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New Power Generation is Required to Meet Future Electricity Demand

A report on electricity demand concludes that Newfoundland and Labrador needs a new source of electricity generation because demand for electricity on the Island will exceed supply in the near future. The report, *Electricity Demand Forecast: Do We Need the Power?*, released today by the Department of Natural Resources, identifies key influencers in demand growth and supports Manitoba Hydro International's (MHI) discussion on electricity demand forecasts in their report released on October 30.

"Electricity demand is strongly linked to economic growth and since 2002, Newfoundland and Labrador has experienced significant economic growth as a result of mining and petroleum developments," said the Honourable Jerome Kennedy, Minister of Natural Resources. "GDP has doubled, personal disposable income per person has increased by 62 per cent, and housing starts in the past decade have been, on average, 56 per cent higher than in the previous decade."

From 2002 to 2011, approximately 28,800 new homes were constructed with 86 per cent of them using electric heat. In 2011, there were approximately 18,600 more residential customers on the Island than there were in 2006. While industrial demand has fluctuated, growth in residential and commercial demand has sustained electricity demand.

"We are experiencing a time of unprecedented development and opportunity in Newfoundland and Labrador," added Minister Kennedy. "Forecasted demand clearly indicates that future growth will lead to further increases in the number of households in the province and new developments in the commercial and industrial sectors."

The current economic forecast prepared by the Department of Finance indicates GDP growth of 1.6 per cent annually for the next 20 years. The forecast shows continued growth in the economy driven by major investments in natural resource projects. It also shows that the number of households in the province and new developments in the commercial and industrial sectors are expected to increase.

Newfoundland and Labrador Hydro's (NLH) Planning Load Forecast indicates that by 2015 the province will be challenged to reliably meet peak demand in winter months and, post-2019, there will not be sufficient energy supply to reliably meet demand through the year. NLH's electricity demand forecast points to continued residential and commercial growth. Industrial demand will be led by the Long Harbour processing facility which will require approximately 85MW of new supply.

In addition to Island demand, an estimated \$10-15 billion of investment in Labrador mining projects may be realized over the next decade. Based on projects already in construction or near sanction, existing generating capacity to meet winter peak demand in Labrador will be exhausted by 2015-17.

"Nalcor has a mandate to meet the province's growing electricity needs. Through long-term load forecasting and prudent generation planning, we can ensure we continue to meet consumers' electricity needs today and long into the future," said Gilbert Bennett, Nalcor's Vice President of the Lower Churchill Project. "Our load forecast clearly shows the need for a new source of power for island electricity consumers and Muskrat Falls and the Labrador-Island Link is the lowest-cost option to meet this need."

MHI validated the methodology and data behind NLH's electricity demand forecasting process. MHI found that residential demand was higher in the 2012 forecast and that it was an improvement over the 2010 forecast. MHI noted that the Island demand forecast was well-founded and appropriate as input into the Decision Gate 3 process, but that the overall forecast was conservative which suggests there is potential for even greater commercial and industrial demand in the province compared to the forecast.

"The historical trends, present demands, economic indicators and proven forecasting experience of Newfoundland and Labrador Hydro clearly establish that new generation is essential to address demand needs," said Minister Kennedy. "The Muskrat Falls project is the least-cost solution to this supply challenge. It is critical that sufficient generation supply exist to ensure that homes and residences have access to reliable least-cost electricity for heating and other household requirements and that business and industry have the power they need to grow."

To view the discussion paper, please visit: www.powerinourhands.ca.

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Key Points

Electricity Demand Forecast: Do We Need the Power?

- Electricity demand is strongly linked to economic growth.

- Since 2002, Newfoundland and Labrador has experienced significant economic growth as a result of mining and petroleum developments. GDP has doubled, personal disposable income per person has increased by 62 per cent, and housing starts in the past decade have been, on average, 56 per cent higher than in the previous decade.
- Since 2002, Island residential demand has increased by 16 per cent and Island commercial demand is up 10 per cent. The number of Island residential customers has increased by 12.6 per cent and the average electricity use per residential customer has increased by 3.4 per cent.
- Over the same period, approximately 28,800 new homes were constructed with 85 per cent of them using electric heat.
- In 2011, there were approximately 18,600 more residential customers on the Island than there were in 2006.
- The most recent economic forecast prepared by the Department of Finance indicates that GDP will increase by 1.6 per cent annually over the next 20 years, and that the number of households in the province and new developments in the commercial and industrial sectors are expected to increase.
- Newfoundland and Labrador Hydro's (NLH) latest electricity demand forecast points to growth in Island electricity demand of 1.4 per cent annually between 2011 and 2031 with 3.1 per cent average annual growth up to 2016 and 0.8 per cent average annual growth post 2016.
- Newfoundland and Labrador Hydro's 2012 Planning Load Forecast indicates that by 2015 the province will be challenged to reliably meet peak demand in the winter months and, post-2019, there will not be sufficient energy supply to reliably meet demand through the year.
- The methodology and data behind NLH's electricity demand forecast has been validated by outside independent experts. It is a forecasting process and outcome that independent consulting firm Manitoba Hydro International (MHI) has carefully reviewed and found to be diligent and reasonable.
- The load forecast shows that in 2012, peak demand will be 1,581MW, by 2020, peak demand will be 1,766MW and by 2030 peak demand will be 1,942MW.
- In addition to Island demand, an estimated \$10-15 billion of investment in Labrador mining projects may be realized over the next decade, but this is dependent in part on the availability of power at prices which can be supported by the project economics.

- Current mining operations in Labrador have a combined electrical peak demand requirement of nearly 300MW and include the Iron Ore Company of Canada (IOC) and Wabush Mines.
- Based on projects already in construction or near sanction, existing generating capacity to meet winter peak demand in Labrador will be exhausted by 2015-17.
- Commercial electricity sales account for about 40 per cent of total retail sales on the Island.
- Commercial sales are dependent on changes in provincial GDP, personal income, building stock and heating requirements.
- Significant growth in the commercial sector over the last 20 years is related to spin-off activity from mining, petroleum sectors and commercial developments.
- Longer term economic growth will help drive commercial development and commercial demand for electricity.
- Closure of the newsprint mills in Stephenville and Grand Falls-Windsor and reduced paper production at the Corner Brook mill resulted in a total reduction in industrial average demand of approximately 182MW since 2004. By 2011, about 40 per cent or 76MW of average demand of this reduced industrial consumption has been utilized by other Island consumers. Vale will take up another 85MW. By 2013-2014 the 182MW will be entirely utilized.
- MHI noted in its report that 10MW of annual peak growth can be achieved by adding only 1,565 electric-space heating customers per year.

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