual Firm Energy (GWh/year)	13

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$5,542
Fixed Operating & Maintenance Cost ($1000s/year)	$726.1
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$96
Project Life (Years)	20
Project Lead Time (Years)	1

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	56.4	60.6				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class		6.1	26.5	84.4		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					117.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	117.0	0.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Ecowaste

Resource Category: Biogas Region: Lower Mainland

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.108	1.670	4.460	4.860	
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh			0.015		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$2	$2	$1
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	19	22	8
Operation FTEs (Full-Time Equivalents)	2	1	1

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.216	$0.243	$0.092
Operation $/Year (million)	$0.028	$0.013	$0.008

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Minnie's Pit

Resource Category: Biogas Region: Lower Mainland

Project Description

Biogas - Landfill Site with No existing capture system.

Technical Information

Installed Capacity (MW)	0.9
Average Annual Energy (GWh/year)	7.1
Dependable Capacity (MW)	0.9
Annual Firm Energy (GWh/year)	7.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$2,593
Fixed Operating & Maintenance Cost ($1000s/year)	$253.8
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$70
Project Life (Years)	20
Project Lead Time (Years)	1

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	0.8	7.6	5.7			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class			0.0	14.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					14.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	14.0	0.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Minnie's Pit

Resource Category: Biogas Region: Lower Mainland

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.108	1.670	4.460	4.860	
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh			0.015		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$1	$1	$0
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	14	10	5
Operation FTEs (Full-Time Equivalents)	1	0	0

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.159	$0.109	$0.055
Operation $/Year (million)	$0.010	$0.004	$0.003

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Campbell Mtn

Resource Category: Biogas Region: Selkirk

Project Description

Biogas - Landfill Site with No existing capture system.

Technical Information

Installed Capacity (MW)	0.9
Average Annual Energy (GWh/year)	7.2
Dependable Capacity (MW)	0.9
Annual Firm Energy (GWh/year)	7.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$3,319
Fixed Operating & Maintenance Cost ($1000s/year)	$372.3
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$95
Project Life (Years)	20
Project Lead Time (Years)	1

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		14.0				
	Remoteness - Linear Disturbance Density^2:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class			2.2	11.8		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class				0.1	13.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	14.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Campbell Mtn

Resource Category: Biogas Region: Selkirk

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.108	1.670	4.460	4.860	
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh			0.015		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$1	$1	$0
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	14	13	6
Operation FTEs (Full-Time Equivalents)	1	1	0

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.162	$0.143	$0.062
Operation $/Year (million)	$0.014	$0.006	$0.004

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Glenmore

Resource Category: Biogas Region: Selkirk

Project Description

Biogas - Landfill Site with Existing capture system.

Technical Information

Installed Capacity (MW)	2.3
Average Annual Energy (GWh/year)	18.3
Dependable Capacity (MW)	2.2
Annual Firm Energy (GWh/year)	18.3

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$6,155
Fixed Operating & Maintenance Cost ($1000s/year)	$745.7
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$73
Project Life (Years)	20
Project Lead Time (Years)	1

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	9.9	132.1				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class		1.4	7.5	133.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					142.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	142.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Glenmore

Resource Category: Biogas Region: Selkirk

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.108	1.670	4.460	4.860	
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh			0.015		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$2	$2	$1
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	27	24	10
Operation FTEs (Full-Time Equivalents)	2	1	1

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.304	$0.265	$0.115
Operation $/Year (million)	$0.029	$0.012	$0.008

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Greater Vernon

Resource Category: Biogas Region: Selkirk

Project Description

Biogas - Landfill Site with No existing capture system.

Technical Information

Installed Capacity (MW)	0.9
Average Annual Energy (GWh/year)	7.4
Dependable Capacity (MW)	0.9
Annual Firm Energy (GWh/year)	7.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$3,653
Fixed Operating & Maintenance Cost ($1000s/year)	$316.5
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$10
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$91
Project Life (Years)	20
Project Lead Time (Years)	1

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class			14.0			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	6.2	4.7	2.9	0.3		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					14.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	14.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Greater Vernon

Resource Category: Biogas Region: Selkirk

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.108	1.670	4.460	4.860	
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh			0.015		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$1	$1	$1
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	17	14	6
Operation FTEs (Full-Time Equivalents)	1	0	0

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.191	$0.150	$0.069
Operation $/Year (million)	$0.022	$0.005	$0.003

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Alberni Valley

Resource Category: Biogas Region: Vancouver Island

Project Description

Biogas - Landfill Site with No existing capture system.

Technical Information

Installed Capacity (MW)	0.8
Average Annual Energy (GWh/year)	6.6
Dependable Capacity (MW)	0.8
Annual Firm Energy (GWh/year)	6.6

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$2,526
Fixed Operating & Maintenance Cost ($1000s/year)	$256.2
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$75
Project Life (Years)	20
Project Lead Time (Years)	1

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		15.0				
	Remoteness - Linear Disturbance Density^2:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	15.0					
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class				3.0	12.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	15.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Alberni Valley

Resource Category: Biogas Region: Vancouver Island

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.108	1.670	4.460	4.860	
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh			0.015		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$1	$1	$0
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	13	10	5
Operation FTEs (Full-Time Equivalents)	1	0	0

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.147	$0.107	$0.052
Operation $/Year (million)	$0.010	$0.004	$0.003

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Campbell River

Resource Category: Biogas Region: Vancouver Island

Project Description

Biogas - Landfill Site with No existing capture system.

Technical Information

Installed Capacity (MW)	0.5
Average Annual Energy (GWh/year)	4.3
Dependable Capacity (MW)	0.5
Annual Firm Energy (GWh/year)	4.3

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$3,783
Fixed Operating & Maintenance Cost ($1000s/year)	$304.6
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$154
Project Life (Years)	20
Project Lead Time (Years)	1

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class			7.0			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	1.3	0.6	0.1	5.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					7.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	7.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Campbell River

Resource Category: Biogas Region: Vancouver Island

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.108	1.670	4.460	4.860	
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh			0.015		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$2	$1	$1
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	20	15	7
Operation FTEs (Full-Time Equivalents)	1	0	0

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.230	$0.159	$0.080
Operation $/Year (million)	$0.012	$0.005	$0.003

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Comox Valley

Resource Category: Biogas Region: Vancouver Island

Project Description

Biogas - Landfill Site with No existing capture system.

Technical Information

Installed Capacity (MW)	1
Average Annual Energy (GWh/year)	8.2
Dependable Capacity (MW)	1
Annual Firm Energy (GWh/year)	8.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$2,532
Fixed Operating & Maintenance Cost ($1000s/year)	$328.3
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$69
Project Life (Years)	20
Project Lead Time (Years)	1

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class			10.0			
	Remoteness - Linear Disturbance Density^2:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	1.7	0.9	0.1	7.3		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					10.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	10.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Comox Valley

Resource Category: Biogas Region: Vancouver Island

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.108	1.670	4.460	4.860	
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh			0.015		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$1	$1	$0
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	12	10	4
Operation FTEs (Full-Time Equivalents)	1	0	0

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.136	$0.108	$0.050
Operation $/Year (million)	$0.012	$0.005	$0.003

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: MSW2_LM

Resource Category: MSW Region: Lower Mainland

Project Description

Mass Burn Incineration (conventional combustion), with pre-processing of waste to remove oversized, non-combustible, hazardous or explosive materials.

Technical Information

Installed Capacity (MW)	25.3
Average Annual Energy (GWh/year)	210.9
Dependable Capacity (MW)	24.6
Annual Firm Energy (GWh/year)	210.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$382,512
Fixed Operating & Maintenance Cost ($1000s/year)	$24,790.7
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$85
Project Life (Years)	25
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	1.2	1.7	1.1			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	1.0	0.2	0.7	2.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					3.2	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	3.2	0.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: MSW2_LM

Resource Category: MSW Region: Lower Mainland

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	694.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.240	0.970	0.160	0.012	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh			0.024		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$62	$107	$33
Operation $/Year (million)	$5	$10	$3

Employment	Direct	Indirect	Induced
Construction Person-Years	766	1,358	387
Operation FTEs (Full-Time Equivalents)	48	152	32

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$8.890	$14.871	$4.316
Operation $/Year (million)	$1.106	$1.373	$0.359

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: MSW3_SE

Resource Category: MSW Region: Selkirk

Project Description

Mass Burn Incineration (conventional combustion), with pre-processing of waste to remove oversized, non-combustible, hazardous or explosive materials.

Technical Information

Installed Capacity (MW)	13.5
Average Annual Energy (GWh/year)	112.4
Dependable Capacity (MW)	13.1
Annual Firm Energy (GWh/year)	112.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$226,578
Fixed Operating & Maintenance Cost ($1000s/year)	$15,411.9
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$184
Project Life (Years)	25
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	1.1	1.9	1.0			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	0.4	0.1	0.6	2.9		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class				0.0	4.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	4.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: MSW3_SE

Resource Category: MSW Region: Selkirk

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	694.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.240	0.970	0.160	0.012	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh			0.024		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$37	$63	$19
Operation $/Year (million)	$3	$6	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	454	804	229
Operation FTEs (Full-Time Equivalents)	30	94	20

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$5.266	$8.809	$2.557
Operation $/Year (million)	$0.688	$0.853	$0.223

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: MSW1_VI

Resource Category: MSW Region: Vancouver Island

Project Description

Mass Burn Incineration (conventional combustion), with pre-processing of waste to remove oversized, non-combustible, hazardous or explosive materials.

Technical Information

Installed Capacity (MW)	12.2
Average Annual Energy (GWh/year)	101.4
Dependable Capacity (MW)	11.8
Annual Firm Energy (GWh/year)	101.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$207,291
Fixed Operating & Maintenance Cost ($1000s/year)	$14,905.2
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$117
Project Life (Years)	25
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	0.6	1.5	1.9			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	2.2	0.3	0.9	0.6		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.0	0.7	0.0	2.4	0.5	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	3.6	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: MSW1_VI

Resource Category: MSW Region: Vancouver Island

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	694.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.240	0.970	0.160	0.012	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh			0.024		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$34	$58	$18
Operation $/Year (million)	$3	$6	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	415	736	210
Operation FTEs (Full-Time Equivalents)	29	91	19

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$4.817	$8.059	$2.339
Operation $/Year (million)	$0.665	$0.825	$0.216

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Wind_BC15

Resource Category: Onshore Wind Region: Central Interior

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	232.3
Average Annual Energy (GWh/year)	622.9
Effective Load Carrying Capability (MW)	60.4
Annual Firm Energy (GWh/year)	622.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$930,892
Fixed Operating & Maintenance Cost ($1000s/year)	$11,653.1
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$3,760
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$176
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	20.9	1,959.0	162.2			
	Remoteness - Linear Disturbance Density^2:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	980.8	219.2	615.6	326.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	7.4	140.9	468.3	394.5	1,130.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		46.8	2,071.9	23.5		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	18.2	3.4	6.5	12.2	3.9	1.0
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_BC15

Resource Category: Onshore Wind Region: Central Interior

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$81	$227	$55
Operation $/Year (million)	$4	$3	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	1,003	2,792	646
Operation FTEs (Full-Time Equivalents)	37	37	18

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$12.506	$32.182	$7.209
Operation $/Year (million)	$5.585	$0.488	$0.198

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_NC10

Resource Category: Onshore Wind Region: Central Interior

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	96.6
Average Annual Energy (GWh/year)	279.8
Effective Load Carrying Capability (MW)	25.1
Annual Firm Energy (GWh/year)	279.8

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$298,316
Fixed Operating & Maintenance Cost ($1000s/year)	$4,309.4
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$215
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$122
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		83.0	59.6			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	12.4	7.1	49.2	74.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		43.8		98.8		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.0	142.6		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.0	0.7				
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_NC10

Resource Category: Onshore Wind Region: Central Interior

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$12	$69	$13
Operation $/Year (million)	$1	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	149	841	159
Operation FTEs (Full-Time Equivalents)	12	13	6

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$1.836	$9.839	$1.774
Operation $/Year (million)	$1.046	$0.188	$0.067

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_NC11

Resource Category: Onshore Wind Region: Central Interior

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	75.9
Average Annual Energy (GWh/year)	195.1
Effective Load Carrying Capability (MW)	19.7
Annual Firm Energy (GWh/year)	195.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$240,921
Fixed Operating & Maintenance Cost ($1000s/year)	$3,072.3
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$252
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$139
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		27.1	125.4			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	28.9	7.9	39.6	76.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		37.6		114.9		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.0	152.5		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.9	0.7	1.1			
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_NC11

Resource Category: Onshore Wind Region: Central Interior

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$11	$56	$11
Operation $/Year (million)	$1	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	136	683	133
Operation FTEs (Full-Time Equivalents)	9	9	4

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$1.689	$7.977	$1.479
Operation $/Year (million)	$0.734	$0.133	$0.048

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC22

Resource Category: Onshore Wind Region: Central Interior

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	207
Average Annual Energy (GWh/year)	442.3
Effective Load Carrying Capability (MW)	53.8
Annual Firm Energy (GWh/year)	442.3

Financial Information (in Fiscal $ 2011)

Direct Capital Cost ($1000s)*	$684,792
Fixed Operating & Maintenance Cost ($1000s/year)	$7,345.6
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$1,205
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$172
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	56.2	626.4	41.4			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	216.8	59.9	270.6	176.7		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	48.3	675.7				

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	724.0	0.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	8.0	4.8	0.1	0.9	4.6	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC22

Resource Category: Onshore Wind Region: Central Interior

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$38	$161	$34
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	462	1,971	399
Operation FTEs (Full-Time Equivalents)	21	23	11

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$5.710	$22.941	$4.449
Operation $/Year (million)	$2.055	$0.316	$0.118

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC23

Resource Category: Onshore Wind Region: Central Interior

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	55.2
Average Annual Energy (GWh/year)	149.7
Effective Load Carrying Capability (MW)	14.4
Annual Firm Energy (GWh/year)	149.7

Financial Information (in Fiscal $ 2011)

Direct Capital Cost ($1000s)*	$198,514
Fixed Operating & Maintenance Cost ($1000s/year)	$2,575.4
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$510
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$154
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	24.6	271.6				
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	144.6	19.2	97.8	34.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	114.4	181.8				

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	296.2	0.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	5.5	1.4	1.7		2.1	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC23

Resource Category: Onshore Wind Region: Central Interior

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$14	$47	$11
Operation $/Year (million)	$1	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	175	576	126
Operation FTEs (Full-Time Equivalents)	8	8	4

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.242	$6.678	$1.405
Operation $/Year (million)	$0.938	$0.109	$0.042

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC24

Resource Category: Onshore Wind Region: Central Interior

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	117.3
Average Annual Energy (GWh/year)	285.1
Effective Load Carrying Capability (MW)	30.5
Annual Firm Energy (GWh/year)	285.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$386,651
Fixed Operating & Maintenance Cost ($1000s/year)	$4,648.7
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$635
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$153
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	59.1	314.3				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	159.0	19.7	113.1	81.7		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	130.6	242.8				

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	373.4	0.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	5.0	4.3	3.0		5.7	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC24

Resource Category: Onshore Wind Region: Central Interior

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$21	$91	$19
Operation $/Year (million)	$1	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	254	1,110	223
Operation FTEs (Full-Time Equivalents)	13	14	7

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.132	$12.930	$2.489
Operation $/Year (million)	$1.288	$0.201	$0.074

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC25

Resource Category: Onshore Wind Region: Central Interior

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	158.7
Average Annual Energy (GWh/year)	450.4
Effective Load Carrying Capability (MW)	41.3
Annual Firm Energy (GWh/year)	450.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$485,481
Fixed Operating & Maintenance Cost ($1000s/year)	$6,928.9
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$325
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$123
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	18.7	187.2				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	73.7	9.3	63.0	59.9		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	42.6	163.2				

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	205.9	0.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.4	2.1	0.0		2.7	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC25

Resource Category: Onshore Wind Region: Central Interior

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$20	$112	$22
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	241	1,367	258
Operation FTEs (Full-Time Equivalents)	19	21	10

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.989	$15.990	$2.880
Operation $/Year (million)	$1.620	$0.302	$0.108

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC45

Resource Category: Onshore Wind Region: Central Interior

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	48.3
Average Annual Energy (GWh/year)	111.1
Effective Load Carrying Capability (MW)	12.6
Annual Firm Energy (GWh/year)	111.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$171,358
Fixed Operating & Maintenance Cost ($1000s/year)	$1,909.7
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$404
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$174
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	37.4	190.9	19.7			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	73.1	24.6	100.6	49.7		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	30.6	217.4				

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	248.0	0.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.1	1.7	0.2		1.0	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC45

Resource Category: Onshore Wind Region: Central Interior

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$11	$41	$9
Operation $/Year (million)	$1	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	134	498	105
Operation FTEs (Full-Time Equivalents)	6	6	3

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$1.667	$5.785	$1.171
Operation $/Year (million)	$0.644	$0.081	$0.031

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI37

Resource Category: Onshore Wind Region: East Kootenay

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	34.5
Average Annual Energy (GWh/year)	87.3
Effective Load Carrying Capability (MW)	9
Annual Firm Energy (GWh/year)	87.3

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$107,973
Fixed Operating & Maintenance Cost ($1000s/year)	$1,340.7
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$57
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$138
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		20.2	6.0			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	4.1	2.7	8.4	11.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	1.5	1.4	0.2	12.6	10.6	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	26.3	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.3	0.4	0.2			
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI37

Resource Category: Onshore Wind Region: East Kootenay

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$4	$25	$5
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	52	302	57
Operation FTEs (Full-Time Equivalents)	4	4	2

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.650	$3.539	$0.635
Operation $/Year (million)	$0.264	$0.058	$0.021

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI38

Resource Category: Onshore Wind Region: East Kootenay

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	103.5
Average Annual Energy (GWh/year)	236.5
Effective Load Carrying Capability (MW)	26.9
Annual Firm Energy (GWh/year)	236.5

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$315,305
Fixed Operating & Maintenance Cost ($1000s/year)	$3,638.4
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$171
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$147
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		104.5	8.3			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	25.2	9.2	15.7	62.8		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class				39.1	73.7	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	102.9	10.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.3	0.4				
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI38

Resource Category: Onshore Wind Region: East Kootenay

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$12	$72	$14
Operation $/Year (million)	$1	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	150	886	166
Operation FTEs (Full-Time Equivalents)	10	11	5

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$1.849	$10.366	$1.848
Operation $/Year (million)	$0.636	$0.159	$0.056

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_BC17

Resource Category: Onshore Wind Region: Kelly Nicola

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	289.8
Average Annual Energy (GWh/year)	824.5
Effective Load Carrying Capability (MW)	75.3
Annual Firm Energy (GWh/year)	824.5

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$1,090,363
Fixed Operating & Maintenance Cost ($1000s/year)	$14,674.3
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$3,657
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$156
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	20.9	1,842.5	207.7			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	847.9	223.3	631.8	368.2		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	33.4	33.4	451.1	399.4	1,153.8	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		81.1	1,990.0			
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	18.5	3.8	6.4	12.3	3.9	2.0
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_BC17

Resource Category: Onshore Wind Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$88	$262	$62
Operation $/Year (million)	$5	$4	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	1,087	3,218	729
Operation FTEs (Full-Time Equivalents)	45	45	22

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$13.769	$37.184	$8.131
Operation $/Year (million)	$6.234	$0.617	$0.245

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI01

Resource Category: Onshore Wind Region: Kelly Nicola

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	246.1
Average Annual Energy (GWh/year)	552.8
Effective Load Carrying Capability (MW)	64
Annual Firm Energy (GWh/year)	552.8

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$736,025
Fixed Operating & Maintenance Cost ($1000s/year)	$8,428.5
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$290
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$146
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	35.0	58.1	113.2			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	13.1	14.6	97.1	81.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.9	81.6	0.3	18.4	105.2	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	206.3	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha		0.7				2.8
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI01

Resource Category: Onshore Wind Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$27	$168	$32
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	327	2,063	381
Operation FTEs (Full-Time Equivalents)	23	25	12

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$4.029	$24.157	$4.250
Operation $/Year (million)	$1.333	$0.369	$0.130

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI02

Resource Category: Onshore Wind Region: Kelly Nicola

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	69
Average Annual Energy (GWh/year)	151.2
Effective Load Carrying Capability (MW)	17.9
Annual Firm Energy (GWh/year)	151.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$223,820
Fixed Operating & Maintenance Cost ($1000s/year)	$2,435.8
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$294
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$164
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	26.4	105.3	31.2			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	14.5	9.9	63.3	75.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		17.3	27.9	7.8	109.8	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	162.8	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.8	0.3	3.9			0.9
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI02

Resource Category: Onshore Wind Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$11	$52	$11
Operation $/Year (million)	$1	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	133	639	125
Operation FTEs (Full-Time Equivalents)	7	7	3

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$1.628	$7.454	$1.398
Operation $/Year (million)	$0.578	$0.105	$0.039

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI03

Resource Category: Onshore Wind Region: Kelly Nicola

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	151.8
Average Annual Energy (GWh/year)	355
Effective Load Carrying Capability (MW)	39.5
Annual Firm Energy (GWh/year)	355

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$465,761
Fixed Operating & Maintenance Cost ($1000s/year)	$5,500.0
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$329
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$145
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		154.0	51.1			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	14.5	5.6	69.6	115.4		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		56.8	14.5	7.4	126.4	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	205.1	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.7	1.0	0.4			
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI03

Resource Category: Onshore Wind Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$19	$107	$21
Operation $/Year (million)	$2	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	231	1,314	248
Operation FTEs (Full-Time Equivalents)	15	16	8

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.835	$15.363	$2.764
Operation $/Year (million)	$1.061	$0.240	$0.086

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI04

Resource Category: Onshore Wind Region: Kelly Nicola

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	96.6
Average Annual Energy (GWh/year)	252.5
Effective Load Carrying Capability (MW)	25.1
Annual Firm Energy (GWh/year)	252.5

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$297,643
Fixed Operating & Maintenance Cost ($1000s/year)	$3,897.8
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$205
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$133
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	2.2	127.9	0.1			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	41.5	6.0	37.2	45.4		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		19.8	15.1	11.2	84.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	130.1	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.2					
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI04

Resource Category: Onshore Wind Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$12	$68	$13
Operation $/Year (million)	$1	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	149	839	158
Operation FTEs (Full-Time Equivalents)	11	12	5

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$1.838	$9.807	$1.768
Operation $/Year (million)	$0.839	$0.170	$0.061

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI05

Resource Category: Onshore Wind Region: Kelly Nicola

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	144.9
Average Annual Energy (GWh/year)	354.8
Effective Load Carrying Capability (MW)	37.7
Annual Firm Energy (GWh/year)	354.8

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$436,167
Fixed Operating & Maintenance Cost ($1000s/year)	$5,409.9
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$186
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$137
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		113.9				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	22.8	18.1	51.8	21.2		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class			84.0	7.7	22.3	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	113.9	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI05

Resource Category: Onshore Wind Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$16	$100	$19
Operation $/Year (million)	$2	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	196	1,223	226
Operation FTEs (Full-Time Equivalents)	15	16	7

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.417	$14.323	$2.526
Operation $/Year (million)	$0.974	$0.237	$0.084

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI06

Resource Category: Onshore Wind Region: Kelly Nicola

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	131.1
Average Annual Energy (GWh/year)	293.9
Effective Load Carrying Capability (MW)	34.1
Annual Firm Energy (GWh/year)	293.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$404,106
Fixed Operating & Maintenance Cost ($1000s/year)	$4,571.9
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$303
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$152
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		97.2	70.0			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	1.4	3.5	29.1	133.2		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class			41.5	8.0	117.7	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	167.2	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.7	1.6				
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI06

Resource Category: Onshore Wind Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$16	$93	$18
Operation $/Year (million)	$1	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	203	1,141	216
Operation FTEs (Full-Time Equivalents)	13	14	6

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.502	$13.337	$2.408
Operation $/Year (million)	$0.864	$0.199	$0.071

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI08

Resource Category: Onshore Wind Region: Kelly Nicola

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	117.3
Average Annual Energy (GWh/year)	256
Effective Load Carrying Capability (MW)	30.5
Annual Firm Energy (GWh/year)	256

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$360,748
Fixed Operating & Maintenance Cost ($1000s/year)	$3,974.9
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$252
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$155
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		94.6	49.4			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	5.3	8.6	64.6	65.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class			53.2	64.5	26.3	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	144.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha		0.3				
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI08

Resource Category: Onshore Wind Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$14	$83	$16
Operation $/Year (million)	$1	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	178	1,017	192
Operation FTEs (Full-Time Equivalents)	11	12	6

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.196	$11.897	$2.140
Operation $/Year (million)	$0.718	$0.173	$0.062

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI09

Resource Category: Onshore Wind Region: Kelly Nicola

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	96.6
Average Annual Energy (GWh/year)	211.9
Effective Load Carrying Capability (MW)	25.1
Annual Firm Energy (GWh/year)	211.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$293,141
Fixed Operating & Maintenance Cost ($1000s/year)	$3,248.2
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$138
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$151
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	2.9	42.7	53.1			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	2.3	7.9	37.5	51.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class				31.3	67.4	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	98.7	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.2			0.5		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI09

Resource Category: Onshore Wind Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$11	$67	$13
Operation $/Year (million)	$1	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	135	823	153
Operation FTEs (Full-Time Equivalents)	9	10	5

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$1.658	$9.631	$1.705
Operation $/Year (million)	$0.521	$0.142	$0.050

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI10

Resource Category: Onshore Wind Region: Kelly Nicola

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	117.3
Average Annual Energy (GWh/year)	312.7
Effective Load Carrying Capability (MW)	30.5
Annual Firm Energy (GWh/year)	312.7

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$359,631
Fixed Operating & Maintenance Cost ($1000s/year)	$4,811.0
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$236
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$130
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		81.7	72.1			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	18.0	10.5	39.2	86.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		5.4	37.7	3.0	107.8	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	153.8	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.3	0.3				4.2
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI10

Resource Category: Onshore Wind Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$14	$83	$16
Operation $/Year (million)	$1	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	175	1,013	190
Operation FTEs (Full-Time Equivalents)	13	14	7

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.152	$11.853	$2.125
Operation $/Year (million)	$1.045	$0.210	$0.075

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI15

Resource Category: Onshore Wind Region: Kelly Nicola

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	303.6
Average Annual Energy (GWh/year)	814.1
Effective Load Carrying Capability (MW)	78.9
Annual Firm Energy (GWh/year)	814.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$905,107
Fixed Operating & Maintenance Cost ($1000s/year)	$12,353.8
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$330
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$126
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	8.7	164.6	62.4			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	59.4	14.2	76.1	85.9		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		62.5	22.9	33.4	116.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	235.7	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.2	0.1	2.9	0.7		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI15

Resource Category: Onshore Wind Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$32	$207	$39
Operation $/Year (million)	$3	$3	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	398	2,535	467
Operation FTEs (Full-Time Equivalents)	33	37	17

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$4.897	$29.693	$5.212
Operation $/Year (million)	$2.444	$0.541	$0.190

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI16

Resource Category: Onshore Wind Region: Kelly Nicola

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	662.4
Average Annual Energy (GWh/year)	1631.7
Effective Load Carrying Capability (MW)	172.2
Annual Firm Energy (GWh/year)	1631.7

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$1,952,701
Fixed Operating & Maintenance Cost ($1000s/year)	$24,646.6
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$468
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$133
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	26.4	249.5	49.2			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	123.8	20.9	129.0	51.4		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class			157.0	17.8	150.4	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	325.1	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.5					
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI16

Resource Category: Onshore Wind Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$67	$445	$84
Operation $/Year (million)	$7	$6	$3

Employment	Direct	Indirect	Induced
Construction Person-Years	820	5,454	997
Operation FTEs (Full-Time Equivalents)	66	73	34

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$10.109	$63.928	$11.121
Operation $/Year (million)	$4.110	$1.080	$0.379

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI18

Resource Category: Onshore Wind Region: Kelly Nicola

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	117.3
Average Annual Energy (GWh/year)	335.4
Effective Load Carrying Capability (MW)	30.5
Annual Firm Energy (GWh/year)	335.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$390,264
Fixed Operating & Maintenance Cost ($1000s/year)	$5,429.0
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$688
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$135
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	5.9	271.8	90.1			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	99.9	33.1	99.3	135.6		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	134.8	51.3	27.6	23.1	131.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	367.9	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.6					1.2
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI18

Resource Category: Onshore Wind Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$21	$92	$19
Operation $/Year (million)	$2	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	262	1,124	227
Operation FTEs (Full-Time Equivalents)	15	17	8

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.233	$13.080	$2.534
Operation $/Year (million)	$1.688	$0.235	$0.086

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI19

Resource Category: Onshore Wind Region: Kelly Nicola

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	55.2
Average Annual Energy (GWh/year)	148.3
Effective Load Carrying Capability (MW)	14.4
Annual Firm Energy (GWh/year)	148.3

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$173,588
Fixed Operating & Maintenance Cost ($1000s/year)	$2,303.2
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$142
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$133
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		54.1				
	Remoteness - Linear Disturbance Density^2:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	30.1	4.0	11.1	8.9		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	37.3	5.1	0.9	9.4	1.4	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	50.7	3.4		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.7	0.2	0.1			
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI19

Resource Category: Onshore Wind Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$8	$40	$8
Operation $/Year (million)	$1	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	93	489	94
Operation FTEs (Full-Time Equivalents)	6	7	3

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$1.148	$5.708	$1.046
Operation $/Year (million)	$0.533	$0.100	$0.036

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI20

Resource Category: Onshore Wind Region: Kelly Nicola

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	41.4
Average Annual Energy (GWh/year)	122
Effective Load Carrying Capability (MW)	10.8
Annual Firm Energy (GWh/year)	122

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$131,574
Fixed Operating & Maintenance Cost ($1000s/year)	$1,892.9
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$111
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$124
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		35.0	7.1			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	21.4	2.1	9.1	9.6		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	14.8	4.3	8.3	8.5	6.2	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	42.1	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.2					0.7
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI20

Resource Category: Onshore Wind Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$6	$30	$6
Operation $/Year (million)	$1	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	71	370	71
Operation FTEs (Full-Time Equivalents)	5	6	3

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.884	$4.327	$0.796
Operation $/Year (million)	$0.485	$0.082	$0.030

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI22

Resource Category: Onshore Wind Region: Kelly Nicola

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	48.3
Average Annual Energy (GWh/year)	126
Effective Load Carrying Capability (MW)	12.6
Annual Firm Energy (GWh/year)	126

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$146,125
Fixed Operating & Maintenance Cost ($1000s/year)	$1,901.2
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$31
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$130
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		4.4	14.7			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	15.5		3.0	0.6		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		14.1	3.3	0.1	1.6	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	19.1	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI22

Resource Category: Onshore Wind Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$5	$33	$6
Operation $/Year (million)	$1	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	62	407	75
Operation FTEs (Full-Time Equivalents)	5	6	3

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.769	$4.774	$0.833
Operation $/Year (million)	$0.342	$0.083	$0.029

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI23

Resource Category: Onshore Wind Region: Kelly Nicola

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	193.2
Average Annual Energy (GWh/year)	569.3
Effective Load Carrying Capability (MW)	50.2
Annual Firm Energy (GWh/year)	569.3

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$601,639
Fixed Operating & Maintenance Cost ($1000s/year)	$8,852.7
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$566
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$122
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		38.6	164.1			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	139.6	1.7	22.1	39.3		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	34.9	91.7	17.9	32.1	26.2	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	141.4	61.3		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.2					0.7
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI23

Resource Category: Onshore Wind Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$26	$139	$28
Operation $/Year (million)	$3	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	326	1,703	328
Operation FTEs (Full-Time Equivalents)	24	27	12

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$4.032	$19.900	$3.654
Operation $/Year (million)	$2.313	$0.385	$0.138

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI26

Resource Category: Onshore Wind Region: Kelly Nicola

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	103.5
Average Annual Energy (GWh/year)	263.5
Effective Load Carrying Capability (MW)	26.9
Annual Firm Energy (GWh/year)	263.5

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$365,066
Fixed Operating & Maintenance Cost ($1000s/year)	$4,482.1
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$906
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$159
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	26.7	282.9	138.5			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	72.2	32.1	195.3	148.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		23.8	150.4	100.0	173.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	59.4	388.7	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.1					
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI26

Resource Category: Onshore Wind Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$23	$87	$19
Operation $/Year (million)	$1	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	285	1,067	224
Operation FTEs (Full-Time Equivalents)	13	14	7

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.493	$12.382	$2.499
Operation $/Year (million)	$1.575	$0.192	$0.073

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI28

Resource Category: Onshore Wind Region: Kelly Nicola

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	89.7
Average Annual Energy (GWh/year)	260.9
Effective Load Carrying Capability (MW)	23.3
Annual Firm Energy (GWh/year)	260.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$315,099
Fixed Operating & Maintenance Cost ($1000s/year)	$4,355.6
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$758
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$141
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class			297.0			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	78.2	22.1	87.4	109.3		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	8.0	53.3	61.1	104.5	70.2	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	29.6	128.0	139.4		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	3.6	7.4				1.4
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI28

Resource Category: Onshore Wind Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$20	$75	$16
Operation $/Year (million)	$1	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	243	919	192
Operation FTEs (Full-Time Equivalents)	13	13	6

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.987	$10.671	$2.147
Operation $/Year (million)	$1.568	$0.187	$0.070

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI29

Resource Category: Onshore Wind Region: Kelly Nicola

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	117.3
Average Annual Energy (GWh/year)	313.6
Effective Load Carrying Capability (MW)	30.5
Annual Firm Energy (GWh/year)	313.6

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$407,300
Fixed Operating & Maintenance Cost ($1000s/year)	$5,253.2
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$940
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$150
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		0.4	354.1			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	120.8	24.9	103.1	105.8		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.6	53.3	87.0	37.9	175.7	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	145.2	0.0	209.4		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	7.9	4.2	2.9			3.8
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI29

Resource Category: Onshore Wind Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$25	$97	$21
Operation $/Year (million)	$2	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	308	1,186	247
Operation FTEs (Full-Time Equivalents)	15	16	8

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.778	$13.774	$2.754
Operation $/Year (million)	$1.795	$0.226	$0.085

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI30

Resource Category: Onshore Wind Region: Kelly Nicola

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	151.8
Average Annual Energy (GWh/year)	395.9
Effective Load Carrying Capability (MW)	39.5
Annual Firm Energy (GWh/year)	395.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$512,600
Fixed Operating & Maintenance Cost ($1000s/year)	$6,529.4
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$1,021
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$148
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		59.7	327.7			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	114.0	29.4	113.7	130.2		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.7	25.9	168.0	16.9	175.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	177.8	0.0	209.6		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	8.6	4.0	2.5			3.8
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI30

Resource Category: Onshore Wind Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$29	$121	$26
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	360	1,484	303
Operation FTEs (Full-Time Equivalents)	19	20	9

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$4.422	$17.252	$3.381
Operation $/Year (million)	$2.048	$0.282	$0.105

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI31

Resource Category: Onshore Wind Region: Kelly Nicola

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	144.9
Average Annual Energy (GWh/year)	340.1
Effective Load Carrying Capability (MW)	37.7
Annual Firm Energy (GWh/year)	340.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$485,579
Fixed Operating & Maintenance Cost ($1000s/year)	$5,637.5
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$917
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$161
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		409.4	32.1			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	71.4	31.2	95.3	243.6		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		52.7	27.6	46.6	314.6	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	370.5	71.1	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	4.9	1.0	1.1	0.9	13.6	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI31

Resource Category: Onshore Wind Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$27	$114	$24
Operation $/Year (million)	$2	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	336	1,402	285
Operation FTEs (Full-Time Equivalents)	16	17	8

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$4.135	$16.307	$3.183
Operation $/Year (million)	$1.656	$0.243	$0.091

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI27

Resource Category: Onshore Wind Region: Lower Mainland

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	89.7
Average Annual Energy (GWh/year)	248.8
Effective Load Carrying Capability (MW)	23.3
Annual Firm Energy (GWh/year)	248.8

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$297,133
Fixed Operating & Maintenance Cost ($1000s/year)	$4,016.0
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$492
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$137
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		5.9	176.5			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	48.5	13.0	39.4	81.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		18.7	8.6	96.0	59.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.0	182.4		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	3.2	1.8	2.0			5.5
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI27

Resource Category: Onshore Wind Region: Lower Mainland

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$16	$70	$14
Operation $/Year (million)	$1	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	195	854	171
Operation FTEs (Full-Time Equivalents)	11	12	6

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.399	$9.942	$1.913
Operation $/Year (million)	$1.198	$0.174	$0.064

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_BC07

Resource Category: Onshore Wind Region: North Coast

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	128.8
Average Annual Energy (GWh/year)	333.2
Effective Load Carrying Capability (MW)	33.5
Annual Firm Energy (GWh/year)	333.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$556,480
Fixed Operating & Maintenance Cost ($1000s/year)	$6,640.0
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$2,653
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$198
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	20.9	1,308.3	162.2			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	604.1	135.7	452.9	298.7		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	16.0	21.7	443.2	341.0	669.4	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		25.1	1,444.2	22.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	9.1	5.5	5.5	12.2	3.4	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_BC07

Resource Category: Onshore Wind Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$55	$137	$34
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	672	1,691	406
Operation FTEs (Full-Time Equivalents)	22	21	10

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$8.398	$19.425	$4.533
Operation $/Year (million)	$3.616	$0.275	$0.115

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_BC08

Resource Category: Onshore Wind Region: North Coast

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	161
Average Annual Energy (GWh/year)	490.2
Effective Load Carrying Capability (MW)	41.9
Annual Firm Energy (GWh/year)	490.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$611,460
Fixed Operating & Maintenance Cost ($1000s/year)	$8,843.6
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$2,087
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$149
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	124.5	760.1				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	789.5	26.1	61.5	7.4		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	84.8	453.7	179.4	166.6		
Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		26.5	858.0			
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	15.6	7.9	6.5	17.3	2.8	0.9
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_BC08

Resource Category: Onshore Wind Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$58	$145	$36
Operation $/Year (million)	$3	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	711	1,780	429
Operation FTEs (Full-Time Equivalents)	28	26	13

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$9.503	$20.525	$4.786
Operation $/Year (million)	$3.815	$0.362	$0.150

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_BC09

Resource Category: Onshore Wind Region: North Coast

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	144.9
Average Annual Energy (GWh/year)	438.2
Effective Load Carrying Capability (MW)	37.7
Annual Firm Energy (GWh/year)	438.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$572,760
Fixed Operating & Maintenance Cost ($1000s/year)	$8,153.6
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$2,203
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$157
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	124.4	786.8				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	848.3	19.7	40.2	3.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	84.8	531.7	161.7	133.0		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		24.3	886.9			
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	15.5	7.2	6.3	17.4	2.8	0.9
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_BC09

Resource Category: Onshore Wind Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$59	$136	$35
Operation $/Year (million)	$3	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	723	1,677	417
Operation FTEs (Full-Time Equivalents)	27	24	13

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$9.706	$19.292	$4.649
Operation $/Year (million)	$3.761	$0.330	$0.140

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_BC19

Resource Category: Onshore Wind Region: North Coast

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	103.5
Average Annual Energy (GWh/year)	279.1
Effective Load Carrying Capability (MW)	26.9
Annual Firm Energy (GWh/year)	279.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$331,868
Fixed Operating & Maintenance Cost ($1000s/year)	$4,423.4
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$415
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$136
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		188.6	61.1			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	76.0	20.6	74.3	78.8		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	1.7	67.4	161.9	18.7		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**			18.5	231.2		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.1	1.4	0.9	1.6	0.6	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_BC19

Resource Category: Onshore Wind Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$16	$77	$16
Operation $/Year (million)	$1	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	196	946	185
Operation FTEs (Full-Time Equivalents)	12	13	6

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.428	$11.031	$2.069
Operation $/Year (million)	$1.164	$0.192	$0.070

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_BC20

Resource Category: Onshore Wind Region: North Coast

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	103.5
Average Annual Energy (GWh/year)	294.5
Effective Load Carrying Capability (MW)	26.9
Annual Firm Energy (GWh/year)	294.5

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$324,820
Fixed Operating & Maintenance Cost ($1000s/year)	$4,584.9
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$311
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$127
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		129.9	57.2			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	100.6	10.5	38.3	37.8		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	1.7	78.3	93.3	13.8		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**			18.5	168.6		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.5	0.8	0.6		0.6	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_BC20

Resource Category: Onshore Wind Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$14	$75	$15
Operation $/Year (million)	$1	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	174	921	177
Operation FTEs (Full-Time Equivalents)	13	14	6

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.140	$10.757	$1.970
Operation $/Year (million)	$1.165	$0.200	$0.072

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_BC21

Resource Category: Onshore Wind Region: North Coast

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	218.5
Average Annual Energy (GWh/year)	589.1
Effective Load Carrying Capability (MW)	56.8
Annual Firm Energy (GWh/year)	589.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$698,223
Fixed Operating & Maintenance Cost ($1000s/year)	$9,366.7
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$912
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$135
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		413.6	43.0			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	195.2	35.0	158.6	67.9		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	83.3	209.3	128.3	35.6		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		34.6		422.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	4.5	4.3	0.7			
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_BC21

Resource Category: Onshore Wind Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$34	$162	$33
Operation $/Year (million)	$3	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	423	1,990	393
Operation FTEs (Full-Time Equivalents)	26	28	13

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$5.253	$23.213	$4.380
Operation $/Year (million)	$2.496	$0.406	$0.148

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_BC22

Resource Category: Onshore Wind Region: North Coast

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	259.9
Average Annual Energy (GWh/year)	696.9
Effective Load Carrying Capability (MW)	67.6
Annual Firm Energy (GWh/year)	696.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$781,395
Fixed Operating & Maintenance Cost ($1000s/year)	$10,661.1
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$370
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$127
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		194.5	33.5			
	Remoteness - Linear Disturbance Density^2:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	97.6	13.9	72.4	44.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	33.9	67.2	125.9	1.0		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		37.6	2.8	187.7		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.6	2.2				
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_BC22

Resource Category: Onshore Wind Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$30	$179	$35
Operation $/Year (million)	$3	$3	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	375	2,188	411
Operation FTEs (Full-Time Equivalents)	29	32	15

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$4.709	$25.616	$4.581
Operation $/Year (million)	$2.192	$0.464	$0.165

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_BC23

Resource Category: Onshore Wind Region: North Coast

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	103.5
Average Annual Energy (GWh/year)	277.5
Effective Load Carrying Capability (MW)	26.9
Annual Firm Energy (GWh/year)	277.5

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$349,982
Fixed Operating & Maintenance Cost ($1000s/year)	$4,577.4
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$683
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$145
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		285.3	113.0			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	177.0	29.4	104.7	87.3		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	17.7	231.7	141.2	7.8		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		11.2	7.3	379.9		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	4.3	3.1	0.6			
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_BC23

Resource Category: Onshore Wind Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$21	$82	$18
Operation $/Year (million)	$1	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	255	1,009	208
Operation FTEs (Full-Time Equivalents)	13	14	7

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.183	$11.733	$2.325
Operation $/Year (million)	$1.439	$0.196	$0.074

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_BC24

Resource Category: Onshore Wind Region: North Coast

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	131.1
Average Annual Energy (GWh/year)	321.1
Effective Load Carrying Capability (MW)	34.1
Annual Firm Energy (GWh/year)	321.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$453,856
Fixed Operating & Maintenance Cost ($1000s/year)	$5,427.3
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$1,038
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$161
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		567.8	55.4			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	72.9	37.0	280.9	232.4		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	1.7	33.1	44.0	214.5	329.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		22.3	83.3	517.6		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	3.3	2.3			0.3	2.8
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_BC24

Resource Category: Onshore Wind Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$28	$108	$23
Operation $/Year (million)	$2	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	343	1,321	275
Operation FTEs (Full-Time Equivalents)	16	17	8

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$4.213	$15.338	$3.067
Operation $/Year (million)	$1.800	$0.233	$0.088

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_BC25

Resource Category: Onshore Wind Region: North Coast

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	158.7
Average Annual Energy (GWh/year)	425.5
Effective Load Carrying Capability (MW)	41.3
Annual Firm Energy (GWh/year)	425.5

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$519,894
Fixed Operating & Maintenance Cost ($1000s/year)	$6,862.5
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$834
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$140
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		376.6	110.3			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	125.3	32.0	188.8	140.7		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	4.6	37.9	56.4	23.4	364.5	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		26.2	229.7	231.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.1	0.3				1.8
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_BC25

Resource Category: Onshore Wind Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$27	$122	$25
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	335	1,492	298
Operation FTEs (Full-Time Equivalents)	19	21	10

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$4.122	$17.385	$3.330
Operation $/Year (million)	$1.975	$0.297	$0.109

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_NC01

Resource Category: Onshore Wind Region: North Coast

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	561.2
Average Annual Energy (GWh/year)	1729.5
Effective Load Carrying Capability (MW)	145.9
Annual Firm Energy (GWh/year)	1729.5

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$1,924,591
Fixed Operating & Maintenance Cost ($1000s/year)	$28,498.3
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$4,356
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$132
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	366.9	1,038.7				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	969.8	72.0	264.9	99.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	102.7	268.5	793.6	168.8		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	571.6	0.0	760.1		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	32.5	14.7	10.0	4.8	1.1	39.3
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class		249.6	8.2	
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	15.8	6.1	
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	101.5	59.6	

RESOURCE OPTIONS DATABASE

Project: Wind_NC01

Resource Category: Onshore Wind Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$118	$456	$98
Operation $/Year (million)	$9	$7	$3

Employment	Direct	Indirect	Induced
Construction Person-Years	1,453	5,598	1,165
Operation FTEs (Full-Time Equivalents)	82	87	41

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$17.887	$65.021	$13.002
Operation $/Year (million)	$10.189	$1.228	$0.457

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_NC02

Resource Category: Onshore Wind Region: North Coast

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	234.6
Average Annual Energy (GWh/year)	666.1
Effective Load Carrying Capability (MW)	61
Annual Firm Energy (GWh/year)	666.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$778,738
Fixed Operating & Maintenance Cost ($1000s/year)	$10,826.5
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$1,388
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$136
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	131.8	240.8				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	312.8	8.0	34.7	17.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	12.2	2.1	292.9	3.5		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	268.1	0.0	57.5		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	5.3	2.2	1.5		0.6	1.1
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	8.8	53.2		
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	40.0	8.0	
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A		50.6	

RESOURCE OPTIONS DATABASE

Project: Wind_NC02

Resource Category: Onshore Wind Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$44	$183	$39
Operation $/Year (million)	$3	$3	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	539	2,242	457
Operation FTEs (Full-Time Equivalents)	31	33	15

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$6.694	$26.087	$5.096
Operation $/Year (million)	$3.358	$0.467	$0.173

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_NC05

Resource Category: Onshore Wind Region: North Coast

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	262.2
Average Annual Energy (GWh/year)	660.4
Effective Load Carrying Capability (MW)	68.2
Annual Firm Energy (GWh/year)	660.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$1,079,836
Fixed Operating & Maintenance Cost ($1000s/year)	$12,723.1
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$4,659
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$192
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	272.1	550.5				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	722.3	10.8	64.2	25.3		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	51.0	400.0	260.1			

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	708.7	0.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	12.8	8.1	6.1	1.7	0.5	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class		72.0	36.6	
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	18.3	4.7	
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	303.8	9.5	

RESOURCE OPTIONS DATABASE

Project: Wind_NC05

Resource Category: Onshore Wind Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$96	$266	$64
Operation $/Year (million)	$4	$3	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	1,183	3,267	758
Operation FTEs (Full-Time Equivalents)	41	41	20

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$14.553	$37.618	$8.456
Operation $/Year (million)	$6.441	$0.534	$0.218

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_NC06

Resource Category: Onshore Wind Region: North Coast

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	200.1
Average Annual Energy (GWh/year)	553.7
Effective Load Carrying Capability (MW)	52
Annual Firm Energy (GWh/year)	553.7

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$839,358
Fixed Operating & Maintenance Cost ($1000s/year)	$10,579.8
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$3,760
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$180
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	208.2	720.7				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	766.6	27.4	110.5	24.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	60.3	475.6	284.9			

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	821.1	0.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	14.7	11.4	5.9	0.2	0.5	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class		95.7	28.6	
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	22.2	5.3	0.3
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	233.2	9.2	

RESOURCE OPTIONS DATABASE

Project: Wind_NC06

Resource Category: Onshore Wind Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$76	$207	$50
Operation $/Year (million)	$4	$3	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	942	2,548	596
Operation FTEs (Full-Time Equivalents)	34	34	16

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$11.585	$29.319	$6.646
Operation $/Year (million)	$5.473	$0.444	$0.180

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_NC07

Resource Category: Onshore Wind Region: North Coast

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	117.3
Average Annual Energy (GWh/year)	322.4
Effective Load Carrying Capability (MW)	30.5
Annual Firm Energy (GWh/year)	322.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$364,714
Fixed Operating & Maintenance Cost ($1000s/year)	$5,005.3
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$311
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$129
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		147.9	47.2			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	81.7	6.6	51.0	55.7		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	67.5	24.0	103.5	0.2		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.0	195.1		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	3.5	1.1	1.1	0.1		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_NC07

Resource Category: Onshore Wind Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$15	$84	$17
Operation $/Year (million)	$1	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	191	1,031	197
Operation FTEs (Full-Time Equivalents)	14	15	7

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.354	$12.052	$2.195
Operation $/Year (million)	$1.194	$0.218	$0.078

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_NC08

Resource Category: Onshore Wind Region: North Coast

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	195.5
Average Annual Energy (GWh/year)	463.4
Effective Load Carrying Capability (MW)	50.8
Annual Firm Energy (GWh/year)	463.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$588,942
Fixed Operating & Maintenance Cost ($1000s/year)	$7,093.0
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$280
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$141
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		193.2				
	Remoteness - Linear Disturbance Density^2:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	76.5	6.2	38.7	71.8		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	63.4	38.7	91.1			

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.0	193.2		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.0	0.6	2.8			
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_NC08

Resource Category: Onshore Wind Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$22	$135	$26
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	272	1,653	307
Operation FTEs (Full-Time Equivalents)	19	21	10

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.359	$19.346	$3.430
Operation $/Year (million)	$1.253	$0.310	$0.110

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_NC09

Resource Category: Onshore Wind Region: North Coast

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	333.5
Average Annual Energy (GWh/year)	1024.8
Effective Load Carrying Capability (MW)	86.7
Annual Firm Energy (GWh/year)	1024.8

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$998,534
Fixed Operating & Maintenance Cost ($1000s/year)	$15,562.8
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$432
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$113
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	11.2	249.6	42.8			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	135.3	16.6	74.5	77.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	70.5	0.0	122.7	110.4		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.0	303.6		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.8	0.3		0.6	0.5	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_NC09

Resource Category: Onshore Wind Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$37	$229	$44
Operation $/Year (million)	$4	$4	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	450	2,800	519
Operation FTEs (Full-Time Equivalents)	42	46	21

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$5.542	$32.793	$5.785
Operation $/Year (million)	$3.753	$0.681	$0.240

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_NC12

Resource Category: Onshore Wind Region: North Coast

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	75.9
Average Annual Energy (GWh/year)	229.7
Effective Load Carrying Capability (MW)	19.7
Annual Firm Energy (GWh/year)	229.7

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$261,923
Fixed Operating & Maintenance Cost ($1000s/year)	$3,774.3
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$562
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$134
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	11.1	308.4	23.5			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	44.6	24.6	151.1	122.7		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	8.9	0.5	172.1	161.5		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.0	343.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.6	0.5		0.6	1.1	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_NC12

Resource Category: Onshore Wind Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$16	$62	$13
Operation $/Year (million)	$1	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	193	760	157
Operation FTEs (Full-Time Equivalents)	11	12	5

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.387	$8.827	$1.754
Operation $/Year (million)	$1.315	$0.163	$0.060

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_BC10

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	163.3
Average Annual Energy (GWh/year)	458.5
Effective Load Carrying Capability (MW)	42.5
Annual Firm Energy (GWh/year)	458.5

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$676,180
Fixed Operating & Maintenance Cost ($1000s/year)	$9,087.1
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$2,918
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$176
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	124.5	1,074.3				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	1,118.0	22.3	54.4	4.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	84.8	580.4	339.2	194.3		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		113.1	1,085.6			
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	18.5	8.8	6.9	17.9	2.8	0.9
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_BC10

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$80	$160	$44
Operation $/Year (million)	$3	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	981	1,979	522
Operation FTEs (Full-Time Equivalents)	31	26	14

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$13.420	$22.694	$5.822
Operation $/Year (million)	$4.459	$0.356	$0.161

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_BC11

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	151.8
Average Annual Energy (GWh/year)	386.4
Effective Load Carrying Capability (MW)	39.5
Annual Firm Energy (GWh/year)	386.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$597,078
Fixed Operating & Maintenance Cost ($1000s/year)	$7,252.7
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$2,244
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$181
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	124.4	992.4				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	1,010.6	20.2	70.4	15.7		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	84.9	508.9	320.8	202.2		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		160.5	956.4			
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	15.9	9.5	7.0	17.7	2.8	1.2
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_BC11

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$53	$144	$35
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	653	1,774	414
Operation FTEs (Full-Time Equivalents)	23	23	11

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$8.326	$20.448	$4.621
Operation $/Year (million)	$3.300	$0.300	$0.124

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_BC12

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	108.1
Average Annual Energy (GWh/year)	289.9
Effective Load Carrying Capability (MW)	28.1
Annual Firm Energy (GWh/year)	289.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$461,626
Fixed Operating & Maintenance Cost ($1000s/year)	$5,762.8
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$2,111
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$189
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	124.4	877.0				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	908.6	18.3	60.8	13.8		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	84.9	431.0	283.3	202.4		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		43.9	957.6			
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	15.1	8.2	6.9	17.7	2.8	1.2
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_BC12

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$48	$112	$29
Operation $/Year (million)	$2	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	597	1,384	344
Operation FTEs (Full-Time Equivalents)	19	18	9

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$7.743	$15.897	$3.837
Operation $/Year (million)	$3.005	$0.234	$0.101

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_BC13

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	161
Average Annual Energy (GWh/year)	480.6
Effective Load Carrying Capability (MW)	41.9
Annual Firm Energy (GWh/year)	480.6

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$604,811
Fixed Operating & Maintenance Cost ($1000s/year)	$8,502.8
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$1,990
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$150
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	124.4	787.8	10.0			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	815.5	25.2	64.4	17.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	84.9	351.5	210.9	274.8	0.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		20.3	901.9			
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	12.6	5.4	6.6	17.9	2.8	1.2
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_BC13

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$50	$145	$34
Operation $/Year (million)	$3	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	618	1,777	407
Operation FTEs (Full-Time Equivalents)	26	26	13

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$7.937	$20.529	$4.536
Operation $/Year (million)	$3.603	$0.356	$0.142

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_BC18

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	167.9
Average Annual Energy (GWh/year)	425.7
Effective Load Carrying Capability (MW)	43.7
Annual Firm Energy (GWh/year)	425.7

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$501,888
Fixed Operating & Maintenance Cost ($1000s/year)	$6,464.6
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$174
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$132
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		74.7	46.0			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	84.0	8.8	16.7	11.3		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	21.9	8.1	83.5	7.2		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**			27.5	93.2		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.7	0.3				
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_BC18

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$18	$115	$22
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	221	1,405	259
Operation FTEs (Full-Time Equivalents)	17	19	9

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.726	$16.455	$2.889
Operation $/Year (million)	$1.178	$0.283	$0.100

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_BC26

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	163.3
Average Annual Energy (GWh/year)	375.5
Effective Load Carrying Capability (MW)	42.5
Annual Firm Energy (GWh/year)	375.5

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$510,768
Fixed Operating & Maintenance Cost ($1000s/year)	$5,911.7
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$502
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$151
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		59.5	264.0			
	Remoteness - Linear Disturbance Density^2:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	69.1	17.5	117.4	119.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	15.7	60.5	49.0	148.0	50.2	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**			323.5			
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.7	1.5	0.4			
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_BC26

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$22	$118	$23
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	276	1,448	278
Operation FTEs (Full-Time Equivalents)	16	18	8

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.399	$16.919	$3.105
Operation $/Year (million)	$1.261	$0.257	$0.093

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC01

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	151.8
Average Annual Energy (GWh/year)	455
Effective Load Carrying Capability (MW)	39.5
Annual Firm Energy (GWh/year)	455

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$536,926
Fixed Operating & Maintenance Cost ($1000s/year)	$7,673.7
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$1,380
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$139
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	20.8	613.8	161.8			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	158.0	97.1	300.3	241.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	2.3	97.7	154.8	144.0	397.7	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	25.0	771.5	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	3.9	2.5	1.4	10.3		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC01

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$37	$127	$28
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	451	1,565	336
Operation FTEs (Full-Time Equivalents)	23	23	11

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$5.663	$18.149	$3.753
Operation $/Year (million)	$2.873	$0.327	$0.125

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC02

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	138
Average Annual Energy (GWh/year)	371
Effective Load Carrying Capability (MW)	35.9
Annual Firm Energy (GWh/year)	371

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$492,970
Fixed Operating & Maintenance Cost ($1000s/year)	$6,384.6
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$1,321
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$154
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	20.8	582.2	161.8			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	182.3	82.4	277.1	223.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	11.2	126.8	154.9	74.3	397.7	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	25.0	739.9	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	4.4	3.3	1.4	10.1		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC02

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$35	$117	$26
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	426	1,439	312
Operation FTEs (Full-Time Equivalents)	19	20	9

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$5.356	$16.681	$3.479
Operation $/Year (million)	$2.362	$0.271	$0.105

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC03

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	62.1
Average Annual Energy (GWh/year)	222.4
Effective Load Carrying Capability (MW)	16.1
Annual Firm Energy (GWh/year)	222.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$262,188
Fixed Operating & Maintenance Cost ($1000s/year)	$4,042.2
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$1,156
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$145
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	20.8	491.6	161.7			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	149.6	85.7	243.8	195.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.2	89.9	173.3	46.6	364.2	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	25.0	649.1	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	3.6	2.9	3.2	8.6		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC03

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$24	$64	$16
Operation $/Year (million)	$1	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	298	792	186
Operation FTEs (Full-Time Equivalents)	13	13	6

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.718	$9.114	$2.081
Operation $/Year (million)	$2.097	$0.170	$0.068

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC04

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	103.5
Average Annual Energy (GWh/year)	348.8
Effective Load Carrying Capability (MW)	26.9
Annual Firm Energy (GWh/year)	348.8

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$371,915
Fixed Operating & Maintenance Cost ($1000s/year)	$5,836.5
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$1,007
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$128
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	20.8	413.1	155.7			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	127.4	63.4	239.7	159.2		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		90.5	178.6	4.9	315.6	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	25.0	564.7	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	4.2	2.1	2.2	6.0		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC04

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$26	$89	$20
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	315	1,089	234
Operation FTEs (Full-Time Equivalents)	17	18	8

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.913	$12.620	$2.612
Operation $/Year (million)	$2.359	$0.250	$0.094

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC05

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	96.6
Average Annual Energy (GWh/year)	352.5
Effective Load Carrying Capability (MW)	25.1
Annual Firm Energy (GWh/year)	352.5

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$351,682
Fixed Operating & Maintenance Cost ($1000s/year)	$5,902.0
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$1,003
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$122
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	20.8	393.4	146.0			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	191.2	54.4	214.3	100.3		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	13.8	76.7	285.8	28.6	155.2	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	25.0	535.2	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	3.6	2.6	1.4	0.7		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC05

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$25	$84	$19
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	313	1,031	225
Operation FTEs (Full-Time Equivalents)	17	18	9

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.927	$11.935	$2.512
Operation $/Year (million)	$2.449	$0.252	$0.096

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC06

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	243
Average Annual Energy (GWh/year)	761.2
Effective Load Carrying Capability (MW)	63.2
Annual Firm Energy (GWh/year)	761.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$701,336
Fixed Operating & Maintenance Cost ($1000s/year)	$11,890.9
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$830
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$110
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	20.8	306.9	145.7			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	215.3	42.0	172.0	44.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	13.6	73.1	191.4	47.5	147.7	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	24.9	448.4	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	3.3	4.3	0.4	0.7		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC06

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$34	$163	$33
Operation $/Year (million)	$3	$3	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	414	1,994	391
Operation FTEs (Full-Time Equivalents)	33	36	17

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$5.155	$23.262	$4.361
Operation $/Year (million)	$3.404	$0.517	$0.186

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC07

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	117.3
Average Annual Energy (GWh/year)	325.2
Effective Load Carrying Capability (MW)	30.5
Annual Firm Energy (GWh/year)	325.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$407,628
Fixed Operating & Maintenance Cost ($1000s/year)	$5,436.2
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$945
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$145
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	20.8	378.0	161.6			
	Remoteness - Linear Disturbance Density^2:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	88.8	54.4	208.6	208.7		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	3.0	63.3	107.2	0.1	386.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	25.0	535.4	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.1	1.8	1.4	9.2		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC07

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$25	$97	$21
Operation $/Year (million)	$2	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	312	1,186	248
Operation FTEs (Full-Time Equivalents)	16	17	8

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.854	$13.773	$2.767
Operation $/Year (million)	$1.884	$0.233	$0.088

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC08

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	41.4
Average Annual Energy (GWh/year)	130.1
Effective Load Carrying Capability (MW)	10.8
Annual Firm Energy (GWh/year)	130.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$171,858
Fixed Operating & Maintenance Cost ($1000s/year)	$2,380.1
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$706
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$159
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	20.7	236.5	145.6			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	145.6	42.1	172.0	43.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		41.8	176.4	31.7	153.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	24.9	378.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.1	2.5	0.6	0.7		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC08

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$15	$42	$10
Operation $/Year (million)	$1	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	185	517	119
Operation FTEs (Full-Time Equivalents)	7	8	4

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.289	$5.957	$1.332
Operation $/Year (million)	$1.181	$0.100	$0.040

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC09

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	207
Average Annual Energy (GWh/year)	713.4
Effective Load Carrying Capability (MW)	53.8
Annual Firm Energy (GWh/year)	713.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$589,320
Fixed Operating & Maintenance Cost ($1000s/year)	$11,009.7
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$577
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$100
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	20.7	170.3	145.3			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	161.4	31.8	113.9	29.2		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	4.7	43.5	132.2	24.5	131.4	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	24.9	311.5	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.6	2.0		0.7		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC09

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$26	$136	$27
Operation $/Year (million)	$3	$3	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	323	1,670	322
Operation FTEs (Full-Time Equivalents)	30	33	15

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.996	$19.504	$3.591
Operation $/Year (million)	$3.344	$0.480	$0.171

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC10

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	297
Average Annual Energy (GWh/year)	1022.7
Effective Load Carrying Capability (MW)	77.2
Annual Firm Energy (GWh/year)	1022.7

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$819,030
Fixed Operating & Maintenance Cost ($1000s/year)	$15,553.8
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$464
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$97
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	20.7	126.3	138.6			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	137.1	22.7	89.5	36.3		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	3.6	49.8	106.7	21.2	104.3	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	24.8	260.8	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.6	1.5		0.6		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC10

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$32	$188	$36
Operation $/Year (million)	$4	$4	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	389	2,303	431
Operation FTEs (Full-Time Equivalents)	42	46	21

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$4.792	$26.949	$4.805
Operation $/Year (million)	$4.404	$0.680	$0.240

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC11

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	126
Average Annual Energy (GWh/year)	473.1
Effective Load Carrying Capability (MW)	32.8
Annual Firm Energy (GWh/year)	473.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$383,616
Fixed Operating & Maintenance Cost ($1000s/year)	$7,520.7
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$695
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$101
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		386.7				
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	203.0	40.3	106.2	37.2		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	32.4	239.5	63.9	38.1	12.8	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	386.7	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.1	2.4	1.8	0.5		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC11

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$23	$90	$19
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	278	1,101	227
Operation FTEs (Full-Time Equivalents)	21	23	11

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.528	$12.803	$2.538
Operation $/Year (million)	$2.598	$0.324	$0.119

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC12

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	96.6
Average Annual Energy (GWh/year)	308.4
Effective Load Carrying Capability (MW)	25.1
Annual Firm Energy (GWh/year)	308.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$322,117
Fixed Operating & Maintenance Cost ($1000s/year)	$4,962.2
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$566
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$123
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		337.8				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	120.5	34.5	117.1	65.8		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		174.8	113.1	33.5	16.5	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	337.8	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.7	1.9	2.4	1.1		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC12

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$18	$75	$16
Operation $/Year (million)	$1	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	222	926	188
Operation FTEs (Full-Time Equivalents)	14	15	7

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.764	$10.775	$2.102
Operation $/Year (million)	$1.654	$0.214	$0.079

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC13

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	135
Average Annual Energy (GWh/year)	541
Effective Load Carrying Capability (MW)	35.1
Annual Firm Energy (GWh/year)	541

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$397,988
Fixed Operating & Maintenance Cost ($1000s/year)	$8,421.0
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$556
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$92
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		322.1				
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	147.2	32.1	109.9	32.9		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	31.8	189.2	58.2	30.1	12.8	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	322.1	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.4	2.0	0.3	0.5		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC13

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$20	$93	$19
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	245	1,137	225
Operation FTEs (Full-Time Equivalents)	23	25	12

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.026	$13.259	$2.511
Operation $/Year (million)	$2.712	$0.367	$0.131

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC14

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	144
Average Annual Energy (GWh/year)	526.8
Effective Load Carrying Capability (MW)	37.4
Annual Firm Energy (GWh/year)	526.8

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$410,700
Fixed Operating & Maintenance Cost ($1000s/year)	$8,114.6
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$393
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$96
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		237.4	0.0			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	95.3	27.4	75.7	39.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	16.2	151.4	54.6	2.1	13.1	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	237.4	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.3	1.2	0.4			
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC14

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$18	$95	$19
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	226	1,162	224
Operation FTEs (Full-Time Equivalents)	22	24	11

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.815	$13.578	$2.504
Operation $/Year (million)	$2.485	$0.354	$0.126

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC15

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	108
Average Annual Energy (GWh/year)	381.9
Effective Load Carrying Capability (MW)	28.1
Annual Firm Energy (GWh/year)	381.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$306,686
Fixed Operating & Maintenance Cost ($1000s/year)	$5,864.8
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$260
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$98
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		168.8	1.7			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	74.0	12.8	47.6	36.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	1.1	100.1	52.5	2.1	14.7	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	170.6	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.8	0.5				
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC15

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$13	$71	$14
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	162	867	166
Operation FTEs (Full-Time Equivalents)	16	17	8

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.003	$10.128	$1.848
Operation $/Year (million)	$1.774	$0.256	$0.091

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC16

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	99
Average Annual Energy (GWh/year)	376.9
Effective Load Carrying Capability (MW)	25.7
Annual Firm Energy (GWh/year)	376.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$288,396
Fixed Operating & Maintenance Cost ($1000s/year)	$5,842.2
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$340
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$95
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		195.9	1.8			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	97.7	14.5	51.0	34.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	25.3	106.4	49.0	2.1	14.8	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	197.6	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.6	0.6				
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC16

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$14	$67	$14
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	170	820	161
Operation FTEs (Full-Time Equivalents)	16	17	8

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.112	$9.566	$1.792
Operation $/Year (million)	$1.840	$0.254	$0.091

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC17

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	103.5
Average Annual Energy (GWh/year)	315.2
Effective Load Carrying Capability (MW)	26.9
Annual Firm Energy (GWh/year)	315.2

Financial Information (in Fiscal $ 2011)

Direct Capital Cost ($1000s)*	$337,548
Fixed Operating & Maintenance Cost ($1000s/year)	$5,009.8
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$499
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$125
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		124.8	122.6			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	113.4	6.1	86.0	41.8		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		54.0	44.5	1.5	147.4	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	247.4	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.1	0.1				1.3
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC17

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$17	$79	$16
Operation $/Year (million)	$1	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	210	967	192
Operation FTEs (Full-Time Equivalents)	14	15	7

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.588	$11.267	$2.140
Operation $/Year (million)	$1.527	$0.217	$0.079

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC18

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	138
Average Annual Energy (GWh/year)	486.2
Effective Load Carrying Capability (MW)	35.9
Annual Firm Energy (GWh/year)	486.2

Financial Information (in Fiscal $ 2011)

Direct Capital Cost ($1000s)*	$412,805
Fixed Operating & Maintenance Cost ($1000s/year)	$7,346.1
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$136
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$101
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		79.3	23.1			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	20.1	5.3	53.7	23.4		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		48.8	14.4		39.2	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	102.4	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.6	1.4				
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC18

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$15	$94	$18
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	182	1,155	213
Operation FTEs (Full-Time Equivalents)	20	22	10

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.250	$13.526	$2.375
Operation $/Year (million)	$2.053	$0.322	$0.113

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC19

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	117
Average Annual Energy (GWh/year)	441.3
Effective Load Carrying Capability (MW)	30.4
Annual Firm Energy (GWh/year)	441.3

Financial Information (in Fiscal $ 2011)

Direct Capital Cost ($1000s)*	$329,240
Fixed Operating & Maintenance Cost ($1000s/year)	$6,742.8
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$242
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$92
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		126.0				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	63.3	10.7	35.0	17.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	33.9	81.0	11.1			

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	126.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.9	2.5	0.1	0.7		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC19

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$14	$76	$15
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	168	928	176
Operation FTEs (Full-Time Equivalents)	18	20	9

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.093	$10.851	$1.967
Operation $/Year (million)	$1.989	$0.294	$0.104

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC20

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	158.7
Average Annual Energy (GWh/year)	608.8
Effective Load Carrying Capability (MW)	41.3
Annual Firm Energy (GWh/year)	608.8

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$488,521
Fixed Operating & Maintenance Cost ($1000s/year)	$9,323.0
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$370
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$98
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		239.6				
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	46.0	17.3	97.7	78.7		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		122.5	88.5	18.8	9.8	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	239.6	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.2	0.9	0.5			
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC20

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$20	$112	$22
Operation $/Year (million)	$3	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	251	1,378	262
Operation FTEs (Full-Time Equivalents)	25	28	13

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.119	$16.107	$2.924
Operation $/Year (million)	$2.782	$0.407	$0.144

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC21

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	99
Average Annual Energy (GWh/year)	371.4
Effective Load Carrying Capability (MW)	25.7
Annual Firm Energy (GWh/year)	371.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$275,845
Fixed Operating & Maintenance Cost ($1000s/year)	$5,656.2
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$154
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$92
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		55.9	37.2			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	19.1	9.0	38.1	26.8		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	20.9	61.8	5.8	0.3	4.3	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	93.1	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.0	0.1				
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC21

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$11	$63	$12
Operation $/Year (million)	$2	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	139	773	147
Operation FTEs (Full-Time Equivalents)	15	17	8

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$1.766	$9.044	$1.636
Operation $/Year (million)	$1.625	$0.247	$0.087

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC26

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	126
Average Annual Energy (GWh/year)	416
Effective Load Carrying Capability (MW)	32.8
Annual Firm Energy (GWh/year)	416

Financial Information (in Fiscal $ 2011)

Direct Capital Cost ($1000s)*	$365,998
Fixed Operating & Maintenance Cost ($1000s/year)	$6,492.7
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$434
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$106
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		169.9	45.8			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	128.5	11.3	49.8	26.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	34.0	61.8	88.6		31.3	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	215.7	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.6	2.2	0.3		0.6	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC26

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$18	$85	$17
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	220	1,039	205
Operation FTEs (Full-Time Equivalents)	18	19	9

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.755	$12.128	$2.284
Operation $/Year (million)	$1.957	$0.282	$0.102

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC27

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	110.4
Average Annual Energy (GWh/year)	333.3
Effective Load Carrying Capability (MW)	28.7
Annual Firm Energy (GWh/year)	333.3

Financial Information (in Fiscal $ 2011)

Direct Capital Cost ($1000s)*	$330,204
Fixed Operating & Maintenance Cost ($1000s/year)	$5,035.0
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$96
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$114
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		70.8				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	21.0	7.6	15.4	26.8		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class				24.7	46.1	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	70.8	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.1	0.3	0.3			
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC27

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$12	$75	$14
Operation $/Year (million)	$1	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	142	923	169
Operation FTEs (Full-Time Equivalents)	13	15	7

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$1.752	$10.817	$1.890
Operation $/Year (million)	$1.144	$0.221	$0.077

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC28

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	153
Average Annual Energy (GWh/year)	590.8
Effective Load Carrying Capability (MW)	39.8
Annual Firm Energy (GWh/year)	590.8

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$429,204
Fixed Operating & Maintenance Cost ($1000s/year)	$9,020.4
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$316
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$90
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		152.0	30.6			
	Remoteness - Linear Disturbance Density^2:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	89.1	21.7	49.0	22.9		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	64.0	36.7	47.9		34.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	182.6	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.5	0.2			0.7	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC28

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$18	$99	$19
Operation $/Year (million)	$3	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	219	1,210	230
Operation FTEs (Full-Time Equivalents)	24	27	12

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.719	$14.147	$2.564
Operation $/Year (million)	$2.655	$0.394	$0.139

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC29

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	89.7
Average Annual Energy (GWh/year)	201.1
Effective Load Carrying Capability (MW)	23.3
Annual Firm Energy (GWh/year)	201.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$268,783
Fixed Operating & Maintenance Cost ($1000s/year)	$3,048.4
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$73
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$146
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		14.6	40.0			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	13.3	9.7	17.5	14.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class			21.8		32.8	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	54.6	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha		0.2			0.6	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC29

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$9	$61	$12
Operation $/Year (million)	$1	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	115	751	138
Operation FTEs (Full-Time Equivalents)	8	9	4

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$1.425	$8.801	$1.537
Operation $/Year (million)	$0.450	$0.133	$0.047

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC32

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	151.8
Average Annual Energy (GWh/year)	367.9
Effective Load Carrying Capability (MW)	39.5
Annual Firm Energy (GWh/year)	367.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$447,446
Fixed Operating & Maintenance Cost ($1000s/year)	$5,528.7
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$58
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$134
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		15.1	43.4			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	44.2	2.9	7.4	4.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					58.5	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	58.5	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC32

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$15	$102	$19
Operation $/Year (million)	$2	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	180	1,247	226
Operation FTEs (Full-Time Equivalents)	15	16	8

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.217	$14.623	$2.523
Operation $/Year (million)	$0.853	$0.242	$0.085

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC34

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	351.9
Average Annual Energy (GWh/year)	906.3
Effective Load Carrying Capability (MW)	91.5
Annual Firm Energy (GWh/year)	906.3

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$1,042,258
Fixed Operating & Maintenance Cost ($1000s/year)	$13,709.2
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$291
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$129
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		63.2	153.9			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	55.4	49.3	79.5	32.9		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class			27.2	6.1	183.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	217.1	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.4	0.1	0.4		4.5	0.4
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC34

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$36	$238	$45
Operation $/Year (million)	$4	$4	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	445	2,914	534
Operation FTEs (Full-Time Equivalents)	37	41	19

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$5.485	$34.142	$5.958
Operation $/Year (million)	$2.483	$0.600	$0.211

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC36

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	172.5
Average Annual Energy (GWh/year)	424.9
Effective Load Carrying Capability (MW)	44.9
Annual Firm Energy (GWh/year)	424.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$520,071
Fixed Operating & Maintenance Cost ($1000s/year)	$6,495.6
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$246
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$136
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		4.0	168.5			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	40.7	28.3	71.1	32.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					172.5	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	172.5	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.7					1.3
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC36

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$19	$119	$23
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	239	1,459	271
Operation FTEs (Full-Time Equivalents)	17	19	9

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.951	$17.086	$3.027
Operation $/Year (million)	$1.202	$0.284	$0.100

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC37

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	72
Average Annual Energy (GWh/year)	231.4
Effective Load Carrying Capability (MW)	18.7
Annual Firm Energy (GWh/year)	231.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$240,972
Fixed Operating & Maintenance Cost ($1000s/year)	$3,895.1
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$692
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$126
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	20.8	220.4	139.2			
	Remoteness - Linear Disturbance Density^2:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	151.6	33.5	129.8	65.6		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.5	87.4	153.4	25.3	113.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	24.9	355.5	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.0	2.9		1.0		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC37

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$17	$58	$13
Operation $/Year (million)	$1	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	215	706	154
Operation FTEs (Full-Time Equivalents)	11	12	6

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.699	$8.180	$1.723
Operation $/Year (million)	$1.532	$0.166	$0.063

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC38

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	131.1
Average Annual Energy (GWh/year)	329.8
Effective Load Carrying Capability (MW)	34.1
Annual Firm Energy (GWh/year)	329.8

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$404,372
Fixed Operating & Maintenance Cost ($1000s/year)	$5,120.3
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$307
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$138
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	9.8	92.9	55.2			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	96.5	7.3	25.2	29.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class			0.5	49.4	108.1	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	158.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.1	0.2	0.5			1.7
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC38

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$17	$93	$18
Operation $/Year (million)	$1	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	209	1,140	217
Operation FTEs (Full-Time Equivalents)	14	15	7

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.601	$13.329	$2.422
Operation $/Year (million)	$1.085	$0.223	$0.080

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC40

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	117.3
Average Annual Energy (GWh/year)	350.1
Effective Load Carrying Capability (MW)	30.5
Annual Firm Energy (GWh/year)	350.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$351,188
Fixed Operating & Maintenance Cost ($1000s/year)	$5,299.1
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$111
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$115
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		63.8				
	Remoteness - Linear Disturbance Density: ^{2}	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	51.3	2.3	7.2	3.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	8.8	28.8	23.0	0.1	3.2	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	63.8	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.2		0.5			
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC40

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$13	$80	$15
Operation $/Year (million)	$1	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	155	982	181
Operation FTEs (Full-Time Equivalents)	14	16	7

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$1.919	$11.501	$2.020
Operation $/Year (million)	$1.194	$0.232	$0.082

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC41

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	45
Average Annual Energy (GWh/year)	155.3
Effective Load Carrying Capability (MW)	11.7
Annual Firm Energy (GWh/year)	155.3

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$129,509
Fixed Operating & Maintenance Cost ($1000s/year)	$2,383.5
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$97
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$101
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		50.7				
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	12.1	6.8	12.9	18.9		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	8.2	42.4				

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	50.7	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.8	0.8	0.3			
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC41

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$6	$30	$6
Operation $/Year (million)	$1	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	68	365	70
Operation FTEs (Full-Time Equivalents)	6	7	3

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.857	$4.263	$0.778
Operation $/Year (million)	$0.700	$0.104	$0.037

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC42

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	63
Average Annual Energy (GWh/year)	219.4
Effective Load Carrying Capability (MW)	16.4
Annual Firm Energy (GWh/year)	219.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$182,714
Fixed Operating & Maintenance Cost ($1000s/year)	$3,386.8
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$182
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$101
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		103.9				
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	61.8	9.8	23.9	8.3		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		52.4	48.8	0.1	2.6	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	103.9	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.2		0.3			
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC42

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$8	$42	$8
Operation $/Year (million)	$1	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	100	518	100
Operation FTEs (Full-Time Equivalents)	9	10	5

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$1.232	$6.051	$1.113
Operation $/Year (million)	$1.045	$0.148	$0.053

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC43

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	41.4
Average Annual Energy (GWh/year)	139.2
Effective Load Carrying Capability (MW)	10.8
Annual Firm Energy (GWh/year)	139.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$145,768
Fixed Operating & Maintenance Cost ($1000s/year)	$2,274.0
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$321
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$125
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		65.8				
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	10.0	3.1	30.4	22.3		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		36.1	24.6	2.6	2.5	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	65.8	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.2	0.1	0.1	0.2		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC43

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$9	$34	$7
Operation $/Year (million)	$1	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	112	420	88
Operation FTEs (Full-Time Equivalents)	7	7	3

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$1.369	$4.872	$0.984
Operation $/Year (million)	$0.853	$0.098	$0.036

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC44

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	34.5
Average Annual Energy (GWh/year)	104.8
Effective Load Carrying Capability (MW)	9
Annual Firm Energy (GWh/year)	104.8

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$123,377
Fixed Operating & Maintenance Cost ($1000s/year)	$1,746.1
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$285
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$138
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		150.0	0.0			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	72.1	13.6	39.1	25.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		61.7	65.5	5.5	17.4	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	150.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.8	1.4		0.6	2.6	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC44

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$8	$29	$6
Operation $/Year (million)	$1	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	98	358	76
Operation FTEs (Full-Time Equivalents)	5	5	3

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$1.229	$4.155	$0.845
Operation $/Year (million)	$0.633	$0.075	$0.028

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC47

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	34.5
Average Annual Energy (GWh/year)	107.7
Effective Load Carrying Capability (MW)	9
Annual Firm Energy (GWh/year)	107.7

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$115,609
Fixed Operating & Maintenance Cost ($1000s/year)	$1,713.2
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$170
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$125
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		38.3	99.6			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	8.6	11.9	43.3	74.2		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		22.0	44.6		71.4	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.3	137.7	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.2	1.2	0.6			2.0
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC47

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$6	$27	$6
Operation $/Year (million)	$1	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	72	331	66
Operation FTEs (Full-Time Equivalents)	5	5	2

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.894	$3.856	$0.733
Operation $/Year (million)	$0.535	$0.074	$0.027

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_PC48

Resource Category: Onshore Wind Region: Peace River

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	151.8
Average Annual Energy (GWh/year)	504.5
Effective Load Carrying Capability (MW)	39.5
Annual Firm Energy (GWh/year)	504.5

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$455,587
Fixed Operating & Maintenance Cost ($1000s/year)	$7,640.4
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$178
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$106
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		129.0				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	40.6	20.1	44.4	23.9		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.7	75.8	32.0	11.9	8.6	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	129.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.4	0.3	0.3			
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_PC48

Resource Category: Onshore Wind Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$16	$104	$20
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	202	1,277	236
Operation FTEs (Full-Time Equivalents)	20	23	11

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.491	$14.952	$2.630
Operation $/Year (million)	$2.019	$0.335	$0.118

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI11

Resource Category: Onshore Wind Region: Revelstoke Ashton Creek

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	138
Average Annual Energy (GWh/year)	329.9
Effective Load Carrying Capability (MW)	35.9
Annual Firm Energy (GWh/year)	329.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$413,707
Fixed Operating & Maintenance Cost ($1000s/year)	$5,016.0
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$150
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$139
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	20.7	65.7	6.9			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	0.8	1.7	21.5	69.3		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		35.3	0.1	2.3	55.7	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	93.3	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.7		1.5			
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI11

Resource Category: Onshore Wind Region: Revelstoke Ashton Creek

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$15	$95	$18
Operation $/Year (million)	$1	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	182	1,159	213
Operation FTEs (Full-Time Equivalents)	13	15	7

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.237	$13.571	$2.382
Operation $/Year (million)	$0.849	$0.220	$0.077

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI12

Resource Category: Onshore Wind Region: Revelstoke Ashton Creek

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	186.3
Average Annual Energy (GWh/year)	545.2
Effective Load Carrying Capability (MW)	48.4
Annual Firm Energy (GWh/year)	545.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$563,145
Fixed Operating & Maintenance Cost ($1000s/year)	$8,317.5
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$293
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$119
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		45.3	144.8			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	10.0	8.1	53.4	118.7		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		55.2	6.9	1.5	126.4	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	190.1	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	3.1	0.3				
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI12

Resource Category: Onshore Wind Region: Revelstoke Ashton Creek

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$21	$129	$25
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	262	1,582	295
Operation FTEs (Full-Time Equivalents)	22	25	12

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.218	$18.520	$3.287
Operation $/Year (million)	$1.932	$0.364	$0.128

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI13

Resource Category: Onshore Wind Region: Revelstoke Ashton Creek

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	236.9
Average Annual Energy (GWh/year)	566.7
Effective Load Carrying Capability (MW)	61.6
Annual Firm Energy (GWh/year)	566.7

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$729,771
Fixed Operating & Maintenance Cost ($1000s/year)	$8,820.1
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$591
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$143
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		67.1	212.9			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	23.0	32.2	107.5	117.3		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	12.8	102.0	28.6	16.2	120.4	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	30.2	249.8	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.0				1.6	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI13

Resource Category: Onshore Wind Region: Revelstoke Ashton Creek

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$30	$168	$33
Operation $/Year (million)	$3	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	374	2,062	392
Operation FTEs (Full-Time Equivalents)	24	26	12

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$4.594	$24.110	$4.370
Operation $/Year (million)	$1.813	$0.384	$0.138

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI14

Resource Category: Onshore Wind Region: Revelstoke Ashton Creek

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	82.8
Average Annual Energy (GWh/year)	232.5
Effective Load Carrying Capability (MW)	21.5
Annual Firm Energy (GWh/year)	232.5

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$266,008
Fixed Operating & Maintenance Cost ($1000s/year)	$3,669.0
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$327
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$131
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	14.9	45.2	132.6			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	32.6	11.8	52.5	95.7		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		29.2	8.4	2.9	152.2	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	192.7	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.7	1.5				
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI14

Resource Category: Onshore Wind Region: Revelstoke Ashton Creek

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$13	$62	$12
Operation $/Year (million)	$1	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	154	758	148
Operation FTEs (Full-Time Equivalents)	10	11	5

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$1.893	$8.847	$1.650
Operation $/Year (million)	$0.992	$0.159	$0.058

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_SI32

Resource Category: Onshore Wind Region: Selkirk

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	34.5
Average Annual Energy (GWh/year)	89
Effective Load Carrying Capability (MW)	9
Annual Firm Energy (GWh/year)	89

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$107,733
Fixed Operating & Maintenance Cost ($1000s/year)	$1,362.9
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$54
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$135
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		50.1				
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	8.1	4.4	25.5	12.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		10.2	31.8	7.1	1.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	50.1	0.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_SI32

Resource Category: Onshore Wind Region: Selkirk

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$4	$25	$5
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	50	302	56
Operation FTEs (Full-Time Equivalents)	4	4	2

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.622	$3.539	$0.629
Operation $/Year (million)	$0.271	$0.060	$0.021

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_VI02

Resource Category: Onshore Wind Region: Vancouver Island

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	172.5
Average Annual Energy (GWh/year)	466.8
Effective Load Carrying Capability (MW)	44.9
Annual Firm Energy (GWh/year)	466.8

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$597,203
Fixed Operating & Maintenance Cost ($1000s/year)	$7,829.7
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$1,361
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$148
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	41.9	683.1	89.2			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	175.3	25.7	215.9	397.3		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		0.4	0.1	605.4	208.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	814.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	21.3	9.6	11.8	4.0	21.1	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_VI02

Resource Category: Onshore Wind Region: Vancouver Island

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$38	$142	$31
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	463	1,737	364
Operation FTEs (Full-Time Equivalents)	23	24	11

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$5.738	$20.162	$4.065
Operation $/Year (million)	$2.661	$0.336	$0.127

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_VI04

Resource Category: Onshore Wind Region: Vancouver Island

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	62.1
Average Annual Energy (GWh/year)	177.6
Effective Load Carrying Capability (MW)	16.1
Annual Firm Energy (GWh/year)	177.6

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$266,462
Fixed Operating & Maintenance Cost ($1000s/year)	$3,394.7
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$1,219
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$179
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	63.8	584.5	70.6			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	104.9	17.5	192.2	404.4		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		7.8		555.8	154.2	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	717.7	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	17.0	8.3	10.3	3.9	21.1	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_VI04

Resource Category: Onshore Wind Region: Vancouver Island

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$24	$66	$16
Operation $/Year (million)	$1	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	301	810	190
Operation FTEs (Full-Time Equivalents)	11	11	5

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.701	$9.319	$2.117
Operation $/Year (million)	$1.796	$0.143	$0.058

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_VI05

Resource Category: Onshore Wind Region: Vancouver Island

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	255.3
Average Annual Energy (GWh/year)	702.7
Effective Load Carrying Capability (MW)	66.4
Annual Firm Energy (GWh/year)	702.7

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$821,109
Fixed Operating & Maintenance Cost ($1000s/year)	$11,191.7
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$1,154
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$134
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	63.8	578.0	70.6			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	107.1	14.7	187.1	403.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		7.8		593.6	109.8	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	711.2	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	15.3	7.9	9.9	3.9	21.1	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_VI05

Resource Category: Onshore Wind Region: Vancouver Island

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$41	$192	$39
Operation $/Year (million)	$3	$3	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	500	2,349	463
Operation FTEs (Full-Time Equivalents)	31	34	16

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$6.142	$27.382	$5.170
Operation $/Year (million)	$3.108	$0.486	$0.177

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_VI06

Resource Category: Onshore Wind Region: Vancouver Island

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	117.3
Average Annual Energy (GWh/year)	333.1
Effective Load Carrying Capability (MW)	30.5
Annual Firm Energy (GWh/year)	333.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$420,124
Fixed Operating & Maintenance Cost ($1000s/year)	$5,661.6
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$1,130
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$147
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	63.8	543.3	70.5			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	71.1	14.1	188.3	404.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		7.7		552.8	115.8	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	676.4	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	15.7	8.0	10.3	3.9	21.1	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_VI06

Resource Category: Onshore Wind Region: Vancouver Island

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$28	$100	$22
Operation $/Year (million)	$2	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	345	1,232	262
Operation FTEs (Full-Time Equivalents)	17	18	8

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$4.232	$14.287	$2.926
Operation $/Year (million)	$2.136	$0.243	$0.092

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_VI07

Resource Category: Onshore Wind Region: Vancouver Island

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	165.6
Average Annual Energy (GWh/year)	502.1
Effective Load Carrying Capability (MW)	43.1
Annual Firm Energy (GWh/year)	502.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$561,278
Fixed Operating & Maintenance Cost ($1000s/year)	$8,192.2
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$1,150
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$131
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	134.5	372.2	65.8			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	35.2	12.0	171.0	354.4		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		10.2		491.3	58.4	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	560.2	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	12.7	5.5	9.5	3.9	21.1	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	7.6	6.7		
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	1.3	1.7	
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_VI07

Resource Category: Onshore Wind Region: Vancouver Island

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$32	$133	$28
Operation $/Year (million)	$2	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	399	1,626	333
Operation FTEs (Full-Time Equivalents)	23	25	12

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$4.895	$18.909	$3.718
Operation $/Year (million)	$2.794	$0.354	$0.131

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_VI08

Resource Category: Onshore Wind Region: Vancouver Island

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	41.4
Average Annual Energy (GWh/year)	113
Effective Load Carrying Capability (MW)	10.8
Annual Firm Energy (GWh/year)	113

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$128,126
Fixed Operating & Maintenance Cost ($1000s/year)	$1,727.5
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$60
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$128
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		16.4	15.2			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	22.3	1.4	3.6	4.4		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class			3.1	28.5		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	31.6	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.4	0.2				
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_VI08

Resource Category: Onshore Wind Region: Vancouver Island

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$5	$29	$6
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	61	359	67
Operation FTEs (Full-Time Equivalents)	5	5	2

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.759	$4.196	$0.749
Operation $/Year (million)	$0.364	$0.075	$0.027

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_VI10

Resource Category: Onshore Wind Region: Vancouver Island

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	34.5
Average Annual Energy (GWh/year)	89.1
Effective Load Carrying Capability (MW)	9
Annual Firm Energy (GWh/year)	89.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$113,364
Fixed Operating & Maintenance Cost ($1000s/year)	$1,414.1
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$137
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$144
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		58.2	5.3			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	15.2	2.7	25.9	19.7		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class			0.0	35.1	28.4	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	63.5	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.3	1.5	0.4			
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_VI10

Resource Category: Onshore Wind Region: Vancouver Island

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$5	$26	$5
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	67	321	63
Operation FTEs (Full-Time Equivalents)	4	4	2

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.823	$3.748	$0.705
Operation $/Year (million)	$0.360	$0.061	$0.022

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_VI11

Resource Category: Onshore Wind Region: Vancouver Island

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	48.3
Average Annual Energy (GWh/year)	111.7
Effective Load Carrying Capability (MW)	12.6
Annual Firm Energy (GWh/year)	111.7

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$147,561
Fixed Operating & Maintenance Cost ($1000s/year)	$1,700.8
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$52
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$145
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		12.7	32.9			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	17.6	1.4	14.6	12.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		11.6		5.9	28.2	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	45.6	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.7		0.3			
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_VI11

Resource Category: Onshore Wind Region: Vancouver Island

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$5	$34	$6
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	65	413	76
Operation FTEs (Full-Time Equivalents)	5	5	2

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.811	$4.837	$0.851
Operation $/Year (million)	$0.275	$0.074	$0.026

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_VI12

Resource Category: Onshore Wind Region: Vancouver Island

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	48.3
Average Annual Energy (GWh/year)	150.9
Effective Load Carrying Capability (MW)	12.6
Annual Firm Energy (GWh/year)	150.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$147,485
Fixed Operating & Maintenance Cost ($1000s/year)	$2,286.1
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$51
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$113
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	8.2	29.9				
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	28.5	2.7	5.0	2.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		19.1	3.0	16.0		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	38.1	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.4			0.4		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_VI12

Resource Category: Onshore Wind Region: Vancouver Island

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$5	$34	$6
Operation $/Year (million)	$1	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	65	413	76
Operation FTEs (Full-Time Equivalents)	6	7	3

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.812	$4.833	$0.850
Operation $/Year (million)	$0.553	$0.100	$0.035

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_VI13

Resource Category: Onshore Wind Region: Vancouver Island

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	34.5
Average Annual Energy (GWh/year)	104.7
Effective Load Carrying Capability (MW)	9
Annual Firm Energy (GWh/year)	104.7

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$107,510
Fixed Operating & Maintenance Cost ($1000s/year)	$1,595.9
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$50
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$118
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		36.4				
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	24.0		8.8	3.7		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		15.3	0.1	21.1		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	36.4	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.7	0.0				
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_VI13

Resource Category: Onshore Wind Region: Vancouver Island

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$4	$25	$5
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	51	301	56
Operation FTEs (Full-Time Equivalents)	4	5	2

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.631	$3.527	$0.628
Operation $/Year (million)	$0.384	$0.070	$0.025

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_VI14

Resource Category: Onshore Wind Region: Vancouver Island

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	34.5
Average Annual Energy (GWh/year)	112.6
Effective Load Carrying Capability (MW)	9
Annual Firm Energy (GWh/year)	112.6

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$108,996
Fixed Operating & Maintenance Cost ($1000s/year)	$1,727.6
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$72
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$113
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		49.9				
	Remoteness - Linear Disturbance Density^2:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	18.5	4.9	12.2	14.4		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	20.4		1.5	28.0		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	49.9	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.1		0.8		0.5	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Wind_VI14

Resource Category: Onshore Wind Region: Vancouver Island

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$4	$25	$5
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	55	307	58
Operation FTEs (Full-Time Equivalents)	5	5	2

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.680	$3.587	$0.647
Operation $/Year (million)	$0.475	$0.075	$0.027

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_VI15

Resource Category: Onshore Wind Region: Vancouver Island

Project Description

Potential onshore wind site identified in the 2009 BC Hydro Wind Data Studies.

Technical Information

Installed Capacity (MW)	41.4
Average Annual Energy (GWh/year)	125.7
Effective Load Carrying Capability (MW)	10.8
Annual Firm Energy (GWh/year)	125.7

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$131,406
Fixed Operating & Maintenance Cost ($1000s/year)	$1,943.0
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$109
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$121
Project Life (Years)	20
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	4.5	35.8	7.6			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	21.9	3.7	13.3	9.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		1.4		45.5		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	46.8	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.9	0.7	0.1			
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class		1.0		
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.2		
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	4.0		

RESOURCE OPTIONS DATABASE

Project: Wind_VI15

Resource Category: Onshore Wind Region: Vancouver Island

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$6	$30	$6
Operation $/Year (million)	$1	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	70	370	71
Operation FTEs (Full-Time Equivalents)	5	6	3

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.855	$4.324	$0.791
Operation $/Year (million)	$0.511	$0.085	$0.030

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Wind_OBC14-1

Resource Category: Offshore Wind Region: North Coast

Project Description

Potential offshore wind site in ocean depth of up to 40 m.

Technical Information

Installed Capacity (MW)	460.8
Average Annual Energy (GWh/year)	1911.3
Effective Load Carrying Capability (MW)	119.8
Annual Firm Energy (GWh/year)	1911.3

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$2,590,681
Fixed Operating & Maintenance Cost ($1000s/year)	$86,026.2
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$7,164
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$192
Project Life (Years)	20
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	364.1	530.4				
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	794.1	10.8	64.3	25.3		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	55.7	357.5	286.4			

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		697.5				
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	12.9	8.3	6.1	1.7	0.5	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class		162.1	36.6	
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	48.7	56.8	0.1
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	337.6	9.5	

RESOURCE OPTIONS DATABASE

Project: Wind_OBC14-1

Resource Category: Offshore Wind Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$170	$557	$129
Operation $/Year (million)	$22	$36	$11

Employment	Direct	Indirect	Induced
Construction Person-Years	2,100	6,891	1,529
Operation FTEs (Full-Time Equivalents)	207	413	131

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$25.862	$74.725	$17.057
Operation $/Year (million)	$16.977	$4.605	$1.466

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Wind_OBC3

Resource Category: Offshore Wind Region: North Coast

Project Description

Potential offshore wind site in ocean depth of up to 40 m.

Technical Information

Installed Capacity (MW)	108
Average Annual Energy (GWh/year)	402.7
Effective Load Carrying Capability (MW)	28.1
Annual Firm Energy (GWh/year)	402.7

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$557,388
Fixed Operating & Maintenance Cost ($1000s/year)	$19,483.6
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$893
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$196
Project Life (Years)	20
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	67.0	73.5				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	104.2	3.9	15.7	16.8		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	1.9		98.0	3.3		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		60.4		57.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.8	0.6	1.4		0.6	1.1
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.2	39.0		
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	38.1	2.6	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.3	0.8	

RESOURCE OPTIONS DATABASE

Project: Wind_OBC3

Resource Category: Offshore Wind Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$29	$116	$25
Operation $/Year (million)	$5	$8	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	357	1,430	300
Operation FTEs (Full-Time Equivalents)	46	94	30

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$4.454	$15.454	$3.343
Operation $/Year (million)	$2.999	$1.050	$0.329

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Wind_OBC7-1

Resource Category: Offshore Wind Region: North Coast

Project Description

Potential offshore wind site in ocean depth of up to 40 m.

Technical Information

Installed Capacity (MW)	471.6
Average Annual Energy (GWh/year)	1812.1
Effective Load Carrying Capability (MW)	122.6
Annual Firm Energy (GWh/year)	1812.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$2,391,708
Fixed Operating & Maintenance Cost ($1000s/year)	$86,255.7
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$5,593
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$190
Project Life (Years)	20
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	225.7	48.1				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	216.2	10.5	25.1	22.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	11.3	0.7	92.5			

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		101.0				
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.0	0.4				
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	4.0	186.1		
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	132.4	17.4	5.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	146.2	62.6	

RESOURCE OPTIONS DATABASE

Project: Wind_OBC7-1

Resource Category: Offshore Wind Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$144	$508	$115
Operation $/Year (million)	$22	$36	$11

Employment	Direct	Indirect	Induced
Construction Person-Years	1,774	6,279	1,362
Operation FTEs (Full-Time Equivalents)	204	415	131

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$21.872	$68.006	$15.190
Operation $/Year (million)	$15.047	$4.636	$1.464

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Wind_OBC8-1

Resource Category: Offshore Wind Region: North Coast

Project Description

Potential offshore wind site in ocean depth of up to 40 m.

Technical Information

Installed Capacity (MW)	478.8
Average Annual Energy (GWh/year)	1966.9
Effective Load Carrying Capability (MW)	124.5
Annual Firm Energy (GWh/year)	1966.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$2,511,178
Fixed Operating & Maintenance Cost ($1000s/year)	$87,793.6
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$4,974
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$182
Project Life (Years)	20
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	405.4	967.5				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	937.0	72.0	264.5	99.4		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	102.3	268.2	736.9	168.8		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		515.0		759.9		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	32.8	14.6	10.1	4.8	1.1	39.3
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	3.2	279.3	8.2	
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	20.6	6.6	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	126.3	60.9	

RESOURCE OPTIONS DATABASE

Project: Wind_OBC8-1

Resource Category: Offshore Wind Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$139	$528	$117
Operation $/Year (million)	$22	$36	$11

Employment	Direct	Indirect	Induced
Construction Person-Years	1,715	6,520	1,385
Operation FTEs (Full-Time Equivalents)	207	422	133

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$21.171	$70.543	$15.454
Operation $/Year (million)	$14.971	$4.727	$1.487

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Wind_OBC24-1

Resource Category: Offshore Wind Region: Vancouver Island

Project Description

Potential offshore wind site in ocean depth of up to 40 m.

Technical Information

Installed Capacity (MW)	475.2
Average Annual Energy (GWh/year)	1892.3
Effective Load Carrying Capability (MW)	123.6
Annual Firm Energy (GWh/year)	1892.3

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$2,181,776
Fixed Operating & Maintenance Cost ($1000s/year)	$84,764.2
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$1,524
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$166
Project Life (Years)	20
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	88.2	624.8	84.1			
	Remoteness - Linear Disturbance Density^2:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	95.4	33.5	244.2	424.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		7.2	1.0	693.8	83.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**			783.4			
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	21.7	7.9	10.7	3.9	21.1	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	10.2	9.6	0.0	
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	3.7	2.6	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	72.2	5.7	

RESOURCE OPTIONS DATABASE

Project: Wind_OBC24-1

Resource Category: Offshore Wind Region: Vancouver Island

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$84	$440	$90
Operation $/Year (million)	$20	$36	$11

Employment	Direct	Indirect	Induced
Construction Person-Years	1,036	5,438	1,066
Operation FTEs (Full-Time Equivalents)	194	409	127

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$12.886	$58.602	$11.898
Operation $/Year (million)	$11.056	$4.601	$1.422

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Wind_OBC25-1

Resource Category: Offshore Wind Region: Vancouver Island

Project Description

Potential offshore wind site in ocean depth of up to 40 m.

Technical Information

Installed Capacity (MW)	334.8
Average Annual Energy (GWh/year)	1347.3
Effective Load Carrying Capability (MW)	87
Annual Firm Energy (GWh/year)	1347.3

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$1,563,285
Fixed Operating & Maintenance Cost ($1000s/year)	$60,031.6
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$1,452
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$167
Project Life (Years)	20
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	20.2	482.1	190.2			
	Remoteness - Linear Disturbance Density^2:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	112.6	26.5	162.2	391.2		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.0	2.3	9.3	546.7	128.4	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**			686.2			
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	14.8	13.8	16.7	3.9	20.2	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	7.3	4.6		
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	1.2	1.4	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	10.9	4.2	

RESOURCE OPTIONS DATABASE

Project: Wind_OBC25-1

Resource Category: Offshore Wind Region: Vancouver Island

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$65	$318	$66
Operation $/Year (million)	$15	$25	$8

Employment	Direct	Indirect	Induced
Construction Person-Years	805	3,926	783
Operation FTEs (Full-Time Equivalents)	138	289	90

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$10.009	$42.335	$8.733
Operation $/Year (million)	$8.239	$3.254	$1.009

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Wind_OBC28

Resource Category: Offshore Wind Region: Vancouver Island

Project Description

Potential offshore wind site in ocean depth of up to 40 m.

Technical Information

Installed Capacity (MW)	396
Average Annual Energy (GWh/year)	1441.5
Effective Load Carrying Capability (MW)	103
Annual Firm Energy (GWh/year)	1441.5

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$1,820,138
Fixed Operating & Maintenance Cost ($1000s/year)	$69,704.4
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$860
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$181
Project Life (Years)	20
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	32.1	97.3	174.8			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	74.5	15.1	67.2	147.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		4.0	2.7	183.0	92.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**			282.0			
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	8.7	3.5	6.3	2.4	0.7	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	3.0	21.4		
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	20.1	5.3	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	46.6	8.8	

RESOURCE OPTIONS DATABASE

Project: Wind_OBC28

Resource Category: Offshore Wind Region: Vancouver Island

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$65	$364	$73
Operation $/Year (million)	$17	$29	$9

Employment	Direct	Indirect	Induced
Construction Person-Years	800	4,503	870
Operation FTEs (Full-Time Equivalents)	158	336	105

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$9.972	$48.494	$9.706
Operation $/Year (million)	$8.316	$3.787	$1.168

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Wind_OBC29

Resource Category: Offshore Wind Region: Vancouver Island

Project Description

Potential offshore wind site in ocean depth of up to 40 m.

Technical Information

Installed Capacity (MW)	259.2
Average Annual Energy (GWh/year)	1014.4
Effective Load Carrying Capability (MW)	67.4
Annual Firm Energy (GWh/year)	1014.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$1,321,092
Fixed Operating & Maintenance Cost ($1000s/year)	$47,170.4
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$2,500
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$186
Project Life (Years)	20
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	89.1	91.1	94.3			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	146.5	10.9	40.8	76.3		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		0.5	0.2	159.4	54.5	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**			214.5			
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	3.7	6.1	5.6		0.7	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	40.4	16.3		
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	22.0	5.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	56.8	37.2	

RESOURCE OPTIONS DATABASE

Project: Wind_OBC29

Resource Category: Offshore Wind Region: Vancouver Island

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$72	$277	$61
Operation $/Year (million)	$12	$20	$6

Employment	Direct	Indirect	Induced
Construction Person-Years	890	3,421	725
Operation FTEs (Full-Time Equivalents)	111	227	72

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$11.013	$36.998	$8.084
Operation $/Year (million)	$7.731	$2.541	$0.798

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Canoe Creek / Valemont

Resource Category: Geothermal Region: Kelly Nicola

Project Description

Conventional geothermal potential assumed to be developable with flash-steam or binary-cycle power plant technologies.

Technical Information

Installed Capacity (MW)	20
Average Annual Energy (GWh/year)	140.2
Dependable Capacity (MW)	20
Annual Firm Energy (GWh/year)	140.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$155,142
Fixed Operating & Maintenance Cost ($1000s/year)	$104.8
Variable Operating & Maintenance Cost ($/MWh)	$42.8
Fixed Taxes ($1000s)	$122
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$141
Project Life (Years)	40
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	0.7	31.8	0.2			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	23.1	0.6	4.2	4.7		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	21.4	4.5	2.5	4.3	0.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	29.8	1.2	1.6		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.3					
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Canoe Creek / Valemont

Resource Category: Geothermal Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$27	$62	$17
Operation $/Year (million)	$2	$3	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	339	662	198
Operation FTEs (Full-Time Equivalents)	20	31	10

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$4.033	$8.739	$2.211
Operation $/Year (million)	$0.493	$0.352	$0.113

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Harrison Hot Springs

Resource Category: Geothermal Region: Lower Mainland

Project Description

Conventional geothermal potential assumed to be developable with flash-steam or binary-cycle power plant technologies.

Technical Information

Installed Capacity (MW)	20
Average Annual Energy (GWh/year)	140.2
Dependable Capacity (MW)	20
Annual Firm Energy (GWh/year)	140.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$154,036
Fixed Operating & Maintenance Cost ($1000s/year)	$64.2
Variable Operating & Maintenance Cost ($/MWh)	$42.8
Fixed Taxes ($1000s)	$106
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$139
Project Life (Years)	40
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	16.8	5.1	20.6			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	8.4	2.6	10.1	21.3		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.7	0.4	0.3	0.4	40.7	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	1.0	40.1	1.3		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.4	0.4		0.1	3.8	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Harrison Hot Springs

Resource Category: Geothermal Region: Lower Mainland

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$26	$62	$16
Operation $/Year (million)	$2	$3	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	320	661	194
Operation FTEs (Full-Time Equivalents)	20	31	10

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.709	$8.739	$2.162
Operation $/Year (million)	$0.469	$0.352	$0.111

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Mt. Cayley

Resource Category: Geothermal Region: Lower Mainland

Project Description

Conventional geothermal potential assumed to be developable with flash-steam or binary-cycle power plant technologies.

Technical Information

Installed Capacity (MW)	50
Average Annual Energy (GWh/year)	394.2
Dependable Capacity (MW)	50
Annual Firm Energy (GWh/year)	394.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$318,836
Fixed Operating & Maintenance Cost ($1000s/year)	$472.7
Variable Operating & Maintenance Cost ($/MWh)	$31.6
Fixed Taxes ($1000s)	$672
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$105
Project Life (Years)	40
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	39.1	18.0	210.3			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	120.8	19.4	90.5	36.6		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	4.9	1.7	0.9	213.9	45.8	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	179.5	86.3	0.4	0.9		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	5.9	3.7	6.8	0.3	22.6	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Mt. Cayley

Resource Category: Geothermal Region: Lower Mainland

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$41	$141	$35
Operation $/Year (million)	$4	$6	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	500	1,498	417
Operation FTEs (Full-Time Equivalents)	38	69	21

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$6.117	$19.707	$4.651
Operation $/Year (million)	$1.403	$0.765	$0.237

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Mt. Garibaldi

Resource Category: Geothermal Region: Lower Mainland

Project Description

Conventional geothermal potential assumed to be developable with flash-steam or binary-cycle power plant technologies.

Technical Information

Installed Capacity (MW)	50
Average Annual Energy (GWh/year)	394.2
Dependable Capacity (MW)	50
Annual Firm Energy (GWh/year)	394.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$273,571
Fixed Operating & Maintenance Cost ($1000s/year)	$2.3
Variable Operating & Maintenance Cost ($/MWh)	$31.6
Fixed Taxes ($1000s)	$3
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$91
Project Life (Years)	40
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	2.3	3.1	3.9			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	5.3	0.4	1.2	2.3		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	2.8	1.1	0.9	3.3	0.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	2.2	4.4	2.4	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha		0.0	0.1			
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Mt. Garibaldi

Resource Category: Geothermal Region: Lower Mainland

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$28	$128	$30
Operation $/Year (million)	$4	$6	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	339	1,344	357
Operation FTEs (Full-Time Equivalents)	36	68	20

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.954	$18.009	$3.978
Operation $/Year (million)	$0.683	$0.752	$0.225

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Pebble Creek

Resource Category: Geothermal Region: Lower Mainland

Project Description

Conventional geothermal potential assumed to be developable with flash-steam or binary-cycle power plant technologies.

Technical Information

Installed Capacity (MW)	100
Average Annual Energy (GWh/year)	788.4
Dependable Capacity (MW)	100
Annual Firm Energy (GWh/year)	788.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$603,994
Fixed Operating & Maintenance Cost ($1000s/year)	$569.2
Variable Operating & Maintenance Cost ($/MWh)	$31.6
Fixed Taxes ($1000s)	$846
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$99
Project Life (Years)	40
Project Lead Time (Years)	4

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	51.9	286.7	47.0			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	141.7	18.6	135.7	89.6		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	33.5	68.5	2.8	168.7	112.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	2.4	55.5	8.0	319.6		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	12.8	5.7	5.2	0.5	22.4	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Pebble Creek

Resource Category: Geothermal Region: Lower Mainland

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$70	$273	$66
Operation $/Year (million)	$8	$11	$4

Employment	Direct	Indirect	Induced
Construction Person-Years	866	2,885	786
Operation FTEs (Full-Time Equivalents)	74	138	42

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$10.370	$38.203	$8.770
Operation $/Year (million)	$2.264	$1.521	$0.464

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: South Meager Creek

Resource Category: Geothermal Region: Lower Mainland

Project Description

Conventional geothermal potential assumed to be developable with flash-steam or binary-cycle power plant technologies.

Technical Information

Installed Capacity (MW)	100
Average Annual Energy (GWh/year)	788.4
Dependable Capacity (MW)	100
Annual Firm Energy (GWh/year)	788.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$603,994
Fixed Operating & Maintenance Cost ($1000s/year)	$569.2
Variable Operating & Maintenance Cost ($/MWh)	$31.6
Fixed Taxes ($1000s)	$846
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$99
Project Life (Years)	40
Project Lead Time (Years)	4

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	51.9	286.7	47.0			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	141.7	18.6	135.7	89.6		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	33.5	68.5	2.8	168.7	112.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	2.4	55.5	8.0	319.6		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	12.8	5.7	5.2	0.5	22.4	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: South Meager Creek

Resource Category: Geothermal Region: Lower Mainland

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$70	$273	$66
Operation $/Year (million)	$8	$11	$4

Employment	Direct	Indirect	Induced
Construction Person-Years	866	2,885	786
Operation FTEs (Full-Time Equivalents)	74	138	42

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$10.370	$38.203	$8.770
Operation $/Year (million)	$2.264	$1.521	$0.464

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Feasibility
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Hoodoo Mountain

Resource Category: Geothermal Region: North Coast

Project Description

Conventional geothermal potential assumed to be developable with flash-steam or binary-cycle power plant technologies.

Technical Information

Installed Capacity (MW)	50
Average Annual Energy (GWh/year)	394.2
Dependable Capacity (MW)	50
Annual Firm Energy (GWh/year)	394.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$371,181
Fixed Operating & Maintenance Cost ($1000s/year)	$1,298.7
Variable Operating & Maintenance Cost ($/MWh)	$31.6
Fixed Taxes ($1000s)	$1,442
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$122
Project Life (Years)	40
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	216.0	156.7				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	370.9	1.8	0.0	0.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	70.8	213.6	88.2			

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	372.6	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	6.9	8.3	3.7	13.3	2.9	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Hoodoo Mountain

Resource Category: Geothermal Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$68	$151	$44
Operation $/Year (million)	$5	$6	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	838	1,633	516
Operation FTEs (Full-Time Equivalents)	44	70	23

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$11.361	$21.113	$5.762
Operation $/Year (million)	$2.298	$0.775	$0.259

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Lakelse Lake

Resource Category: Geothermal Region: North Coast

Project Description

Conventional geothermal potential assumed to be developable with flash-steam or binary-cycle power plant technologies.

Technical Information

Installed Capacity (MW)	20
Average Annual Energy (GWh/year)	140.2
Dependable Capacity (MW)	20
Annual Firm Energy (GWh/year)	140.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$149,992
Fixed Operating & Maintenance Cost ($1000s/year)	$29.3
Variable Operating & Maintenance Cost ($/MWh)	$42.8
Fixed Taxes ($1000s)	$46
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$136
Project Life (Years)	40
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	0.3	23.0	0.2			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	3.4	0.4	2.9	16.8		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	2.0	0.0	14.8	6.8		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	1.4	0.0	22.1		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.5	0.2	0.2			
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Lakelse Lake

Resource Category: Geothermal Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$25	$61	$16
Operation $/Year (million)	$2	$3	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	309	647	189
Operation FTEs (Full-Time Equivalents)	19	31	10

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.578	$8.583	$2.109
Operation $/Year (million)	$0.406	$0.350	$0.111

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Mt. Edziza

Resource Category: Geothermal Region: North Coast

Project Description

Conventional geothermal potential assumed to be developable with flash-steam or binary-cycle power plant technologies.

Technical Information

Installed Capacity (MW)	200
Average Annual Energy (GWh/year)	1576.8
Dependable Capacity (MW)	200
Annual Firm Energy (GWh/year)	1576.8

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$1,172,392
Fixed Operating & Maintenance Cost ($1000s/year)	$762.0
Variable Operating & Maintenance Cost ($/MWh)	$31.6
Fixed Taxes ($1000s)	$1,167
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$97
Project Life (Years)	40
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	129.1	401.9				
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	502.6	8.2	20.1	0.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	75.3	323.9	120.2	11.6		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	531.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	9.8	3.6	6.3	16.8	2.8	0.3
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Mt. Edziza

Resource Category: Geothermal Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$130	$536	$129
Operation $/Year (million)	$15	$22	$7

Employment	Direct	Indirect	Induced
Construction Person-Years	1,602	5,650	1,524
Operation FTEs (Full-Time Equivalents)	147	274	82

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$18.976	$75.083	$17.003
Operation $/Year (million)	$3.961	$3.031	$0.919

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Hudson's Hope

Resource Category: Geothermal Region: Peace River

Project Description

Conventional geothermal potential assumed to be developable with flash-steam or binary-cycle power plant technologies.

Technical Information

Installed Capacity (MW)	20
Average Annual Energy (GWh/year)	140.2
Dependable Capacity (MW)	20
Annual Firm Energy (GWh/year)	140.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$148,143
Fixed Operating & Maintenance Cost ($1000s/year)	$12.9
Variable Operating & Maintenance Cost ($/MWh)	$42.8
Fixed Taxes ($1000s)	$19
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$134
Project Life (Years)	40
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	0.1	2.0	15.7			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	4.5	0.5	5.8	7.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.1	0.5	0.6	0.1	16.5	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.6	17.2	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.0	0.1				0.8
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Hudson's Hope

Resource Category: Geothermal Region: Peace River

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$25	$61	$16
Operation $/Year (million)	$2	$3	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	303	641	187
Operation FTEs (Full-Time Equivalents)	19	31	10

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.512	$8.514	$2.084
Operation $/Year (million)	$0.378	$0.350	$0.110

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Upper Arrow Lake

Resource Category: Geothermal Region: Revelstoke Ashton Creek

Project Description

Conventional geothermal potential assumed to be developable with flash-steam or binary-cycle power plant technologies.

Technical Information

Installed Capacity (MW)	20
Average Annual Energy (GWh/year)	140.2
Dependable Capacity (MW)	20
Annual Firm Energy (GWh/year)	140.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$156,940
Fixed Operating & Maintenance Cost ($1000s/year)	$113.7
Variable Operating & Maintenance Cost ($/MWh)	$42.8
Fixed Taxes ($1000s)	$148
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$142
Project Life (Years)	40
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	1.6	12.2	21.8			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	20.2	0.9	6.6	7.9		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.8	12.9	5.0	0.4	16.5	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	35.6	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.2	0.3	0.5			
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Upper Arrow Lake

Resource Category: Geothermal Region: Revelstoke Ashton Creek

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$28	$63	$17
Operation $/Year (million)	$2	$3	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	341	668	200
Operation FTEs (Full-Time Equivalents)	20	31	10

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$4.036	$8.811	$2.228
Operation $/Year (million)	$0.520	$0.352	$0.113

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Kootenay Lake

Resource Category: Geothermal Region: Selkirk

Project Description

Conventional geothermal potential assumed to be developable with flash-steam or binary-cycle power plant technologies.

Technical Information

Installed Capacity (MW)	20
Average Annual Energy (GWh/year)	140.2
Dependable Capacity (MW)	20
Annual Firm Energy (GWh/year)	140.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$147,235
Fixed Operating & Maintenance Cost ($1000s/year)	$4.0
Variable Operating & Maintenance Cost ($/MWh)	$42.8
Fixed Taxes ($1000s)	$5
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$134
Project Life (Years)	40
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	1.5	3.1	0.8			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	2.9	0.2	1.3	1.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	1.3	0.9	0.2	0.2	2.7	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.8	4.6	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Kootenay Lake

Resource Category: Geothermal Region: Selkirk

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$24	$60	$16
Operation $/Year (million)	$2	$3	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	300	638	186
Operation FTEs (Full-Time Equivalents)	19	31	10

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.474	$8.478	$2.072
Operation $/Year (million)	$0.363	$0.350	$0.110

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Lower Arrow Lake

Resource Category: Geothermal Region: Selkirk

Project Description

Conventional geothermal potential assumed to be developable with flash-steam or binary-cycle power plant technologies.

Technical Information

Installed Capacity (MW)	20
Average Annual Energy (GWh/year)	140.2
Dependable Capacity (MW)	20
Annual Firm Energy (GWh/year)	140.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$172,307
Fixed Operating & Maintenance Cost ($1000s/year)	$231.3
Variable Operating & Maintenance Cost ($/MWh)	$42.8
Fixed Taxes ($1000s)	$376
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$155
Project Life (Years)	40
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	0.1	36.5	155.8			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	29.4	1.5	10.3	151.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	6.1	11.4	3.9	0.1	170.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.9	191.4	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.2	0.9	4.9	3.0	8.0	0.6
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Lower Arrow Lake

Resource Category: Geothermal Region: Selkirk

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$30	$68	$18
Operation $/Year (million)	$2	$3	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	371	728	216
Operation FTEs (Full-Time Equivalents)	20	32	10

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$4.349	$9.485	$2.405
Operation $/Year (million)	$0.754	$0.357	$0.115

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Okanagan Valley

Resource Category: Geothermal Region: Selkirk

Project Description

Conventional geothermal potential assumed to be developable with flash-steam or binary-cycle power plant technologies.

Technical Information

Installed Capacity (MW)	20
Average Annual Energy (GWh/year)	140.2
Dependable Capacity (MW)	20
Annual Firm Energy (GWh/year)	140.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$200,816
Fixed Operating & Maintenance Cost ($1000s/year)	$482.7
Variable Operating & Maintenance Cost ($/MWh)	$42.8
Fixed Taxes ($1000s)	$797
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$179
Project Life (Years)	40
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	0.2	350.8	1.2			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	24.0	15.7	123.6	188.8		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.0	0.3	0.7	0.9	350.2	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	1.7	350.5	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	3.9	0.5	0.6	0.9		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Okanagan Valley

Resource Category: Geothermal Region: Selkirk

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$36	$76	$21
Operation $/Year (million)	$2	$3	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	448	832	249
Operation FTEs (Full-Time Equivalents)	22	33	11

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$5.274	$10.644	$2.776
Operation $/Year (million)	$1.198	$0.367	$0.121

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Mt. Silverthrone

Resource Category: Geothermal Region: Vancouver Island

Project Description

Conventional geothermal potential assumed to be developable with flash-steam or binary-cycle power plant technologies.

Technical Information

Installed Capacity (MW)	50
Average Annual Energy (GWh/year)	394.2
Dependable Capacity (MW)	50
Annual Firm Energy (GWh/year)	394.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$412,600
Fixed Operating & Maintenance Cost ($1000s/year)	$1,245.3
Variable Operating & Maintenance Cost ($/MWh)	$31.6
Fixed Taxes ($1000s)	$2,058
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$134
Project Life (Years)	40
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	186.2	177.8	433.8			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	259.9	33.9	173.4	330.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	34.2	16.5	152.2	197.7	347.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.1	749.3	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	13.3	3.3	7.0	7.2	0.7	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class		52.1	10.1	
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	31.0	9.6	0.2
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	104.6		

RESOURCE OPTIONS DATABASE

Project: Mt. Silverthrone

Resource Category: Geothermal Region: Vancouver Island

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$59	$169	$44
Operation $/Year (million)	$4	$6	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	723	1,849	520
Operation FTEs (Full-Time Equivalents)	42	73	23

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$8.635	$23.623	$5.807
Operation $/Year (million)	$2.849	$0.796	$0.254

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: ROR_160-170_CI

Resource Category: Run-of-River Hydro Region: Central Interior

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	50.6
Average Annual Energy (GWh/year)	166.9
Effective Load Carrying Capability (MW)	7.5
Annual Firm Energy (GWh/year)	120.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$216,763
Fixed Operating & Maintenance Cost ($1000s/year)	$2,974.3
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$2,963
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$168
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	100.3	736.3	176.0			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	449.3	54.9	299.6	208.8		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	90.1	85.1	126.5	412.3	298.5	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	87.5	0.3	0.0	924.6		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	8.7	10.0	6.6	5.7	2.3	9.4
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	6.1					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_160-170_CI

Resource Category: Run-of-River Hydro Region: Central Interior

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$52	$61	$22
Operation $/Year (million)	$3	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	643	756	260
Operation FTEs (Full-Time Equivalents)	30	7	11

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$8.302	$8.338	$2.903
Operation $/Year (million)	$3.491	$0.065	$0.123

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_170-180_CI

Resource Category: Run-of-River Hydro Region: Central Interior

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	17.7
Average Annual Energy (GWh/year)	49.3
Effective Load Carrying Capability (MW)	0.1
Annual Firm Energy (GWh/year)	47.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$59,493
Fixed Operating & Maintenance Cost ($1000s/year)	$1,179.7
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$837
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$172
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	0.0	14.7	0.0			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	2.9	0.6	2.3	8.8		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.0	0.2	5.3	9.1	0.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.0	14.7		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.1	0.9	0.0	0.0	0.0	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	5.8					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_170-180_CI

Resource Category: Run-of-River Hydro Region: Central Interior

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$15	$17	$6
Operation $/Year (million)	$2	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	184	208	73
Operation FTEs (Full-Time Equivalents)	17	2	6

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.448	$2.282	$0.812
Operation $/Year (million)	$1.130	$0.018	$0.067

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_180-190_CI

Resource Category: Run-of-River Hydro Region: Central Interior

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	47.4
Average Annual Energy (GWh/year)	156.4
Effective Load Carrying Capability (MW)	0.3
Annual Firm Energy (GWh/year)	145

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$217,487
Fixed Operating & Maintenance Cost ($1000s/year)	$3,531.5
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$3,036
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$183
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	0.0	317.0	334.2			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	100.9	59.2	261.5	229.7		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.9	17.4	12.8	620.1	0.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	26.4	0.0	0.0	624.8		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	6.9	5.2	6.3	9.5	3.6	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	9.4					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_180-190_CI

Resource Category: Run-of-River Hydro Region: Central Interior

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$50	$61	$21
Operation $/Year (million)	$5	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	617	760	254
Operation FTEs (Full-Time Equivalents)	44	7	16

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$7.942	$8.360	$2.831
Operation $/Year (million)	$3.797	$0.067	$0.176

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_120-130_EK

Resource Category: Run-of-River Hydro Region: East Kootenay

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	47.3
Average Annual Energy (GWh/year)	147.1
Effective Load Carrying Capability (MW)	1.5
Annual Firm Energy (GWh/year)	107.6

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$126,386
Fixed Operating & Maintenance Cost ($1000s/year)	$2,500.2
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$1,841
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$124
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	0.0	22.4	20.0			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	3.5	0.9	7.1	30.9		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.0	0.0	0.0	0.0	42.4	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	21.8	20.6		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.5	0.7	0.2	1.4	1.0	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	11.9					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_120-130_EK

Resource Category: Run-of-River Hydro Region: East Kootenay

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$30	$35	$13
Operation $/Year (million)	$4	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	369	434	148
Operation FTEs (Full-Time Equivalents)	36	4	13

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$4.877	$4.754	$1.654
Operation $/Year (million)	$2.474	$0.040	$0.144

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_130-150_EK

Resource Category: Run-of-River Hydro Region: East Kootenay

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	26.1
Average Annual Energy (GWh/year)	94.5
Effective Load Carrying Capability (MW)	2.6
Annual Firm Energy (GWh/year)	74.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$93,220
Fixed Operating & Maintenance Cost ($1000s/year)	$1,804.3
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$1,361
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$139
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	0.0	52.6	35.0			
	Remoteness - Linear Disturbance Density: ^{2}	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	3.3	3.9	20.6	59.8		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.0	0.0	0.0	5.1	81.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	8.8	0.0	43.1	35.1		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.6	1.6	0.0	1.4	0.0	0.4
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	11.3					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_130-150_EK

Resource Category: Run-of-River Hydro Region: East Kootenay

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$23	$26	$10
Operation $/Year (million)	$3	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	289	325	114
Operation FTEs (Full-Time Equivalents)	26	3	9

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.818	$3.564	$1.271
Operation $/Year (million)	$1.813	$0.029	$0.103

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_150-170_EK

Resource Category: Run-of-River Hydro Region: East Kootenay

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	57.9
Average Annual Energy (GWh/year)	193.2
Effective Load Carrying Capability (MW)	3
Annual Firm Energy (GWh/year)	156.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$216,207
Fixed Operating & Maintenance Cost ($1000s/year)	$3,802.2
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$3,234
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$154
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	15.0	247.6	93.2			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	93.8	21.9	103.4	136.6		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	2.9	18.1	10.1	45.2	279.5	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	7.3	0.0	214.2	134.3		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	3.2	2.9	11.7	9.2	1.1	0.2
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	17.0					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_150-170_EK

Resource Category: Run-of-River Hydro Region: East Kootenay

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$52	$61	$22
Operation $/Year (million)	$6	$1	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	640	754	258
Operation FTEs (Full-Time Equivalents)	53	7	19

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$8.369	$8.285	$2.876
Operation $/Year (million)	$4.151	$0.069	$0.210

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_170-190_EK

Resource Category: Run-of-River Hydro Region: East Kootenay

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	31.6
Average Annual Energy (GWh/year)	111.1
Effective Load Carrying Capability (MW)	2.3
Annual Firm Energy (GWh/year)	88.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$147,569
Fixed Operating & Maintenance Cost ($1000s/year)	$2,729.9
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$2,258
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$184
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	6.7	150.7	0.0			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	19.8	8.7	47.2	81.7		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.2	8.5	9.2	47.7	91.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	1.9	0.0	155.5	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.6	1.1	5.2	3.1	1.5	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	21.3					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_170-190_EK

Resource Category: Run-of-River Hydro Region: East Kootenay

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$37	$42	$15
Operation $/Year (million)	$4	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	458	523	182
Operation FTEs (Full-Time Equivalents)	39	5	14

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$6.044	$5.750	$2.029
Operation $/Year (million)	$2.943	$0.048	$0.157

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_100-110_KN

Resource Category: Run-of-River Hydro Region: Kelly Nicola

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	74.7
Average Annual Energy (GWh/year)	217.5
Effective Load Carrying Capability (MW)	2.6
Annual Firm Energy (GWh/year)	189.3

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$154,951
Fixed Operating & Maintenance Cost ($1000s/year)	$2,738.4
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$2,117
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$101
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	0.0	108.8	102.4			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	73.5	8.7	55.8	73.2		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	44.7	33.3	65.7	31.0	36.5	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	1.5	0.0	209.7		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.4	4.1	1.9	0.6	2.4	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	4.6					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_100-110_KN

Resource Category: Run-of-River Hydro Region: Kelly Nicola

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$35	$43	$15
Operation $/Year (million)	$4	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	434	535	178
Operation FTEs (Full-Time Equivalents)	36	5	13

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$5.626	$5.877	$1.989
Operation $/Year (million)	$2.738	$0.047	$0.143

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_110-130_KN

Resource Category: Run-of-River Hydro Region: Kelly Nicola

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	53.9
Average Annual Energy (GWh/year)	173.4
Effective Load Carrying Capability (MW)	4
Annual Firm Energy (GWh/year)	104.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$150,800
Fixed Operating & Maintenance Cost ($1000s/year)	$2,834.9
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$2,201
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$122
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	0.0	37.7	86.5			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	64.7	5.2	19.0	35.3		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.0	2.8	9.7	54.4	57.3	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.0	124.2		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.9	2.2	3.7	1.1	0.4	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	14.9					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_110-130_KN

Resource Category: Run-of-River Hydro Region: Kelly Nicola

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$37	$42	$15
Operation $/Year (million)	$4	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	457	517	181
Operation FTEs (Full-Time Equivalents)	40	5	14

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$6.034	$5.660	$2.018
Operation $/Year (million)	$2.895	$0.047	$0.159

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_130-150_KN

Resource Category: Run-of-River Hydro Region: Kelly Nicola

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	40.4
Average Annual Energy (GWh/year)	117.3
Effective Load Carrying Capability (MW)	2.4
Annual Firm Energy (GWh/year)	79.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$116,194
Fixed Operating & Maintenance Cost ($1000s/year)	$2,242.2
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$1,734
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$142
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	0.0	18.4	37.1			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	14.3	4.7	12.2	24.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.0	0.6	1.8	15.8	37.3	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	4.1	0.0	51.3		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.1	1.1	1.2	0.6	0.0	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	11.9					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_130-150_KN

Resource Category: Run-of-River Hydro Region: Kelly Nicola

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$28	$32	$12
Operation $/Year (million)	$3	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	343	399	137
Operation FTEs (Full-Time Equivalents)	33	4	12

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$4.515	$4.363	$1.530
Operation $/Year (million)	$2.302	$0.037	$0.130

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_150-170_KN

Resource Category: Run-of-River Hydro Region: Kelly Nicola

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	41.5
Average Annual Energy (GWh/year)	131.4
Effective Load Carrying Capability (MW)	2.6
Annual Firm Energy (GWh/year)	106.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$153,923
Fixed Operating & Maintenance Cost ($1000s/year)	$2,770.8
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$2,324
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$162
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	1.5	132.6	126.5			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	31.9	11.7	76.1	141.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	8.2	49.1	12.9	164.6	25.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	6.1	5.9	248.7		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	5.4	4.4	4.7	3.6	0.6	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	17.0					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_150-170_KN

Resource Category: Run-of-River Hydro Region: Kelly Nicola

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$38	$44	$16
Operation $/Year (million)	$4	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	469	541	187
Operation FTEs (Full-Time Equivalents)	39	5	14

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$6.140	$5.945	$2.087
Operation $/Year (million)	$3.003	$0.049	$0.156

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_170-190_KN

Resource Category: Run-of-River Hydro Region: Kelly Nicola

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	47.9
Average Annual Energy (GWh/year)	157.6
Effective Load Carrying Capability (MW)	5.3
Annual Firm Energy (GWh/year)	120.8

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$203,491
Fixed Operating & Maintenance Cost ($1000s/year)	$3,503.4
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$3,076
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$177
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	1.5	272.8	59.8			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	83.4	18.2	93.6	139.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	9.1	26.7	51.5	209.2	37.6	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	19.3	0.2	314.6		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	4.8	4.6	8.4	5.3	2.1	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	18.6					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_170-190_KN

Resource Category: Run-of-River Hydro Region: Kelly Nicola

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$50	$58	$21
Operation $/Year (million)	$5	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	620	717	248
Operation FTEs (Full-Time Equivalents)	48	7	17

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$8.102	$7.889	$2.767
Operation $/Year (million)	$3.911	$0.065	$0.192

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_190-210_KN

Resource Category: Run-of-River Hydro Region: Kelly Nicola

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	58.6
Average Annual Energy (GWh/year)	168.1
Effective Load Carrying Capability (MW)	0.4
Annual Firm Energy (GWh/year)	155.3

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$247,965
Fixed Operating & Maintenance Cost ($1000s/year)	$4,519.7
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$3,464
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$198
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	22.3	378.2	56.7			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	64.1	22.8	99.8	270.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.1	5.3	64.2	379.1	8.6	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	10.7	0.0	124.3	322.3		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	8.9	6.8	10.8	7.1	2.1	0.6
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	26.8					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_190-210_KN

Resource Category: Run-of-River Hydro Region: Kelly Nicola

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$62	$71	$26
Operation $/Year (million)	$6	$1	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	765	874	304
Operation FTEs (Full-Time Equivalents)	61	8	22

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$10.103	$9.616	$3.392
Operation $/Year (million)	$4.529	$0.076	$0.244

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_90-100_KN

Resource Category: Run-of-River Hydro Region: Kelly Nicola

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	71.8
Average Annual Energy (GWh/year)	220.1
Effective Load Carrying Capability (MW)	1.9
Annual Firm Energy (GWh/year)	198.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$146,079
Fixed Operating & Maintenance Cost ($1000s/year)	$2,810.3
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$2,047
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$97
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	0.0	16.6	35.0			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	14.9	1.9	9.7	25.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.0	0.6	0.3	17.8	32.8	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.0	51.6		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.0	0.0	0.0	2.8	1.1	1.1
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	5.8					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_90-100_KN

Resource Category: Run-of-River Hydro Region: Kelly Nicola

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$33	$40	$14
Operation $/Year (million)	$4	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	412	499	168
Operation FTEs (Full-Time Equivalents)	39	4	14

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$5.401	$5.471	$1.871
Operation $/Year (million)	$2.731	$0.045	$0.157

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_100-110_LM

Resource Category: Run-of-River Hydro Region: Lower Mainland

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	101.5
Average Annual Energy (GWh/year)	328.7
Effective Load Carrying Capability (MW)	18.3
Annual Firm Energy (GWh/year)	222.5

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$242,572
Fixed Operating & Maintenance Cost ($1000s/year)	$4,511.7
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$3,356
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$104
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	17.9	135.8	134.3			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	46.1	26.0	108.5	107.4		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.0	0.0	4.2	198.7	84.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	196.5	0.5	91.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	6.2	3.8	3.2	5.2	11.3	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	11.6					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_100-110_LM

Resource Category: Run-of-River Hydro Region: Lower Mainland

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$56	$67	$24
Operation $/Year (million)	$6	$1	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	694	836	282
Operation FTEs (Full-Time Equivalents)	61	7	22

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$9.075	$9.167	$3.144
Operation $/Year (million)	$4.424	$0.074	$0.245

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_120-130_LM

Resource Category: Run-of-River Hydro Region: Lower Mainland

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	167.9
Average Annual Energy (GWh/year)	648.8
Effective Load Carrying Capability (MW)	28.6
Annual Firm Energy (GWh/year)	534.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$596,992
Fixed Operating & Maintenance Cost ($1000s/year)	$9,835.3
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$8,520
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$125
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	318.3	308.8	742.9			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	541.5	91.5	437.7	299.3		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	137.0	10.9	337.1	731.0	151.4	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	1,040.6	1.1	325.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	33.0	19.7	27.3	35.8	37.2	15.6
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	32.4					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_120-130_LM

Resource Category: Run-of-River Hydro Region: Lower Mainland

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	4.8	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	2.3	1.3	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	12.0	4.3	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$140	$168	$59
Operation $/Year (million)	$13	$1	$4

Employment	Direct	Indirect	Induced
Construction Person-Years	1,726	2,082	703
Operation FTEs (Full-Time Equivalents)	126	19	45

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$22.366	$22.906	$7.848
Operation $/Year (million)	$10.707	$0.186	$0.504

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_130-140_LM

Resource Category: Run-of-River Hydro Region: Lower Mainland

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	58.2
Average Annual Energy (GWh/year)	205.6
Effective Load Carrying Capability (MW)	9.7
Annual Firm Energy (GWh/year)	154.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$207,053
Fixed Operating & Maintenance Cost ($1000s/year)	$3,638.1
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$2,996
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$137
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	35.2	72.4	66.4			
	Remoteness - Linear Disturbance Density: ^{2}	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	17.1	7.7	50.2	99.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.0	0.0	0.0	102.0	72.1	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.5	173.6		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	3.9	3.0	4.3	2.4	8.3	3.5
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	20.2					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_130-140_LM

Resource Category: Run-of-River Hydro Region: Lower Mainland

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$51	$58	$21
Operation $/Year (million)	$5	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	622	720	249
Operation FTEs (Full-Time Equivalents)	49	7	18

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$8.094	$7.904	$2.776
Operation $/Year (million)	$3.850	$0.065	$0.196

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_140-150_LM

Resource Category: Run-of-River Hydro Region: Lower Mainland

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	94.2
Average Annual Energy (GWh/year)	325.9
Effective Load Carrying Capability (MW)	19.4
Annual Firm Energy (GWh/year)	246.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$341,396
Fixed Operating & Maintenance Cost ($1000s/year)	$5,937.6
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$5,101
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$143
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	95.4	236.0	239.3			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	225.0	39.6	167.2	138.9		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	49.5	0.7	142.1	341.4	36.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	473.5	15.3	81.9		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	13.2	7.0	9.0	16.7	1.9	3.1
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	33.5					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_140-150_LM

Resource Category: Run-of-River Hydro Region: Lower Mainland

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	1.0	9.4	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	3.9	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$85	$97	$35
Operation $/Year (million)	$9	$1	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	1,046	1,206	418
Operation FTEs (Full-Time Equivalents)	81	11	29

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$13.682	$13.271	$4.659
Operation $/Year (million)	$6.514	$0.109	$0.325

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_150-160_LM

Resource Category: Run-of-River Hydro Region: Lower Mainland

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	128.6
Average Annual Energy (GWh/year)	460.5
Effective Load Carrying Capability (MW)	27.3
Annual Firm Energy (GWh/year)	348.3

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$526,038
Fixed Operating & Maintenance Cost ($1000s/year)	$9,025.0
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$7,628
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$156
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	128.8	408.9	487.2			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	310.3	70.2	403.3	241.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	72.2	23.9	133.3	574.8	219.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	531.3	188.8	303.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	30.9	17.2	13.7	14.6	70.9	6.3
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	40.3					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_150-160_LM

Resource Category: Run-of-River Hydro Region: Lower Mainland

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	1.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	1.2	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	2.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$130	$148	$54
Operation $/Year (million)	$13	$1	$4

Employment	Direct	Indirect	Induced
Construction Person-Years	1,599	1,834	638
Operation FTEs (Full-Time Equivalents)	119	17	43

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$21.003	$20.160	$7.114
Operation $/Year (million)	$9.707	$0.164	$0.477

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_160-170_LM

Resource Category: Run-of-River Hydro Region: Lower Mainland

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	91.3
Average Annual Energy (GWh/year)	324.7
Effective Load Carrying Capability (MW)	16.4
Annual Firm Energy (GWh/year)	256.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$390,315
Fixed Operating & Maintenance Cost ($1000s/year)	$6,994.4
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$5,722
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$164
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	56.3	100.3	307.5			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	102.3	32.4	169.4	160.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	8.9	15.9	16.3	246.8	176.2	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	303.6	9.1	151.4		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	11.7	9.2	6.0	16.0	9.9	1.4
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	40.3					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_160-170_LM

Resource Category: Run-of-River Hydro Region: Lower Mainland

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.5	4.5	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	1.9	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$98	$111	$40
Operation $/Year (million)	$10	$1	$3

Employment	Direct	Indirect	Induced
Construction Person-Years	1,204	1,378	479
Operation FTEs (Full-Time Equivalents)	97	12	34

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$15.808	$15.161	$5.344
Operation $/Year (million)	$7.398	$0.123	$0.384

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_170-180_LM

Resource Category: Run-of-River Hydro Region: Lower Mainland

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	81.2
Average Annual Energy (GWh/year)	294.6
Effective Load Carrying Capability (MW)	15.7
Annual Firm Energy (GWh/year)	246.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$372,980
Fixed Operating & Maintenance Cost ($1000s/year)	$6,500.5
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$5,714
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$173
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	78.9	272.9	204.5			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	135.3	30.0	163.5	227.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	12.1	1.8	94.1	257.3	190.5	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	178.6	7.8	369.1		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	14.0	5.9	8.6	10.9	17.5	0.8
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	39.1					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_170-180_LM

Resource Category: Run-of-River Hydro Region: Lower Mainland

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	1.0	3.5	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	4.5	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$93	$107	$39
Operation $/Year (million)	$10	$1	$3

Employment	Direct	Indirect	Induced
Construction Person-Years	1,147	1,322	458
Operation FTEs (Full-Time Equivalents)	91	12	33

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$15.036	$14.551	$5.107
Operation $/Year (million)	$7.295	$0.120	$0.363

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_180-190_LM

Resource Category: Run-of-River Hydro Region: Lower Mainland

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	103.4
Average Annual Energy (GWh/year)	401.4
Effective Load Carrying Capability (MW)	22.4
Annual Firm Energy (GWh/year)	309.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$581,859
Fixed Operating & Maintenance Cost ($1000s/year)	$8,536.7
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$8,269
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$185
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	537.7	391.4	1,086.8			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	1,006.8	133.8	620.1	255.2		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	197.7	35.7	547.2	1,030.7	201.2	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	1,644.7	115.0	252.5		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	56.9	30.4	37.0	51.0	88.2	21.8
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	25.3					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_180-190_LM

Resource Category: Run-of-River Hydro Region: Lower Mainland

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.5	13.5	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	4.6	2.6	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	17.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$138	$165	$58
Operation $/Year (million)	$10	$1	$3

Employment	Direct	Indirect	Induced
Construction Person-Years	1,696	2,043	692
Operation FTEs (Full-Time Equivalents)	98	19	35

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$21.811	$22.522	$7.723
Operation $/Year (million)	$9.970	$0.180	$0.394

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_190-210_LM

Resource Category: Run-of-River Hydro Region: Lower Mainland

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	78.3
Average Annual Energy (GWh/year)	263.7
Effective Load Carrying Capability (MW)	14.3
Annual Firm Energy (GWh/year)	202.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$396,628
Fixed Operating & Maintenance Cost ($1000s/year)	$6,586.8
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$5,886
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$199
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	114.7	408.0	423.2			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	207.6	70.0	373.9	294.4		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	41.9	20.3	114.0	453.1	308.2	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	453.0	59.4	425.2		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	25.4	16.8	15.7	17.2	21.4	1.1
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	37.0					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_190-210_LM

Resource Category: Run-of-River Hydro Region: Lower Mainland

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	3.2	3.8	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	16.4	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$99	$114	$41
Operation $/Year (million)	$9	$1	$3

Employment	Direct	Indirect	Induced
Construction Person-Years	1,225	1,407	489
Operation FTEs (Full-Time Equivalents)	87	13	31

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$16.026	$15.505	$5.455
Operation $/Year (million)	$7.399	$0.126	$0.348

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_80-100_LM

Resource Category: Run-of-River Hydro Region: Lower Mainland

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	62.4
Average Annual Energy (GWh/year)	224
Effective Load Carrying Capability (MW)	10.1
Annual Firm Energy (GWh/year)	181.6

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$151,267
Fixed Operating & Maintenance Cost ($1000s/year)	$2,882.7
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$2,241
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$97
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	1.8	26.3	73.3			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	17.5	10.4	36.6	37.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.0	0.0	0.4	24.7	76.4	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	23.2	78.3		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.8	2.6	1.8	2.3	0.1	0.6
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	16.2					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_80-100_LM

Resource Category: Run-of-River Hydro Region: Lower Mainland

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$38	$43	$16
Operation $/Year (million)	$4	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	468	528	185
Operation FTEs (Full-Time Equivalents)	42	5	15

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$6.186	$5.793	$2.064
Operation $/Year (million)	$2.962	$0.048	$0.165

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_120-130_MCA

Resource Category: Run-of-River Hydro Region: Mica

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	28.6
Average Annual Energy (GWh/year)	103.6
Effective Load Carrying Capability (MW)	0.8
Annual Firm Energy (GWh/year)	90.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$90,621
Fixed Operating & Maintenance Cost ($1000s/year)	$1,667.0
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$1,306
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$123
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	3.5	24.5	44.9			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	9.6	3.4	25.5	34.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.0	0.0	0.0	0.0	72.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.1	0.0	72.9	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.1	0.2	2.4	0.0	0.0	11.1
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	5.2					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_120-130_MCA

Resource Category: Run-of-River Hydro Region: Mica

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$21	$25	$9
Operation $/Year (million)	$2	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	263	310	106
Operation FTEs (Full-Time Equivalents)	23	3	8

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.459	$3.392	$1.180
Operation $/Year (million)	$1.712	$0.028	$0.093

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_140-160_MCA

Resource Category: Run-of-River Hydro Region: Mica

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	11.8
Average Annual Energy (GWh/year)	35.2
Effective Load Carrying Capability (MW)	0.8
Annual Firm Energy (GWh/year)	21.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$37,085
Fixed Operating & Maintenance Cost ($1000s/year)	$699.0
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$531
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$145
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	0.0	19.9	0.0			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	1.7	1.9	9.0	7.4		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.0	5.9	0.5	4.9	8.5	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	19.9	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.2	0.1	0.5	0.4	0.0	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	4.0					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_140-160_MCA

Resource Category: Run-of-River Hydro Region: Mica

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$9	$10	$4
Operation $/Year (million)	$1	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	114	130	45
Operation FTEs (Full-Time Equivalents)	10	1	3

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$1.507	$1.423	$0.505
Operation $/Year (million)	$0.701	$0.011	$0.039

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_160-180_MCA

Resource Category: Run-of-River Hydro Region: Mica

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	37.5
Average Annual Energy (GWh/year)	134.1
Effective Load Carrying Capability (MW)	2.1
Annual Firm Energy (GWh/year)	118.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$177,448
Fixed Operating & Maintenance Cost ($1000s/year)	$2,963.4
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$2,532
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$174
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	245.5	51.5	0.1			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	173.1	15.0	65.4	43.7		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.2	15.6	33.4	24.5	223.6	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	82.3	0.2	214.8	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	5.4	4.0	2.7	11.3	1.3	2.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	13.1					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_160-180_MCA

Resource Category: Run-of-River Hydro Region: Mica

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$48	$48	$19
Operation $/Year (million)	$4	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	587	603	224
Operation FTEs (Full-Time Equivalents)	36	5	13

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$7.931	$6.598	$2.503
Operation $/Year (million)	$3.174	$0.053	$0.146

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_180-200_MCA

Resource Category: Run-of-River Hydro Region: Mica

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	52.8
Average Annual Energy (GWh/year)	162.4
Effective Load Carrying Capability (MW)	2.6
Annual Firm Energy (GWh/year)	121.5

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$225,083
Fixed Operating & Maintenance Cost ($1000s/year)	$4,178.7
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$3,385
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$193
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	46.3	84.4	20.9			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	50.1	12.8	49.7	39.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	5.6	14.5	6.9	26.8	97.8	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	22.4	0.2	129.1	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.4	2.0	4.2	3.7	0.6	2.5
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	23.6					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_180-200_MCA

Resource Category: Run-of-River Hydro Region: Mica

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$58	$64	$24
Operation $/Year (million)	$6	$1	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	711	789	279
Operation FTEs (Full-Time Equivalents)	60	7	21

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$9.418	$8.662	$3.114
Operation $/Year (million)	$4.432	$0.072	$0.239

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_110-120_BQL

Resource Category: Run-of-River Hydro Region: North Coast

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	44.7
Average Annual Energy (GWh/year)	158.4
Effective Load Carrying Capability (MW)	0.2
Annual Firm Energy (GWh/year)	129.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$138,958
Fixed Operating & Maintenance Cost ($1000s/year)	$2,437.6
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$1,795
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$115
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	9.9	95.6	0.0			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	102.7	0.4	1.6	0.8		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	2.3	103.3	0.0	0.0	0.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.0	105.6		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.8	0.7	0.7	0.6	6.5	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	4.0					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_110-120_BQL

Resource Category: Run-of-River Hydro Region: North Coast

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$41	$36	$15
Operation $/Year (million)	$3	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	502	450	182
Operation FTEs (Full-Time Equivalents)	28	4	10

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$6.979	$4.886	$2.035
Operation $/Year (million)	$2.294	$0.037	$0.111

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_110-120_NC

Resource Category: Run-of-River Hydro Region: North Coast

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	37.8
Average Annual Energy (GWh/year)	135.2
Effective Load Carrying Capability (MW)	4.7
Annual Firm Energy (GWh/year)	107.7

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$114,941
Fixed Operating & Maintenance Cost ($1000s/year)	$2,113.0
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$1,473
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$115
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	36.4	96.5	40.7			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	117.0	14.2	26.1	16.2		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	56.4	103.0	2.8	0.0	0.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.1	0.0	36.4	127.2		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.9	0.5	5.3	1.0	1.2	0.7
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	8.6					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_110-120_NC

Resource Category: Run-of-River Hydro Region: North Coast

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	4.4	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$30	$31	$12
Operation $/Year (million)	$3	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	365	392	142
Operation FTEs (Full-Time Equivalents)	27	3	9

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$4.915	$4.287	$1.580
Operation $/Year (million)	$1.937	$0.033	$0.106

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_120-140_NC

Resource Category: Run-of-River Hydro Region: North Coast

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	24.4
Average Annual Energy (GWh/year)	90.3
Effective Load Carrying Capability (MW)	4.2
Annual Firm Energy (GWh/year)	73.8

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$84,226
Fixed Operating & Maintenance Cost ($1000s/year)	$1,577.1
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$1,072
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$125
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	4.0	72.9	0.0			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	25.0	4.2	14.9	32.8		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	9.1	24.1	27.4	15.9	0.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	1.0	0.0	24.2	51.4		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.3	1.4	2.6	0.0	0.3	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	6.7					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_120-140_NC

Resource Category: Run-of-River Hydro Region: North Coast

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$22	$24	$9
Operation $/Year (million)	$2	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	277	292	107
Operation FTEs (Full-Time Equivalents)	20	2	7

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.725	$3.203	$1.189
Operation $/Year (million)	$1.424	$0.024	$0.080

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_140-160_BQL

Resource Category: Run-of-River Hydro Region: North Coast

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	56
Average Annual Energy (GWh/year)	199.4
Effective Load Carrying Capability (MW)	1.6
Annual Firm Energy (GWh/year)	163

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$219,720
Fixed Operating & Maintenance Cost ($1000s/year)	$4,007.1
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$2,981
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$149
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	19.0	114.7	0.0			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	115.8	2.9	11.6	3.3		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	2.6	131.1	0.0	0.0	0.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.0	133.7		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.1	0.8	1.5	1.8	4.7	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	10.4					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_140-160_BQL

Resource Category: Run-of-River Hydro Region: North Coast

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$60	$58	$24
Operation $/Year (million)	$5	$0	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	743	730	279
Operation FTEs (Full-Time Equivalents)	51	6	18

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$10.158	$7.954	$3.112
Operation $/Year (million)	$3.875	$0.063	$0.202

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_140-160_NC

Resource Category: Run-of-River Hydro Region: North Coast

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	88.1
Average Annual Energy (GWh/year)	319
Effective Load Carrying Capability (MW)	10.7
Annual Firm Energy (GWh/year)	253.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$369,173
Fixed Operating & Maintenance Cost ($1000s/year)	$6,031.9
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$4,973
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$151
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	157.9	466.4	21.3			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	393.2	30.7	129.3	92.4		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	95.2	201.1	295.7	8.8	0.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	394.4	204.6		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	12.3	9.9	9.2	5.7	0.5	1.4
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	19.3					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_140-160_NC

Resource Category: Run-of-River Hydro Region: North Coast

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	47.8	0.2	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	6.4	5.5	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	121.5	54.2	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$92	$104	$38
Operation $/Year (million)	$8	$1	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	1,138	1,291	452
Operation FTEs (Full-Time Equivalents)	73	11	26

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$14.945	$14.197	$5.045
Operation $/Year (million)	$6.238	$0.110	$0.290

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_160-180_NC

Resource Category: Run-of-River Hydro Region: North Coast

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	25.2
Average Annual Energy (GWh/year)	90.1
Effective Load Carrying Capability (MW)	3.3
Annual Firm Energy (GWh/year)	71.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$113,292
Fixed Operating & Maintenance Cost ($1000s/year)	$2,179.3
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$1,574
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$174
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	6.2	70.0	0.0			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	29.6	5.7	20.3	20.6		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	5.0	28.5	27.1	15.6	0.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	31.6	44.6		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.5	2.1	1.5	0.1	0.0	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	11.3					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_160-180_NC

Resource Category: Run-of-River Hydro Region: North Coast

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$30	$32	$12
Operation $/Year (million)	$3	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	364	396	142
Operation FTEs (Full-Time Equivalents)	30	3	11

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$4.882	$4.345	$1.582
Operation $/Year (million)	$2.099	$0.034	$0.120

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_170-190_BQL

Resource Category: Run-of-River Hydro Region: North Coast

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	43
Average Annual Energy (GWh/year)	154.5
Effective Load Carrying Capability (MW)	2.4
Annual Firm Energy (GWh/year)	126.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$209,324
Fixed Operating & Maintenance Cost ($1000s/year)	$3,874.0
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$2,751
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$181
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	24.0	186.3	0.0			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	194.1	4.0	9.8	2.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	16.8	192.6	0.9	0.0	0.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.0	210.3		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	3.1	1.9	1.8	10.5	2.9	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	10.9					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_170-190_BQL

Resource Category: Run-of-River Hydro Region: North Coast

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$55	$56	$22
Operation $/Year (million)	$5	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	681	703	260
Operation FTEs (Full-Time Equivalents)	49	6	18

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$9.232	$7.682	$2.903
Operation $/Year (million)	$3.616	$0.060	$0.195

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_180-200_NC

Resource Category: Run-of-River Hydro Region: North Coast

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	46.1
Average Annual Energy (GWh/year)	165.8
Effective Load Carrying Capability (MW)	6.3
Annual Firm Energy (GWh/year)	132.6

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$234,744
Fixed Operating & Maintenance Cost ($1000s/year)	$4,163.3
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$3,137
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$186
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	87.1	300.4	23.3			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	233.2	25.3	111.9	40.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	92.1	147.2	166.1	0.0	0.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	235.5	170.3		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	7.9	2.4	7.6	9.1	6.2	0.7
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	20.5					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_180-200_NC

Resource Category: Run-of-River Hydro Region: North Coast

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	5.4	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	6.1	2.8	0.1
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	6.3	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$63	$66	$25
Operation $/Year (million)	$6	$1	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	778	819	300
Operation FTEs (Full-Time Equivalents)	52	7	19

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$10.487	$8.995	$3.343
Operation $/Year (million)	$4.053	$0.068	$0.208

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_190-200_BQL

Resource Category: Run-of-River Hydro Region: North Coast

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	49.8
Average Annual Energy (GWh/year)	174.2
Effective Load Carrying Capability (MW)	3.1
Annual Firm Energy (GWh/year)	141.4

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$256,406
Fixed Operating & Maintenance Cost ($1000s/year)	$4,498.7
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$3,624
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$196
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	6.3	279.5	0.0			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	283.0	0.4	1.6	0.8		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	3.9	281.9	0.0	0.0	0.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.0	285.8		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	5.3	1.8	2.1	1.3	13.4	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	10.4					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_190-200_BQL

Resource Category: Run-of-River Hydro Region: North Coast

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$76	$67	$29
Operation $/Year (million)	$6	$1	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	936	840	340
Operation FTEs (Full-Time Equivalents)	55	7	20

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$13.035	$9.144	$3.798
Operation $/Year (million)	$4.605	$0.073	$0.219

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_120-140_REV

Resource Category: Run-of-River Hydro Region: Revelstoke Ashton Creek

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	42.6
Average Annual Energy (GWh/year)	131.1
Effective Load Carrying Capability (MW)	1.4
Annual Firm Energy (GWh/year)	106.5

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$127,461
Fixed Operating & Maintenance Cost ($1000s/year)	$2,371.2
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$1,825
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$136
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	9.9	28.4	45.9			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	16.6	5.7	32.4	29.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.0	0.0	0.0	0.0	84.2	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	7.8	0.0	0.0	76.3		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.6	1.4	1.5	0.1	1.0	0.6
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	12.9					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_120-140_REV

Resource Category: Run-of-River Hydro Region: Revelstoke Ashton Creek

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$33	$36	$13
Operation $/Year (million)	$3	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	400	446	157
Operation FTEs (Full-Time Equivalents)	33	4	12

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$5.303	$4.895	$1.756
Operation $/Year (million)	$2.402	$0.040	$0.132

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_140-150_REV

Resource Category: Run-of-River Hydro Region: Revelstoke Ashton Creek

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	43.9
Average Annual Energy (GWh/year)	149.3
Effective Load Carrying Capability (MW)	0.9
Annual Firm Energy (GWh/year)	118.8

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$157,371
Fixed Operating & Maintenance Cost ($1000s/year)	$2,934.1
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$2,297
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$147
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	18.4	6.2	126.7			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	11.4	7.7	43.9	88.2		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.0	0.0	0.0	0.0	151.3	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	98.8	0.0	0.0	52.5		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.3	0.5	5.2	0.0	6.9	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	13.8					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_140-150_REV

Resource Category: Run-of-River Hydro Region: Revelstoke Ashton Creek

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$38	$44	$16
Operation $/Year (million)	$4	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	465	547	187
Operation FTEs (Full-Time Equivalents)	41	5	15

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$6.095	$6.001	$2.085
Operation $/Year (million)	$3.016	$0.049	$0.165

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_150-160_REV

Resource Category: Run-of-River Hydro Region: Revelstoke Ashton Creek

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	26.4
Average Annual Energy (GWh/year)	75.4
Effective Load Carrying Capability (MW)	1.2
Annual Firm Energy (GWh/year)	48.8

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$87,744
Fixed Operating & Maintenance Cost ($1000s/year)	$1,509.4
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$1,269
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$155
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	0.0	9.6	84.4			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	49.4	9.1	25.3	10.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	8.0	6.5	6.8	11.8	60.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.0	94.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.9	1.1	4.3	0.8	0.0	0.6
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	7.3					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_150-160_REV

Resource Category: Run-of-River Hydro Region: Revelstoke Ashton Creek

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$22	$25	$9
Operation $/Year (million)	$2	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	270	306	107
Operation FTEs (Full-Time Equivalents)	20	3	7

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.512	$3.360	$1.194
Operation $/Year (million)	$1.617	$0.027	$0.080

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_160-180_REV

Resource Category: Run-of-River Hydro Region: Revelstoke Ashton Creek

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	47.9
Average Annual Energy (GWh/year)	142
Effective Load Carrying Capability (MW)	1.7
Annual Firm Energy (GWh/year)	103.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$174,720
Fixed Operating & Maintenance Cost ($1000s/year)	$3,322.1
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$2,683
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$174
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	29.6	9.3	51.5			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	16.5	5.8	30.4	37.7		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.0	1.6	5.3	5.3	78.2	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.0	90.4		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.9	0.6	5.3	0.0	0.0	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	21.5					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_160-180_REV

Resource Category: Run-of-River Hydro Region: Revelstoke Ashton Creek

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$44	$49	$18
Operation $/Year (million)	$5	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	539	613	214
Operation FTEs (Full-Time Equivalents)	49	5	17

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$7.121	$6.737	$2.384
Operation $/Year (million)	$3.532	$0.056	$0.194

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_180-200_REV

Resource Category: Run-of-River Hydro Region: Revelstoke Ashton Creek

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	71.7
Average Annual Energy (GWh/year)	195.1
Effective Load Carrying Capability (MW)	2.5
Annual Firm Energy (GWh/year)	134.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$269,655
Fixed Operating & Maintenance Cost ($1000s/year)	$4,959.2
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$3,893
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$190
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	16.2	32.9	133.3			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	56.0	15.7	55.2	55.4		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	1.0	2.2	3.6	10.4	165.2	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	4.1	0.0	49.1	129.1		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.8	3.7	3.9	1.8	0.0	2.1
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	24.5					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_180-200_REV

Resource Category: Run-of-River Hydro Region: Revelstoke Ashton Creek

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$66	$75	$27
Operation $/Year (million)	$7	$1	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	811	932	323
Operation FTEs (Full-Time Equivalents)	69	8	25

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$10.624	$10.208	$3.603
Operation $/Year (million)	$5.092	$0.084	$0.275

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_120-130_SE

Resource Category: Run-of-River Hydro Region: Selkirk

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	28.1
Average Annual Energy (GWh/year)	87.8
Effective Load Carrying Capability (MW)	0.4
Annual Firm Energy (GWh/year)	73.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$78,935
Fixed Operating & Maintenance Cost ($1000s/year)	$1,425.0
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$1,132
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$125
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	6.3	53.4	0.0			
	Remoteness - Linear Disturbance Density: ^{2}	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	26.6	5.9	16.8	10.4		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	9.2	8.8	0.1	0.1	41.5	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.7	0.0	0.0	59.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.6	0.1	1.7	0.1	0.6	0.3
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	5.2					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_120-130_SE

Resource Category: Run-of-River Hydro Region: Selkirk

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$18	$22	$8
Operation $/Year (million)	$2	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	224	270	91
Operation FTEs (Full-Time Equivalents)	20	2	7

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.897	$2.955	$1.015
Operation $/Year (million)	$1.470	$0.025	$0.078

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_130-150_SE

Resource Category: Run-of-River Hydro Region: Selkirk

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	59.7
Average Annual Energy (GWh/year)	189.3
Effective Load Carrying Capability (MW)	1.7
Annual Firm Energy (GWh/year)	148.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$190,481
Fixed Operating & Maintenance Cost ($1000s/year)	$3,497.7
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$2,699
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$139
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	12.7	110.4	2.3			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	48.3	12.1	39.2	25.8		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	18.5	17.6	0.1	0.1	89.1	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	1.4	0.0	0.0	124.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.1	0.5	3.5	0.2	1.1	1.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	14.9					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_130-150_SE

Resource Category: Run-of-River Hydro Region: Selkirk

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$46	$53	$19
Operation $/Year (million)	$5	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	571	658	228
Operation FTEs (Full-Time Equivalents)	48	6	17

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$7.491	$7.214	$2.542
Operation $/Year (million)	$3.536	$0.059	$0.192

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_150-170_SE

Resource Category: Run-of-River Hydro Region: Selkirk

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	71
Average Annual Energy (GWh/year)	217.6
Effective Load Carrying Capability (MW)	2.4
Annual Firm Energy (GWh/year)	155.6

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$238,708
Fixed Operating & Maintenance Cost ($1000s/year)	$4,681.7
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$3,610
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$159
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	15.1	61.8	0.2			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	12.5	4.0	28.4	32.2		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.0	0.0	0.0	0.0	77.1	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.0	77.1		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.9	1.2	1.3	2.3	0.0	1.8
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	22.6					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_150-170_SE

Resource Category: Run-of-River Hydro Region: Selkirk

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$60	$66	$24
Operation $/Year (million)	$7	$1	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	739	820	290
Operation FTEs (Full-Time Equivalents)	70	7	25

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$9.858	$8.978	$3.233
Operation $/Year (million)	$4.827	$0.077	$0.277

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_170-190_SE

Resource Category: Run-of-River Hydro Region: Selkirk

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	23.9
Average Annual Energy (GWh/year)	68.4
Effective Load Carrying Capability (MW)	0.4
Annual Firm Energy (GWh/year)	53.6

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$89,908
Fixed Operating & Maintenance Cost ($1000s/year)	$1,754.6
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$1,326
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$184
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	6.8	31.3	0.0			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	9.3	1.4	14.8	12.6		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.0	0.1	0.0	0.4	37.5	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.0	38.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.4	0.3	1.2	1.2	0.0	0.3
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	10.1					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_170-190_SE

Resource Category: Run-of-River Hydro Region: Selkirk

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$23	$26	$9
Operation $/Year (million)	$3	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	280	316	111
Operation FTEs (Full-Time Equivalents)	26	3	9

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.709	$3.475	$1.233
Operation $/Year (million)	$1.770	$0.028	$0.102

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_190-210_SE

Resource Category: Run-of-River Hydro Region: Selkirk

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	47.9
Average Annual Energy (GWh/year)	143.2
Effective Load Carrying Capability (MW)	1.1
Annual Firm Energy (GWh/year)	107.6

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$205,709
Fixed Operating & Maintenance Cost ($1000s/year)	$3,866.1
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$3,018
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$200
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	18.4	64.8	60.1			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	50.7	7.5	30.9	54.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	9.2	9.2	0.1	0.7	124.1	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.0	143.2		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.1	3.8	1.4	0.3	0.8	1.1
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	23.8					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_190-210_SE

Resource Category: Run-of-River Hydro Region: Selkirk

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	0.0	0.0	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	0.0	0.0	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	0.0	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$51	$58	$21
Operation $/Year (million)	$6	$0	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	628	714	249
Operation FTEs (Full-Time Equivalents)	55	6	20

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$8.316	$7.838	$2.778
Operation $/Year (million)	$3.979	$0.065	$0.219

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_100-110_VI

Resource Category: Run-of-River Hydro Region: Vancouver Island

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	118.8
Average Annual Energy (GWh/year)	450.3
Effective Load Carrying Capability (MW)	28.9
Annual Firm Energy (GWh/year)	394.8

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$353,172
Fixed Operating & Maintenance Cost ($1000s/year)	$5,584.5
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$5,019
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$108
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	160.3	186.6	437.8			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	295.9	34.2	139.8	315.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	46.1	19.3	89.7	225.5	371.7	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.1	0.0	693.1	59.1		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	11.6	6.5	7.3	6.3	0.7	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	11.5					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_100-110_VI

Resource Category: Run-of-River Hydro Region: Vancouver Island

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	34.6	4.2	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	22.1	8.3	0.2
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	69.4	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$81	$99	$35
Operation $/Year (million)	$7	$1	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	993	1,232	410
Operation FTEs (Full-Time Equivalents)	69	11	25

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$12.729	$13.561	$4.572
Operation $/Year (million)	$6.212	$0.109	$0.276

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_110-120_VI

Resource Category: Run-of-River Hydro Region: Vancouver Island

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	94.1
Average Annual Energy (GWh/year)	385.5
Effective Load Carrying Capability (MW)	12.7
Annual Firm Energy (GWh/year)	309.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$317,540
Fixed Operating & Maintenance Cost ($1000s/year)	$5,115.9
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$4,107
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$113
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	184.5	51.8	402.7			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	145.8	32.5	133.5	327.2		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	18.9	11.1	114.7	123.3	347.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	614.9	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	9.1	5.5	2.3	8.5	0.7	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	5.8					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_110-120_VI

Resource Category: Run-of-River Hydro Region: Vancouver Island

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	16.7	4.3	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	11.4	3.3	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	37.2	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$73	$89	$31
Operation $/Year (million)	$6	$1	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	896	1,105	369
Operation FTEs (Full-Time Equivalents)	60	10	21

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$11.525	$12.157	$4.114
Operation $/Year (million)	$5.145	$0.094	$0.240

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_120-130_VI

Resource Category: Run-of-River Hydro Region: Vancouver Island

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	26.2
Average Annual Energy (GWh/year)	116.2
Effective Load Carrying Capability (MW)	6.2
Annual Firm Energy (GWh/year)	85.2

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$110,225
Fixed Operating & Maintenance Cost ($1000s/year)	$1,690.1
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$1,600
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$125
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	122.3	61.5	79.7			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	77.8	22.6	66.9	96.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	3.2	6.1	38.4	93.9	98.1	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.3	0.0	239.8	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	3.0	0.3	3.2	0.0	0.0	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	5.2					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_120-130_VI

Resource Category: Run-of-River Hydro Region: Vancouver Island

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	23.4	1.3	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	11.0	4.4	0.4
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	104.4	8.9	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$25	$31	$11
Operation $/Year (million)	$2	$0	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	308	386	128
Operation FTEs (Full-Time Equivalents)	21	4	7

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$3.925	$4.250	$1.425
Operation $/Year (million)	$1.959	$0.035	$0.083

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_130-140_VI

Resource Category: Run-of-River Hydro Region: Vancouver Island

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	119.6
Average Annual Energy (GWh/year)	491.7
Effective Load Carrying Capability (MW)	17.9
Annual Firm Energy (GWh/year)	391.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$491,880
Fixed Operating & Maintenance Cost ($1000s/year)	$6,955.5
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$7,055
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$134
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	456.6	141.0	983.1			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	454.1	83.6	361.2	681.8		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	100.9	60.0	246.9	440.9	694.8	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.1	0.0	1,311.6	232.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	23.9	14.3	16.1	21.7	12.0	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	11.5					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_130-140_VI

Resource Category: Run-of-River Hydro Region: Vancouver Island

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	25.5	8.3	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	20.3	5.8	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	24.6	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$112	$140	$48
Operation $/Year (million)	$8	$1	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	1,374	1,733	572
Operation FTEs (Full-Time Equivalents)	78	17	28

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$17.400	$19.133	$6.387
Operation $/Year (million)	$8.408	$0.154	$0.316

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_140-150_VI

Resource Category: Run-of-River Hydro Region: Vancouver Island

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	135.3
Average Annual Energy (GWh/year)	557.8
Effective Load Carrying Capability (MW)	21.1
Annual Firm Energy (GWh/year)	399.7

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$593,428
Fixed Operating & Maintenance Cost ($1000s/year)	$8,115.7
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$8,559
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$142
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	388.2	916.1	509.9			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	729.9	76.6	378.1	629.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	157.9	65.2	608.2	491.5	406.7	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.3	0.0	1,625.7	104.8		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	40.1	22.9	23.4	20.1	19.7	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	11.9					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_140-150_VI

Resource Category: Run-of-River Hydro Region: Vancouver Island

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	1.8	71.3	13.8	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	37.6	12.2	0.2
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	189.9	117.9	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$135	$169	$58
Operation $/Year (million)	$9	$1	$3

Employment	Direct	Indirect	Induced
Construction Person-Years	1,663	2,095	693
Operation FTEs (Full-Time Equivalents)	89	20	32

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$21.024	$23.139	$7.730
Operation $/Year (million)	$10.091	$0.186	$0.358

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_160-170_VI

Resource Category: Run-of-River Hydro Region: Vancouver Island

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	87.9
Average Annual Energy (GWh/year)	373.9
Effective Load Carrying Capability (MW)	15.4
Annual Firm Energy (GWh/year)	326.5

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$490,258
Fixed Operating & Maintenance Cost ($1000s/year)	$7,033.5
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$7,013
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$168
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	385.4	150.4	934.2			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	429.8	69.0	317.1	654.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	78.2	45.7	188.0	411.8	695.1	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.1	0.0	1,311.3	107.4		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	22.3	9.5	11.5	20.1	4.6	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	11.5					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_160-170_VI

Resource Category: Run-of-River Hydro Region: Vancouver Island

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	47.3	8.3	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	32.3	11.2	0.2
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	83.3	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$112	$139	$48
Operation $/Year (million)	$8	$1	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	1,385	1,722	573
Operation FTEs (Full-Time Equivalents)	80	16	29

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$17.633	$18.994	$6.396
Operation $/Year (million)	$8.399	$0.153	$0.323

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_170-180_VI

Resource Category: Run-of-River Hydro Region: Vancouver Island

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	56
Average Annual Energy (GWh/year)	231.8
Effective Load Carrying Capability (MW)	13.5
Annual Firm Energy (GWh/year)	180.1

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$331,409
Fixed Operating & Maintenance Cost ($1000s/year)	$4,240.5
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$4,797
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$178
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	255.0	784.7	75.1			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	519.1	42.6	238.7	314.4		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	125.7	59.1	508.7	292.4	74.7	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.3	0.0	1,061.6	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	29.3	19.3	19.4	9.6	19.6	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	9.5					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_170-180_VI

Resource Category: Run-of-River Hydro Region: Vancouver Island

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	1.8	37.1	9.7	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	15.5	3.9	0.0
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	127.0	117.9	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$76	$95	$33
Operation $/Year (million)	$5	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	933	1,181	390
Operation FTEs (Full-Time Equivalents)	43	12	16

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$11.711	$13.060	$4.349
Operation $/Year (million)	$5.543	$0.104	$0.176

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: ROR_180-200_VI

Resource Category: Run-of-River Hydro Region: Vancouver Island

Project Description

Bundle of run of river hydroelectric potential project in BC, as identified and updated in the Kerr Wood Leidal (KWL) entitled "Run-of-River Hydroelectric Resource Assessment for British Columbia, 2010 Update".

Technical Information

Installed Capacity (MW)	41.8
Average Annual Energy (GWh/year)	167.9
Effective Load Carrying Capability (MW)	8.7
Annual Firm Energy (GWh/year)	147.9

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$248,544
Fixed Operating & Maintenance Cost ($1000s/year)	$3,828.9
Variable Operating & Maintenance Cost ($/MWh)	
Fixed Taxes ($1000s)	$3,629
Variable Taxes ($1000s)	
Unit Energy Cost at Point of Interconnection ($/MWh)	$194
Project Life (Years)	40
Project Lead Time (Years)	

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	121.4	71.6	437.7			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	140.3	31.4	135.4	323.6		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.0	11.5	34.3	182.5	369.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.1	0.0	598.1	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	9.1	2.5	5.3	5.5	0.7	0.0
	Reservoir Aquatic Area:	Area					
	ha	0.0					
	Affected Stream Length:	Length					
	km	10.9					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: ROR_180-200_VI

Resource Category: Run-of-River Hydro Region: Vancouver Island

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	0.0	34.5	4.2	0.0
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	22.1	8.3	0.2
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	69.3	0.0	0.0

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	0.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.000	0.000	0.000	0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh	0.000	0.000	0.000		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$57	$70	$25
Operation $/Year (million)	$5	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	708	873	292
Operation FTEs (Full-Time Equivalents)	47	8	17

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$9.061	$9.625	$3.252
Operation $/Year (million)	$4.449	$0.078	$0.190

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Haynon - Chochiwa

Resource Category: Pumped Storage Region: Kelly Nicola

Project Description

Project identified in the Knight Piesold study of PS potential in the LM/VI region.

Technical Information

Installed Capacity (MW)	1000
Average Annual Energy (GWh/year)	
Dependable Capacity (MW)	1000
Annual Firm Energy (GWh/year)	

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$1,254,889
Fixed Operating & Maintenance Cost ($1000s/year)	$12,517.0
Variable Operating & Maintenance Cost ($/MWh)	$0.9
Fixed Taxes ($1000s)	$626
Variable Taxes ($1000s)	$0
Unit Capacity Cost at Point of Interconnection ($/kW-yr)	$121
Project Life (Years)	70
Project Lead Time (Years)	8

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		142.3	82.9			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	116.6	6.6	41.8	60.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	21.4	36.2	40.6	32.6	94.5	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	0.2	225.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	3.9	1.9	5.4			5.2
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Haynon - Chochiwa

Resource Category: Pumped Storage Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$175	$495	$120
Operation $/Year (million)	$9	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	2,159	6,094	1,423
Operation FTEs (Full-Time Equivalents)	18	24	9

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$26.787	$67.895	$15.872
Operation $/Year (million)	$2.496	$0.306	$0.096

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Blinch - Stave

Resource Category: Pumped Storage Region: Lower Mainland

Project Description

Project identified in the Knight Piesold study of PS potential in the LM/VI region.

Technical Information

Installed Capacity (MW)	1000
Average Annual Energy (GWh/year)	
Dependable Capacity (MW)	1000
Annual Firm Energy (GWh/year)	

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$1,268,241
Fixed Operating & Maintenance Cost ($1000s/year)	$12,635.8
Variable Operating & Maintenance Cost ($/MWh)	$0.9
Fixed Taxes ($1000s)	$711
Variable Taxes ($1000s)	$0
Unit Capacity Cost at Point of Interconnection ($/kW-yr)	$122
Project Life (Years)	70
Project Lead Time (Years)	8

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	0.1	91.4	222.3			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	28.3	21.6	99.7	164.2		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					313.8	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	136.1	177.7	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	6.2	5.2	4.0	0.1		1.3
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Blinch - Stave

Resource Category: Pumped Storage Region: Lower Mainland

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$177	$500	$121
Operation $/Year (million)	$9	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	2,184	6,152	1,437
Operation FTEs (Full-Time Equivalents)	18	24	9

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$27.072	$68.548	$16.035
Operation $/Year (million)	$2.595	$0.309	$0.097

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Burwell - Seymour

Resource Category: Pumped Storage Region: Lower Mainland

Project Description

Project identified in the Knight Piesold study of PS potential in the LM/VI region.

Technical Information

Installed Capacity (MW)	1000
Average Annual Energy (GWh/year)	
Dependable Capacity (MW)	1000
Annual Firm Energy (GWh/year)	

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$1,258,599
Fixed Operating & Maintenance Cost ($1000s/year)	$12,550.1
Variable Operating & Maintenance Cost ($/MWh)	$0.9
Fixed Taxes ($1000s)	$503
Variable Taxes ($1000s)	$7
Unit Capacity Cost at Point of Interconnection ($/kW-yr)	$121
Project Life (Years)	70
Project Lead Time (Years)	8

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		148.9	62.7			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	17.0	12.0	51.6	131.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					204.3	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	175.8	28.1	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.6	0.7		7.7		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	4.5	6.7		
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	7.7		
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	6.9		

RESOURCE OPTIONS DATABASE

Project: Burwell - Seymour

Resource Category: Pumped Storage Region: Lower Mainland

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$174	$498	$120
Operation $/Year (million)	$9	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	2,149	6,124	1,425
Operation FTEs (Full-Time Equivalents)	18	24	8

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$26.633	$68.241	$15.899
Operation $/Year (million)	$2.382	$0.306	$0.094

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Kenyon - Stave

Resource Category: Pumped Storage Region: Lower Mainland

Project Description

Project identified in the Knight Piesold study of PS potential in the LM/VI region.

Technical Information

Installed Capacity (MW)	1000
Average Annual Energy (GWh/year)	
Dependable Capacity (MW)	1000
Annual Firm Energy (GWh/year)	

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$1,227,348
Fixed Operating & Maintenance Cost ($1000s/year)	$12,229.3
Variable Operating & Maintenance Cost ($/MWh)	$0.9
Fixed Taxes ($1000s)	$635
Variable Taxes ($1000s)	$0
Unit Capacity Cost at Point of Interconnection ($/kW-yr)	$118
Project Life (Years)	70
Project Lead Time (Years)	8

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	0.1	91.3	201.4			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	23.0	20.1	87.1	162.6		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		12.1	2.0		278.7	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	136.1	156.7	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	5.0	5.0	4.0			1.3
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Kenyon - Stave

Resource Category: Pumped Storage Region: Lower Mainland

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$171	$484	$117
Operation $/Year (million)	$9	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	2,107	5,960	1,390
Operation FTEs (Full-Time Equivalents)	18	23	8

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$26.110	$66.405	$15.511
Operation $/Year (million)	$2.461	$0.299	$0.093

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Palisade - Seymour

Resource Category: Pumped Storage Region: Lower Mainland

Project Description

Project identified in the Knight Piesold study of PS potential in the LM/VI region.

Technical Information

Installed Capacity (MW)	1000
Average Annual Energy (GWh/year)	
Dependable Capacity (MW)	1000
Annual Firm Energy (GWh/year)	

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$1,289,872
Fixed Operating & Maintenance Cost ($1000s/year)	$12,863.7
Variable Operating & Maintenance Cost ($/MWh)	$0.9
Fixed Taxes ($1000s)	$490
Variable Taxes ($1000s)	$0
Unit Capacity Cost at Point of Interconnection ($/kW-yr)	$124
Project Life (Years)	70
Project Lead Time (Years)	8

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		148.9	59.2			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	17.0	12.0	47.3	131.8		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					200.8	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	172.4	28.1	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.6	0.7		7.7		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	4.5	6.7		
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	7.7		
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	6.9		

RESOURCE OPTIONS DATABASE

Project: Palisade - Seymour

Resource Category: Pumped Storage Region: Lower Mainland

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$179	$510	$123
Operation $/Year (million)	$9	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	2,201	6,279	1,460
Operation FTEs (Full-Time Equivalents)	18	24	9

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$27.273	$69.962	$16.293
Operation $/Year (million)	$2.417	$0.314	$0.096

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Upper Deserted - Un-named

Resource Category: Pumped Storage Region: Lower Mainland

Project Description

Project identified in the Knight Piesold study of PS potential in the LM/VI region.

Technical Information

Installed Capacity (MW)	1000
Average Annual Energy (GWh/year)	
Dependable Capacity (MW)	1000
Annual Firm Energy (GWh/year)	

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$1,223,133
Fixed Operating & Maintenance Cost ($1000s/year)	$12,165.9
Variable Operating & Maintenance Cost ($/MWh)	$0.9
Fixed Taxes ($1000s)	$1,028
Variable Taxes ($1000s)	$0
Unit Capacity Cost at Point of Interconnection ($/kW-yr)	$118
Project Life (Years)	70
Project Lead Time (Years)	8

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	27.1		400.5			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	144.7	34.1	114.4	134.4		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	10.4	29.9	12.0	328.9	46.5	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	319.6	108.1	0.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	9.6	5.4	8.9	12.1	6.7	
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: Upper Deserted - Un-named

Resource Category: Pumped Storage Region: Lower Mainland

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$173	$480	$117
Operation $/Year (million)	$9	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	2,133	5,904	1,388
Operation FTEs (Full-Time Equivalents)	19	24	9

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$26.430	$65.784	$15.480
Operation $/Year (million)	$2.829	$0.300	$0.097

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Upper Misery - Lower Misery

Resource Category: Pumped Storage Region: Lower Mainland

Project Description

Project identified in the Knight Piesold study of PS potential in the LM/VI region.

Technical Information

Installed Capacity (MW)	1000
Average Annual Energy (GWh/year)	
Dependable Capacity (MW)	1000
Annual Firm Energy (GWh/year)	

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$1,247,515
Fixed Operating & Maintenance Cost ($1000s/year)	$12,408.6
Variable Operating & Maintenance Cost ($/MWh)	$0.9
Fixed Taxes ($1000s)	$935
Variable Taxes ($1000s)	$0
Unit Capacity Cost at Point of Interconnection ($/kW-yr)	$120
Project Life (Years)	70
Project Lead Time (Years)	8

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	36.3	59.6	191.3			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	84.4	28.3	79.5	95.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	67.9	4.2	93.2	116.5		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	281.9	0.0	0.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	3.3	3.8	0.6			
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	1.8	4.0		
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	4.8		
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	11.7		

RESOURCE OPTIONS DATABASE

Project: Upper Misery - Lower Misery

Resource Category: Pumped Storage Region: Lower Mainland

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$176	$490	$119
Operation $/Year (million)	$9	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	2,163	6,033	1,414
Operation FTEs (Full-Time Equivalents)	19	24	9

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$26.782	$67.219	$15.776
Operation $/Year (million)	$2.777	$0.306	$0.098

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Upper Vancouver - Lower Vancouver

Resource Category: Pumped Storage Region: Lower Mainland

Project Description

Project identified in the Knight Piesold study of PS potential in the LM/VI region.

Technical Information

Installed Capacity (MW)	1000
Average Annual Energy (GWh/year)	
Dependable Capacity (MW)	1000
Annual Firm Energy (GWh/year)	

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$1,241,887
Fixed Operating & Maintenance Cost ($1000s/year)	$12,384.4
Variable Operating & Maintenance Cost ($/MWh)	$0.9
Fixed Taxes ($1000s)	$982
Variable Taxes ($1000s)	$0
Unit Capacity Cost at Point of Interconnection ($/kW-yr)	$120
Project Life (Years)	70
Project Lead Time (Years)	8

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		98.9	187.0			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	133.4	21.5	60.9	70.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	145.1	3.9	36.5	96.3		

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	282.2	0.0	0.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	2.8	2.8				
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class	1.8	2.0		
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A	3.8		
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A	11.7		

RESOURCE OPTIONS DATABASE

Project: Upper Vancouver - Lower Vancouver

Resource Category: Pumped Storage Region: Lower Mainland

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$177	$487	$119
Operation $/Year (million)	$9	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	2,176	5,996	1,411
Operation FTEs (Full-Time Equivalents)	19	24	9

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$27.049	$66.797	$15.748
Operation $/Year (million)	$2.820	$0.304	$0.099

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Pumped Storage at Mica Generating Station

Resource Category: Pumped Storage Region: Mica

Project Description

Project to install a pump-turbine at Mica generating station. The pump-turbine would be on the left bank of the dam and would make use of existing diversion tunnels.

Technical Information

Installed Capacity (MW)	500
Average Annual Energy (GWh/year)	
Dependable Capacity (MW)	465
Annual Firm Energy (GWh/year)	

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$662,735
Fixed Operating & Maintenance Cost ($1000s/year)	$3,641.4
Variable Operating & Maintenance Cost ($/MWh)	$0.9
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Capacity Cost at Point of Interconnection ($/kW-yr)	$100
Project Life (Years)	50
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	0.1					
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class			0.1	0.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					0.1	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		0.1				
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: Pumped Storage at Mica Generating Station

Resource Category: Pumped Storage Region: Mica

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$89	$271	$68
Operation $/Year (million)	$3	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	1,100	3,529	801
Operation FTEs (Full-Time Equivalents)	5	7	2

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$12.874	$37.396	$8.939
Operation $/Year (million)	$0.551	$0.088	$0.026

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Site C Clean Energy Project

Resource Category: Large Hydro Region: Peace River

Project Description

The Peace River Site C Clean Energy Project is a potential third dam and hydroelectric generating station on the Peace River in northeast BC.

Information based on Site C Environmental Impact Statement (EIS) submission filed in January 2013.

Technical Information

Monthly average is dependent on GMS operating decisions.

Installed Capacity (MW)	1100
Average Annual Energy (GWh/year)	5100
Dependable Capacity (MW)	1100
Annual Firm Energy (GWh/year)	4700

FINANCIAL INFORMATION (in Fiscal $ 2013)

Capital costs will change upon completion of the updated capital cost estimate based on the optimized project design. The capital costs shown here are based on Scenario G from the Stage 1 report (based on the historical design).

Direct Capital Cost ($1000s) *	$5,775,000
Fixed Operating And Maintenance Cost ($1000s/year)	$7,800
Sustaining Capital ($1000s/year)	$10,600
Variable Operating And Maintenance Cost ($1000s/year)	$0
Fixed Taxes and Grants-in-Lieu ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost ($/MWh) **	$83
Project Life (Years)	70
Project Lead Time (Years)	10

* Direct Capital Cost excludes inflation, interest during construction (IDC), and Corporate Overhead (CO). The total Site C capital cost including these costs is $7.9 billion.

** The provided UEC is updated from $95/MWh used previously based on a change in discount rate from 6% to 5%.

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		2,284.4	3,376.6			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	3,072.3	478.1	1,359.2	751.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					5,661.1	

* Project footprint includes dam site, reservoir footprint, and transmission corridor widening.

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**			5,661.1			
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.3	0.4	0.3			1.3
	Reservoir Aquatic Area:	Area					
	ha	9,310.0					
	Affected Stream Length:	Length					
	km	122.6					

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: Site C Clean Energy Project

Resource Category: Large Hydro Region: Peace River

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$792	$2,336	$548
Operation $/Year (million)	$10	$3	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	9,754	27,997	6,497
Operation FTEs (Full-Time Equivalents)	25	29	20

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$125.396	$320.000	$72.492
Operation $/Year (million)	$4.115	$0.340	$0.233

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Feasibility
Resource Type Uncertainty	Medium
Cost Uncertainty	Low-Medium

The Environmental and Economic Development attributes are planning-level numbers. Site C is currently undergoing an Environmental Assessment that assesses the project Environmental and Economic effects in greater detail.

RESOURCE OPTIONS DATABASE

Project: GMS Units 1-5 Capacity Increase

Resource Category: Resource Smart Region: Peace River

Project Description

This project entails upgrades to GMS units 1 to 5 turbines with more efficient turbines to provide up to 220 MW of dependable capacity when all 5 units are rewound.

Technical Information

Installed Capacity (MW)	220
Average Annual Energy (GWh/year)	
Dependable Capacity (MW)	220
Annual Firm Energy (GWh/year)	

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$81,750
Fixed Operating & Maintenance Cost ($1000s/year)	$50.0
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Capacity Cost at Point of Interconnection ($/kW-yr)	$35
Project Life (Years)	40
Project Lead Time (Years)	8

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class						
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class						
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class						

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**						
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: GMS Units 1-5 Capacity Increase

Resource Category: Resource Smart Region: Peace River

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)			
Operation $/Year (million)			

Employment	Direct	Indirect	Induced
Construction Person-Years			
Operation FTEs (Full-Time Equivalents)			

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)			
Operation $/Year (million)			

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Concept
Resource Type Uncertainty	Low
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: Revelstoke Unit 6

Resource Category: Resource Smart Region: Revelstoke Ashton Creek

Project Description

The existing Revelstoke Generating Station consists of four 495 MW generating units. The addition of Revelstoke Unit 5 was approved by the BCUC in July 2007 and put in-service in December 2010. There is one remaining empty bay where a sixth unit could be installed in the future. This project describes the installation of the sixth generating unit at the existing powerhouse. The dependable capacity is less than the installed capacity because of head losses in the winter period when the reservoir is drawndown plus the effect of higher tail water when all six units are operated. The energy associated with this unit is mainly an energy efficiency gain at Revelstoke G.S. since this new unit would be selected to operate ahead of the original four units. Revelstoke Unit 6 wouldalso provide some additional system energy shaping benefits beyond those achieved with Revelstoke Unit 5. Estimates of energy efficiency gains and energy shaping benefits vary with system modelling assumptions particularly load/resource balance and HLH/LLH energy price differentials. Fixed O&M includes allowance for sustaining capital and grants-in-lieu of taxes.

The project requires bulk transmission upgrades, including a series capacitor on the 5L76/79 lines and a RAS (Remedial Action Scheme) or new 500 kV transmission between Revelstoke and Mica. The cost of the bulk transmission upgrade is not included in the direct capital cost of the project.

Technical Information

The DGC was re-assessed to be 488 MW with revised Water Licence.

Installed Capacity (MW)	500
Average Annual Energy (GWh/year)	26
Dependable Capacity (MW)	488
Annual Firm Energy (GWh/year)	26

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$334,234
Fixed Operating & Maintenance Cost ($1000s/year)	$1,475.6
Variable Operating & Maintenance Cost ($/MWh)	$0.0
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Capacity Cost at Point of Interconnection ($/kW-yr)	$50
Project Life (Years)	50
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class						
	Remoteness - Linear Disturbance Density^2:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class						
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class						

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**						
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

RESOURCE OPTIONS DATABASE

Project: Revelstoke Unit 6

Resource Category: Resource Smart Region: Revelstoke Ashton Creek

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)			
Operation $/Year (million)			

Employment	Direct	Indirect	Induced
Construction Person-Years			
Operation FTEs (Full-Time Equivalents)			

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)			
Operation $/Year (million)			

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: 100 MW Simple Cycle Gas Turbine - KL

Resource Category: Natural Gas Region: Kelly Nicola

Project Description

A GE LMS100PA unit has been used to characterize a peaking gas-fired unit in the Kelly Lake region. The unit would be equipped with water injection for NOx control.

Technical Information

Assumes that the unit will be used for peaking purposes mainly during the high load months of December and January.

Installed Capacity (MW)	103
Average Annual Energy (GWh/year)	154
Dependable Capacity (MW)	98
Firm Energy (GWh/year)	154
Average Heat Rate (GJ/GWh)	9208

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$86,805
Fixed Operating & Maintenance Cost ($1000s/year)	$812.9
Variable Operating & Maintenance Cost ($/MWh)	$4.7
Fixed Taxes ($1000s)	$71
Variable Taxes ($1000s)	$0
Unit Capacity Cost at Point of Interconnection ($/kW-yr)	$84
Project Life (Years)	30
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	3.5	14.3	14.1			
	Remoteness - Linear Disturbance Density: ^{2}	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	1.4	0.4	2.5	27.6		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					31.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	31.9	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.2					1.8
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: 100 MW Simple Cycle Gas Turbine - KL

Resource Category: Natural Gas Region: Kelly Nicola

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	477.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.000	0.370	1.400		
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh			0.030		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$8	$17	$4
Operation $/Year (million)	$1	$6	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	95	221	53
Operation FTEs (Full-Time Equivalents)	6	20	6

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$1.382	$2.493	$0.588
Operation $/Year (million)	$0.424	$0.834	$0.062

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: 250 MW Combined Cycle Gas Turbine

Resource Category: Natural Gas Region: Kelly Nicola

Project Description

A GE S107FA unit is used to characterize this option.

Technical Information

Assumes that the unit will be run almost continuously throughout the year except in May and June (freshet period). The average annual capacity factor was assumed to be 70%.

Installed Capacity (MW)	263
Average Annual Energy (GWh/year)	1450
Dependable Capacity (MW)	236
Firm Energy (GWh/year)	1860.6
Average Heat Rate (GJ/GWh)	7350

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$359,730
Fixed Operating & Maintenance Cost ($1000s/year)	$3,607.1
Variable Operating & Maintenance Cost ($/MWh)	$5.1
Fixed Taxes ($1000s)	$70
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$62
Project Life (Years)	30
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	10.8	28.6	20.6			
	Remoteness - Linear Disturbance Density: ^{2}	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	7.4	2.8	11.7	38.0		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					60.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	60.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.2					1.8
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: 250 MW Combined Cycle Gas Turbine

Resource Category: Natural Gas Region: Kelly Nicola

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	365.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.004	0.050	0.060		
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh			0.030		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$31	$70	$18
Operation $/Year (million)	$3	$45	$3

Employment	Direct	Indirect	Induced
Construction Person-Years	377	898	212
Operation FTEs (Full-Time Equivalents)	28	156	37

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$5.590	$10.141	$2.362
Operation $/Year (million)	$2.423	$6.178	$0.412

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: 50 MW Combined Cycle Gas Turbine

Resource Category: Natural Gas Region: Kelly Nicola

Project Description

A GE LM6000PD dry low NOx technology unit is used to characterize this option.

Technical Information

Assumes that the unit will be run almost continuously throughout the year except in May and June (freshet period). The average annual capacity factor was assumed to be 70%.

Installed Capacity (MW)	56
Average Annual Energy (GWh/year)	300
Dependable Capacity (MW)	49
Firm Energy (GWh/year)	386.3
Average Heat Rate (GJ/GWh)	7580

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$159,117
Fixed Operating & Maintenance Cost ($1000s/year)	$3,590.1
Variable Operating & Maintenance Cost ($/MWh)	$7.1
Fixed Taxes ($1000s)	$42
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$92
Project Life (Years)	30
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	6.6	17.7	14.0			
	Remoteness - Linear Disturbance Density: ^{2}	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	3.8	1.4	6.0	27.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					38.2	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	38.2	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.2					1.5
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: 50 MW Combined Cycle Gas Turbine

Resource Category: Natural Gas Region: Kelly Nicola

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	390.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.003	0.040	0.180		
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh			0.020		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$14	$31	$8
Operation $/Year (million)	$3	$10	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	173	398	95
Operation FTEs (Full-Time Equivalents)	28	41	15

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$2.572	$4.493	$1.064
Operation $/Year (million)	$0.881	$1.398	$0.168

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: 500 MW Combined Cycle Gas Turbine

Resource Category: Natural Gas Region: Kelly Nicola

Project Description

A GE S207FA Combined Cycle package is used to characterize this option.

Technical Information

Assumes that the unit will be run almost continuously throughout the year except in May and June (freshet period). The average annual capacity factor was assumed to be 70%.

Installed Capacity (MW)	530
Average Annual Energy (GWh/year)	2940
Dependable Capacity (MW)	479
Firm Energy (GWh/year)	3776.4
Average Heat Rate (GJ/GWh)	7362

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$602,664
Fixed Operating & Maintenance Cost ($1000s/year)	$3,815.2
Variable Operating & Maintenance Cost ($/MWh)	$4.8
Fixed Taxes ($1000s)	$70
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$58
Project Life (Years)	30
Project Lead Time (Years)	5

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	9.0	227.8	17.5			
	Remoteness - Linear Disturbance Density: ^{2}	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	10.5	14.8	81.5	147.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					254.3	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	254.3	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha		0.1				4.0
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: 500 MW Combined Cycle Gas Turbine

Resource Category: Natural Gas Region: Kelly Nicola

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	365.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.004	0.050	0.060		
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh			0.030		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$50	$117	$30
Operation $/Year (million)	$3	$90	$6

Employment	Direct	Indirect	Induced
Construction Person-Years	619	1,500	351
Operation FTEs (Full-Time Equivalents)	30	306	66

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$9.201	$16.953	$3.917
Operation $/Year (million)	$4.427	$12.435	$0.735

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: Small Co-generation projects

Resource Category: Cogen Region: Lower Mainland

Project Description

Small Combined Heat and Power projects at greenhouses, hospitals, etc.

Technical Information

Installed Capacity (MW)	10
Average Annual Energy (GWh/year)	80
Dependable Capacity (MW)	10
Firm Energy (GWh/year)	80
Average Heat Rate (GJ/GWh)	5780

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$22,440
Fixed Operating & Maintenance Cost ($1000s/year)	$0.0
Variable Operating & Maintenance Cost ($/MWh)	$15.3
Fixed Taxes ($1000s)	$0
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$74
Project Life (Years)	25
Project Lead Time (Years)	3

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	9.9	7.3	0.0			
	Remoteness - Linear Disturbance Density: $/km^2$	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	0.0	0.7	1.2	15.2		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class					17.1	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	17.1	0.0	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	0.1					
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

RESOURCE OPTIONS DATABASE

Project: Small Co-generation projects

Resource Category: Cogen Region: Lower Mainland

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	240.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.005	0.250	0.058		
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh			0.004		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$2	$4	$1
Operation $/Year (million)	$0	$3	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	22	56	13
Operation FTEs (Full-Time Equivalents)	0	12	2

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.334	$0.629	$0.144
Operation $/Year (million)	$0.108	$0.344	$0.023

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: 750 MW Integrated Gasification Combined Cycle

Resource Category: Coal Region: Peace River

Project Description

Integrated Gasification Combined Cycle (IGCC) plants are a newer generation of coal power generation technology. In an IGCC, the coal is first gasified to produce a synthetic gas (syngas). Syngas is burned in a combined cycle generator to produce electric

In British Columbia, policy action No. 20 of the 2007 Energy Plan stipulates that coal-fired generation must meet a zero greenhouse gas (GHG) emission standard "through a combination of „clean coal„ fired generation technology, carbon sequestration and offset for any residual GHG emission". While „Clean Coal" technology in the form of IGCC is now becoming available, technology that allows the carbon dioxide to be captured from the plant and stored through sequestration, allowing coal fired generation to have „near zero" GHG emissions is still evolving and is not presently viable on a commercial scale. According to EPRI (2007), coal-fired plants with 90% CO2 emission capture and storage could be commercially available by 2022.
Cost estimates presented in the NETL report have been used in calculating the Unit Energy Cost. There is significant uncertainty around these estimates. A 582 MW IGCC currently being built by Missisipi Power Co. is estimated to cost more than twice the hypothetical plant analyzed in the NETL study. Similarly, Duke Energy's 618 MW IGCC plant at Edwardsport scheduled to be in service in 2012 has seen a 45% increase over the utility's original estimate.

Technical Information

Assumes base load operation at 80% capacity factor.

Installed Capacity (MW)	745
Average Annual Energy (GWh/year)	3896
Dependable Capacity (MW)	556
Firm Energy (GWh/year)	3896
Average Heat Rate (GJ/GWh)	11080

Financial Information (in Fiscal $ 2013)

Direct Capital Cost ($1000s)*	$1,704,290
Fixed Operating & Maintenance Cost ($1000s/year)	$28,059.9
Variable Operating & Maintenance Cost ($/MWh)	$14.6
Fixed Taxes ($1000s)	$1,150
Variable Taxes ($1000s)	$0
Unit Energy Cost at Point of Interconnection ($/MWh)	$88
Project Life (Years)	20
Project Lead Time (Years)	6

* Direct Capital Cost excludes Interest During Construction (IDC) and Corporate Overhead (CO)

Environmental Information

Land	Net Primary Productivity: $gC/m^2/year$	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	1.0	178.4	444.6			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	198.1	50.9	247.6	127.4		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	0.0			0.0	623.1	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**	0.0	0.0	623.1	0.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

RESOURCE OPTIONS DATABASE

Project: 750 MW Integrated Gasification Combined Cycle

Resource Category: Coal Region: Peace River

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh	93.0				
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh	0.046	0.222			0.000
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh			0.034		

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$424	$340	$157
Operation $/Year (million)	$12	$28	$6

Employment	Direct	Indirect	Induced
Construction Person-Years	5,226	3,841	1,858
Operation FTEs (Full-Time Equivalents)	118	259	73

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$60.855	$48.453	$20.735
Operation $/Year (million)	$2.839	$4.001	$0.813

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: TO-01

Resource Category: Transmission Region: Central Interior

Project Description

New 500 kV, 50% series compensated transmission circuit 5L8 between GMS and Williston.

Technical Information

Transfer Capacity Increase (MW)	1470

Financial Information (in Fiscal $ 2013)

Total Capital Cost ($1000s)	$388,277
Fixed Operating & Maintenance Cost ($1000s/year)	
Project Life (Years)	
Project Lead Time (Years)	8

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		738.1	595.6			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	1.4	4.3	42.5	1,285.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	64.1	208.9	274.8	643.3	142.6	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		626.8	476.3	230.6		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	6.1	5.4	4.1	0.5	0.8	2.1
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: TO-01

Resource Category: Transmission Region: Central Interior

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$90	$118	$40
Operation $/Year (million)	$2	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	1,113	1,464	475
Operation FTEs (Full-Time Equivalents)	19	15	7

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$13.576	$16.277	$5.303
Operation $/Year (million)	$6.019	$0.125	$0.082

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: TO-02

Resource Category: Transmission Region: Kelly Nicola

Project Description

New 500 kV, 50% series compensated transmission circuit 5L14 between Williston and Kelly Lake.

Technical Information

Transfer Capacity Increase (MW)	2120

Financial Information (in Fiscal $ 2013)

Total Capital Cost ($1000s)	$341,147
Fixed Operating & Maintenance Cost ($1000s/year)	
Project Life (Years)	
Project Lead Time (Years)	8

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		436.4	1,148.3			
	Remoteness - Linear Disturbance Density: ^{2}	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class		0.1	5.8	1,578.9		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		12.9	4.4	802.4	765.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**			669.7	915.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	3.7	2.9	0.4	0.5		1.0
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: TO-02

Resource Category: Transmission Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$79	$104	$35
Operation $/Year (million)	$2	$1	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	978	1,286	418
Operation FTEs (Full-Time Equivalents)	16	13	6

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$11.928	$14.301	$4.660
Operation $/Year (million)	$5.289	$0.110	$0.072

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: TO-03

Resource Category: Transmission Region: Lower Mainland

Project Description

New +/-500 kV HVDC bipole transmission circuit between Peace River and Lower Mainland - Phase 1.

Technical Information

Transfer Capacity Increase (MW)	1000

Financial Information (in Fiscal $ 2013)

Total Capital Cost ($1000s)	$1,482,882
Fixed Operating & Maintenance Cost ($1000s/year)	
Project Life (Years)	
Project Lead Time (Years)	8

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	13.1	1,513.6	2,283.5			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	4.9	11.7	134.7	3,658.9		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	54.8	200.9	257.1	1,472.5	1,825.0	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		1,011.8	1,354.4	1,444.0		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	23.9	17.8	6.4	2.7	0.7	10.4
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: TO-03

Resource Category: Transmission Region: Lower Mainland

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$345	$452	$153
Operation $/Year (million)	$7	$4	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	4,252	5,591	1,815
Operation FTEs (Full-Time Equivalents)	71	57	28

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$51.847	$62.164	$20.254
Operation $/Year (million)	$22.989	$0.477	$0.312

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: TO-04

Resource Category: Transmission Region: Lower Mainland

Project Description

New +/-500 kV HVDC bipole transmission circuit between Peace River and Lower Mainland - Phase 2.

Technical Information

Transfer Capacity Increase (MW)	1000

Financial Information (in Fiscal $ 2013)

Total Capital Cost ($1000s)	$246,783
Fixed Operating & Maintenance Cost ($1000s/year)	
Project Life (Years)	
Project Lead Time (Years)	8

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class						
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class						
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class						
Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**						
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: TO-04

Resource Category: Transmission Region: Lower Mainland

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$57	$75	$25
Operation $/Year (million)	$1	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	708	930	302
Operation FTEs (Full-Time Equivalents)	12	10	5

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$8.628	$10.345	$3.371
Operation $/Year (million)	$3.826	$0.079	$0.052

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: TO-05

Resource Category: Transmission Region: Central Interior

Project Description

Series compensation upgrade at Kennedy from 50% to 65% on GMS to Williston 500 kV lines 5L1, 5L2, 5L3 and 5L7 with thermal upgrades to 3000A rating.

Technical Information

This project will increase transfer capability of 360 MW between Central Interior and Kelly Nicola and 300 MW between Peace River and Central Interior.

Transfer Capacity Increase (MW)	360

Financial Information (in Fiscal $ 2013)

Total Capital Cost ($1000s)	$59,511
Fixed Operating & Maintenance Cost ($1000s/year)	
Project Life (Years)	
Project Lead Time (Years)	3

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class						
	Remoteness - Linear Disturbance Density[2]:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class						
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class						

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**						
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: TO-05

Resource Category: Transmission Region: Central Interior

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$0	$18	$3
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	0	210	34
Operation FTEs (Full-Time Equivalents)	3	2	1

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.020	$2.424	$0.384
Operation $/Year (million)	$0.923	$0.019	$0.013

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: TO-06

Resource Category: Transmission Region: Central Interior

Project Description

Series compensation upgrade at McLeese from 50% to 65% on Williston to Kelly 500 kV lines 5L11, 5L12 and 5L13 with thermal upgrades to 3000A rating.

Technical Information

This project will increase transfer capability of 390 MW between Central Interior and Kelly Nicola and 330 MW between Peace River and Central Interior.

Transfer Capacity Increase (MW)	390

Financial Information (in Fiscal $ 2013)

Total Capital Cost ($1000s)	$57,222
Fixed Operating & Maintenance Cost ($1000s/year)	
Project Life (Years)	
Project Lead Time (Years)	3

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class						
	Remoteness - Linear Disturbance Density^2:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class						
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class						

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**						
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: TO-06

Resource Category: Transmission Region: Central Interior

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$0	$17	$3
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	0	202	33
Operation FTEs (Full-Time Equivalents)	3	2	1

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.019	$2.331	$0.369
Operation $/Year (million)	$0.887	$0.018	$0.012

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: TO-07

Resource Category: Transmission Region: Central Interior

Project Description

500 kV Shunt compensation: At Williston add one 300 MVAr SVC and two 250 MVAr switchable capacitor banks. At Kelly Lake add one 250 MVAr shunt capacitor bank.

Technical Information

This project will increase transfer capability of 650 MW between Central Interior and Kelly Nicola and 580 MW between Peace River and Central Interior.

Transfer Capacity Increase (MW)	650

Financial Information (in Fiscal $ 2013)

Total Capital Cost ($1000s)	$65,129
Fixed Operating & Maintenance Cost ($1000s/year)	
Project Life (Years)	
Project Lead Time (Years)	4

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class						
	Remoteness - Linear Disturbance Density^2:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class						
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class						

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**						
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: TO-07

Resource Category: Transmission Region: Central Interior

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$0	$20	$3
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	0	230	38
Operation FTEs (Full-Time Equivalents)	3	3	1

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.022	$2.653	$0.420
Operation $/Year (million)	$1.010	$0.021	$0.014

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: TO-08

Resource Category: Transmission Region: North Coast

Project Description

New 500 kV circuit Williston-Glenannan-Telkwa-Skeena parallel to the existing 5L61 - 5L62 and 5L63 lines.

Technical Information

Transfer Capacity Increase (MW)	970

Financial Information (in Fiscal $ 2013)

Total Capital Cost ($1000s)	$1,031,557
Fixed Operating & Maintenance Cost ($1000s/year)	
Project Life (Years)	
Project Lead Time (Years)	8

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	48.8	1,547.4	556.0			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	2.7	14.6	221.7	1,913.2		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	4.2	15.9	1,306.9	823.8	1.5	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**				2,152.2		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	18.0	5.8	3.7	11.0	8.2	1.0
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: TO-08

Resource Category: Transmission Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$240	$314	$107
Operation $/Year (million)	$5	$3	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	2,958	3,889	1,263
Operation FTEs (Full-Time Equivalents)	49	40	19

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$36.067	$43.244	$14.089
Operation $/Year (million)	$15.992	$0.332	$0.217

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: TO-09

Resource Category: Transmission Region: North Coast

Project Description

Series compensation of the WSN-SKA 500 kV lines 5L61, 5L62 and 5L63 plus voltage support and transformation addition in the existing BC Hydro substations.

Technical Information

Transfer Capacity Increase (MW)	580

Financial Information (in Fiscal $ 2013)

Total Capital Cost ($1000s)	$142,262
Fixed Operating & Maintenance Cost ($1000s/year)	
Project Life (Years)	
Project Lead Time (Years)	3

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class						
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class						
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class						

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**						
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: TO-09

Resource Category: Transmission Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$0	$43	$7
Operation $/Year (million)	$1	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	0	502	82
Operation FTEs (Full-Time Equivalents)	7	5	3

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.048	$5.795	$0.917
Operation $/Year (million)	$2.205	$0.046	$0.030

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: TO-10

Resource Category: Transmission Region: Selkirk

Project Description

New 500 kV, 50% series compensated transmission circuit 5L97 between Selkirk and Vaseaux Lake.

Technical Information

Transfer Capacity Increase (MW)	750

Financial Information (in Fiscal $ 2013)

Total Capital Cost ($1000s)	$226,703
Fixed Operating & Maintenance Cost ($1000s/year)	
Project Life (Years)	
Project Lead Time (Years)	8

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	50.1	305.1	427.0			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	2.1	4.0	105.6	670.4		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		2.1	30.6	121.6	627.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		450.9	331.2			
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	3.9	1.2	0.4	1.6	0.9	1.5
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: TO-10

Resource Category: Transmission Region: Selkirk

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$53	$69	$23
Operation $/Year (million)	$1	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	650	855	278
Operation FTEs (Full-Time Equivalents)	11	9	4

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$7.926	$9.504	$3.096
Operation $/Year (million)	$3.514	$0.073	$0.048

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: TO-11

Resource Category: Transmission Region: Kelly Nicola

Project Description

New 500 kV, 50% series compensated transmission circuit 5L99 between Vaseaux Lake and Nicola.

Technical Information

Transfer Capacity Increase (MW)	750

Financial Information (in Fiscal $ 2013)

Total Capital Cost ($1000s)	$196,323
Fixed Operating & Maintenance Cost ($1000s/year)	
Project Life (Years)	
Project Lead Time (Years)	8

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	22.7	459.2	186.2			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	0.1	0.7	66.2	601.1		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class		32.9	70.1	55.4	509.8	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		95.8	572.4			
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	1.7	1.2	0.5	0.5		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: TO-11

Resource Category: Transmission Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$46	$60	$20
Operation $/Year (million)	$1	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	563	740	240
Operation FTEs (Full-Time Equivalents)	9	8	4

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$6.864	$8.230	$2.681
Operation $/Year (million)	$3.044	$0.063	$0.041

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: TO-12

Resource Category: Transmission Region: Revelstoke Ashton Creek

Project Description

50% series compensation of the 500 kV lines 5L91 and 5L98.

Technical Information

This project will increase transfer capability of 133 MW between Selkirk and Kelly Nicola and 147 MW between Selkirk and Revelstoke Ashton Creek.

Transfer Capacity Increase (MW)	147

Financial Information (in Fiscal $ 2013)

Total Capital Cost ($1000s)	$61,800
Fixed Operating & Maintenance Cost ($1000s/year)	
Project Life (Years)	
Project Lead Time (Years)	3

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class						
	Remoteness - Linear Disturbance Density^2:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class						
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class						

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**						
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: TO-12

Resource Category: Transmission Region: Revelstoke Ashton Creek

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$0	$19	$3
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	0	218	36
Operation FTEs (Full-Time Equivalents)	3	2	1

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.021	$2.517	$0.398
Operation $/Year (million)	$0.958	$0.020	$0.013

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: TO-13

Resource Category: Transmission Region: Mica

Project Description

50% series compensaton of 500 kV lines 5L71 and 5L72.

Technical Information

Transfer Capacity Increase (MW)	950

Financial Information (in Fiscal $ 2013)

Total Capital Cost ($1000s)	$45,986
Fixed Operating & Maintenance Cost ($1000s/year)	
Project Life (Years)	
Project Lead Time (Years)	

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class						
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class						
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class						

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**						
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: TO-13

Resource Category: Transmission Region: Mica

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$0	$14	$2
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	0	162	27
Operation FTEs (Full-Time Equivalents)	2	2	1

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.015	$1.873	$0.296
Operation $/Year (million)	$0.713	$0.015	$0.010

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Low

RESOURCE OPTIONS DATABASE

Project: TO-14

Resource Category: Transmission Region: Kelly Nicola

Project Description

50% series compensaton of 500 kV lines 5L76, 5L79, and 5L96.

Technical Information

Transfer Capacity Increase (MW)	112

Financial Information (in Fiscal $ 2013)

Total Capital Cost ($1000s)	$60,343
Fixed Operating & Maintenance Cost ($1000s/year)	
Project Life (Years)	
Project Lead Time (Years)	4

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class						
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class						
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class						
Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**						
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: TO-14

Resource Category: Transmission Region: Kelly Nicola

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$0	$18	$3
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	0	213	35
Operation FTEs (Full-Time Equivalents)	3	2	1

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.020	$2.458	$0.389
Operation $/Year (million)	$0.935	$0.019	$0.013

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: TO-15

Resource Category: Transmission Region: Lower Mainland

Project Description

New 500 kV, 50% series compensated transmission circuit 5L83 between Nicola and Meridian.

Technical Information

Transfer Capacity Increase (MW)	1550

Financial Information (in Fiscal $ 2013)

Total Capital Cost ($1000s)	$609,154
Fixed Operating & Maintenance Cost ($1000s/year)	
Project Life (Years)	
Project Lead Time (Years)	

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class						
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class						
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class						

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**						
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: TO-15

Resource Category: Transmission Region: Lower Mainland

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$142	$186	$63
Operation $/Year (million)	$3	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	1,747	2,297	746
Operation FTEs (Full-Time Equivalents)	29	23	11

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$21.298	$25.536	$8.320
Operation $/Year (million)	$9.443	$0.196	$0.128

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Low

RESOURCE OPTIONS DATABASE

Project: TO-16

Resource Category: Transmission Region: Lower Mainland

Project Description

New 500 kV, 50% series compensated transmission circuit 5L46 between Kelly Lake and Cheekye.

Technical Information

Transfer Capacity Increase (MW)	1384

Financial Information (in Fiscal $ 2013)

Total Capital Cost ($1000s)	$656,700
Fixed Operating & Maintenance Cost ($1000s/year)	
Project Life (Years)	
Project Lead Time (Years)	8

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class		382.6	562.8			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	8.1	14.4	175.9	746.9		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	14.1	65.4	28.2	633.1	204.5	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		206.9	621.3	117.2		
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	10.5	7.9	8.9	12.5	6.6	1.3
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: TO-16

Resource Category: Transmission Region: Lower Mainland

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$153	$200	$68
Operation $/Year (million)	$3	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	1,883	2,476	804
Operation FTEs (Full-Time Equivalents)	31	25	12

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$22.961	$27.529	$8.969
Operation $/Year (million)	$10.181	$0.211	$0.138

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	High
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: TO-17

Resource Category: Transmission Region: Lower Mainland

Project Description

500 kV and 230 kV shunt compensation: At Meridian 230 kV add two 110 MVAr capacitor banks. At Nicola 500 kV add one 250 MVAr capacitor bank.

Technical Information

Transfer Capacity Increase (MW)	570

Financial Information (in Fiscal $ 2013)

Total Capital Cost ($1000s)	$10,092
Fixed Operating & Maintenance Cost ($1000s/year)	
Project Life (Years)	
Project Lead Time (Years)	3

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class						
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class						
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class						

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**						
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: TO-17

Resource Category: Transmission Region: Lower Mainland

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$0	$3	$0
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	0	36	6
Operation FTEs (Full-Time Equivalents)	0	0	0

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.003	$0.411	$0.065
Operation $/Year (million)	$0.156	$0.003	$0.002

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Pre-feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: TO-18

Resource Category: Transmission Region: Vancouver Island

Project Description

New 230 kV transmission circuit 2L124 between Arnott and Vancouver Island terminal.

Technical Information

Transfer Capacity Increase (MW)	600

Financial Information (in Fiscal $ 2013)

Total Capital Cost ($1000s)	$230,136
Fixed Operating & Maintenance Cost ($1000s/year)	
Project Life (Years)	
Project Lead Time (Years)	6

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class						
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class						
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class						

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**						
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: TO-18

Resource Category: Transmission Region: Vancouver Island

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$54	$70	$24
Operation $/Year (million)	$1	$1	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	660	868	282
Operation FTEs (Full-Time Equivalents)	11	9	4

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$8.048	$9.646	$3.143
Operation $/Year (million)	$3.568	$0.074	$0.048

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Feasibility
Resource Type Uncertainty	Low
Cost Uncertainty	Medium

RESOURCE OPTIONS DATABASE

Project: TO-19

Resource Category: Transmission Region: Selkirk

Project Description

50% Series compensation of 500 kV line 5L92 SEL-CBK.

Technical Information

Transfer Capacity Increase (MW)	150

Financial Information (in Fiscal $ 2013)

Total Capital Cost ($1000s)	$31,212
Fixed Operating & Maintenance Cost ($1000s/year)	
Project Life (Years)	
Project Lead Time (Years)	3

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class						
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class						
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class						
Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**						
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: TO-19

Resource Category: Transmission Region: Selkirk

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$0	$10	$2
Operation $/Year (million)	$0	$0	$0

Employment	Direct	Indirect	Induced
Construction Person-Years	0	110	18
Operation FTEs (Full-Time Equivalents)	1	1	1

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$0.010	$1.271	$0.201
Operation $/Year (million)	$0.484	$0.010	$0.007

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Low
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: TO-20

Resource Category: Transmission Region: Selkirk

Project Description

A new 500 kV line between SEL and CBK. To define this line, information from Section 5 Inquiry for a new 500 kV line from SEL to Alberta border (287 km , TTC = 1550 MW) is utilized. The new CBK - SEL 500 kV line will be 180 km long.

Technical Information

Transfer Capacity Increase (MW)	1550

Financial Information (in Fiscal $ 2013)

Total Capital Cost ($1000s)	$651,132
Fixed Operating & Maintenance Cost ($1000s/year)	
Project Life (Years)	
Project Lead Time (Years)	8

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class	112.2	282.6	468.8			
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class	8.7	10.2	186.2	658.5		
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class	10.2	126.5	18.9	38.1	664.9	

Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**		60.0	798.1			
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha	8.3	3.8	1.0	1.1		
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: TO-20

Resource Category: Transmission Region: Selkirk

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$152	$198	$67
Operation $/Year (million)	$3	$2	$1

Employment	Direct	Indirect	Induced
Construction Person-Years	1,867	2,455	797
Operation FTEs (Full-Time Equivalents)	31	25	12

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$22.766	$27.296	$8.893
Operation $/Year (million)	$10.094	$0.209	$0.137

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Medium
Cost Uncertainty	High

RESOURCE OPTIONS DATABASE

Project: TO-21

Resource Category: Transmission Region: North Coast

Project Description

A new 449 km long +/-500 kV HVDC bipole transmission circuit between WSN and SKA.

Technical Information

Transfer Capacity Increase (MW)	2000

Financial Information (in Fiscal $ 2013)

Total Capital Cost ($1000s)	$1,091,606
Fixed Operating & Maintenance Cost ($1000s/year)	
Project Life (Years)	
Project Lead Time (Years)	8

Environmental Information

Land	Net Primary Productivity: gC/m^2/year	Low 0 to <69	Medium 69 to <369	High >369			
	ha/class						
	Remoteness - Linear Disturbance Density:	Wilderness <0.2	Remote 0.2 to <0.66	Rural 0.66 to 2.2	Urban >2.2		
	ha/class						
	High Priority Species Count (percentile):	0 to <20	20 to <40	40 to <60	60 to <80	>=80	
	ha/class						
Freshwater	Priority Fish Species: no. of priority species / watershed	None 0	Low 1 to 12	Moderate 13 to 23	High 24 to 38		
	*ha/class**						
	Riparian Area Stream Order:	Order 1	Order 2	Order 3	Order 4	Order 5	Order 6
	ha						
	Reservoir Aquatic Area:	Area					
	ha						
	Affected Stream Length:	Length					
	km						

* The Priority Fish Species indicator calculates the total resource option footprint (in hectares) that falls within watersheds with none, low, moderate or high numbers of priority fish species.

Marine	Bathymetry (depth):	Photic 0 < 20m	Shallow 20 < 200m	Deep 200 < 1000m	Abyssal >=1000 m
	ha/class				
	Valued Ecological Features: no. of valued ecological features	None 0	Low 1 to 2	Medium 3 to 5	High >5
	ha/class	N/A			
	Key Commercial Bottom Fishing Areas: no. of bottom fisheries (bf)	0 bf	1 bf	2 to 3 bf	>3 bf
	ha/class	N/A			

RESOURCE OPTIONS DATABASE

Project: TO-21

Resource Category: Transmission Region: North Coast

Atmosphere	Greenhouse Gas Emissions:	Carbon Dioxide Equivalents (CO_2e)				
	Tonnes/GWh					
	Air Contaminant Emissions:	Sulphur Dioxide	Oxides of Nitrogen	Carbon Monoxide	Volatile Organic	Mercury
	Tonnes/GWh					
		Fine Particulates				
		PM 2.5	PM 10	PM Total		
	Tonnes/GWh					

Economic Development Information

Provincial GDP	Direct	Indirect	Induced
Construction $ (million)	$254	$333	$113
Operation $/Year (million)	$6	$3	$2

Employment	Direct	Indirect	Induced
Construction Person-Years	3,130	4,116	1,336
Operation FTEs (Full-Time Equivalents)	52	42	21

Provincial Government Revenues*	Direct	Indirect	Induced
Construction $ (million)	$38.167	$45.761	$14.910
Operation $/Year (million)	$16.923	$0.351	$0.230

* Where Provincial Government Revenues is the sum of:
(1) From BC Stats: Government tax revenue estimates generated by the model include income taxes as well as commodity taxes. Provincial and federal tax revenues include federal and provincial personal and corporation income taxes. Also included are HST and other commodity taxes (taxes on products) such as the carbon tax, gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes. Municipal commodity tax revenues are primarily related to accommodation taxes. Property taxes are included in taxes on factors of production.
(2) From BC Hydro: water rentals + grants in lieu (these only affect direct impacts and show up under operations as annual revenues).

Data Confidence

Level of Study	Survey
Resource Type Uncertainty	Medium
Cost Uncertainty	High