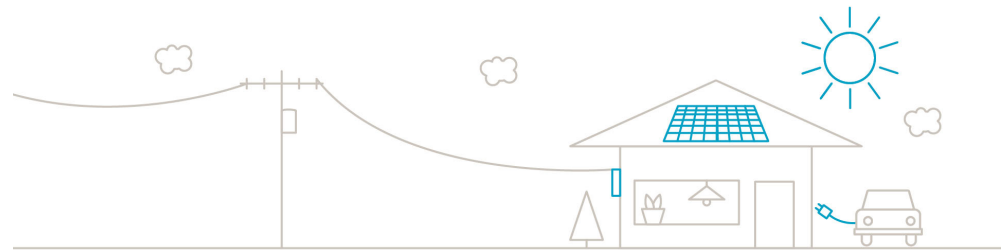


Net metering

Online application updates

September 27, 2023



Agenda

Time	Agenda item	Presenter
8:00	Introductions	Tyson Nicholas, Program Manager
8:00-8:10	NM Program Updates	Paul Seo, Product Manager
8:10-8:30	Online application updates	Tyson Nicholas, Program Manager
8:25-8:40	Q&A {Using Chat Function}	All
8:40-8:45	Wrap-up and next steps	Paul Seo, Product Manager

Net Metering – Looking Back

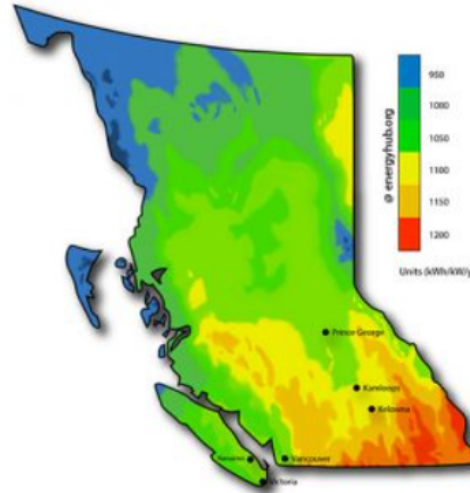
By the numbers

Total Impact

British Columbia

The average solar power system in **British Columbia** will produce approximately 1004 kWh of energy per kW per year.

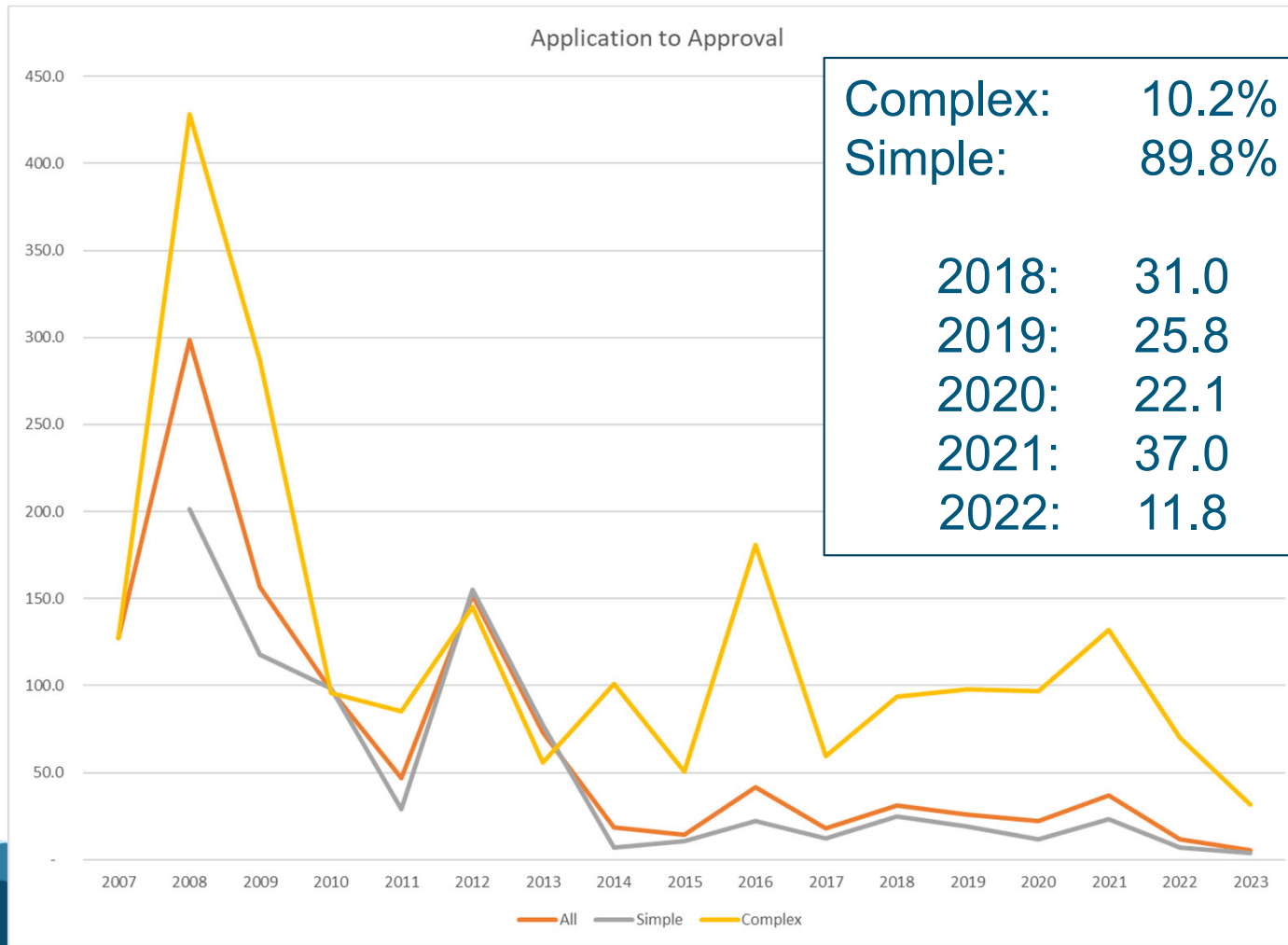
Month	kWh/kW
January	40
February	58
March	84
April	99
May	104
June	110
July	120
August	118
September	113
October	74
November	44
December	37
Annual Total	1004



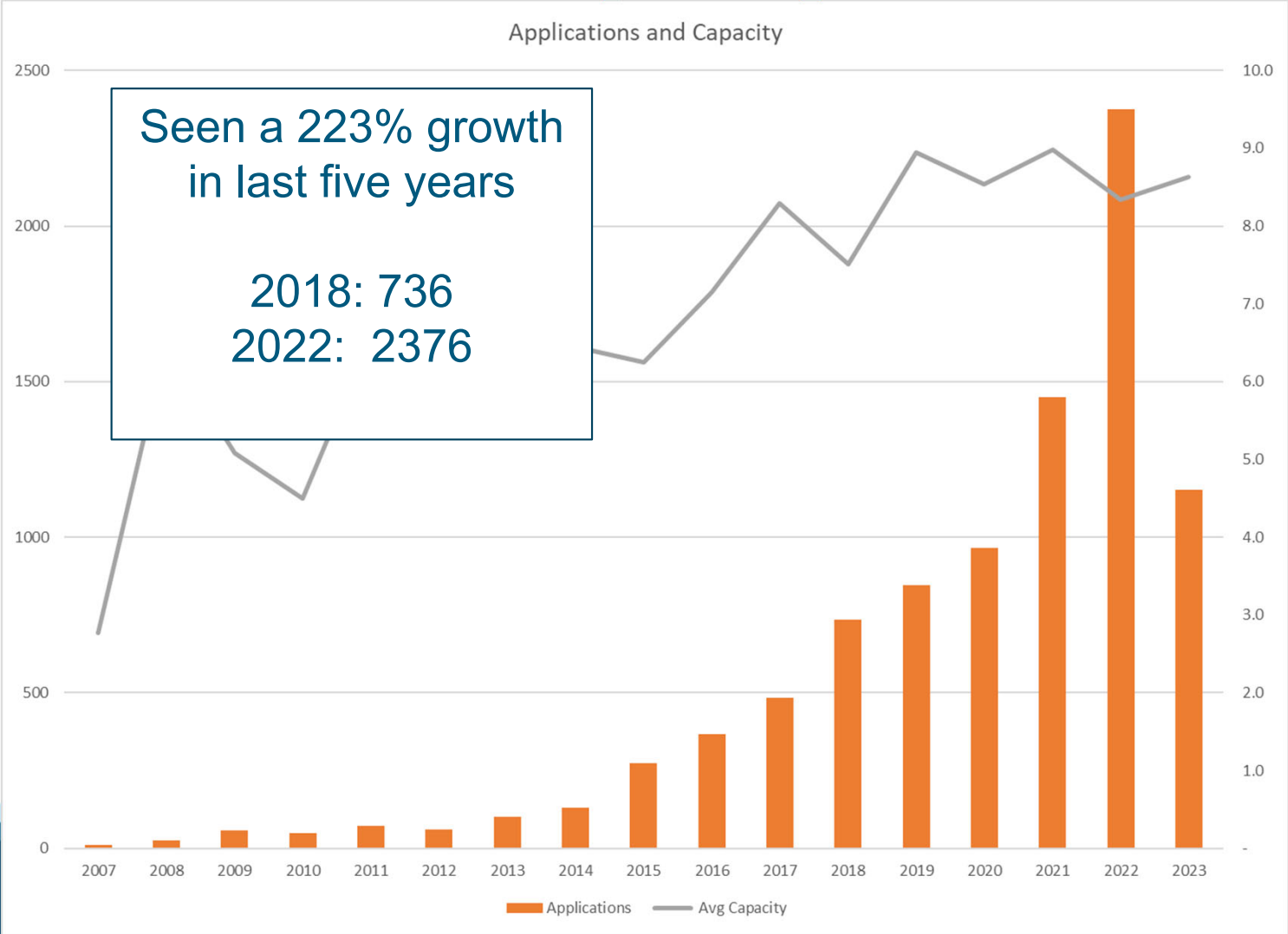
Completed Projects: 8,149
Total Capacity: 68.2 MW

Average size is 8.3 kW or
roughly 8,333 kWh / year

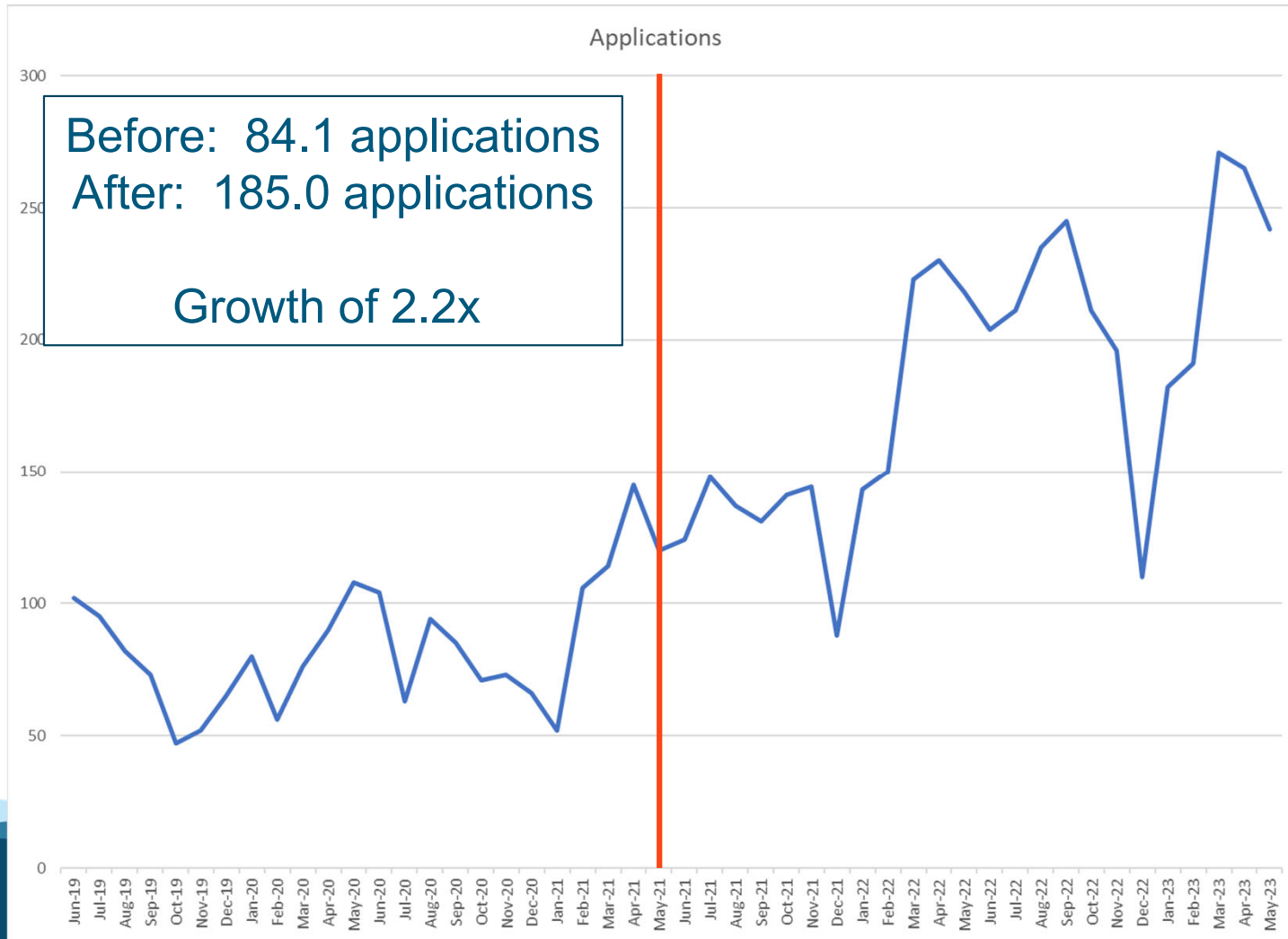
Application to Approval



Applications and Capacity



Impacts of Incentives



Net Metering – Looking Forward

What's next

Net Metering Phases

Engagement 1

- Engage the market for gaps with current tariff
- Jurisdictional scan
- Feedback channels include workshops, surveys, interviews and events.



Engagement 2

- Review results from Phase 1
- Fall 2023 and Winter 2024
- Engagement market via feedback channels on solutions



Application

- June 2024



Our journey to automation



Submit an application



Application accepted



Install and inspect the system



Submit inspection documents



Interconnection approved



Completed June 2022



We are here!



Objectives

After today's demo, you will know how to:

- Track the status of your applications using the project dashboard
- Provide additional project details to distinguish Complex A vs. Complex B projects
- Submit your field verification items online

Navigation: MyHydro and Net Metering

The net metering application page is your hub for all your applications:

1. Log in to your MyHydro profile at www.bchydro.com
2. Hover over the “MyHydro” tab
3. Select “Net metering application”

BC Hydro
Power smart

About us Careers Newsletters Contact us My profile

Accounts Energy savings News Projects & operations Community Work with us Outages & safety

MyHydro Billing & payments Moving Electrical connections Electricity rates & energy use Get help

My Profile Connection requests Account access Data export centre

Change Password View connection requests

Remove Profile Start connection request

Subscriptions & Alerts Link connection request

Pending invitations

Customer support centre

Net metering application

Showing: Open Accounts Show accounts with...

ACCOUNT #	DESCRIPTION	CITY	RATE CLASS	RATE SCHED	LAST BILL (\$)	BALANCE	DUE DATE	ONLINE BILL
0000	RESIDENTIAL STANDARD	MAYNE ISLAND	RSE	1101	\$91.65	\$0.00	April 24 2023	Yes

Navigation: Net metering application page

Three key functions

1. Start a net metering application
2. Continue a draft application
3. List of net metering applications

Net metering

Apply for net metering 1

Interested in installing a new or expanded generating system as part of our net metering program?

[Start a net metering application →](#)

Continue a draft application 2

If your contractor has already started an application for your net metering project, you can complete it online now.

You'll need the application number, which you would have received via email.

[Continue a draft application →](#)

Your net metering applications 3

Status

All (7) ▾

APPLICATION #	PROJECT TYPE	ADDRESS	CITY	APPLICANT NAME	STATUS
#300000001	Replacement of an existing generator	12345 Main Street Vancouver, BC	BURNABY	JOHN DOE (ABC) 1234 Main Street	Review
#300000002	Replacement of an existing generator	5678 Highway 123	VANCOUVER	JANE SMITH (DEF) 4567 Main Street	Review
#300000003	New generator				Withdrawn
#300000004	Addition to an existing generator	9012 Main Street 123	VANCOUVER	JOHN DOE (ABC) 4567 Main Street	In service
#300000005	New construction	3210 Main Street	VANCOUVER	JOHN DOE (ABC) 4567 Main Street	Accepted
#300000006	New generator				Withdrawn
#300000007	New generator	8765 Main Street 123	CHILLIWACK	JANE SMITH (DEF) 4567 Main Street	Billing

Continue a draft application

Continue a draft application

- Customers will continue to use this function to review, authorize, and submit their application.
- Cancel draft ***New***
 - You or your customer can click this button to cancel the application
 - The application status will change from “Draft” to “Withdrawn”

Net metering application

Application type Contractor Info Generating system Submit

Continue a draft application

Application number
Provide the application number for the draft application. You would have received this via email.

Application number

Select the relevant account for this application

Select an account number

If the account isn't listed, you'll need to link it to your MyHydro profile first.
[Link an account](#) →

Next Cancel [Cancel draft](#)

Your net metering applications

Your net metering applications

- This list includes all net metering applications specific to your MyHydro login.
 - “Draft” applications will not have any address, city, or applicant name details until your customer has submitted the application.
- Applications can be filtered by “Status”
- Applications are chronologically ordered from newest on oldest by default, but you can sort all other columns by ascending or descending order.
- Click on the application number to access application details and “Actions Required”

Your net metering applications

Status

APPLICATION #	PROJECT TYPE	ADDRESS	CITY	APPLICANT NAME	STATUS
#300000001	Replacement of an existing generator	12345 BURNABY RD BURNABY BC V5C 1A1	BURNABY	STEVE PLAN (MO) 1234 THE CORNER	Review
#300000002	Replacement of an existing generator	5678 VANCOUVER ST VANCOUVER BC V6Z 1A1	VANCOUVER	STEVE PLAN (MO) 1234 THE CORNER	Review
#300000003	New generator				Withdrawn
#300000004	Addition to an existing generator	9012 VANCOUVER ST VANCOUVER BC V6Z 1A1	VANCOUVER	STEVE PLAN (MO) 1234 THE CORNER	In service
#300000005	New construction	3456 45TH AVE VANCOUVER BC V6N 1A1	VANCOUVER	ANDREW BROWN 1234 THE CORNER	Accepted
#300000006	New generator				Withdrawn
#300000007	New generator	7890 CHILLIWACK RD CHILLIWACK BC V2M 1A1	CHILLIWACK	ANDREW BROWN 1234 THE CORNER	Billing

Your net metering applications

Status	Definition
Draft	<ul style="list-style-type: none">• Waiting for customer to submit the application for review• *Customers will not see this status*
Withdrawn	<ul style="list-style-type: none">• Application has been cancelled
Review	<ul style="list-style-type: none">• Application is being reviewed by BC Hydro
Accepted	<ul style="list-style-type: none">• Application is accepted by BC Hydro• Proceed to installation and then complete “Actions Required”
Inspection review	<ul style="list-style-type: none">• All information and documents pertaining to the “Actions Required” have been submitted to BC Hydro for review
Billing	<ul style="list-style-type: none">• Interconnection has been approved• Rate change in progress
In service	<ul style="list-style-type: none">• Rate change has been completed

Start a new net metering application

Net metering application

If you're interested in installing a new or expanded generating system as part of our net metering program, begin your application below. If your contractor has already created a draft application on your behalf, refer to the bottom of the page to continue a draft application.

Application type > Contractor Info > Generating system > Submit

Start a new net metering application

Before you begin:

- Make sure you've read about the [net metering installation process](#)
- Have the following information ready:
 - BC Hydro account number
 - Meter number
 - Generating system specifications
- The application takes approximately 10-15 minutes to complete.
- Note that unsubmitted applications won't be saved

Application type

* What is your role?

- I'm the contractor
- I'm the customer

* Project type

- New generator
- New construction
- Addition to an existing generator
- Replacement of an existing generator

Cancel

Next

Net metering application

Application type > Contractor Info > Generating system > Submit

Contractor information

Contact Info

Company name

* First name

John

* Last name

Doe

* Phone number

* Email

John.Doe@test.com

Back

Next

Generating system information

Hybrid or micro-grid inverters information ***New***

- Confirm applicability of hybrid or micro-grid inverters
- If yes, upload required documentation.

Inverter details

* Inverter make

* Inverter model

* Specify inverter make

* Specify inverter model

Based on your inverter selection, you'll need to upload the inverter data sheet as a supporting document below.

* Number of inverters

* Nominal output (kW AC)

Total nominal output: 0 kW AC

* Is this inverter a hybrid or micro-grid? Yes No

Supporting documents

An inverter data sheet is required if you selected "Other" as your inverter make or model. Complex (B) net metering projects require supporting documents. Refer to [this table](#) to confirm if your project is Simple, Complex (A), or Complex (B).

Accepted file types: .pdf, .jpg, .jpeg, .png, .doc, .docx, .xlsx
Accepted file size: 135 MB per file; 150 MB total

Single line diagram ⓘ	No file added	<input type="button" value="Add file"/>
Site plan ⓘ	No file added	<input type="button" value="Add file"/>
Inverter data sheet with CSA certification ⓘ	No file added	<input type="button" value="Add file"/>
Battery storage and hybrid/micro-grid documentation ⓘ	No file added	<input type="button" value="Add file"/>

Generating system information

Energy storage information ***New***

- Confirm applicability of energy storage
- If yes, provide requested details and upload required documentation.

Energy storage system

* Is there an energy storage system? E.g. battery storage

Yes
 No

* Type

Select ▼

* Peak power rating (kW)

* Energy storage size (kWh)

* Will your energy storage system send power to the grid at the same time your generating system does?

Yes
 No

Net metering application

Application type > Contractor info > Generating system > **Submit**

Customer to review and authorize the application

Your customer must authorize the net metering application before the application can be submitted.

Please provide your customer's email address below and we'll invite them to review and submit the application. Ensure that:

- The email address provided is associated with their BC Hydro online account, if they have one.
- Spelling of the email is correct. If not, the draft application can't be completed.
- The email address is an individual address (e.g. john@company.com). We can't accept generic addresses (e.g. sales@company.com).

* Customer email

Contractor acknowledgement and privacy statement

By applying for Net Metering service (Rate Schedule 1289 of the BC Hydro Electric Tariff) you acknowledge that you have read and understand the Net Metering service requirements and the Distributed Generation Technical interconnection requirements - 100kW and below, and that you agree to comply with these requirements and design, install, operate and maintain your generator in accordance with applicable governmental and BC Hydro standards and requirements.

In order to be able to use the BC Hydro online Net Metering Form, you need to provide BC Hydro with some personal information (e.g. your name, contact information, and other information related to your request). BC Hydro collects your personal information for the purpose of fulfilling your Net Metering application request and to that end, BC Hydro will need to disclose your information to electrical contractors, municipal government, and Technical Safety B.C.. As a result, BC Hydro may also collect information from these authorities, where required, to fulfill your request and for the purposes of:

- Communicating with you regarding processing and managing of your application, the interconnection of your generator, and the net-metering relationship;
- Providing you with news and information about the Net Metering program; and
- Inviting you to participate in surveys, questionnaires or other engagement activities on the Net Metering program.

By clicking on the submit button you authorize the above described disclosure and collection. BC Hydro collects your personal information as permitted under section 26(c) of the Freedom of Information and Protection of Privacy Act. If you have questions about the collection of your personal information as described in this notice, please contact BC Hydro Net Metering team net.metering@bchydro.com

I have read and agree to the Contractor acknowledgement and privacy statement.

[Back](#) [Send draft to customer](#)

Actions required

New

- After installation, navigate back to your net metering application to “submit” these actions.
- You will be requested to provide the inspection report and/or reduced field verification requirements. **You no longer need to email this information to us.**
- Requirements will be displayed according to whether your project is simple, complex A, or complex B.
- Your progress will be saved. You can complete some actions and complete the remaining at a later time.

Application summary

Application #300000000 - New generator

Address

1000 BURNHOLM DRIVE, BURNBY, BC V0R1S1

Status

Accepted

Last updated August 28, 2023

[View application details](#) →

Actions required

Complete the items identified below. Items marked with * are mandatory.

All actions must be complete before we can start to process this request. Once you've completed all actions, select the button at the bottom of the page to let us know.

Completion information and documentation

* **Electrical contractor declaration of compliance**

The document must contain the installation and the generation size. The following are the acceptable documents:

- Electrical contractor's authorization and declaration of compliance
- Certificate of electrical inspection from the authority having jurisdiction (Eg. Technical Safety BC or municipality)

● Pending

Action Required

[Submit](#)

* **Project cost**

Total cost for the generation system equipment and installation. Exclude any costs for energy storage systems (if applicable).

● Pending

Action Required

[Submit](#)

All actions must be complete before we can start to process this request. Once you've completed all actions, select the button to let us know.

[All actions complete](#)

Actions required

All projects

- Electrical contractor declaration of compliance
- Project cost ***New***

Application summary

Application #300000000 - New generator

Address 1000 BURNINGWOOD DRIVE, BURNBY, BC, V2Y 1R1	Status Accepted
--	--------------------

Last updated August 28, 2023

[View application details](#) →

Actions required

Complete the items identified below. Items marked with * are mandatory.

All actions must be complete before we can start to process this request. Once you've completed all actions, select the button at the bottom of the page to let us know.

Completion information and documentation

<ul style="list-style-type: none">* Electrical contractor declaration of compliance <p>The document must contain the installation and the generation size. The following are the acceptable documents:</p> <ul style="list-style-type: none">Electrical contractor's authorization and declaration of complianceCertificate of electrical inspection from the authority having jurisdiction (Eg. Technical Safety BC or municipality)	<p>● Pending Action Required</p> <p>Submit</p>
<ul style="list-style-type: none">* Project cost <p>Total cost for the generation system equipment and installation. Exclude any costs for energy storage systems (if applicable).</p>	<p>● Pending Action Required</p> <p>Submit</p>

All actions must be complete before we can start to process this request. Once you've completed all actions, select the button to let us know.

[All actions complete](#)

Electrical contractor declaration of compliance

The document must contain the installation address and the generation size.

[Add file](#)

test.docx Uploaded Aug 25, 2023 [Remove file](#)

[Submit](#) [Cancel](#)

Project cost

- * **Project cost**

Total cost for the generation system equipment and installation. Exclude any costs for energy storage systems (if applicable).

[Submit](#) [Cancel](#)

Actions required

Complex A and B: Anti-island function testing

Field verification information

• Anti-Islanding function testing

As an important safety, you'll need to provide the results of protection functionality testing to ensure your inverter responds correctly in the event of a power outage. In an outage, your inverter must stop feeding power to the grid.

● Pending

Action Required

Submit

Anti-Islanding function testing

In compliance with CEC Part -1, Rule # 84-008 and 84-018

How long does it take for the distributed generator to be deenergized (tripped) upon loss of utility voltage?

Demonstrate a loss of utility voltage by opening a disconnect upstream of the distributed generator.

• Approx. time (seconds)

Requirement to pass

No delay (0.1s max)

• Did it pass the test?

- Yes
 No

Dead bus test: How does the generator respond on a bus with no voltage on it?

Turn the inverter on while the feed to the distributed generator is deenergized.

• Approx. time (seconds)

Requirement to pass

No start

• Did it pass the test?

- Yes
 No

How long is the delay for the inverter restart once utility voltage is restored?

• Approx. time (seconds)

Requirement to pass

5 minutes or more

• Did it pass the test?

- Yes
 No

Who completed this field verification testing?

Contact details for the distributed generator owner or technical representative who completed the testing.

• First and last name

• Date testing was completed

MM/DD/YYYY

I confirm that the field verification testing results I'm submitting are accurate.

Submit Cancel

Actions required

Complex A and B: Protection settings

Field verification information

<p>* Anti-islanding function testing</p> <p>As an important safety, you'll need to provide the results of protection functionality testing to ensure your inverter responds correctly in the event of a power outage. In an outage, your inverter must stop feeding power to the grid.</p>	<p><input checked="" type="radio"/> Pending</p> <p>Action Required</p> <p><input type="button" value="Submit"/></p>
<p>* Protection settings</p> <p>Input the inverter's protection setting values and time delay for each setting to take effect. This ensures the inverter setup will correctly stop feeding power to the grid in the event of abnormal grid conditions.</p>	<p><input checked="" type="radio"/> Pending</p> <p>Action Required</p> <p><input type="button" value="Submit"/></p>

Protection settings

Input the inverter's protection setting values and time delay for each setting to take effect. This ensures the inverter setup will correctly stop feeding power to the grid in the event of abnormal grid conditions.

Under voltage

* Setpoint value (V)

* Time delay (seconds)

Over voltage

* Setpoint value (V)

* Time delay (seconds)

Under frequency

* Setpoint value (Hz)

* Time delay (seconds)

Over frequency

* Setpoint value (Hz)

* Time delay (seconds)

* Does your inverter have an active anti-islanding protection setting?

Required per CSA C22.3 No. 9.

- Yes
 No

* Have you completed over-current protection settings?

- Yes
 No

Actions required

Complex A and B: As-built documentation (Optional)

- You would have already submitted these documents as part of your initial application
- However, if any of the documentation has changed since the application was accepted, please "Edit" to upload additional documents.

Field verification information

<p>• Anti-islanding function testing</p> <p>As an important safety, you'll need to provide the results of protection functionality testing to ensure your inverter responds correctly in the event of a power outage. In an outage, your inverter must stop feeding power to the grid.</p>	<p>● Pending</p> <p>Action Required</p> <p>Submit</p>
<p>• Protection settings</p> <p>Input the inverter's protection setting values and time delay for each setting to take effect. This ensures the inverter setup will correctly stop feeding power to the grid in the event of abnormal grid conditions.</p>	<p>● Pending</p> <p>Action Required</p> <p>Submit</p>
<p>As-built documentation</p> <p>Please provide information on installation details that have changed since the application was accepted, or if there is additional information you'd like to provide.</p> <ul style="list-style-type: none">• Single line diagram• Site plan• Inverter data sheet• Battery storage and hybrid/micro-grid documentation• Induction or synchronous documentation	<p>● Received</p> <p>No action required</p> <p>View Edit</p>

Actions required

Complex B: Field verification photos

Field verification photos

• 9 photos required

Please upload the following photos, which will be used to verify the interconnection requirements listed in [DGTIR-100](#). Ensure that photos of nameplates are legible.

● Pending
Action Required

[Submit](#)

- Photos can be taken on site and immediately uploaded via mobile

Field verification photos

Facility overview
Overall view of the house/building that has service where the net metering distributed generator is to be connected. *No file added* [Add file](#)

Installation overview
For example, the overall view of the solar panels that have been installed. *No file added* [Add file](#)

Solar nameplate
Nameplate of solar panel (one photo per model). *No file added* [Add file](#)

Inverter nameplate
Nameplate of inverter (one photo per model). *No file added* [Add file](#)

Supply authority disconnect point and main panel
Complete with all required nameplates. *No file added* [Add file](#)

Posted single line diagram
Per CEC rule 84-030, the single line diagram must be posted at the supply authority disconnect point. *No file added* [Add file](#)

BC Hydro revenue meter
With all required nameplates. *No file added* [Add file](#)

[Submit](#) [Cancel](#)

Actions required

“All actions complete” button

- Once all actions are completed, click the “**All actions complete**” button to submit your documents for review.
- The application status will change from “Accepted” to “Inspection Review”.
- The Net Metering team will proceed to review your application for interconnection approval, as usual.

Actions required

Complete the items identified below. Items marked with * are mandatory.

All actions must be complete before we can start to process this request. Once you've completed all actions, select the button at the bottom of the page to let us know.

Successfully submitted. You have 0 more to submit.

Completion information and documentation

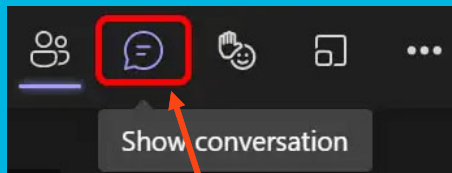
<ul style="list-style-type: none">* Electrical contractor declaration of compliance <p>The document must contain the installation and the generation size. The following are the acceptable documents:</p> <ul style="list-style-type: none">• Electrical contractor's authorization and declaration of compliance• Certificate of electrical inspection from the authority having jurisdiction (Eg. Technical Safety BC or municipality)	<p>● Received</p> <p>No action required</p> <p>View Edit</p>
<ul style="list-style-type: none">* Project cost <p>Total cost for the generation system equipment and installation. Exclude any costs for energy storage systems (if applicable).</p>	<p>● Received</p> <p>No action required</p> <p>View Edit</p>

All actions must be complete before we can start to process this request. Once you've completed all actions, select the button to let us know.

All actions complete

Q&A

Submit your questions using the chat function in Teams



Click on this icon to access the chat

Q&A

When do these updates go into effect?

These updates will go live *late-afternoon* September 28, 2023.

Q&A

What about applications submitted prior to September 28 that are currently in queue for BC Hydro review?

These projects will be available on your dashboard for you to track its status. We will continue to proceed with our review process as usual.

Q&A

How can I get in touch directly with a member of BC Hydro's technical team?

If you'd like to further discuss the technical details of your complex application, email net.metering@bchydro.com with a few options for your availability, and we can set-up a phone call.

Wrap-up & next steps

Commonly used inverter list *Reminder*

Applicable to all net metering projects

- Inverter data sheet with CSA certification is required for any project using an inverter not on [BC Hydro's commonly used inverter list](#).
- Inverter must meet requirements listed in [DGTIR-100](#).

Net metering program

LAST UPDATED:
2023-04-19

Commonly used inverter list

This is a list of commonly used inverters that have come through the net metering program, and is not intended to be an exhaustive list. If the inverter you'd like to use is not listed below, please submit the inverter datasheet with certification information as part of your **net metering application**.

Note that grid interactive photovoltaic inverters must be certified under CSA C22.2 No. 107.1, comply with rules in CSA 22.3 No. 9:20, and are equipped with anti-islanding protection per CEC Part I, rule 84-008.

Inverter Make	Inverter Model
ABB	PVI-5000-TL-OUTD-US
APS	YC500A
APS	YC500i
APS	YC600
APS	YC1000-3
APS	QS1200
APS	QS1
APS	QS1A
APS	DS3
APS	DS3-L
APS	DS3-S
Chilicon	CP-250E-60/72-208/240-MC4
Chilicon	CP-720-60/72/96-208/240-MC4
Enphase	M190
Enphase	M210
Enphase	M215
Enphase	M250
Enphase	IQ 6

Updates in progress

- Sample single line diagram, and other sample documents
- DGTIR-100 for Complex A and Complex B requirements

Next steps

- Today's presentation will be published on www.bchydro.com/netmetering this afternoon.
- Visit www.bchydro.com/netmeteringapplication for updated online application.
- Email net.metering@bchydro.com if you have further questions.



BC Hydro

Power smart