

Overview of Updates for the Integrated Resource Plan (IRP) Analysis February 2012

OVERVIEW

This summary brief highlights key updates to the inputs used in developing the Integrated Resource Plan since 2011.

These include:

- updated direction from government regarding the definitions to be used for calculating self-sufficiency;
- new direction on treatment of liquefied natural gas;
- information updates related to renewable energy credit forecasts, load, and demand-side management benefits.

NEW GOVERNMENT DIRECTION

Self-Sufficiency Requirement Definitions

The provincial government's *Clean Energy Act* continues to require BC Hydro to ensure it is electricity self-sufficient in 2016. Updated direction from government involves two changes:

First, the province now requires BC Hydro to plan for 'average water conditions', where the original direction was for BC Hydro to plan for 'critical water conditions'. This new self-sufficiency definition will require BC Hydro to meet customer demand on an average water year, instead of historically low water levels (critical water conditions). Given 80 per cent of BC Hydro's energy is generated at hydroelectric facilities, a change from planning for 'critical water' conditions to 'average water' conditions has the effect of reducing the need for new firm energy by about 4,500 GWh per year.

Second, the province is also removing the requirement to plan for an additional 3,000 GWh of insurance energy.

Liquefied Natural Gas (LNG) project electricity supply

Based on government direction with respect to the development of the LNG industry in B.C., BC Hydro is expecting to provide electricity to power the proposed Kitimat and Douglas Channel LNG plants. The larger Kitimat LNG plant is expected to need about 4,500 GWh per year of electricity, primarily for refrigeration and gas compression, and would be in-service by 2015 or 2016. These two plants are included in BC Hydro's December 2011 base load forecast.

BC Hydro is also monitoring closely a number other LNG projects beyond the Kitimat and Douglas Channel LNG projects, including Shell's proposed plant (BC Energy) to be built by 2019, and is treating such additional LNG load as a scenario within the load forecast for the time being. To the degree additional LNG plants progress either faster or larger than anticipated, BC Hydro is well positioned to advance plans to supply them.

PURPOSE

To highlight key updates to the inputs used in developing the Integrated Resource Plan since 2011.

The updated February 2012 Load Resource Balance reflects these changes and will be provided in the presentation slides at the IRP TAC Meeting #5. This updated view of expected future need for electricity (also known as the supply 'gap') are central to completing the IRP analysis and preparing recommended actions for the draft IRP.

For more information on these two planning changes, refer to the February 3, 2012 government [press release](#).

INFORMATION UPDATES

The following information has also been updated from the preliminary information shared with TAC in 2011.

1. Renewable Energy Credit (REC) price forecast: The forecast future value of RECs has been reduced due to changing market circumstances. This has the effect of reducing the price advantage between clean resources and natural gas. The updated REC price forecast will be provided in the IRP TAC Meeting #5 presentation slides.
2. Demand-Side Management (DSM) adjustments: In addition to electricity benefits, DSM results in a range of other benefits, including associated capacity benefits, natural gas benefits and non-energy benefits (e.g. operation and maintenance savings resulting from the installation of an energy efficient measure). These benefits have been added, increasing the cost effectiveness of DSM. The non-energy benefits and gas benefits reflect recent amendments to the British Columbia Utilities Commission (BCUC) DSM regulation. In addition, the amortization period for DSM has been updated from 10 to 15 years. More information on DSM adjustments will be included within the IRP TAC Meeting #5 presentation slides.
3. December 2011 Long-Term Load Forecast: The December 2011 long-term load forecast will be used in analysis going forward. In comparison to the 2010 Load Forecast, the 2011 Load Forecast is somewhat lower in the short term but increases in the mid and longer term.

Refer to the *2011 Load Forecast Summary Brief* and IRP TAC Meeting #5 presentation slides for more information.

NOTE REGARDING UPDATES

IRP planners have focused efforts on updating key pieces of analysis where inputs have changed substantially and that will have a material effect on key questions related to the base resource and contingency plans. Not all of the initial analysis completed in 2011 was redone. In some cases, results from the first round of analysis completed in 2011 provide sufficient direction. For example, analysis shows the market for electricity exports are not attractive in the short term, so the planning team will continue to rely on the analysis completed in 2011. Areas of analysis that will continue to be relied upon include:

- Province-wide electrification due to fuel switching (e.g. home heating systems, transportation)
- 30-year transmission cluster analysis
- Export assessment

In addition, other updates to analysis may be ongoing and may not be available in time to be shared at TAC meeting #5, but will appear within the draft IRP.