

# Chapter 3

## NB Power Debt Challenges

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# NB Power Debt Challenges

Report of the Auditor General – Volume II, Chapter 3 - 2020

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## Why Is This Important?

- NB Power debt is \$4.9 billion as of 2020;
- NB Power's debt has increased \$2 billion since 2002;
- Planned major capital projects estimated to cost \$3 to \$4 billion; and
- All NB Power debt is issued by the Province of New Brunswick.

## Key Findings

- NB Power has not been able to make significant progress toward achieving the legislated debt to equity target;
- NB Power would need to reduce debt on average, \$65 million per year to achieve 2027 target;
- NB Power has reduced debt, on average, \$20 million annually since the Point Lepreau refurbishment project was completed in 2013;
- NB Power is not achieving debt reduction as outlined in its 10 Year Plan; and
- NB Power's 10 Year Plan forecasting methodology needs to change.

## What We Found

### High Debt to Equity Compared to Peers

- NB Power has the highest debt to equity ratio at 94% and worst 10-year average interest coverage ratio compared to peer utilities in Canada.
- No other peer utility has reached a debt to equity ratio as high as 90%. All peer utilities except NB Power and Manitoba Hydro have achieved their debt to equity target over the past decade.
- NB Power has lower rate increases compared to peer utilities with high debt level.

### Impact on Province of New Brunswick

- Rating agencies signal:
  - NB Power is the Province's largest contingent risk; and
  - Debt to equity remains very high in relation to other provincial utilities.
- There is an impact to all New Brunswickers when NB Power financial targets are not met.
- Significant concerns of sustainability exist, given:
  - NB Power's net income did not meet the Province's expectations by \$195 million over the last four years; and
  - Planned major capital projects.

### Debt Reduction Not a Top Priority Inaccurate forecasting leads to lack of debt reduction

- 10 Year Plans constantly move the debt to equity target date into the future.
- Optimistic forecast leads to inaccurate projected net income.
  - Actual net earnings off base year projections by an average of \$50 million a year.
  - Fuel and purchased power expense \$87 million higher than projected, on average.
  - Major risks and uncertainties not quantified such as Point Lepreau capacity factor, hydro flow, and major weather events.
- 2020 capital expenditures \$126 million higher than projected in 10 Year Plan 2017-26.

## Key Findings and Observations Table

### NB Power Debt Challenges

Paragraph	Key Observations
	<b>NB Power's Debt History</b>
3.11	<i>NB Power will require high levels of capital spending in the future to maintain and extend the useful life of their assets</i>
3.14	<i>\$48 million spent to date on the Mactaquac Life Achievement project</i>
3.15	<i>Future capital spend for the Mactaquac Life Achievement project is estimated at \$2.7 to \$3.7 billion</i>
3.16	<i>Estimated future capital spend is \$84 million for Belledune and \$93 million for Coleson Cove</i>
3.18	<i>In 2020, NB Power was financed 94% by debt totalling \$4.9 billion</i>
	<b>The Effect of NB Power's Debt on the Province of New Brunswick</b>
3.20	<i>All borrowing of NB Power is conducted through the Province of New Brunswick</i>
3.22	<i>NB Power has never been denied financing in recent history by the Province of New Brunswick</i>
3.23	<i>NB Power's financial performance impacts the rating agencies' decision on the Province of New Brunswick's credit rating</i>
3.25	<i>S&amp;P Global's opinion is that NB Power is the Province of New Brunswick's largest contingent risk</i>
3.26	<i>DBRS treats the debt of NB Power as self-supported but notes that leverage remains very high in relation to other provincial utilities</i>
	<b>NB Power's Regulatory Environment</b>
3.28	<i>Challenging element exists in New Brunswick's regulatory environment</i>
3.29	<i>All peer utilities have corporate debt to equity targets however, no other Canadian jurisdiction imposes in their legislation a targeted debt to equity as a factor in determining electricity rates</i>
3.31	<i>Per section 68(a) of the Electricity Act, NB Power's objective is to earn a just and reasonable return to achieve a capital structure of at least 20% equity</i>
3.33	<i>Per section 68(c) of the Electricity Act, rates charged shall be maintained as low as possible and changes in rates shall be stable and predictable from year to year</i>
3.39	<i>Less consistency exists across provinces on whether and how utilities are required to get approval for capital expenditures</i>

## Key Findings and Observations Table (Continued)

Paragraph	Key Observations
3.40	<i>NB Power is required to obtain the New Brunswick Energy and Utilities Board approval for all capital projects in excess of \$50 million</i>
3.41	<i>The New Brunswick Energy and Utilities Board must consider the 20% equity requirement when approving capital projects</i>
	<b>Government Owned Power Utilities in Canada</b>
3.43	<i>Each peer utility is a government owned utility however, subject to different regulatory and accounting frameworks</i>
	<b>Financial Metrics</b>
3.49	<i>NB Power has the highest debt to equity ratio from 2010 to 2019 when compared to other peer utilities in Canada</i>
3.50	<i>In the past decade no other peer utility has reached a debt to equity ratio as high as 90%</i>
3.51	<i>Over the past decade NB Power's debt to equity ratio has averaged 94%</i>
3.52	<i>NB Power has failed to meet the 2013 legislated 20% equity target</i>
3.53	<i>Over the past decade all peer utilities except NB Power and MB Hydro have achieved their debt to equity target</i>
3.54	<i>To achieve the 80/20 debt to equity target by 2027, NB Power requires a total debt reduction of \$457 million or an annual average debt reduction of \$65 million</i>
3.56	<i>In December 2019, NB Power stated no definitive date to meet 20% equity target and achieving low and stable rates will be much more difficult once Mactaquac project starts</i>
3.61	<i>NB Power's earnings over the past 11 years on average can only cover a single fiscal year of interest payments</i>
3.62	<i>NB Power has the worst 10-year average interest coverage ratio compared to peer utilities in Canada</i>
3.65	<i>NB Power acquires interest rates based on the Province of New Brunswick's credit rating</i>
3.67	<i>The combination of highest debt to equity and worst 10-year average interest coverage across comparable jurisdictions represents an elevated liquidity risk to NB Power</i>
3.69	<i>NB Power's debt to equity and interest coverage ratios could be worse, if they were to issue debt independently</i>

Key Findings and Observations Table (Continued)

Paragraph	Key Observations
	<b>NB Power’s 10 Year Plan</b>
3.73	<i>Key assumptions vary significantly year to year and are largely outside the control of NB Power</i>
3.74	<i>Experts of New Brunswick Energy and Utilities Board and Public Intervener noted NB Power’s financial forecasting approach is unique</i>
3.76	<i>The financial forecast in the 10 Year Plans are not accurate, based on comparison between forecast and actuals</i>
3.77	<i>NB Power’s actual net earnings were off base year projections by an average of \$50 million a year</i>
3.77	<i>NB Power’s actual net earnings were on average off \$124 million the 10 Year Plan 2017-26 projections</i>
3.78	<i>NB Power’s financial position impacts the Province and all New Brunswickers</i>
3.81	<i>The average variance of \$87 million for fuel and purchased power is NB Power’s largest expenditure and most significant variance from forecast to actuals</i>
3.82	<i>Optimistic expense forecast could be confusing to regulator assessing NB Power’s rate application</i>
3.83	<i>Major risks and uncertainties are not quantified and included in NB Power’s forecasted revenue requirement</i>
3.85	<i>NB Power has difficulty forecasting future year capital expenditures</i>
3.86	<i>NB Power’s 10 Year Plans constantly change date that 20% equity target will be met</i>
	<b>NB Power’s Annual Rate Increase</b>
3.90	<i>The Electricity Act does not clearly define stable and predictable rates</i>
3.92	<i>NB Power’s annual rate request for 2017, 2018, and 2019 were not approved by the New Brunswick Energy and Utilities Board</i>
3.96	<i>NB Power debt reduction potentially impacted by proceeding with the NBEUB rejected projects</i>
3.98	<i>NB Power has lower rate increases compared to peer utilities with high debt levels</i>
3.99	<i>DBRS’s states NB Power rates remain competitive within the Atlantic region</i>

## Recommendations and Responses

Recommendation	NB Power's response	Target date for implementation
<p><b>3.59 We recommend NB Power prioritize debt reduction by developing a firm and well-defined debt management plan to achieve the mandated debt to equity target by 2027. The plan should comprise:</b></p> <ul style="list-style-type: none"> <li>• <b>achievable annual key performance indicators (KPI) including a debt reduction amount and debt to equity ratio; and</b></li> <li>• <b>a requirement to report annually within NB Power's annual report:</b> <ol style="list-style-type: none"> <li>i. <b>any deviation from the annual KPIs;</b></li> <li>ii. <b>reasons if KPIs are not met; and</b></li> <li>iii. <b>an adjusted action plan to reach 2027 target date.</b></li> </ol> </li> </ul>	<p><i>NB Power takes very seriously its responsibility to manage and operate its facilities in a safe, reliable and economically sustainable manner. NB Power remains committed to meeting its mandated debt to equity target by 2027. As part of its planning process, NB Power will adjust annually its debt management plan to meet these targets using the best information available to achieve the key performance indicators that include debt reduction amount and debt-to-equity ratio.</i></p> <p><i>NB Power agrees to report annually in its Annual Report on its progress against the key performance indicators including reasons for any variances from the annual key performance indicators.</i></p> <p><i>Significant portions of NB Power's future costs remain outside management's control, including generation fuel and electricity market prices, foreign exchange and interest rates and weather patterns. NB Power will evaluate progress against the plan regularly and reflect in its Annual Plan any future adjustments, including those due to uncontrollable factors, to meet its debt to equity targets.</i></p>	<p><i>NB Power will begin to include this information in the 2021/22 Annual Plan and the 2021/22 Annual Report.</i></p>
<p><b>3.84 We recommend NB Power, to improve its forecasting process, quantify the impact of likely uncertainties in the 10 Year Plan, such as fuel prices, hydro flow, Point Lepreau capacity factor, weather events, etc.</b></p>	<p><i>NB Power uses industry standard data sources and third-party experts to quantify the value of certain future costs such as generation fuel and electricity market prices, foreign exchange and interest rates. NB Power agrees to evaluate additional means to quantify the impact of significant future cost uncertainties outside management's control and to include this information in its planning process.</i></p>	<p><i>NB Power will include these considerations in the 2021/22 planning cycle.</i></p>

## Introduction

**3.1** Access to reliable and affordable electricity is an essential service to the citizens of New Brunswick. The New Brunswick Power Corporation (NB Power) is the largest electric utility in Atlantic Canada, responsible for the generation, transmission, and distribution of electricity throughout New Brunswick. NB Power has a responsibility to provide all 410,000 direct and indirect customers within the Province of New Brunswick (Province) safe, reliable, and reasonably priced electricity.

**3.2** NB Power is a Crown corporation, reporting to the Province through the Minister of Natural Resources and Energy Development. The Province is the owner and sole shareholder of NB Power.

**3.3** NB Power is authorized under the “*Electricity Act*” of New Brunswick (2013) (*Electricity Act*) to sell electricity, as well as “*manage and operate NB Power’s resources and facilities for the supply, transmission, and distribution of electricity within New Brunswick*”<sup>1</sup>. Rates charged by NB Power for the sale of electricity within the Province are regulated by the New Brunswick Energy and Utilities Board (NBEUB).

***2020-21 mandate letter requires NB Power to achieve a capital structure of at least 20% equity by 2027, which should come first and foremost in utility planning***

**3.4** NB Power is instructed through a government mandate letter (mandate) for 2020-21, stating the corporation shall “*achieve a capital structure of at least 20% equity by 2027 through cost reductions and other appropriate mechanisms that will maintain low and stable rates for New Brunswickers. This target should come first and foremost in utility planning and may require eliminating investments in other endeavours such as research and business development opportunities until the equity target is met*”.

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<sup>1</sup> NB Power – 2019/20 Annual Report

**Why we chose this topic**

**94% debt structure  
totalling \$4.9 billion in  
2020**

**3.5** We chose to examine NB Power's debt challenges for the following reasons:

- NB Power is a Crown corporation primarily financed by debt (2020 capital structure is 94% debt or \$4.9 billion in debt);
- per the *Electricity Act* and mandate, NB Power must achieve a capital structure of at least 20% equity (by 2027 per the 2020-21 mandate); and
- NB Power has four major capital projects commencing within the next 10 years that will significantly increase the corporation's debt load by an additional \$3 to \$4 billion. The estimated capital costs for the projects are as follows:
  - i. Mactaquac - \$2.7 to \$3.7 billion;
  - ii. Belledune - \$84 million;
  - iii. Coleson Cove - \$93 million; and
  - iv. Advanced Metering Infrastructure - \$73 million.

**Work performed**

**3.6** We performed:

- a review of annual reports and other key strategic documents for NB Power and peer utilities in Canada;
- a 10-year trend analysis on NB Power's key financial ratios related to debt;
- a ratio comparison between NB Power and its peer utilities in Canada;
- a review of NB Power's regulatory environment;
- a review of NB Power's 10 Year Plans (2017-26, 2018-27, 2019-28, 2020-29, and 2021-2030); and
- key interviews regarding NB Power's debt landscape.

**3.7** All analysis completed was based on publicly available information and we did not attempt to validate the data presented in this chapter.

**Scope and approach**

**3.8** The scope included a 10-year trend analysis on NB Power's key financial ratios related to debt. Furthermore, we compared these NB Power ratios to relevant peer utilities in Canada. Finally, we reviewed New Brunswick's regulatory environment and NB Power's 10 Year Plans.

**3.9** Our findings and observations apply to the period between April 1, 2009 and March 31, 2019. However, to gain a more complete understanding of the subject, we examined certain matters that preceded and succeeded the start and end dates of the review.

**Chapter Summary**

**3.10** A summary of this chapter follows:

- all debt issued for NB Power is under the name of the Province;
- NB Power's financial performance impacts rating agencies' decision on the Province's credit rating;
  - i. S&P Global's opinion is that NB Power is the Province's largest contingent risk; and
  - ii. "DBRS treats NB Power debt as self-supported but notes that leverage remains very high in relation to other provincial utilities."
- challenging element exists in New Brunswick's regulatory environment such as the requirement to decrease debt load while maintain low and stable rates. The *Electricity Act* states NB Power must achieve a capital structure of at least 20% equity and maintain low, stable and predictable rates;
- since the proclamation of the *Electricity Act* on October 1, 2013, NB Power has not been able to make significant progress toward achieving equity of at least 20% and has averaged a debt structure of 94% rather than 80%. Further, NB Power has the highest debt to equity ratio compared to its peer utilities in Canada;

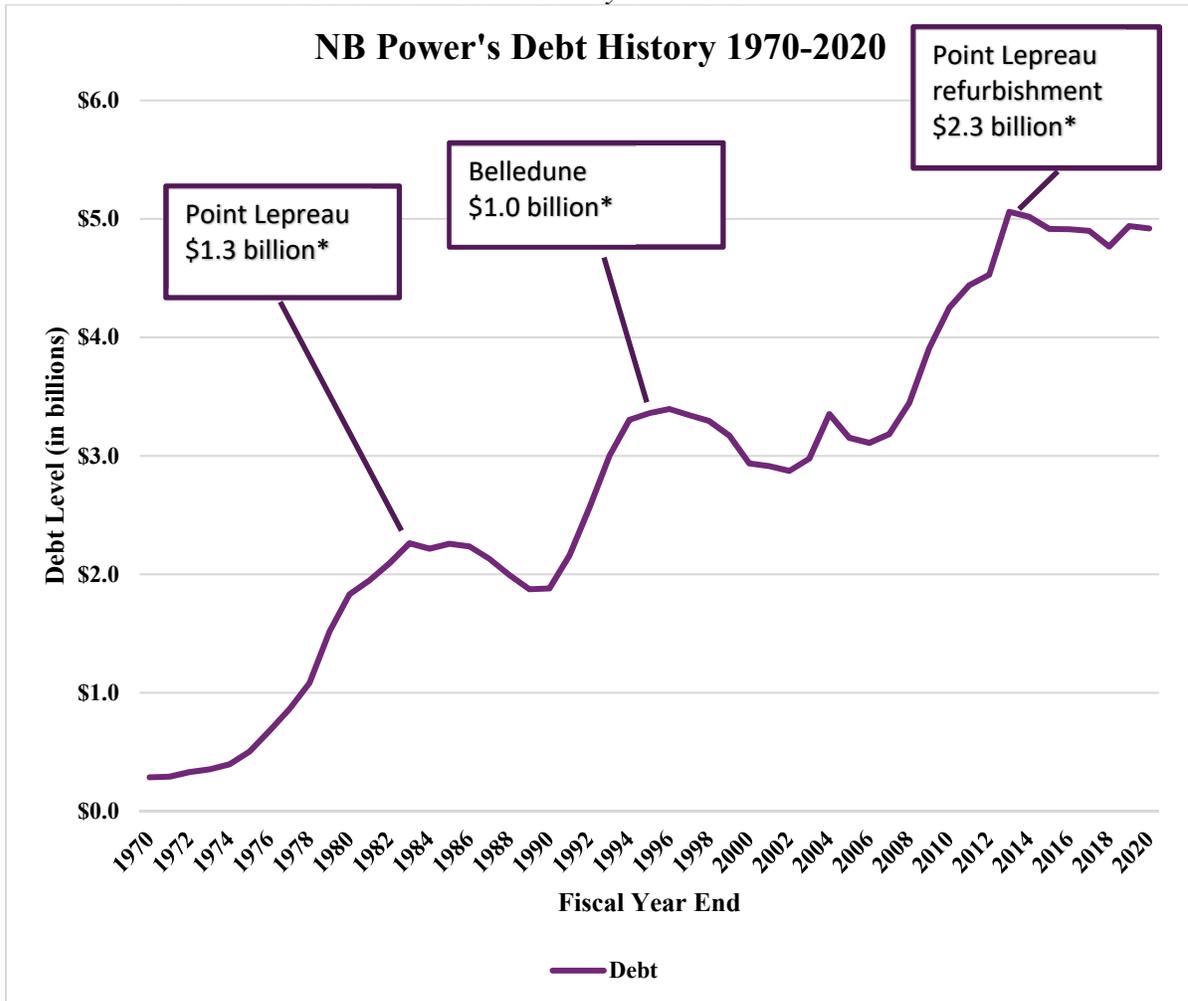
- NB Power has the worst 10- year average interest coverage ratio compared to its peer utilities in Canada;
- the combination of the highest debt to equity and worst 10-year average interest coverage across peer utilities in Canada represents an elevated liquidity risk to NB Power and to the Province of New Brunswick who ultimately owns NB Power's debt. This is particularly concerning given nearly \$4 billion in capital projects on the horizon which will require significantly more debt financing;
- NB Power's 10 Year Plans constantly move the date of achieving equity target of 20% into the future;
- based on NB Power's 10 Year Plan 2021-30, NB Power plans to achieve the debt to equity ratio of 80/20 by reducing debt to \$4.5 billion by 2027, representing an average \$65 million in annual debt reduction. However, this appears to be an unrealistic expectation as NB Power has reduced debt, on average, by only \$20 million annually since the Point Lepreau refurbishment project was completed in 2013;
- the financial forecast in the 10 Year Plans reviewed have consistently underestimated expenditures, based on the results of our comparison of forecast to actuals;
- key assumptions (such as fuel prices, and foreign exchange rate) vary significantly year to year and are largely outside the control of NB Power; and
- major risks and uncertainties are not quantified in the forecasted revenue requirement of the 10 Year Plans reviewed such as the Point Lepreau capacity factor, hydro flow, and major weather events.

# NB Power's Debt History

***NB Power will require high levels of capital spending in the future to maintain and extend the useful life of their assets***

**3.11** Exhibit 3.1 illustrates NB Power's debt history since 1970. The major debt driver is large capital projects such as Point Lepreau and Belledune. NB Power has the legislative obligation to serve all New Brunswick customers with electricity. In carrying out this obligation, NB Power must make investments in long-term assets to generate, transmit and distribute electricity to customers in a safe and reliable manner. NB Power also notes the utility industry is capital-intensive and many of their assets over the past 50 years will require high levels of capital spending in the future to maintain and extend their useful life.

*Exhibit 3.1 - NB Power's Debt History 1970-2020*



Source: AGNB based on information provided by NB Power (unaudited)

\*Major drivers of NB Power's debt history

**1920 – 1970:**  
**\$286.8 million debt**

**1970 – 1983:**  
**\$2.0 billion debt**  
**increase**

**3.12** From NB Power’s inception in 1920 to 1970, NB Power accumulated a debt load of \$286.8 million. From 1970 to 1983 NB Power’s debt increased by \$2 billion to a total debt of \$2.3 billion in 1983. The construction of the following capital assets drove the increase in debt:

- Point Lepreau (\$1.3 billion);
- Coleson Cove (\$255 million);
- Dalhousie Unit 2 (\$130 million);
- Eel River High Voltage Direct Current Station; and
- Mactaquac Unit 4, 5 & 6.

*Point Lepreau Generating Station*



*Source: Nuclearsafety.gc.ca*

**1990 –1996:**

***\$1.5 billion debt  
increase***

**3.13** As illustrated in Exhibit 3.1, NB Power experienced a second wave of capital spending between 1990 and 1996, resulting in a debt increase of \$1.5 billion and raising the total debt to \$3.4 billion by 1996. The construction or conversion of the following capital projects were the driving factors for this increase in debt:

- Belledune (\$1 billion);
- Dalhousie Fuel Conversion (\$260 million); and
- Millbank/Ste. Rose (\$216 million).

*Belledune Generating Station*



*Source: Telegraph Journal*

**2002 – 2020:**

***\$2.0 billion debt increase***

***\$48 million spent to date on the Mactaquac Life Achievement project***

**3.14** NB Power’s third spike in capital spending occurred from 2002 to 2020 (see Exhibit 3.1) resulting in an increase to debt of \$2 billion, driving total debt to \$4.9 billion by 2020. In 2011, NB Power committed to reducing \$1 billion in debt by fiscal year end 2021 after the completion of Point Lepreau refurbishment in 2013. While this target has not been met, NB Power has lowered its debt by \$142 million as of fiscal year end 2020. The construction or refurbishment of the following capital projects were the driving factors for the increase in debt:

- Point Lepreau refurbishment (\$1.3 billion) and replacement power (\$1 billion);
- Coleson Cove refurbishment (\$700 million);
- Eel River High Voltage Direct Current Station refurbishment (\$85 million);
- International Power Line (\$66 million);
- Mactaquac Life Achievement project (\$48 million to date);
- Fundy Isle Undersea Cable replacement (\$47 million);
- Bayside Generation Station purchase (\$46 million); and
- Nepisiguit Falls Generation Station purchase (\$38 million).

*Mactaquac Generating Station*



*Source: NB Power*

***Future capital spend for the Mactaquac Life Achievement project is estimated at \$2.7 to \$3.7 billion***

***Estimated future capital spend is \$84 million for Belledune and \$93 million for Coleson Cove***

**3.15** NB Power estimates that the Mactaquac Life Achievement project, which is intended to extend the lifespan of the Mactaquac generating station to its original life expectancy of 2068 will have an estimated capital costs of \$2.7 to \$3.7 billion.

**3.16** In addition to the Mactaquac Life Achievement project, NB Power has plans for two additional life achievement projects commencing within the next 10 years Belledune, and Coleson Cove. NB Power states that the estimated capital costs for the projects are very preliminary and are subject to change based on alternatives explored and a defined project scope. Currently, NB Power estimates that the capital costs are \$84 million for Belledune and \$93 million for Coleson Cove. These project costs are high level estimates for two generating stations to reach their original planned end of life.

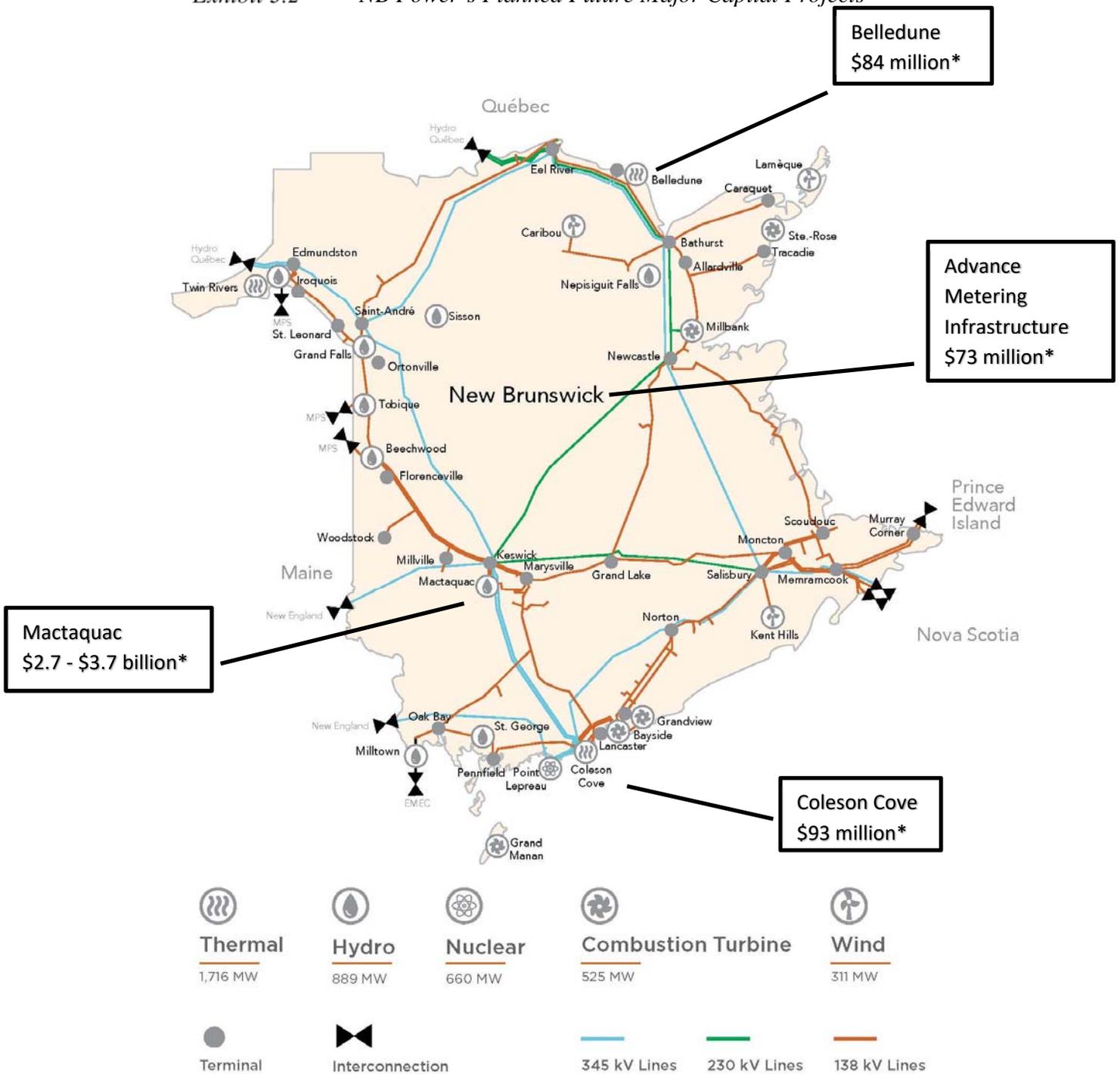
**3.17** NB Power states that Belledune may need to be taken out of service in 2030 if the Province is unable to negotiate an equivalency agreement with the federal government that would allow the station to operate to its planned end of life in 2040. That situation may require investment in a replacement source of generation. Coleson Cove's capital project is intended to bring the generation station to its planned end of life in 2040. Exhibit 3.2 illustrates the location of the major capital projects within the Province of New Brunswick. NB Power indicates these three major capital projects are the lowest cost options as outlined in its Integrated Resource Plan.

*Coleson Cove Generating Station*



*Source: NB Power*

Exhibit 3.2 - NB Power's Planned Future Major Capital Projects

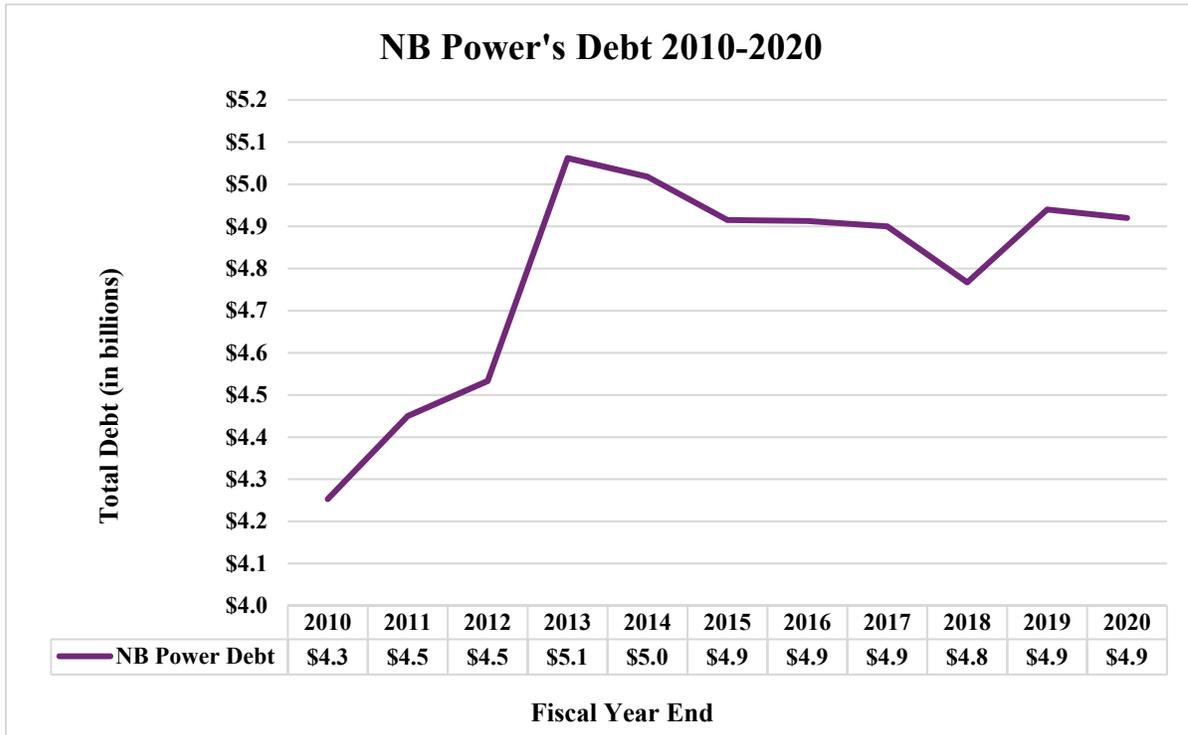


Source: <https://www.nbpower.com/en/about-us/our-energy/system-map>  
 \*Estimated Future Capital Project Cost

***In 2020, NB Power was financed 94% by debt totalling \$4.9 billion***

**3.18** NB Power was financed 94% by debt (\$4.9 billion) in 2020 and has not been able to reduce debt below the 2010 level of \$4.3 billion. The Point Lepreau refurbishment project, one of the largest capital projects in NB Power’s history, was completed in 2013. It caused debt to significantly increase from 2010 to 2013. However, NB Power has reduced debt by a total of \$142 million since 2013. Exhibit 3.3 illustrates NB Power’s increasing debt load over the past decade.

Exhibit 3.3 - NB Power’s Debt 2010-2020



Source: AGNB based on review of the NB Power’s Annual Reports (*unaudited*)

## The Effect of NB Power’s Debt on the Province of New Brunswick

**3.19** NB Power primarily relies on debt for external financing, since it does not have access to share capital as a source of funds from its owner - the Province.

*All borrowing of NB Power is conducted through bonds issued under the Province of New Brunswick*

**3.20** All borrowing of NB Power is conducted through the Province who acts as NB Power’s fiscal agent. The Department of Finance and Treasury Board of the Province “*is responsible for the overall debt and cash management of NB Power*”<sup>2</sup>. The Province completes borrowings, in accordance with the *Provincial Loans Act* to meet NB Power’s financing requirements. As a result, all bonds issued for NB Power are under the name of the Province. NB Power indicates that their Treasury Department interacts with the Province’s Finance and Treasury Board daily.

**3.21** NB Power develops an annual financing plan. After the approval of the annual financing plan by NB Power’s Board of Directors, NB Power sends the planned debt issuances to the Province to incorporate into the Province’s overall borrowing plan, which is then submitted to the Lieutenant-Governor in Council for approval.

*NB Power has never been denied financing in recent history by the Province of New Brunswick*

**3.22** NB Power indicated the Province has never denied the requested financing in recent history. However, the timing and actual amount of certain borrowings may differ from what is reflected in NB Power’s in-year borrowing plan due to the timing of when the Province goes to market.

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<sup>2</sup> New Brunswick Power Corporation – Debt Management Strategy 2020/21 Budget

***NB Power’s financial performance impacts the rating agencies’ decision on the Province of New Brunswick’s credit rating***

**3.23** NB Power must cover the interest payments and pay down the debt on its maturity with its own earnings and re-financing. It is NB Power’s responsibility to demonstrate that debt associated with NB Power is self-sustaining and supported by the rates charged to customers. Any changes to the credit rating of the Province impacts the financing costs incurred by NB Power. On the other hand, NB Power’s financial performance impacts the rating agencies’ decision on the Province’s credit rating.

**3.24** S&P Global and DBRS are two of the worlds leading credit rating agencies. “*Credit ratings are forward-looking opinions on the credit risk and creditworthiness of an entity.*”<sup>3</sup> Each agency uses a rating scale to assign and monitor an entity’s credit rating. Investors rely heavily on ratings given by agencies for decision making purpose. These two third-party rating agencies have expressed concerns regarding NB Power’s financial condition and its impact on the Province. Based on their individual rating scales and data analysis they have stated the following concerning NB Power.

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<sup>3</sup> <https://www.dbrsmorningstar.com/understanding-ratings/#ratings-overview>

***S&P Global’s opinion is that NB Power is the Province of New Brunswick’s largest contingent risk***

**3.25** S&P Global’s opinion as of June 15, 2018, states that “the Province’s largest contingent risk relates to its wholly owned, vertically integrated electric utility, NB Power. This risk stems from the significant operating risks associated with its nuclear generation asset, its exposure to fossil fuel prices, and possible large associated costs related to its power-generating assets, which could produce a large liability for the Province. In our view, the Province would likely support the utility in the event of financial distress. We assess the maximum estimated loss that NB Power could represent for the Province under a stress scenario to be between 10% and 15% of operating revenues.”

***DBRS treats the debt of NB Power as self-supported but notes that leverage remains very high in relation to other provincial utilities***

**3.26** DBRS’s opinion as of March 7, 2018 states that:

- “DBRS treats the debt of NB Power as self-supported but notes that leverage remains very high in relation to other provincial utilities;”
- “An aging Mactaquac Generating Station presents the next big challenge for the utility, which could entail significant debt financing and increase pressure on electricity rates;” and
- “Any decision to explicitly subsidize a portion of rates through the tax base could cause DBRS to reclassify a portion of NB Power’s debt as tax supported debt.”

## NB Power's Regulatory Environment

***Challenging element exists in New Brunswick's regulatory environment***

***All peer utilities have corporate debt to equity targets however, no other Canadian jurisdiction imposes in their legislation a targeted debt to equity as a factor in determining electricity rates***

**3.27** The *Electricity Act* was proclaimed on October 1, 2013, integrating NB Power into a single Crown corporation and revising the New Brunswick regulatory framework.

**3.28** Challenging element exists in New Brunswick's regulatory environment due to section 68 of the *Electricity Act* which requires NB Power to achieve a capital structure of at least 20% equity while maintaining low and stable rates.

**3.29** We performed a jurisdictional comparison across Canada and found that all peer utilities have corporate debt to equity targets; however, no other Canadian jurisdiction imposes in their legislation a targeted debt to equity as a factor in determining electricity rates. More details of this comparison can be found in paragraph 1.35 to 1.41.

**3.30** According to the regulatory and financial reporting expert engaged by the NBEUB, for most other utilities, the required net earnings are only based on an approved total equity (\$) and return on equity (%). In order to determine these amounts, normally the regulator would review evidence on the overall fair return on equity that a utility should earn based on comparator information and assumptions.

***Per section 68(a) of the Electricity Act, NB Power’s objective is to earn a just and reasonable return to achieve a capital structure of at least 20% equity***

**3.31** Section 68(a) of the *Electricity Act* states:

- “that the rates charged by the Corporation for sales of electricity within the Province:
  - i. should be established on the basis of annually forecasted costs for the supply, transmission and distribution of the electricity; and
  - ii. should provide sufficient revenue to the Corporation to permit it to earn a just and reasonable return, in the context of the Corporation’s objective to earn sufficient income to achieve a capital structure of at least 20% equity”

**3.32** Section 68(b) of the *Electricity Act* states:

- “that all the Corporation’s sources and facilities for the supply, transmission and distribution of electricity within the Province should be managed and operated in a manner that is consistent with reliable, safe and economically sustainable service and that will:
  - i. result in the most efficient supply, transmission, and distribution of electricity;
  - ii. result in consumers in the Province having equitable access to a secure supply of electricity; and
  - iii. result in the lowest cost of service to consumers in New Brunswick.”

***Per section 68(c) of the Electricity Act, rates charged shall be maintained as low as possible and changes in rates shall be stable and predictable from year to year***

**3.33** Section 68(c) of the *Electricity Act* states:

- “that, consistent with the policy objectives set out in paragraph (a) and (b) and to the extent practicable, rates charged for sales of electricity within the province shall be maintained as low as possible and changes in rates shall be stable and predictable from year to year.”

**3.34** Other elements of the *Electricity Act* include:

- at least once every three years, NB Power is required to file an Integrated Resource Plan<sup>4</sup> approved by Executive Council with the NBEUB;
- each year, NB Power is required to file a 10 Year Plan. The 10 Year Plan is an annual rolling plan which covers a forecasting period of 10 years. As such, targets, objectives, and goals can change each year, when a new year is added, an old year drops off; and
- starting in 2015-16, NB Power is required to apply annually to the NBEUB for approval of any rate increases the utility proposes to charge for that year.

## Rate Setting Factors in Other Jurisdictions

**3.35** We compared the rate setting processes across Canada to determine if:

- section 68(a)(ii) of the *Electricity Act* that requires both a just and reasonable return while achieving capital structure of at least 20% equity, is a challenging provision affecting only the New Brunswick regulatory environment; and
- capital expenditure approvals are required by an administrative board.

### *All provinces have a regulator*

**3.36** Electricity rates are reviewed by a regulatory board or commission in all the provinces across Canada. In Saskatchewan, the decision on rates is made by Cabinet after undergoing a regulatory process unlike the rest of the provinces, where the regulatory body makes the rate setting decision.

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<sup>4</sup> *Integrated Resource Plan: covers a planning period of not less than 20 years and includes NB Power's load forecast for the planning period; demand-side management, energy efficiency plans, and supply-side options considered by NB Power and those chosen for implementation; the anticipated impact on load of demand-side management and energy efficiency plans chosen for implementation; cost implications of the demand-side management, energy efficiency plans, and supply-side options chosen for implementation as projected for the initial 10-year period; any key assumptions relied on developing the integrated resource plan; a description of the stakeholder consultations carried out in the development of the plan; and any other information NB Power considers relevant or that is ordered by the NBEUB.*

*In most provinces the regulator considers costs*

**3.37** In all but two provinces (British Columbia and Saskatchewan), legislation requires the regulatory body to consider costs the utility incurs to provide electricity. British Columbia and Saskatchewan are not explicit about considering costs, however they have an expansive scope that would include having regard to costs of production.

*In eight provinces rates must be just and reasonable*

**3.38** In eight provinces (British Columbia, Alberta, Manitoba, Ontario, New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador), the rate must be just and reasonable. In Ontario and Manitoba, there are several policy considerations that are imposed on the regulatory body. All have features of just and reasonable rates but are not as explicit in legislation as New Brunswick.

## Approval of Capital Expenditures

*Less consistency exists across provinces on whether and how utilities are required to get approval for capital expenditures*

**3.39** Less consistency exists across provinces on whether and how utilities are required to get approval for capital expenditures. Most provinces require some type of approval for capital expenditures, either through approval of projects or a schedule of projects by the regulatory body.

- Manitoba requires approval by the Minister if the project reaches a specific cost threshold;
- Saskatchewan, for transactions where the purchase or sale price of real property is over \$150,000, approval of the Lieutenant Governor in Council is required; and
- Alberta has no approval requirements for capital expenditures.

*NB Power is required to obtain the New Brunswick Energy and Board approval for all capital projects in excess of \$50 million*

**3.40** Section 107(1) of the *Electricity Act* states “*if the total projected capital cost to the Corporation of a capital project is \$50 million or more, the Corporation shall not incur, in relation to the capital project, capital expenditures in excess of an amount equal to 10% of the total projected capital cost of the capital project before the capital project has been approved by the NBEUB.*”

*The New Brunswick Energy and Utilities Board must consider the 20% equity requirement when approving capital projects*

**3.41** Additionally, section 107(11)(a) states that “*the NBEUB shall take into consideration the policy set out in section 68.*” In other words, the NBEUB must consider the 20% equity requirement when approving capital projects over \$50 million.

## Government Owned Power Utilities in Canada

**3.42** To gain a better understanding of NB Power’s financial position, we compiled financial information for the following government owned power utilities (peer utilities) in Canada for benchmarking analysis:

- British Columbia Hydro and Power Authority (BC Hydro);
- SaskPower;
- Manitoba Hydro (MB Hydro);
- Newfoundland and Labrador Hydro (NL Hydro);
- Hydro-Québec; and
- Ontario Power Generation (OPG).

*Each peer utility is a government owned utility however, subject to different regulatory and accounting frameworks*

**3.43** We believe the selected utilities are the appropriate peer utilities for benchmarking as they are all government owned utilities. However, each peer utility is subject to different regulatory and accounting frameworks. Additionally, the size, generation capacity, and mix of generation assets of each peer utility is quite different. For example, Hydro-Québec and BC Hydro primarily rely on hydroelectric generation, while NB Power uses a mix of hydroelectric, nuclear, fossil-fuel, and other generating assets.

**3.44** Exhibit 3.4 provides a high level comparison of NB Power to the other peer utilities in Canada for fiscal year 2019. For additional details on each peer utility please see Appendix I.

Exhibit 3.4 - NB Power and the Peer Utilities in Canada – Fiscal Year End 2019

NB Power and the Peer Utilities in Canada - Fiscal Year End 2019							
	NB Power	BC Hydro	SaskPower	MB Hydro	NL Hydro	Hydro-Québec	OPG
# of Customers	405,466	2,049,322	537,714	871,791	38,000**	4,356,542	NA*
Total Megawatt Capacity	3,790	12,109	4,531	5,600	1,763	37,243	17, 017
Rate Increase	0.9%	3.0%	0.0%	3.6%	NA	0.9%	NA
Net Income (Loss) - billions	\$0.02	(\$0.43)	\$0.20	\$0.12	\$0.06	\$2.92	\$1.14
Debt - billions	\$4.9	\$22.1	\$7.3	\$20.7	\$1.8	\$46.3	\$8.2
Debt to Equity Ratio	93%	82%	74%	86%	64%	68%	37%
Interest Coverage Ratio	0.95	NA	NA	1.57	NA	2.07	NA
Fiscal Year End	Mar 31	Mar 31	Mar 31, 2015 - 2019 Dec 31, 2010 - 2014	Mar 31	Dec 31	Dec 31	Dec 31
Accounting Framework	IFRS	IFRS	IFRS	IFRS	IFRS	US GAAP	US GAAP
Financing Provided by: See Appendix I for additional details	The Province of New Brunswick	The Province of British Columbia	The Government of Saskatchewan	The Province of Manitoba	Directly and indirectly by the Province of Newfoundland	Unconditional guarantee by the Quebec government on most debt	Long-term debt is sourced from the Ontario Electricity Financial Corporation, however, OPG also accesses the capital markets for private placement project financing
Credit Rating:							
DBRS - 2019	A (high) Stable	AA (high) Stable	AA Stable	A (high) Stable	A (low) Stable	AA (low) Stable	A (low) Stable
Moody's - most recently published	Aa2	Aaa	Aaa	Aa2	NA	Aa2	A3
Standard's and Poor - 2019	A+ Stable	AAA Stable	AA Stable	A+ Positive	NA	AA- Stable	BBB+ Stable

Source: AGNB based on review of the Peer Utilities Annual Reports (unaudited)

NA: Information is not available in the associated annual reports

\*OPG is an electricity generation company whose principal business is the generation and sale of electricity (not to end users, to transmitters then to local distributors within the Province.)

\*\* NL Hydro's primary customer group consists of Newfoundland Power, industrial customers and the 38,800 residential and commercial customers in rural Newfoundland and Labrador.

IFRS: International Financial Reporting Standards

US GAAP: United States Generally Accepted Accounting Principles

## Financial Metrics

**3.45** Capital structure is “*the particular combination of debt and equity used by a company to finance its overall operations and growth.*”<sup>5</sup>

***NB Power’s debt management strategy***

**3.46** NB Power’s Debt Management Strategy (2020/21 Budget) states “*Building equity will reduce NB Power’s potential risk to rising interest rates and help ensure there is financial flexibility to deal with unplanned events or capital-intensive periods.*”

**Debt to Equity**

**3.47** NB Power and peer utilities in Canada measure the capital structure of their corporation using the debt to equity ratio. Debt to equity is an indicator of the risk associated with the corporations borrowing activities and a higher debt to equity ratio results in a greater risk to stakeholders.

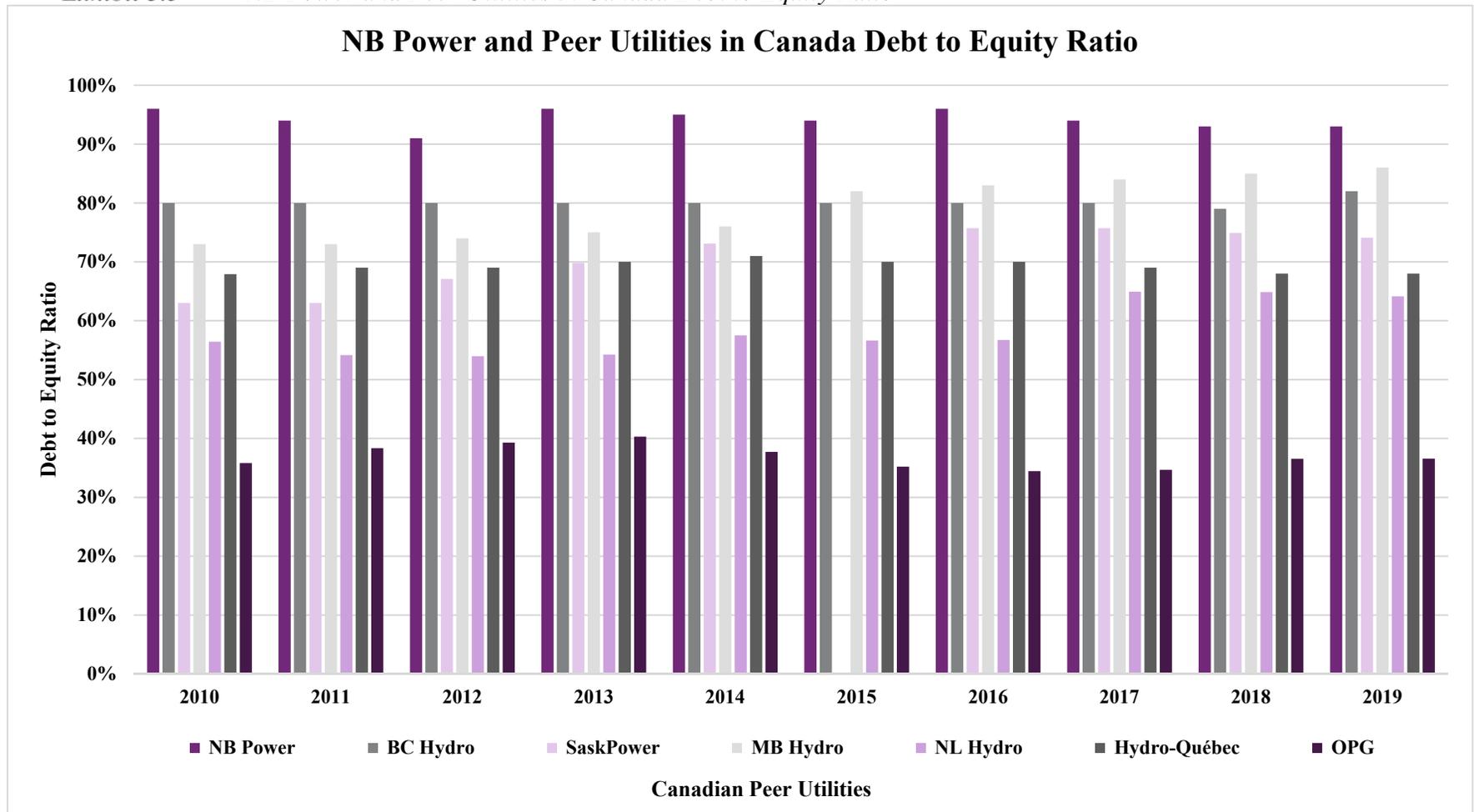
**3.48** As previously noted, NB Power is required under the *Electricity Act* and its mandate to achieve a capital structure of 80% debt to 20% equity.

***NB Power has the highest debt to equity ratio from 2010 to 2019 when compared to other peer utilities in Canada***

**3.49** Exhibit 3.5 illustrates the debt to equity ratio from fiscal years 2010 to 2019 for all peer utilities in Canada. NB Power has the highest debt to equity year over year ranging between 91% and 96% compared to the other peer utilities in Canada. The analysis completed was based on the debt to equity ratios as reported in the peer utilities’ annual reports. The equity portion may include different components for each peer utility. The degree to which the peer utilities utilize regulatory deferral accounts will also affect their level of equity. These factors may potentially impact the comparability.

<sup>5</sup> <https://www.investopedia.com/terms/c/capitalstructure.asp>

Exhibit 3.5 - NB Power and Peer Utilities in Canada Debt to Equity Ratio



Source: AGNB based on review of the Peer Utilities Annual Reports (unaudited)

\*In 2015, SaskPower was directed by the provincial government to change its fiscal year-end to March 31 from December 31 to coincide with that of the Province of Saskatchewan. The first completed fiscal period consisted of the 15 months ending March 31, 2016. Therefore, SaskPower does not have a debt to equity ratio for 2015.

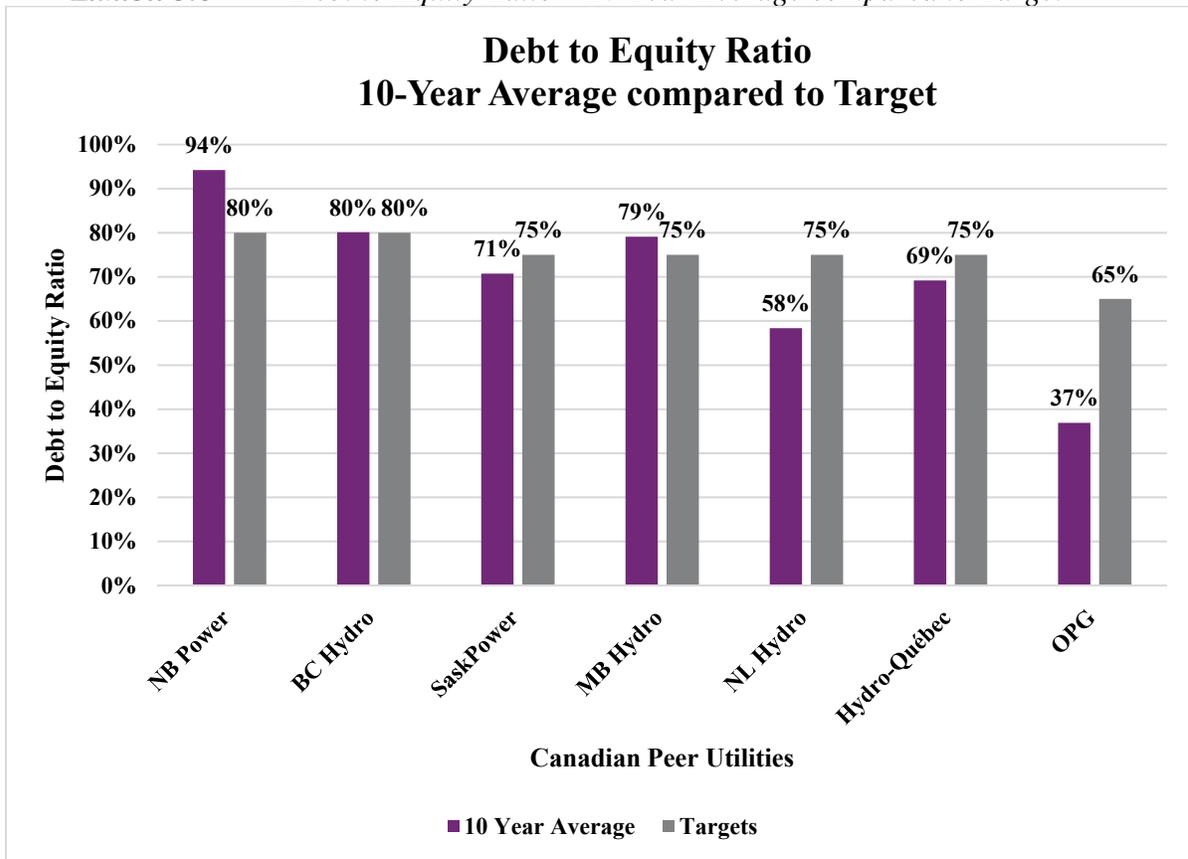
***In the past decade no other peer utility has reached a debt to equity ratio as high as 90%***

**3.50** We observed that NB Power has not been able to make significant progress toward achieving the targeted debt to equity ratio of 80/20 as required by the *Electricity Act* since the proclamation on October 1, 2013. In fact, NB Power has not been able to lower the debt to equity ratio below 90% and has only come close once in fiscal year 2012 at 91%. Additionally, no other peer utility has ever climbed to a debt to equity ratio as high as 90%. MB Hydro would be closest when it reached an 86% debt to equity ratio in 2019.

***Over the past decade NB Power’s debt to equity ratio has averaged 94%***

**3.51** Over the past 10 years (fiscal year ends 2010 to 2019) NB Power’s debt to equity ratio has averaged 94%, higher than any other peer utility in Canada and far offside the requirement of the *Electricity Act* and mandate. Exhibit 3.6 illustrates the 10-year average compared to the targeted debt to equity ratio for NB Power and the peer utilities in Canada.

Exhibit 3.6 - Debt to Equity Ratio – 10-Year Average compared to Target

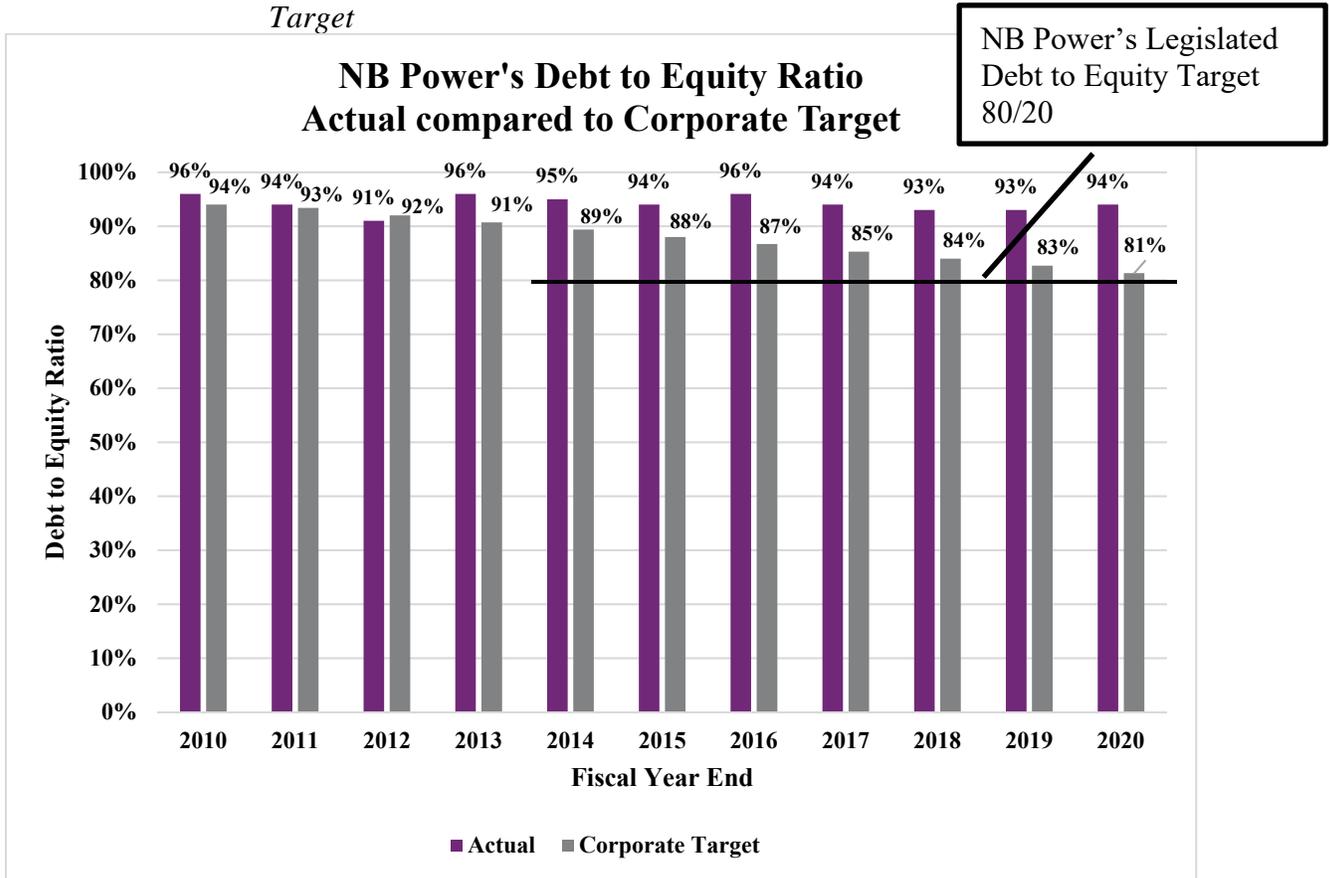


Source: AGNB based on review of the Peer Utilities Annual Reports (unaudited)

**NB Power has failed to meet the 2013 legislated 20% equity target**

**3.52** Exhibit 3.7 illustrates NB Power’s actual debt to equity compared to the corporate target between 2010 and 2020. The exhibit further highlights NB Power’s failure to achieve the *Electricity Act* and mandate 20% equity target.

*Exhibit 3.7 - NB Power’s Debt to Equity Ratio – Actual compared to Corporate Target*



Source: AGNB based on review of NB Power’s Annual Report and internal documents (unaudited)

***Over the past decade all peer utilities except NB Power and MB Hydro have achieved their debt to equity target***

**3.53** Exhibit 3.8 illustrates the debt to equity ratio 10-year average and targets for NB Power and each peer utility in Canada. We observed that over the past 10 years all peer utilities except for NB Power and MB Hydro have achieved their debt to equity target. For additional details on each peer utilities' debt to equity ratio please see Appendix II.

*Exhibit 3.8 - NB Power and the Peer Utilities Targeted Debt to Equity Ratio*

Peer utility	Debt to Equity Target	Debt to Equity 10-year average	Debt to Equity Target Achieved
<b>NB Power</b>	89/12*	94/6	No
<b>BC Hydro</b>	80/20	80/20	Yes
<b>MB Hydro</b>	75/25	79/21	No
<b>SaskPower</b>	60/40 to 75/25	71/29	Yes
<b>Hydro-Québec</b>	75/25	69/31	Yes
<b>NL Hydro</b>	75/25	58/42	Yes
<b>OPG</b>	65/35	37/63	Yes

Source: AGNB based on review of the Peer Utilities Annual Reports (unaudited)

\*NB Power's debt to equity ratio target is based on the 10-year average corporate target (per the Electricity Act and mandate the target is 80/20).

***To achieve the 80/20 debt to equity target by 2027, NB Power requires a total debt reduction of \$457 million or an annual average debt reduction of \$65 million***

***Public Intervener questions NB Power's debt reduction plan***

***In December 2019, NB Power stated no definitive date to meet 20% equity target and achieving low and stable rates will be much more difficult once Mactaquac project starts***

**3.54** Based on NB Power's 10 Year Plan 2021-30, NB Power plans to achieve the debt to equity ratio of 80/20 in 2027 by reducing debt by \$457 million to \$4.5 billion. We estimated this to represent an average annual reduction in debt of \$65 million. However, this appears to be an unrealistic expectation as NB Power has reduced debt, on average, by only \$20 million annually since the Point Lepreau refurbishment project was completed in 2013.

**3.55** In December 2019, the Public Intervener asked NB Power during Matter 458 (NB Power 2020-2021 General Rate Application), if it had any specific plans for when it believed it needed to achieve the target debt to equity ratio of 80/20 to be able to finance major capital expenditures in a responsible manner.

**3.56** NB Power's response to the Public Intervener:

- *“NB Power does not have a definitive date established as to when it must achieve the minimum equity target of 20% or whether the target should be exceeded.”; and*
- *“NB Power does believe that if the target is not achieved before or near the start of the Mactaquac project, then it will be much more difficult to meet and ultimately sustain the target while also attempting to keep rates low and stable.”*

**3.57** Additionally, NB Power's 10 Year Plan 2020-29 (December 2018) states that *“NB Power was very clear that the forecast presented was not a recommended and finite plan and that it was not recommending that the achievement of the equity target be delayed until 2029.”*

**3.58** Without a well-defined plan to achieve the legislative equity target of 20%, NB Power's ability to finance large scale capital projects in the future, such as the Mactaquac Life Achievement project will be significantly limited.

- Recommendation**
- 3.59** We recommend NB Power prioritize debt reduction by developing a firm and well-defined debt management plan to achieve the mandated debt to equity target by 2027. The plan should comprise:
- **achievable annual key performance indicators (KPI) including a debt reduction amount and debt to equity ratio; and**
  - **a requirement to report annually within NB Power’s annual report:**
    - i. any deviation from the annual KPIs;**
    - ii. reasons if KPIs are not met; and**
    - iii. an adjusted action plan to reach 2027 target date.**

- Interest Coverage Ratio**
- 3.60** Interest coverage ratio is “used to determine how easily a company can pay interest on its outstanding debt.”<sup>6</sup> Interest coverage ratio is considered an important element of financial targets as a corporation cannot grow or survive if the organization cannot pay the interest on its outstanding obligations. A low interest coverage ratio is generally not appealing to investors as it can represent a lack of potential growth.
- Coverage represents “the number of fiscal years for which interest payments can be made with the company’s currently available earnings.”<sup>7</sup>

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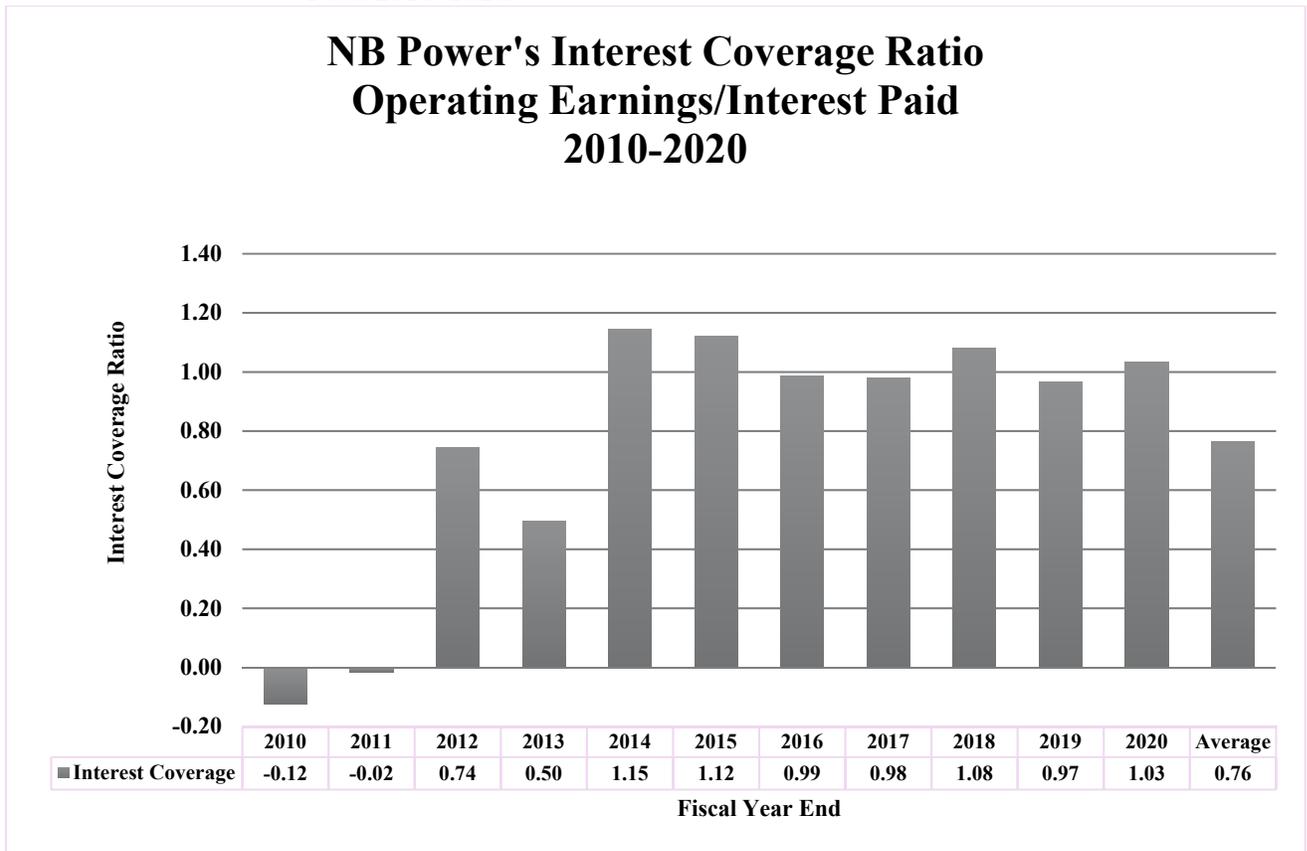
<sup>6</sup> <https://www.investopedia.com/terms/i/interestcoverageratio.asp>

<sup>7</sup> <https://www.investopedia.com/ask/answers/121814/what-good-interest-coverage-ratio.asp>

***NB Power’s earnings over the past 11 years on average can only cover a single fiscal year of interest payments***

**3.61** Exhibit 3.9 illustrates NB Power’s interest coverage ratio for the period of 2010 to 2020. Only two of NB Power’s peer utilities calculate the interest coverage ratio in their annual reports. Therefore, to provide an equal comparison of the interest coverage ratio across all peer utilities in Canada, we calculated the ratio based on operating earnings (revenue – expenses) divided by interest paid. NB Power’s interest coverage highlights an inability to cover interest payments beyond a single fiscal year showcasing NB Power’s increasing financial struggles. NB Power’s 2020 interest coverage ratio was 1.03 up from 0.97 in 2019 and beyond the average of 0.76.

*Exhibit 3.9 - NB Power’s Interest Coverage Ratio Operating Earnings/Interest Paid 2010-2020*

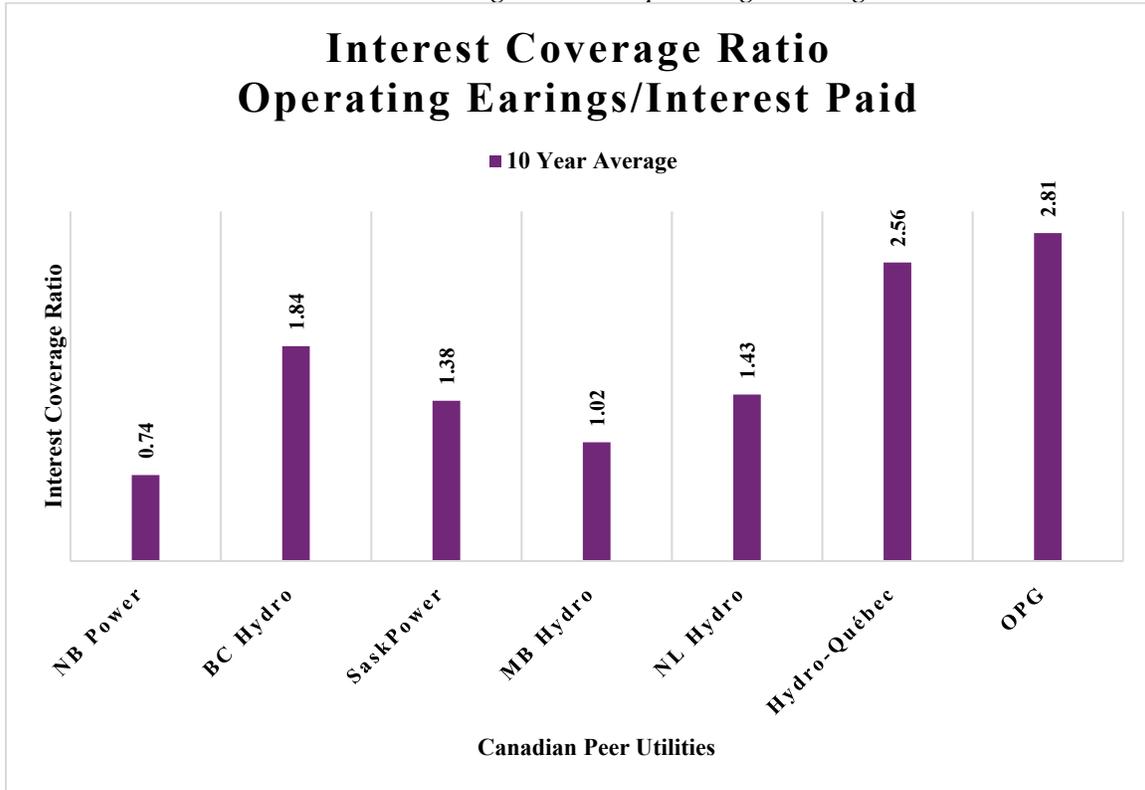


Source: AGNB based on review of NB Power’s Annual Reports (unaudited)

**NB Power has the worst 10-year average interest coverage ratio compared to peer utilities in Canada**

**3.62** Exhibit 3.10 provides a comparison across all peer utilities in Canada. The exhibit highlights that NB Power has the worst 10-year average interest coverage ratio (0.74) compared to the other peer utilities in Canada based on 10-year averages.

Exhibit 3.10 - Interest Coverage Ratio - Operating Earnings/Interest Paid



Source: AGNB based on review of the Peer Utilities Annual Reports (unaudited)

**3.63** NB Power completed a benchmarking analysis in 2016 based on 2010 to 2014 data. The benchmarking report presented interest coverage ratio results that showed “NB Power remains in the worst quartile for all shareholder metrics” including interest coverage.

## Credit Rating Analysis

*NB Power acquires interest rates based on the Province of New Brunswick's credit rating*

**3.64** NB Power's debt, as discussed in paragraph 1.19 and 1.20, is issued through the Province. Therefore, NB Power acquires interest rates based on the Province's credit rating. NB Power pays a 0.65% debt portfolio management fee to the Province, based on NB Power's loan balance at the beginning of the fiscal year.

**3.65** NB Power engaged a consultant to conduct a financing strategy review in October 2019. The consultant estimated NB Power's theoretical stand alone credit rating based on the rating methodologies published by the credit rating agencies DBRS and Moody's. The results are highlighted in Exhibit 3.11.

*Exhibit 3.11 - NB Power's Estimated Credit Rating compared to the Province of New Brunswick*

Rating Agency	NB Power	Province of New Brunswick
DBRS	BBB-	A(high)
Moody's	Baa3	Aa2

*Source: NB Power's Financing Strategy Review (October 2019) (unaudited)*

*The combination of highest debt to equity and worst 10-year average interest coverage across comparable jurisdictions represents an elevated liquidity risk to NB Power*

**3.66** The accounting firm noted NB Power's weighted average coupon rate on long-term debt issuances has been competitive compared to its peers (4.23% as of March 31, 2019 vs. 4.50% peer average).

**3.67** The combination of highest debt to equity and worst 10-year average interest coverage across comparable jurisdictions represents an elevated liquidity risk to NB Power.

**3.68** Exhibit 3.12 shows the results of a theoretical interest rate differential comparison we completed between the Province and a Canadian utility company with a credit rating of BBB- (DRBS) or Baa3 (Moody's).

*Exhibit 3.12 - Theoretical Interest Rate Differential Comparison between the Province and a Canadian Utility with a credit rating of BBB- or Baa3 (As of September 1)*

	3 Year	5 Year	10 Year	30 Year	Average
<b>2018</b>	0.72%	0.67%	0.79%	1.02%	0.80%
<b>2019</b>	0.72%	0.68%	0.83%	1.10%	0.83%
<b>2020</b>	0.81%	0.87%	1.09%	1.65%	1.11%
<b>Year Average</b>	0.75%	0.74%	0.90%	1.26%	0.91%

Source: Finance and Treasury Board (unaudited)

***NB Power's debt to equity and interest coverage ratios could be worse, if they were to issue debt independently***

**3.69** The overall average of all the differentials is 0.91%. Therefore, if NB Power were to issue its own debt, it would pay interest at an average rate 0.26% higher than its currently does (0.91% – 0.65% debt portfolio management fee). In other words, the debt to equity and interest coverage ratios could be worse, if NB Power were to issue debt independently.

## **Additional Financial Ratio Analysis**

**3.70** Furthermore, we conducted an analysis of four additional financial ratios.

- Cash Flow from Operations to Capital Expenditures (CF/CapEX);
- Cash Flow from Operations to Debt (CF/Debt);
- Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA) to Total Assets; and
- EBITDA to Total Revenue.

**3.71** The analysis is summarized below. The detailed results are listed in Appendix III.

- NB Power's CF/CapEx ratio is in the middle range compared to the peer utilities. This ratio would suggest NB Power is investing cash from operations in capital expenditures at a similar level compared to the peer utilities. A high CF/CapEx ratio is indicative of a company with sufficient capital to fund operations.
- NB Power's CF/Debt ratio is aligned with other high leverage utilities such as BC Hydro and MB Hydro. Given there are significant capital expenditures forecasted after 2027, NB Power believes it must lower the debt level before 2027 to reduce financial risks.
- NB Power's EBITDA to Total Assets ratio is in the middle compared to other peer utilities. This ratio suggests NB Power is relatively effective using its assets to generate cash earnings.
- NB Power's EBITDA to Total Revenue is the lowest, however close to OPG and NL Hydro, both of whom have achieved their targeted debt to equity ratios.

## NB Power's 10 Year Plan

***10 Year Plan intended to allow New Brunswick Energy and Utilities Board to assess NB Power's ability to achieve long term legislated goals***

**3.72** Section 101(1) of the *Electricity Act* specifies NB Power must file for information purposes a strategic, financial, and capital investment plan annually with the NBEUB covering the next 10 fiscal years. The “10 Year Plan” is a key document included in NB Power’s annual general rate application. It allows the NBEUB to assess NB Power’s progress and forecasting ability to achieve long-term legislated goals and objectives.

***Key assumptions vary significantly year to year and are largely outside the control of NB Power***

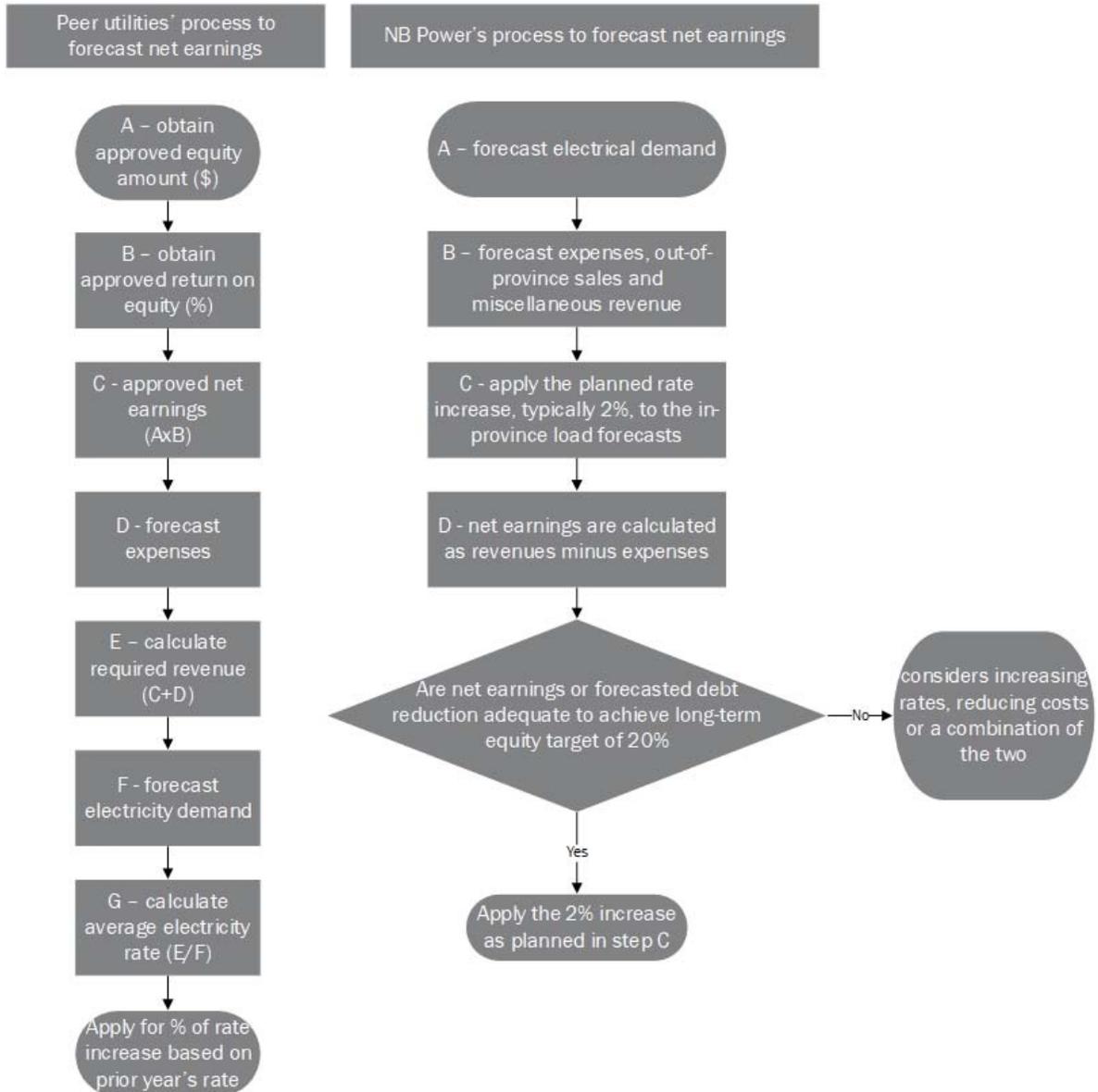
**3.73** The financial forecast included in the 10 Year Plans is based on several key assumptions, such as rate increases, fuel prices, interest rates, hydro flows and the capacity of Point Lepreau. These factors can vary significantly from year to year and are largely outside of NB Power’s control. As a result, it would be challenging to present a firm and accurate financial forecast for such a long period.

***Experts of New Brunswick Energy and Utilities Board and Public Intervener noted NB Power's financial forecasting approach is unique***

**3.74** We reviewed two expert reports engaged by the NBEUB and Public Intervener. Both experts identified NB Power generally followed an approach of first establishing a specific increase in rates, and then calculating the resulting net income for year one of the forecast.

**3.75** The NBEUB expert noted this approach is somewhat unique to NB Power compared to the other peer utilities in Canada. Exhibit 3.13 illustrates the two different rate application processes. For most other peer utilities, the net earnings are derived based on an approved equity amount and approved return on equity. For NB Power, the resulting net income is derived from forecasted rate levels needed to meet the longer-term capital structure objective of NB Power. This is because there is no legislated, deemed capital structure or return on equity, and the NBEUB is required to consider the annual revenue requirement in the context of achieving the 80% debt target.

*Exhibit 3.13 - Process to forecast net income adopted by NB Power and Peer Utilities*



*Source: Created by AGNB based on information provided by NB Power and NBEUB's expert report.*

***The financial forecast in the 10 Year Plans are not accurate, based on comparison between forecast and actuals***

***NB Power's actual net earnings were off base year projections by an average of \$50 million a year***

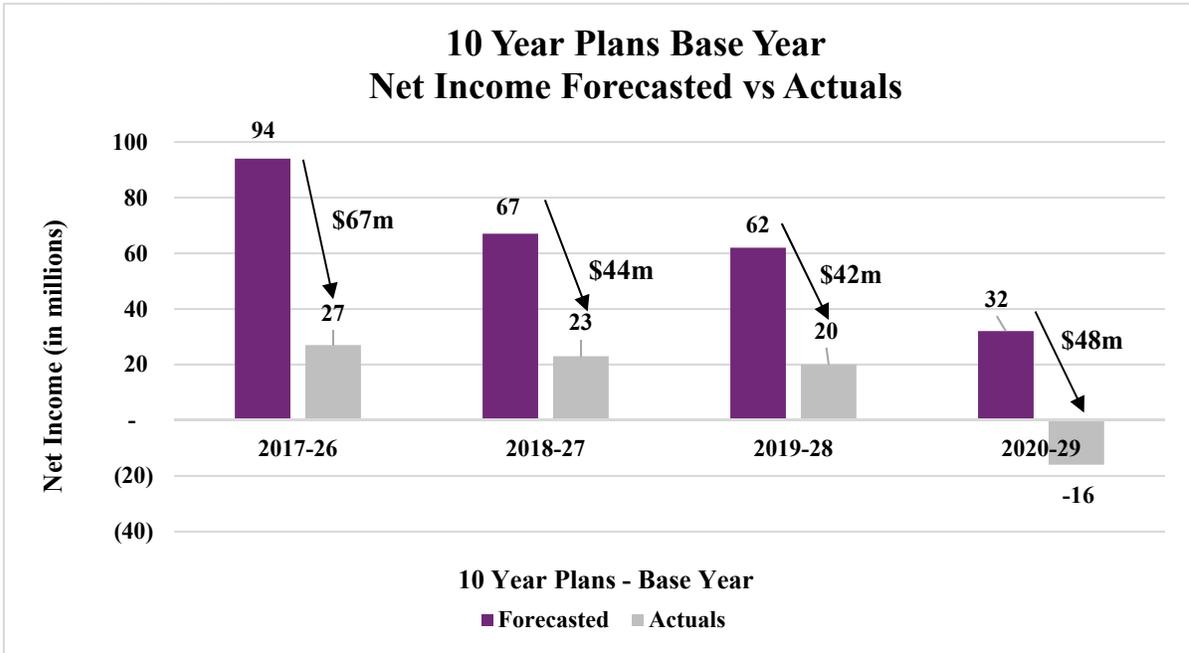
***NB Power's actual net earnings were on average off \$124 million the 10 Year Plan 2017-26 projections***

**3.76** To assess the reasonableness and accuracy of the financial forecasts outlined in the 10 Year Plans, we compared the projections in the 10 Year Plans against NB Power's annual reports for fiscal year ends 2017, 2018, 2019, and 2020. Despite achieving higher operating earnings in fiscal 2019/20 than 2018/19, a net loss of \$16 million occurred. NB Power states that it was the instability of the financial markets in February and March 2020, largely as a result of the pandemic, that drove this reduction.

**3.77** NB Power has not been able to accurately forecast its net earnings using its current approach. As illustrated:

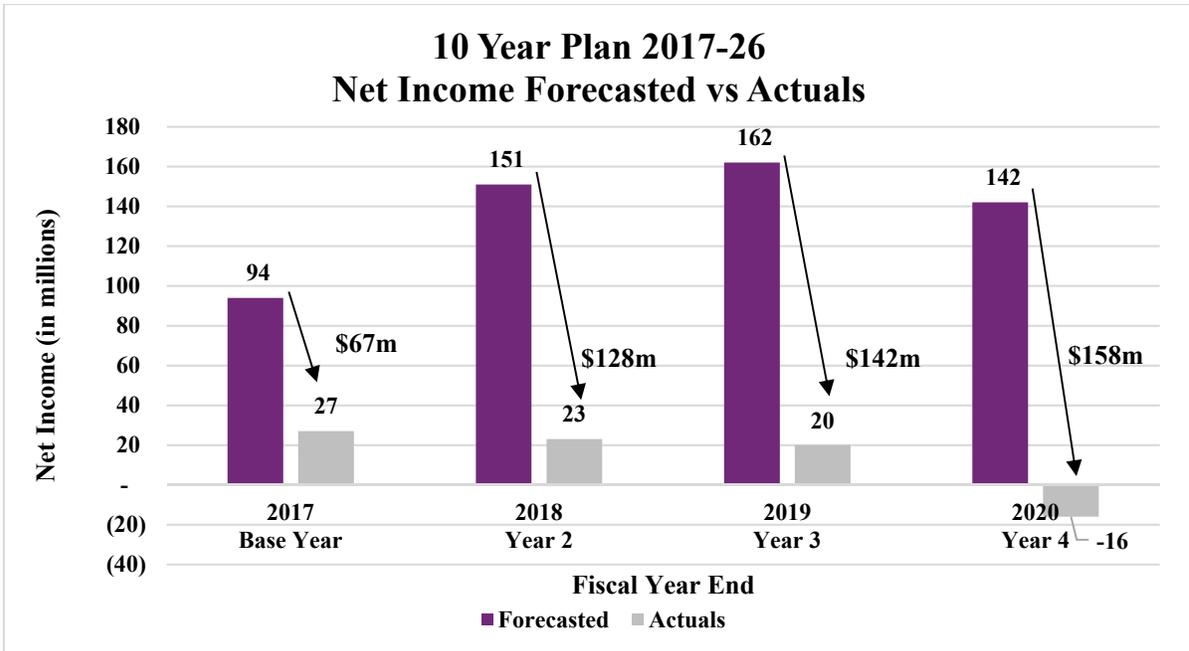
- Exhibit 3.14 shows NB Power's actual net earnings from annual reports were, on average, \$50 million off base year (year one) projections as noted in the 10 Year Plans reviewed; and
- Exhibit 3.15 further illustrates NB Power's inability to accurately forecast its net earnings into the future. We determined NB Power's actual net earnings from annual reports were, on average, \$124 million off projections noted in the 10 Year Plan 2017-26.

Exhibit 3.14 - 10 Year Plans Base Year- Net Income Forecasted vs Actuals



Source: AGNB based on review of NB Power’s 10 Year Plans and Annual Reports (unaudited)

Exhibit 3.15 - 10 Year Plan 2017-26 Net Income Forecasted vs Actuals



Source: AGNB based on review of NB Power’s 10 Year Plan 2017-26 and Annual Reports (unaudited)

***NB Power's financial position impacts the Province and all New Brunswickers***

**3.78** NB Power's inability to accurately forecast its net earnings impacts the Province's financial position and all New Brunswickers. As Exhibit 3.16 highlights the exact amount of NB Power's forecasted net income in its 10 Year Plan is included in the Province's Main Estimates. In the last four years NB Power under performed compared to expectations by \$195 million. This is significantly concerning and raises questions of sustainability given the future major capital projects on the horizon. The Province's ability to meet its budgeted net income is negatively affected, when NB Power is not able to achieve its targeted net income.

*Exhibit 3.16 - NB Power's Forecasted Net Income compared to the Province's Main Estimates and Actuals in Financial Statements*

<b>in millions</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20</b>	<b>Total</b>
<b>NB Power's 10 Year Plan</b>	\$ 94.0	\$ 67.0	\$ 62.0	\$ 32.0	\$ 255.0
<b>Province's Main Estimates (A)</b>	\$ 94.0	\$ 72.7	\$ 67.7	\$ 37.7	\$ 272.1
<b>Actuals in Province's Financials (B)</b>	\$ 32.7	\$ 28.7	\$ 25.7	-\$ 10.3	\$ 76.8
<b>Unfavourable Variance (B-A)</b>	-\$ 61.3	-\$ 44.0	-\$ 42.0	-\$ 48.0	-\$ 195.3

*Source: AGNB based on review of NB Power's 10 Year Plans and the Province's Main Estimates and Financial Statements (unaudited)*

**3.79** NB Power, in general, has been able to forecast its revenues with reasonable accuracy on an averaged basis. The variability in NB Power's net earnings is driven mainly by its expenses. Fuel and purchased power is the largest expenditure line item. We found it had the most significant unfavourable variance from forecast to actuals, except for 2017.

**3.80** Exhibit 3.17 illustrates NB Power’s 10 Year Plans forecasted fuel and purchased power compared to the actuals as reported in its annual reports.

*Exhibit 3.17 - NB Power’s Gross Margin and Fuel & Purchased Power Variance Analysis (fiscal year 2016/17 to 2019/20)*

(in millions \$)	2016/17			2017/18			2018/19			2019/20			4-Year Total	4-Year Average
	Actual	Forecasted	Variance											
In-Province Sales Revenue	1,369	1,426	(57)	1,402	1,429	(27)	1,416	1,453	(37)	1,420	1,496	(76)	(197)	(49)
Out-of-Province Sales Revenue	251	337	(86)	265	223	42	293	178	115	428	166	262	333	83
Total Sales Revenue	1,620	1,763	(143)	1,667	1,652	15	1,709	1,631	78	1,848	1,662	186	136	34
In-Province Fuel & Purchased Power	525	532	(7)	529	484	45	560	498	62	470	510	(40)	60	15
Out-of-Province Fuel & Purchased Power	177	240	(63)	198	152	46	201	99	102	307	105	202	287	72
Total Fuel & Purchased Power	702	772	(70)	727	636	91	761	597	164	777	615	162	347	87
In-Province Gross Margin	844	894	(50)	873	945	(72)	856	955	(99)	950	986	(36)	(257)	(64)
Out-of-Province Gross Margin	74	97	(23)	67	71	(4)	92	79	13	121	61	60	46	12
Total Gross Margin	918	991	(73)	940	1,016	(76)	948	1,034	(86)	1,071	1,047	24	(211)	(53)
In-Province Sales (millions of kWh)	13,039	13,458	(419)	13,170	13,270	(100)	13,186	12,945	241	13,097	13,505	(408)	(686)	(172)
Out-of-Province Sales (millions of kWh)	3,360	3,840	(480)	3,491	2,855	636	3,373	1,970	1,403	5,049	2,018	3,031	4,590	1,148
Total Sales	16,399	17,298	(899)	16,661	16,125	536	16,559	14,915	1,644	18,146	15,523	2,623	3,904	976
<b>Fuel &amp; Purchased Power Variance:</b>														
Out-of-Province			(63)			46			102			202	287	72
In-Province			(7)			45			97			(5)	130	33
Accounting change *									(35)			(35)	(70)	
Total Fuel & Purchased Power			(70)			91			164			162	347	87

\* In 2018/19 an accounting change was made to net the cost of certain power purchases from in-province customers against in-province revenue. The change was not made in the budget until 2020/21 and therefore resulted in an actual to plan variance of approximately \$35 million in 2018/19 and 2019/20 in both revenue and fuel & purchased power expense.

Source: NB Power (unaudited)

**The average variance of \$87 million for fuel and purchased power is NB Power’s largest expenditure and most significant variance from forecast to actuals**

**3.81** The variance is \$347 million in total or \$87 million on average. According to NB Power, “*although out-of-province fuel & purchased power expense is higher than planned by \$287 million for the 4-years, gross margin is \$46 million higher. NB Power takes advantage of opportunities to make export sales at a profit. It is difficult to forecast these opportunities due to changing market conditions and the uncertainty of customer bid events.*”<sup>8</sup> We realize the accuracy of the expense forecast depends on significant assumptions associated with fuel prices, hydro flow and Point Lepreau capacity factor and the inherent uncertainties around these assumptions make it challenging to predict the costs. However, it is problematic to see the actual fuel and purchased power costs have been \$33 million higher than forecasted, on average, while sales revenue was \$49 million lower than forecasted. This resulted a \$64 million reduction in gross margin from in-Province sales.

<sup>8</sup> NB Power

*Optimistic expense forecast could be confusing to regulator assessing NB Power's rate application*

**3.82** However, the fact that the expense forecast is constantly and significantly lower than actuals indicates the forecasting method adopted by NB Power needs to change. The optimistic expense forecasted expenditure amounts could be confusing to the regulator in assessing NB Power's rate application.

*Major risks and uncertainties are not quantified and included in NB Power's forecasted revenue requirement*

**3.83** NB Power discusses major risks and uncertainties in its 10 Year Plans. The 10 Year Plans provide sensitivity and scenario analyses to demonstrate changes to certain assumptions impacting the financial forecast. NB Power indicates it includes a storm contingency in its operation, maintenance and administration budget based on a five-year rolling average of historical storm costs. However, NB Power forecasts revenues and expenditures using only what NB Power believes the most likely scenario. For example, NB Power predicts heavy fuel price would be US\$58.51 and US\$60.68 in 2021 and 2022 respectively. Only these prices were used in its forecast without considering the likelihood of oil price fluctuation. Changes in key assumptions can significantly impact financial results. NB Power's operating environment is complex with many inherent variabilities. Without considering the likelihood and quantitative impact of these variations, NB Power is facing the risk of not only underestimating its expenditures and applying insufficient revenue, but also, it is overstating its ability to pay down debt and reach the legislated equity target by 2027.

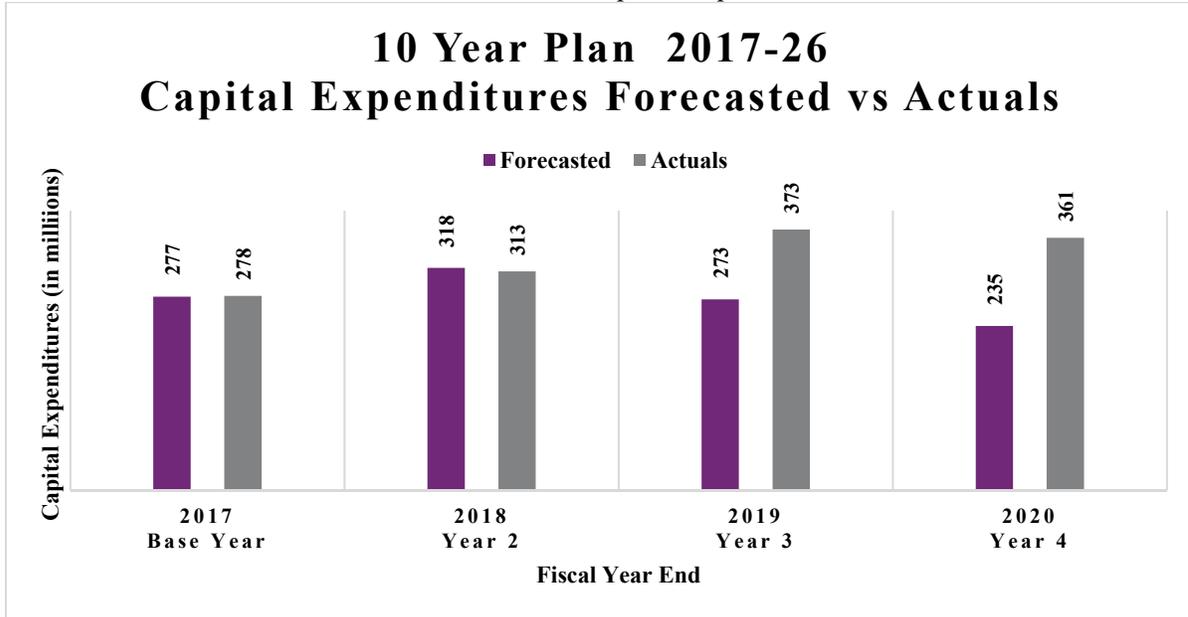
**Recommendation**

**3.84** We recommend NB Power, to improve its forecasting process, quantify the impact of likely uncertainties in the 10 Year Plan, such as fuel prices, hydro flow, Point Lepreau capacity factor, weather events, etc.

**NB Power has difficulty forecasting future year capital expenditures**

**3.85** Exhibit 3.18 illustrates NB Power’s difficulty at forecasting future year capital expenditures. For example, actuals reported in 2020 were 154% or \$126 million higher than projected in the 10 Year Plan 2017-26. However, we observed that most of the annual capital expenditures forecasted in the base year were very close (on average 102%) to actuals report in the annual reports.

*Exhibit 3.18 - 10 Year Plan 2017-26 Capital Expenditures Forecasted vs Actuals*

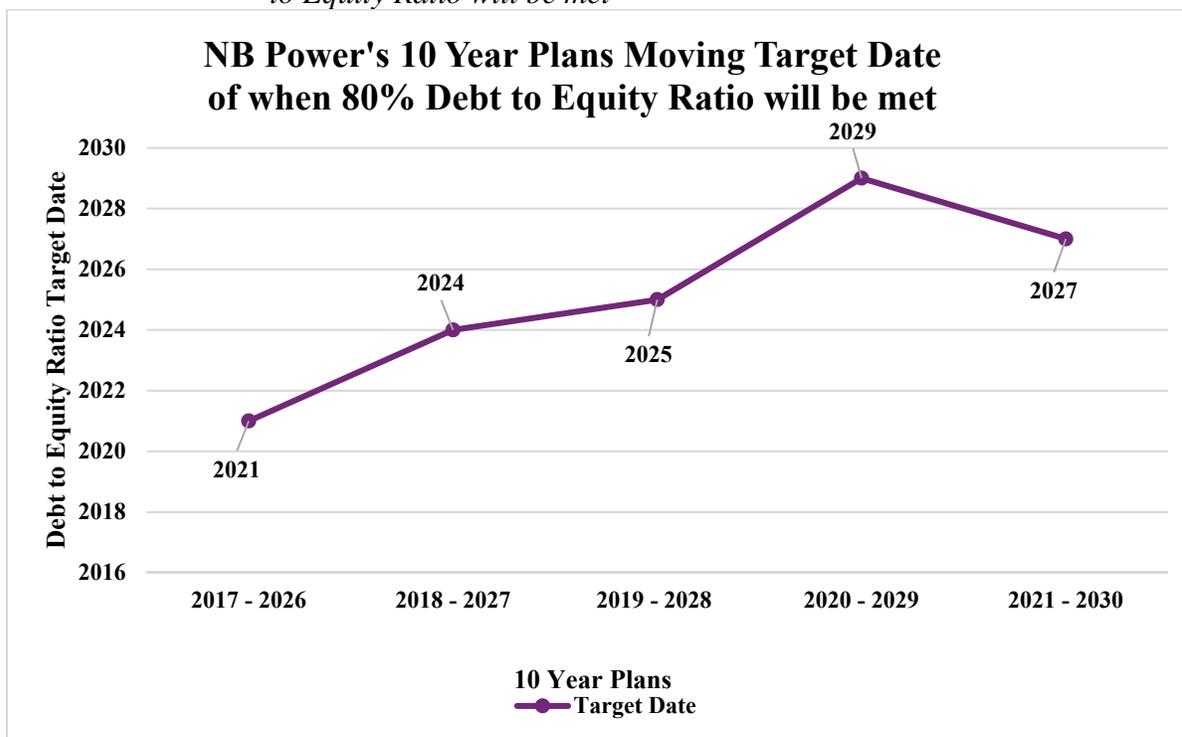


*Source: AGNB based on review of NB Power’s 10 Year Plan 2017-26 and Annual Reports (unaudited)*

***NB Power’s 10 Year Plans constantly change date that 20% equity target will be met***

**3.86** Exhibit 3.19 illustrates NB Power’s debt to equity ratio across the last five, 10 Year Plans. The exhibit highlights NB Power’s changing target date to achieve the 20% equity as required by the *Electricity Act* and the NB Power mandate.

*Exhibit 3.19 - NB Power’s 10 Year Plans Moving Target Date of when 80% Debt to Equity Ratio will be met*



Source: AGNB based on review of NB Power’s 10 Year Plans (unaudited)

***NB Power has not achieved the 20% debt to equity ratio target and has adjusted the target date in each of the 10 Year Plans reviewed***

**3.87** NB Power has not achieved the debt to equity ratio and has adjusted the target date in each of the 10 Year Plans reviewed. The 10 Year Plan 2017-26 was the only 10 Year Plan reviewed which aligned with the original target date of 2021. Changes to the equity target were made in the following 10 Year Plans:

- 2018-27: pushed target date to 2024;
- 2019-28: sets the date at 2025;
- 2020-29: the date is further adjusted to 2029; and
- 2021-30: based on the new mandate, NB Power adjusts the date to 2027.

## NB Power's Annual Rate Increase

**3.88** As previously mentioned, under NB Power's regulatory environment, NB Power rates are regulated by the *Electricity Act* and by the NBEUB.

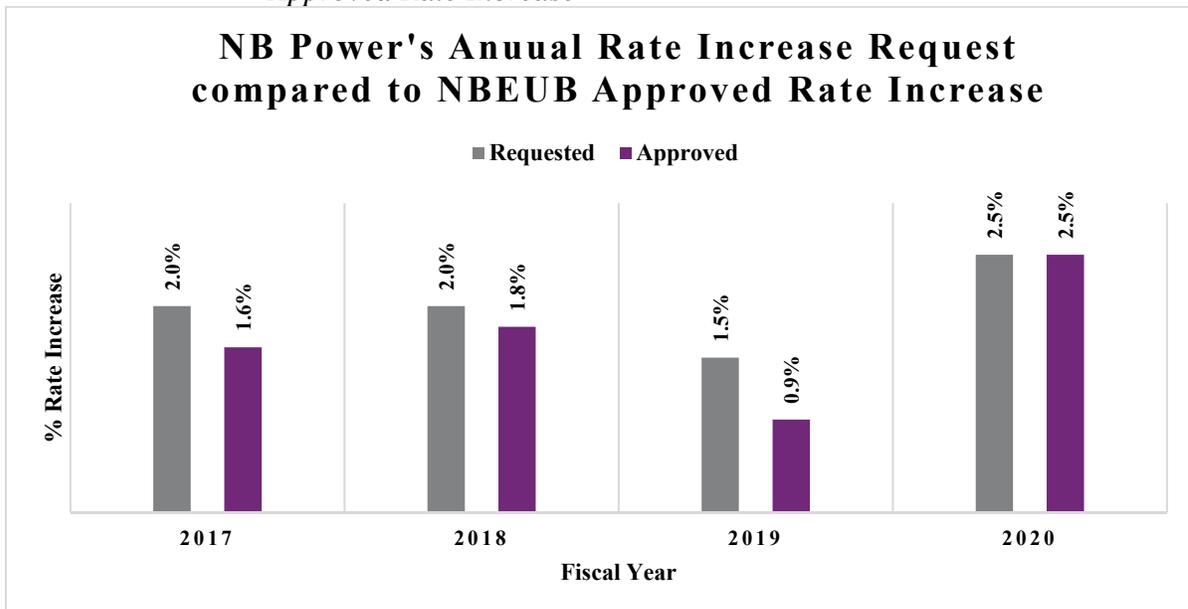
**3.89** Section 68(a)(ii) of the *Electricity Act* states that rates charged by NB Power for the sale of electricity within the Province "should provide sufficient revenue to the Corporation to permit it to earn a just and reasonable return, in the context of the Corporation's objective to earn sufficient income to achieve a capital structure of at least 20% equity."

**The Electricity Act does not clearly define stable and predictable rates**

**3.90** Section 68 (c) of the *Electricity Act* requires that NB Power "to the extent practicable, rates charged by the Corporation for sales of electricity within the Province shall be maintained as low as possible and changes in rates shall be stable and predictable from year to year."

**3.91** Exhibit 3.20 illustrates NB Power's requested annual rate increase outlined in the 10 Year Plans compared to the NBEUB approved annual rate increase.

*Exhibit 3.20 - NB Power's Annual Rate Increase Request compared to NBEUB Approved Rate Increase*



Source: AGNB based on review of NB Power's Annual Reports and 10 Year Plans (unaudited)

***NB Power's annual rate request for 2017, 2018, and 2019 were not approved by the New Brunswick Energy and Utilities Board***

**3.92** We observed that the annual rate increases requested by NB Power were not approved by the NBEUB. NB Power estimates a 1% rate increase is equal to approximately \$14 million in annual revenue.

**3.93** The percentage of the annual rate increase proposed by NB Power but rejected by the NBEUB should not have a significant impact on NB Power's projected net earnings. The expense amounts disallowed are reflected in the reduction of the requested average rate increase having a net zero effect on net income. Additionally, the NBEUB does not have the authority to reject a proposed project by NB Power, they can only reject the related impact on the annual rate increase.

**3.94** Exhibit 3.21 illustrates NB Power's annual rate request disallowed expenses by the NBEUB.

*Exhibit 3.21 - NB Power's Annual Rate Request Disallowed Expenses by the NBEUB*

<b>Fiscal Year Ending March 31</b>	<b>NB Power's Rate Increase Requested</b>	<b>EUB Approved Rate Increase</b>	<b>Disallowed Expenses by NBEUB (in millions)</b>
2017	2.0%	1.6%	\$4.7
2018	2.0%	1.8%	\$4.7
2019*	1.5%	0.90%	\$8.7
2020	2.5%	2.5%	\$0.3

\* For the fiscal year end 2019, NB Power originally requested a 2.0% rate increase for 2018-2019 and subsequently revised the rate request to 1.5% as a result of receiving the proceeds of a lawsuit settlement.

Source: AGNB based on review of NB Power's 10 Year Plans and Annual Reports (unaudited)

**3.95** For example, in 2019 the NBEUB disallowed a total of \$8.7 million in projected costs and lowered the requested rate by an equivalent amount in NB Power’s general rate application. The disallowed expenses are as follows:

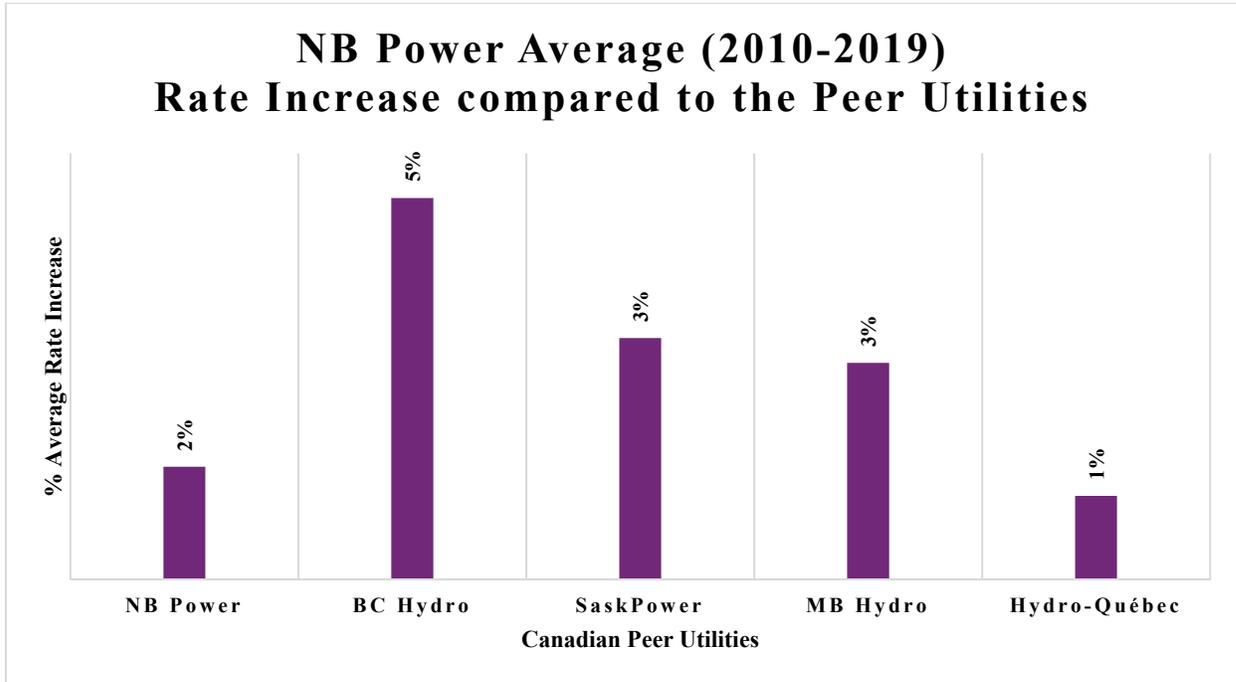
- Advanced Metering Infrastructure project (\$100,000);
- Home energy report (\$600,000);
- Low income efficiency spending (\$2 million);
- Residential & commercial demand response (\$1.6 million);
- Enabling (\$300,000);
- Solar & storage (\$2 million);
- Electric vehicle chargers (\$1.3 million); and
- Smart homes (\$800,000).

***NB Power debt reduction potentially impacted by proceeding with the NBEUB rejected projects***

**3.96** Nevertheless, NB Power can still move ahead with the projects that have been disallowed by the NBEUB during the general rate application (NBEUB does not reject the projects, programs, and initiatives; they only evaluate impact on the rate increases). However, if NB Power does not reallocate funds from other expenditures to cover the costs of these projects NB Power’s net income will be affected and its ability to pay down debt could be potentially reduced.

**3.97** Exhibit 3.22 illustrates NB Power’s 10-year average rate increase compared to the other peer utilities in Canada.

*Exhibit 3.22 - NB Power Average Rate Increase (2010 – 2019) compared to the Peer Utilities*



Source: AGNB based on review of Peer Utilities Annual Reports (unaudited)

\*OPG is an electricity generation company whose principle business is the generation and sale of electricity (not to end users, to transmitters then to local distributors within the Province.

\*\* NL Hydro annual rate increase information is not available in the annual reports

\*\*\* MB Hydro reported in the 2018 Annual Report changes to rate increase for fiscal year end 2014, 2015, and 2016 as original stated in the corresponding annual reports which resulted in an average increase of 2.5%.

***NB Power has lower rate increases compared to peer utilities with high debt levels***

**3.98** NB Power’s average annual rate increase over the past 10 years is 2%, compared to BC Hydro (5%) and MB Hydro (3%), both of which have relatively high debt levels. Additionally, NB Power states that their rates are the lowest in Atlantic Canada.<sup>9</sup>

<sup>9</sup> <https://www.nbpower.com/en/accounts-billing/understanding-your-bill/rate-schedules-and-policies#:~:text=NB%20Power%20has%20the%20lowest,rate%20information%20for%20your%20business%3F>

***DBRS's states NB Power rates remain competitive within the Atlantic region***

**3.99** DBRS's opinion as of March 7, 2018 states that: "*NB Power rates remain competitive within the Atlantic region, providing flexibility to increase rates if necessary to address capital needs or reduce debt.*"

**3.100** While maintaining a consistently low annual rate may be advantageous to NB Power consumers, it is likely contributing to its failure to meet the debt to equity target and ever increasing debt levels.

## Appendix I – Peer Utilities in Canada

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### BC Hydro<sup>10</sup>

BC Hydro is one of the largest suppliers of electricity in Canada operating an integrated system of 30 hydroelectric plants and two thermal generation stations and providing 97.8% clean energy.

BC Hydro:

- is a Crown corporation and as such the Province of British Columbia is the owner and sole shareholder;
- is regulated by the British Columbia Utilities Commission and rates are set on a cost of service basis;
- government’s expectations are outlined in the annual mandate letter and two separate acts:
  - *Hydro and Power Authority Act* which provides BC Hydro with the “mandate to generate, manufacture, conserve, supply, acquire, and dispose of power and related products”;
  - *Budget Transparency and Accountability Act* which, “sets out the legislative framework for planning, reporting and accountability for Government organizations. Under the *Budget Transparency and Accountability Act*, the Crown Corporation’s Board is required to report on the actual results of the Crown’s performance related to the forecasted targets documented in the previous year’s *Service Plan*”; and
- long-term debt comprises bonds and revolving borrowings obtained under an agreement with the Province.

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<sup>10</sup> British Columbia Hydro and Power Authority – 2018/19 Annual Service Plan Report – July 2019

## SaskPower<sup>11</sup>

SaskPower is Saskatchewan's leading energy supplier operating seven natural gas stations, three coal-fired power stations, seven hydroelectric stations, and two wind facilities generating a combined 4,121 megawatts of electricity in 2019-20.

SaskPower:

- in 1929 was founded as the Saskatchewan Power Commission and in 1949 was incorporated as a Crown corporation under the authority and mandate of The *Power Corporation Act*; and
- obtains most of its capital through internal operating activities and through borrowings obtained from the Government of Saskatchewan Ministry of Finance. The *Power Corporation Act* provides SaskPower the authority to have outstanding borrowings of up to \$10 billion.

## Manitoba Hydro<sup>12</sup>

MB Hydro provides renewable energy and clean-burning natural gas as one of the largest electricity and natural gas distribution utilities in Canada. In 2019, MB Hydro had a total generating capacity of 5,561 megawatts.

MB Hydro:

- is a Crown corporation governed by the Manitoba Hydro-Electricity Board and the *Manitoba Hydro Act*; and
- authority to issue debt is provided through the *Loan Act*. The majority of MB Hydro's long-term debt is issued through the Province of Manitoba. The *Manitoba Hydro Act* grants MB Hydro the authority to issue short-term notes in the name of the Manitoba Hydro Electric Board up to an aggregate of \$500 million of principle outstanding at any one time. As of March 31, 2019, MB Hydro had no outstanding short-term notes.

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<sup>11</sup> SaskPower – Annual Report 2019-20

<sup>12</sup> Manitoba Hydro-Electric Board 68<sup>th</sup> Annual Report – For the year ended March 31, 2019

## Newfoundland and Labrador Hydro

NL Hydro is a wholly-owned subsidiary of Nalcor Energy (Nalcor). In 2016, Nalcor completed a corporate restructuring that divided the regulated (NL Hydro) from unregulated operations.<sup>13</sup> NL Hydro generating capacity is produced using nine hydroelectric plants, one oil-fired plant, four gas turbines, and 24 diesel plants. In addition, NL Hydro owns 65.8% of Churchill Falls (Labrador) Corporation Limited which is operationally managed by Nalcor.

NL Hydro:

- is a Crown corporation regulated by the Newfoundland and Labrador Board of Commissioners of Public Utilities;
- is mandated by the *Hydro Corporation Act*; and
- in 2017-19 financing methods for long term debt issuances changed. In 2017, long term debt was issued directly in capital markets with a provincial guarantee. Hydro then changed the way debt was issued and now the Province issues debt specifically on their behalf and then lends the proceeds directly to NL Hydro.

The Muskrat Falls Corporation (Muskrat Falls) is a wholly-owned subsidiary to Nalcor. Muskrat Falls is currently allocated to Nalcor's Power Development segment. Once the construction of Muskrat Falls is complete, the asset will be moved to Nalcor's Power Supply business segment.<sup>14</sup> Muskrat Falls is financed by debt issued by Nalcor (with a Federal loan guarantee) and with equity investments made by the Province of Newfoundland.<sup>15</sup>

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<sup>13</sup> Newfoundland and Labrador Hydro – 2018 Annual Performance Report – Transparency and Accountability – June 2019

<sup>14</sup> Newfoundland and Labrador Hydro – 2019 Annual Performance Report – Transparency and Accountability – September 2020

<sup>15</sup> Office of the Auditor General – Newfoundland and Labrador

## Hydro-Québec<sup>16</sup>

Hydro-Québec celebrated its 75<sup>th</sup> year in 2019 contributing \$20.4 billion to the provincial gross domestic product issuing \$2,192 million (\$11 billion in last five years) in dividends to its shareholder benefiting all residents of Québec.

Hydro-Québec:

- is mandated by the *Hydro-Québec Act*;
- is regulated by the *Régie de l'énergie* (economic regulatory body) which has the “*exclusive authority to determine or modify the rates and conditions under which electricity is transmitted and distributed by Hydro-Québec.*”; and
- debt is mostly based on an unconditional guarantee by the Québec government (debentures, medium-term notes, and commercial paper).<sup>17</sup>

## Ontario Power Generation<sup>18</sup>

OPG is one of the largest and most diverse producers of clean power in North America generating 17,017 megawatts of electricity in 2019. OPG and its wholly-owned subsidiaries (Eagle Creek Renewable Energy in the United States) own and operate two nuclear generating stations, 66 hydroelectric generation stations, two thermal generating stations, one solar facility, and four Atura Power (gas-fired) stations in Ontario. Two other nuclear stations are leased and operated in Ontario. In addition, OPG and Eagle Creek Renewable Energy own and operate 85 hydroelectric stations in the United States.<sup>19</sup>

OPG:

- is wholly owned by the Province of Ontario;
- is established under the *Business Corporations Act*; and
- utilizes a number of funding sources to finance debt beyond funds generated from operations such as:
  - commercial paper;
  - securitization of assets;
  - letters of credit;
  - credit facilities;
  - long-term debt sourced from the Ontario Electricity Financial Corporation;
  - public debt offerings; and
  - capital markets for private placement project financing.

<sup>16</sup> Hydro Québec – 2019 Annual Report

<sup>17</sup> Hydro Québec – Cue Card 2018-2019

<sup>18</sup> [www.opg.com/about-us](http://www.opg.com/about-us) and Ontario Power Generation Inc’s 2019 Financial Results

<sup>19</sup> [www.opg.com/about-us](http://www.opg.com/about-us)

## Appendix II – Peer Utilities Debt to Equity

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<b>BC Hydro:</b> <i>Target 80/20</i> <i>Average 80/20</i>	BC Hydro has the second highest debt to equity ratio of all the peer utilities in Canada averaging 80% over the past 10 years. However, BC Hydro achieved the target debt to equity of 80/20 for all fiscal years 2010 to 2017. For fiscal 2018 and subsequent years, a new debt to equity target was set at 60/40. BC Hydro by Order in Council No. 095/2014, will reduce its payment to the Province by \$100 million per year until it reaches zero and will remain at zero until BC Hydro has reached the debt to equity of 60/40.
<b>MB Hydro:</b> <i>Target 75/25</i> <i>Average 79/21</i>	MB Hydro ranks as the third highest debt to equity ratio among other peer utilities in Canada, averaging 79% over the period. However, MB Hydro achieved the target debt to equity of 75/25 for fiscal years 2010-2013. In the 2014 annual report, MB Hydro acknowledged that the 75/25 target “ <i>may not be achieved during years of major investment in the generation and transmission system</i> ” which is evidenced by the annual increases in capital expenditures, especially in fiscal years 2015 to 2019 (ranging from \$1.8 to \$2.4 billion a year).
<b>SaskPower:</b> <i>Target 60/40 – 75/25</i> <i>Average 71/29</i>	SaskPower has set a long-term debt to equity ratio target range of 60% to 75%. Over the past decade SaskPower has been able to maintain an average debt to equity ratio of 71% within the target range. Fiscal 2016 and 2017 saw a slight increase above the target range at 76% however, SaskPower has reduced its debt to equity within the target range for 2018 (75%) and 2019 (74%).
<b>Hydro QC:</b> <i>Target 75/25</i> <i>Average 69/31</i>	Hydro-Québec has a minimum debt to equity ratio of 75/25. Hydro-Québec has exceeded the target each of the past 10 years with an average ratio of 69% debt to 31% equity.
<b>NL Hydro:</b> <i>Target 75/25</i> <i>Average 58/42</i>	NL Hydro has established a target ratio of 75% debt to 25% equity. Furthermore, NL Hydro’s committed lending facility requires that for the issuance of additional debt, current debt cannot exceed 85% of total capital. NL Hydro has not exceeded the target over the past decade with an average ratio of 58% debt to 42% equity.
<b>OPG:</b> <i>Target 65/35</i> <i>Average 37/63</i>	OPG ranks as the top peer utility in Canada with an average debt to equity ratio of 37% over the past decade and never exceeding 40%.

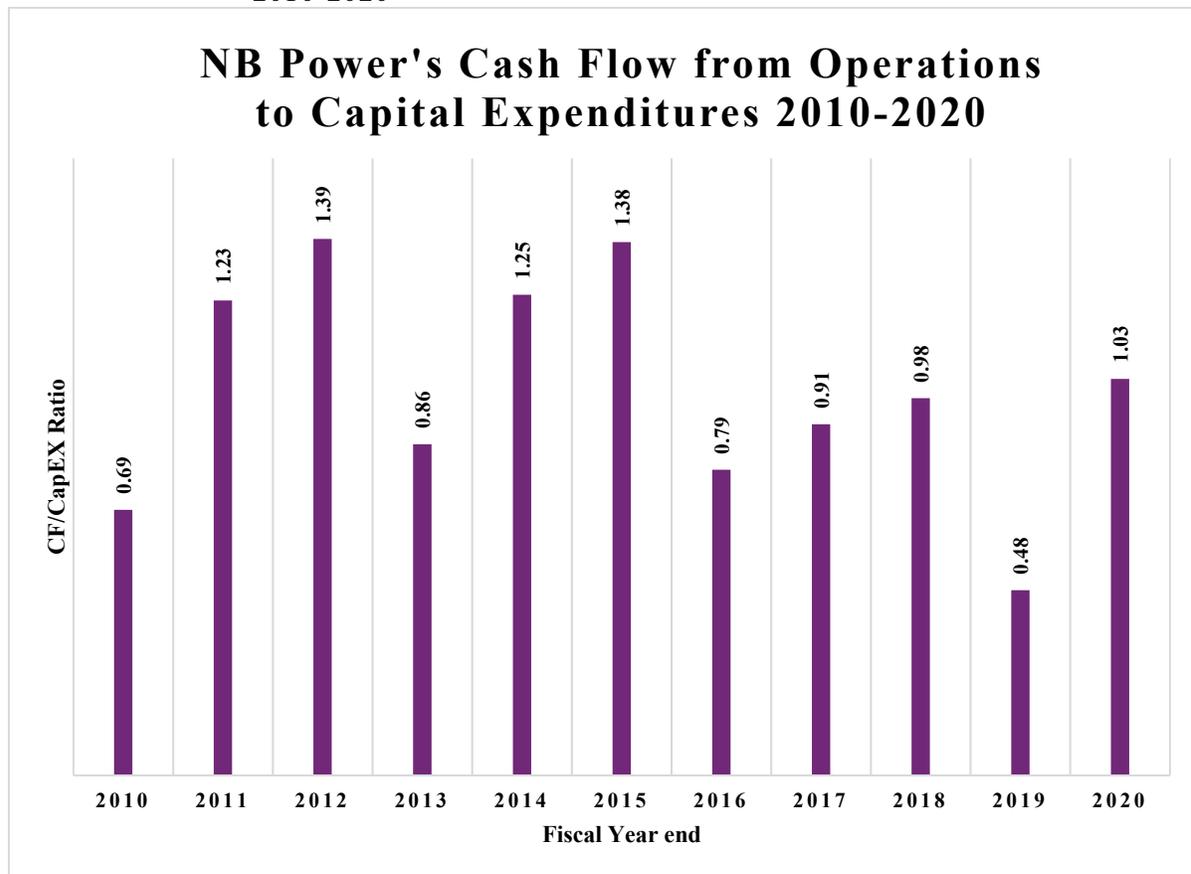
## Appendix III –Additional Ratio Analysis

### Cash Flow from Operations to Capital Expenditures

Cash flow from operations to capital expenditures (CF/CapEX) ratio “*measures a company’s ability to acquire long-term assets using free cash flow. A higher CF/CapEX ratio is indicative of a company with sufficient capital to fund operations.*”<sup>20</sup>

Exhibit 3.23 illustrates NB Power’s fluctuating CF/CapEX for the period of 2010 to 2020. It should be noted that CF/CapEX is subject to wide variations from year-to-year depending on the timing of major capital expenditures.

*Exhibit 3.23 - NB Power’s Cash flow from Operations to Capital Expenditures 2010-2020*

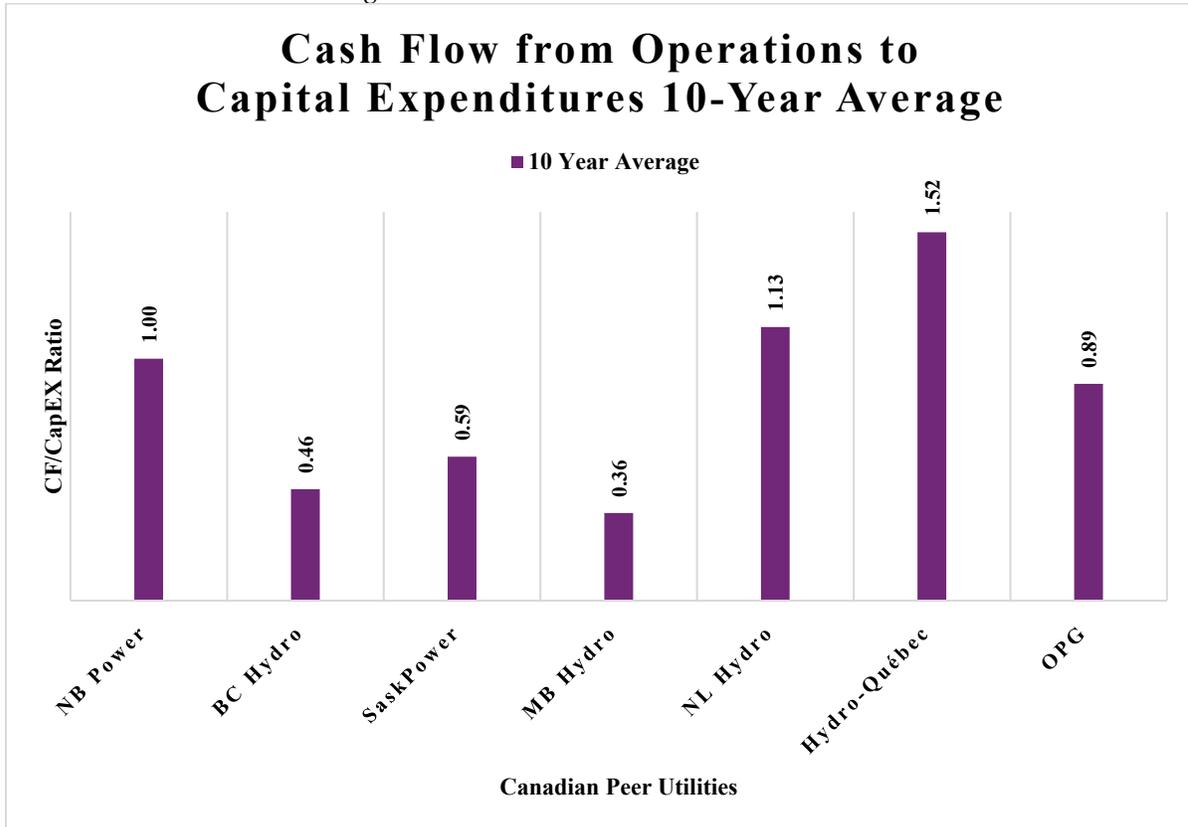


Source: AGNB based on review of NB Power’s Annual Reports (unaudited)

<sup>20</sup>[https://www.investopedia.com/terms/c/cashflow\\_capex.asp#:~:text=The%20CF%2FCapEX%20ratio%20is,an%20investment%20in%20future%20years.](https://www.investopedia.com/terms/c/cashflow_capex.asp#:~:text=The%20CF%2FCapEX%20ratio%20is,an%20investment%20in%20future%20years.)

Exhibit 3.24 illustrates the 10-year average CF/CapEX ratio for all peer utilities in Canada. We calculated the CF/CapEX ratio based on NB Power’s annual report calculation of cash flow from operations to total capital expenditures to ensure a comparable analysis across all peer utilities in Canada. NB Power is the only utility that reports on CF/CapEX in the relevant annual reports.

*Exhibit 3.24 - Cash flow from Operations to Capital Expenditures 10-Year Average*



*Source: AGNB based on review of the Peer Utilities Annual Reports (unaudited)*

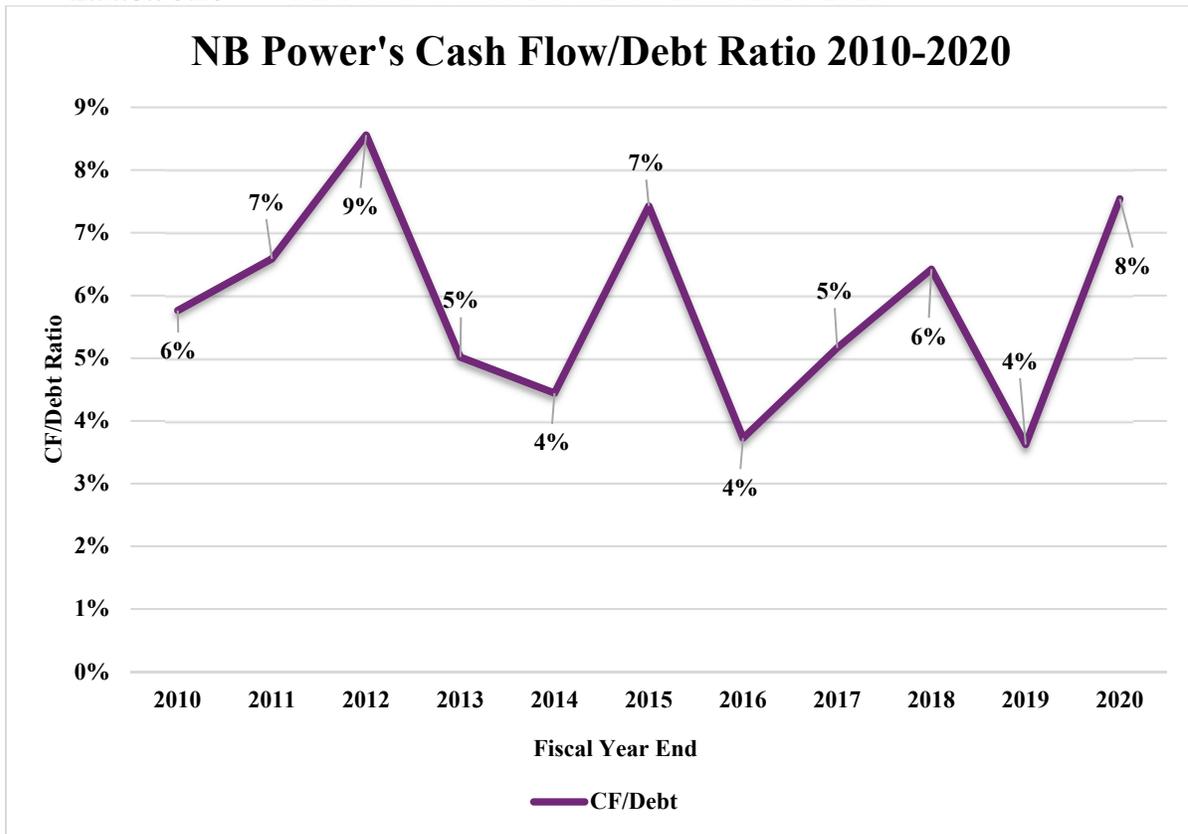
We observed, based on NB Power’s 10-year average, that NB Power is spending a dollar on capital expenditures for every dollar of cash flow from operations generated. This aligned with NL Hydro (1.13) and OPG (0.89). Hydro-Québec is far beyond the other peer utilities with an average CF/CapEX ratio of 1.52 indicating its financial position to fund future capital investments with free cash flows.

## Cash Flow from Operations to Debt

Cash flow from operations to debt (CF/Debt) ratio is “used to determine how long it would take a company to repay its debt if it devoted all of its cash flow from operations to debt repayment.”<sup>21</sup>

Exhibit 3.25 illustrates NB Power’s fluctuating CF/Debt ratio for the period of 2010 to 2020. NB Power’s CF/Debt ratio increased to 8% in 2020 up from 4% in 2019 and higher than the 10-year average of 6% (see Exhibit 3.25).

*Exhibit 3.25 - NB Power’s Cash Flow/Debt Ratio 2010-2020*

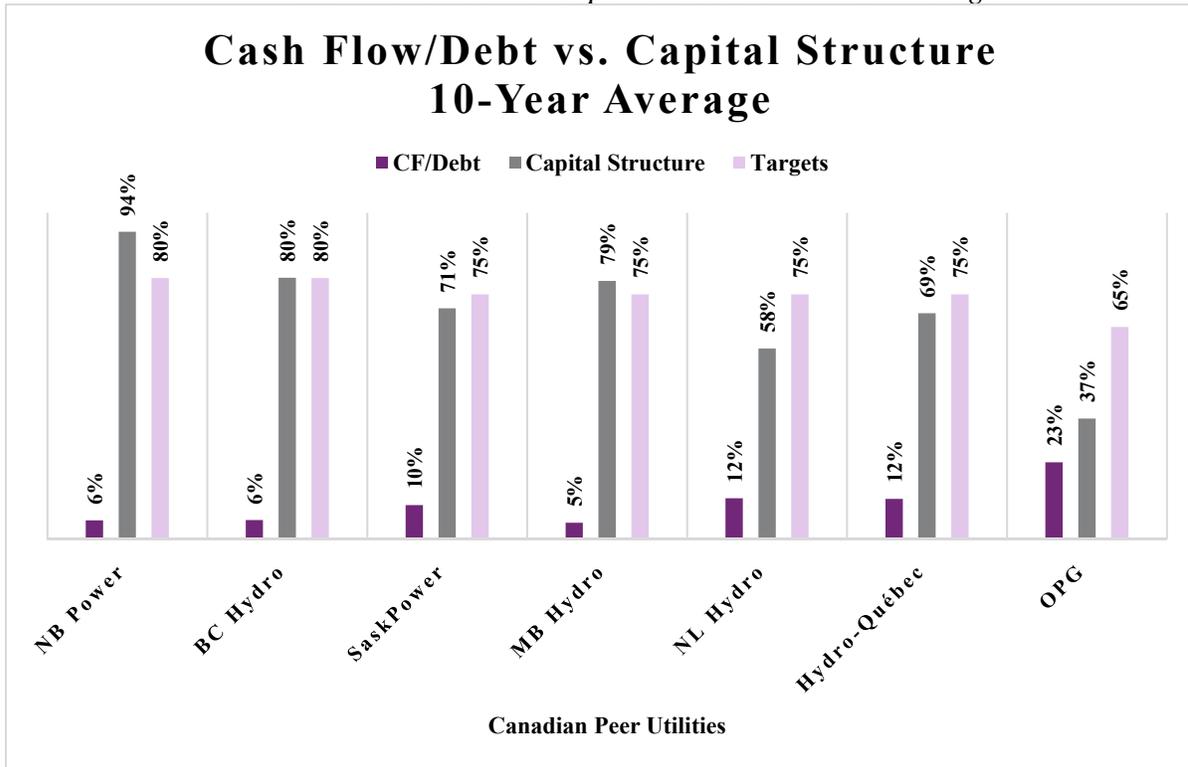


Source: AGNB based on review of the NB Power’s Annual Reports (unaudited)

<sup>21</sup> <https://www.investopedia.com/terms/c/cash-flowto debt-ratio.asp#:~:text=The%20cash%20flow%2Dto%2Ddebt%20ratio%20is%20the%20ratio%20of,operations%20to%20its%20total%20debt.&text=Cash%20flow%20is%20used%20rather,ability%20to%20pay%20its%20obligations.>

Exhibit 3.26 illustrates the 10-year average CF/Debt ratio compared to capital structure. We calculated the CF/Debt ratio based on NB Power’s annual report calculation of cash flow from operations to debt to ensure a comparable analysis across all peer utilities. NB Power is the only peer utility that reports on CF/Debt in the relevant annual reports.

Exhibit 3.26 - Cash Flow/Debt vs. Capital Structure 10-Year Average



Source: AGNB based on review of the Peer Utilities Annual Reports (unaudited)

We observed that NB Power’s CF/Debt ratio 10-year average (6%) is aligned with BC Hydro (6%) and MB Hydro (5%) all of which have high capital structures (as shown in Exhibit 3.26). Based on NB Power’s CF/Debt ratio it would take approximately 18 years to pay off all its outstanding debt if all cash flow were utilized. The ability to use all cash to pay off debt is highly unlikely.

We observed that the peer utilities who exceeded their targeted debt to equity ratio on a 10-year average, were the peer utilities which had higher CF/Debt (as shown in Exhibit 3.26). Peer utilities who achieved their targeted capital structure could pay off outstanding debt as follows:

- OPG – 4 years;
- Hydro-Québec – 8 years;
- NL Hydro – 8 years; and
- SaskPower – 10 years.

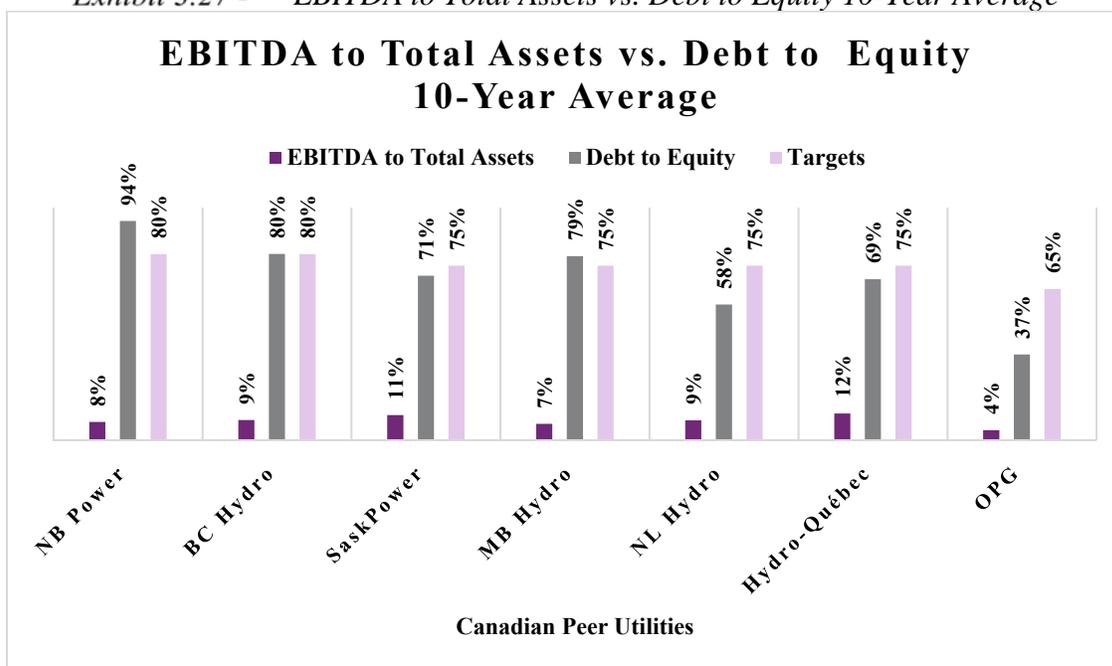
## EBITDA to Total Assets

EBITDA (Earnings before Interest, Tax, Depreciation and Amortization) to total assets measures “how effectively a company is using its assets to generate earnings.”<sup>22</sup>

A limitation of EBITDA to total assets is “if a debt was used to buy an asset, the EBITDA to total assets could look favorable, while the company may actually be having trouble making its interest expense payments.”<sup>23</sup>

Exhibit 3.27 illustrates the 10-year average EBITDA to total assets compared to the debt to equity ratio for all peer utilities in Canada. None of the peer utilities reported on EBITDA to total assets in the relevant annual reports. Therefore, we calculated the EBITDA to total assets for all peer utilities reviewed to ensure a comparable analysis.

Exhibit 3.27 - EBITDA to Total Assets vs. Debt to Equity 10-Year Average



Source: AGNB based on review of the Peer Utilities Annual Reports (unaudited)

We observed NB Power’s EBITA to total assets 10-year average (8%) is aligned with BC Hydro (9%) and NL Hydro (9%) who unlike NB Power, have achieved their targeted debt to equity.

<sup>22</sup> [https://www.investopedia.com/terms/r/return\\_on\\_total\\_assets.asp](https://www.investopedia.com/terms/r/return_on_total_assets.asp)

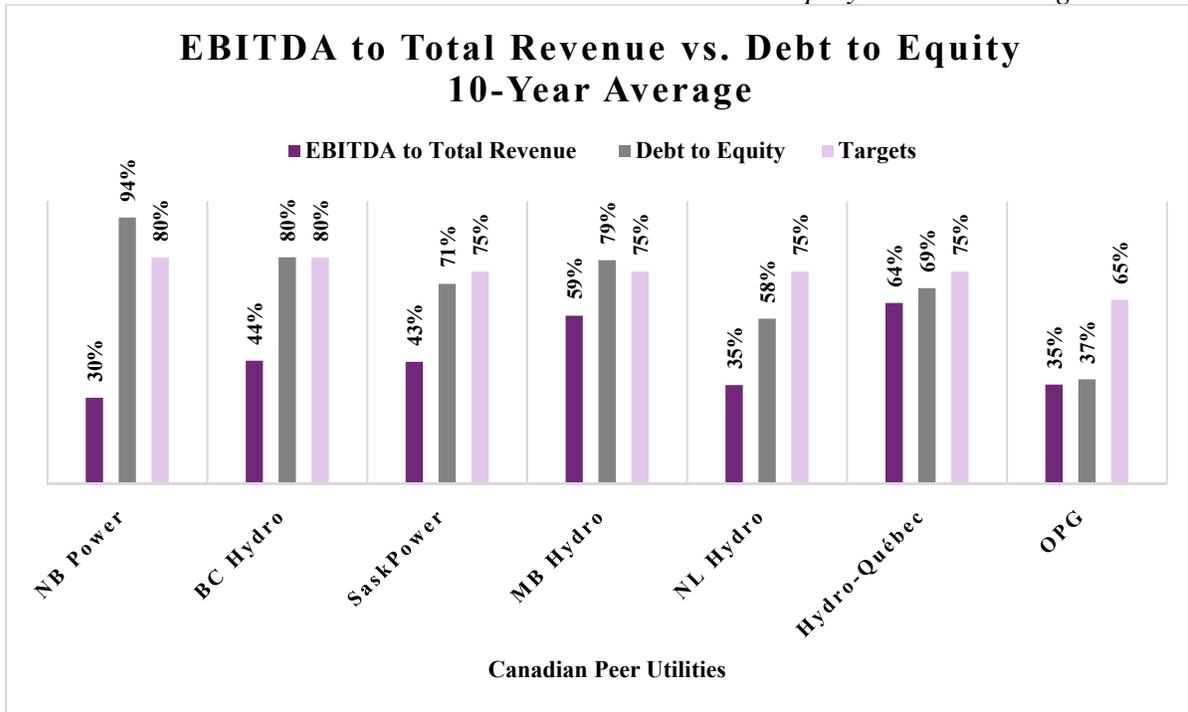
<sup>23</sup> [https://www.investopedia.com/terms/r/return\\_on\\_total\\_assets.asp](https://www.investopedia.com/terms/r/return_on_total_assets.asp)

## EBITDA to Total Revenue

EBITDA to total revenue measures “how much cash profit a company made in a given year.” A limitation of the EBITDA to total revenue is “for companies with high levels of debt or for companies that consistently purchase expensive equipment for their operations.”<sup>24</sup>

Exhibit 3.28 illustrates the 10-year average EBITDA to total revenue compared to the debt to equity for all peer utilities in Canada. We calculated the EBITDA to total revenue for all peer utilities reviewed to ensure a comparable analysis, as no peer utility reports in annual reports.

Exhibit 3.28 - EBITDA to Total Revenue vs. Debt to Equity 10-Year Average



Source: AGNB based on review of the Peer Utilities Annual Reports (unaudited)

<sup>24</sup> <https://www.investopedia.com/ask/answers/032715/why-ebitda-margin-considered-be-good-indicator-companys-financial-health.asp#:~:text=The%20EBITDA%20margin%20measures%20a,of%20the%20company's%20total%20revenue.&text=Because%20EBITDA%20is%20calculated%20before,made%20in%20a%20given%20year.>

We observed that NB Power's EBITDA to total revenue 10-year average (30%) is aligned with OPG (35%) and NL Hydro (35%).

As previously indicated, NB Power uses debt to finance the corporation's capital projects and operations. The EBITDA to total revenue financial metric has its limitations when comparing to peer utilities who are not primarily financed by debt and have achieved their targeted debt to equity ratio.