

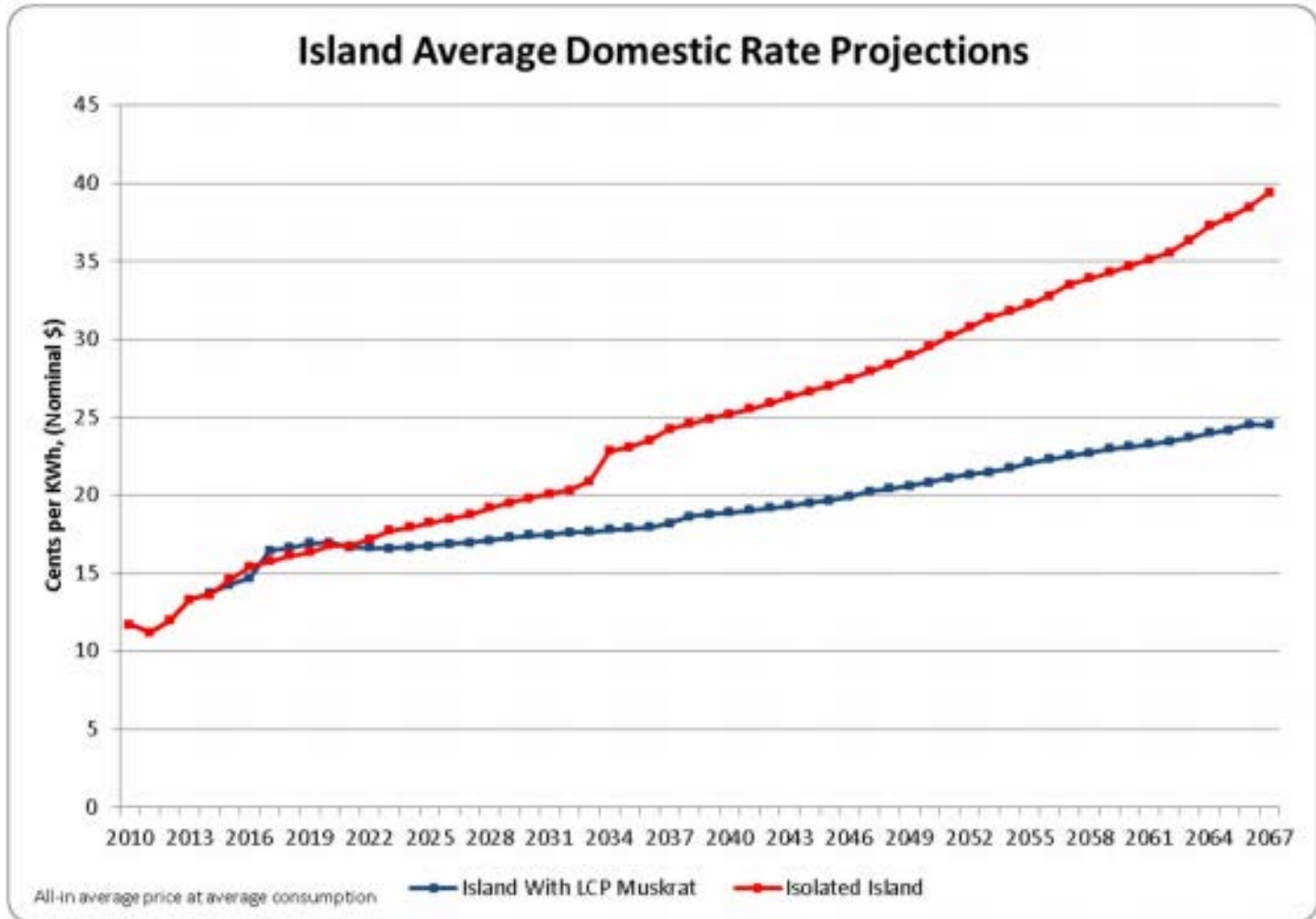


# **Muskrat Falls Project**

## **Rate Mitigation Considerations**

**September 20, 2015**

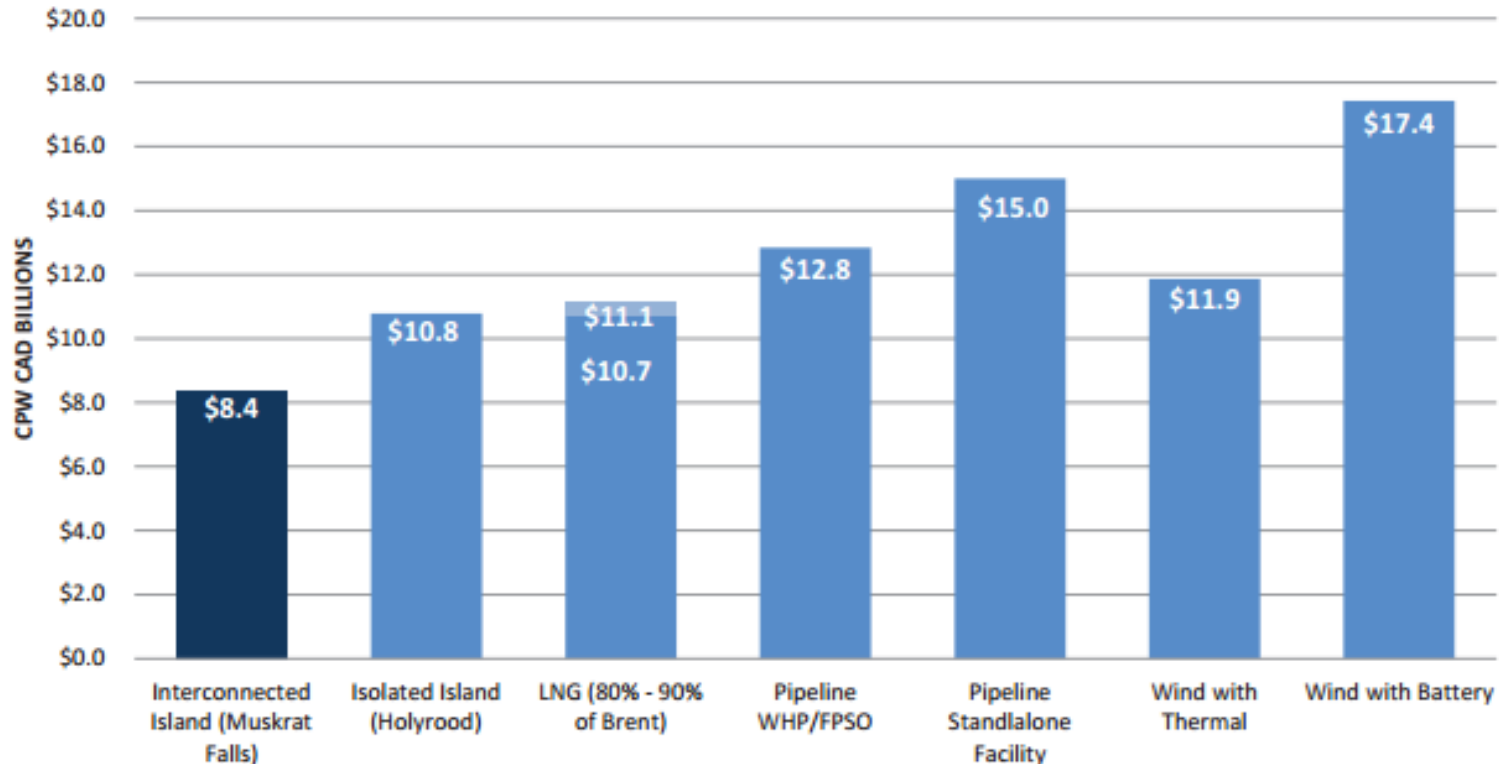
# Muskrat Falls Decision - 2012 Assumptions



# CPW Comparative Analysis - 2012 Assumptions

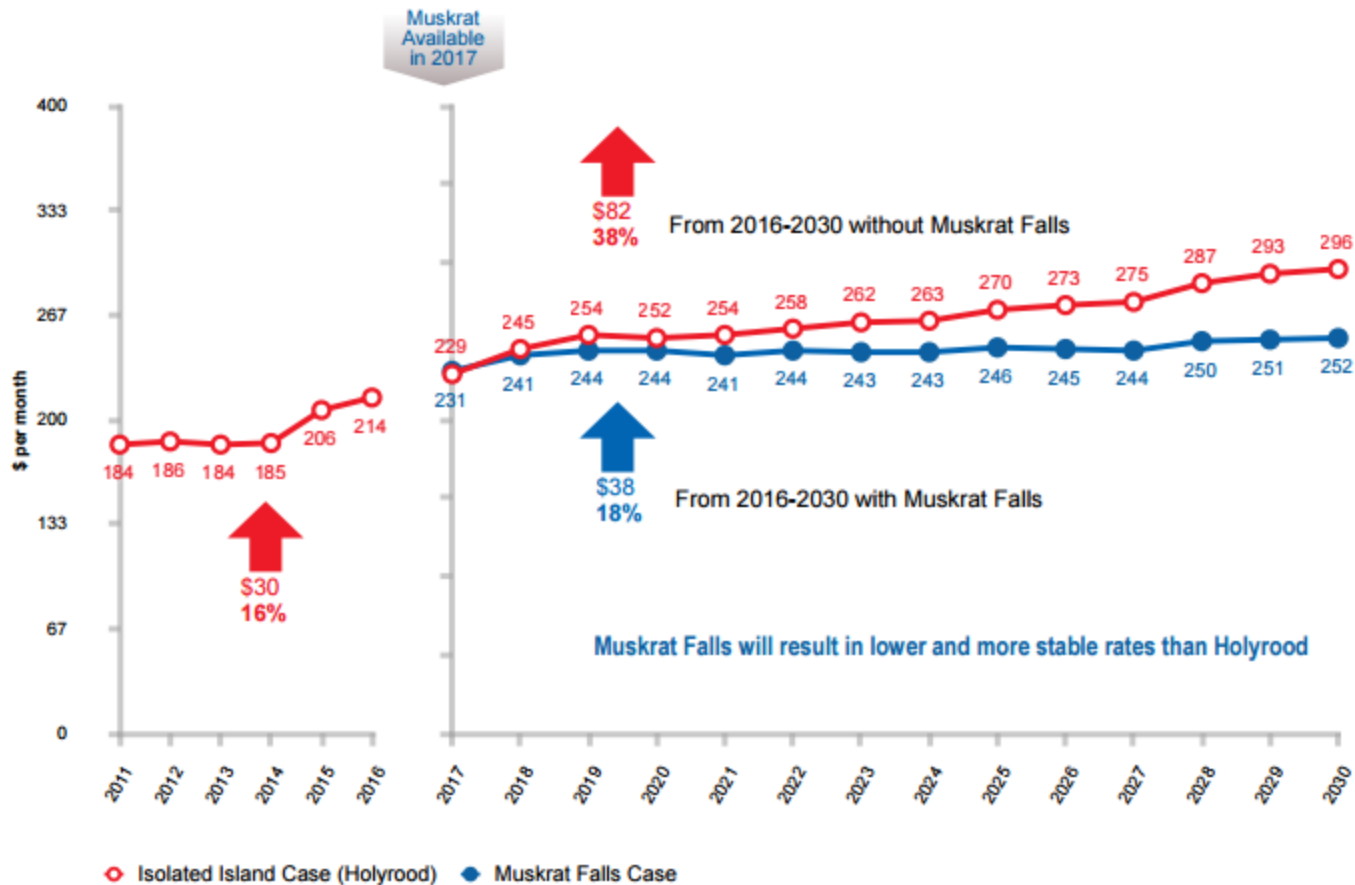


## Cumulative Present Worth of Alternatives



\* CPW is the Present Value of all expenditures for the options over 50 years

# Assessment of Electricity Cost Differential at DG3 - 2012 Assumptions



\* Based on 1,517 kWh average monthly consumption

# Rate Comparison today



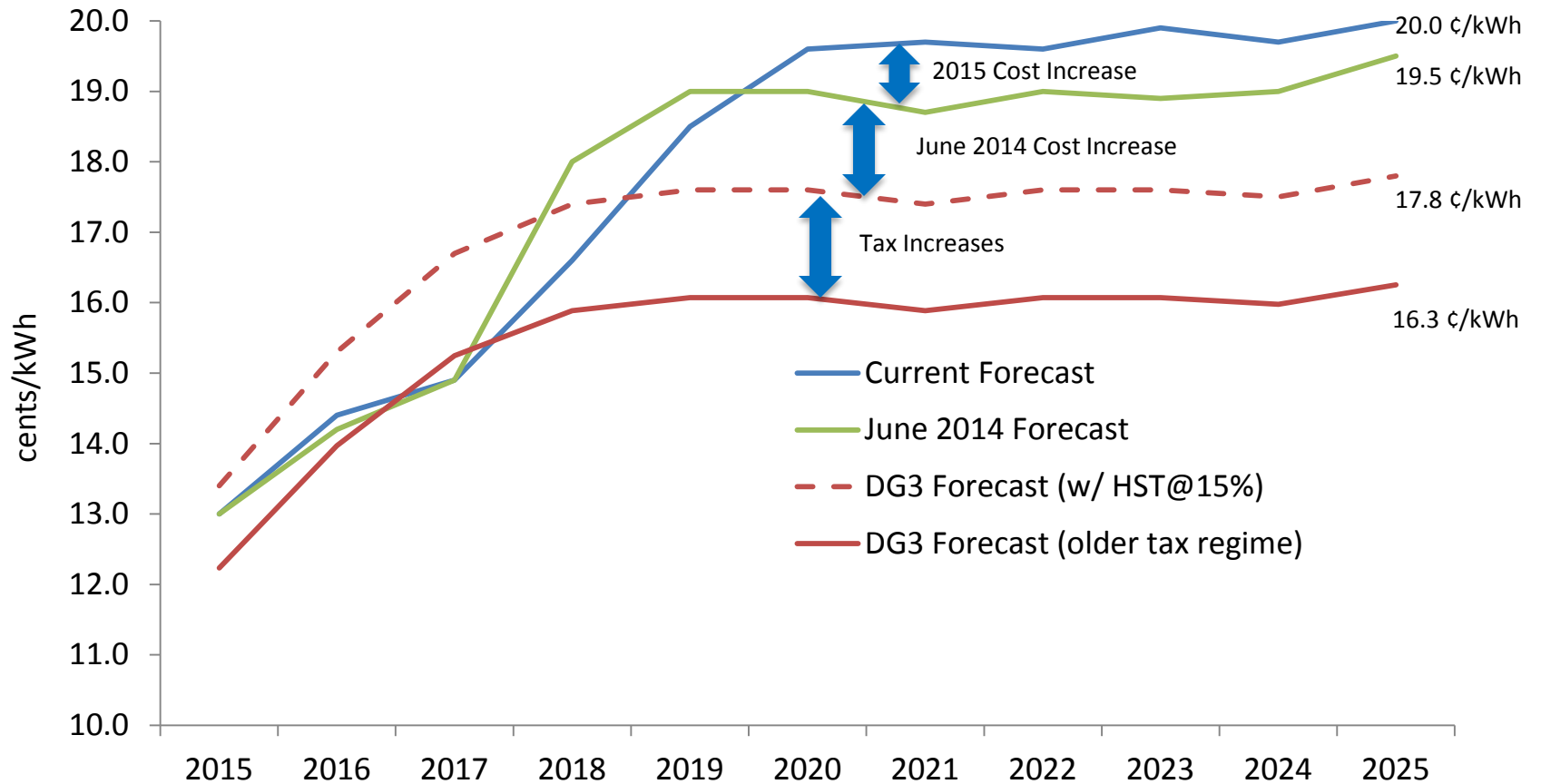
Province	Residential Retail Rate in May 2015 (¢/kWh)	Industrial Retail Rate in May 2015 (¢/kWh)
Ontario*	16.49	-
Nova Scotia	16.03	8.92
Prince Edward Island (April 2014)*	15.24	-
Saskatchewan	14.37	6.47
Newfoundland Island Interconnected (July 2015 Average)	<b>12.40</b>	4.90
New Brunswick	12.29	7.11
Alberta*	12.18	-
British Columbia	10.29	5.76
Manitoba	8.11	3.96
Quebec	7.19	4.89
Labrador Interconnected (July 2015 Average)	4.70	2.55

NOTE: Rates in this table are based on average consumption level, thus actual rates may vary.

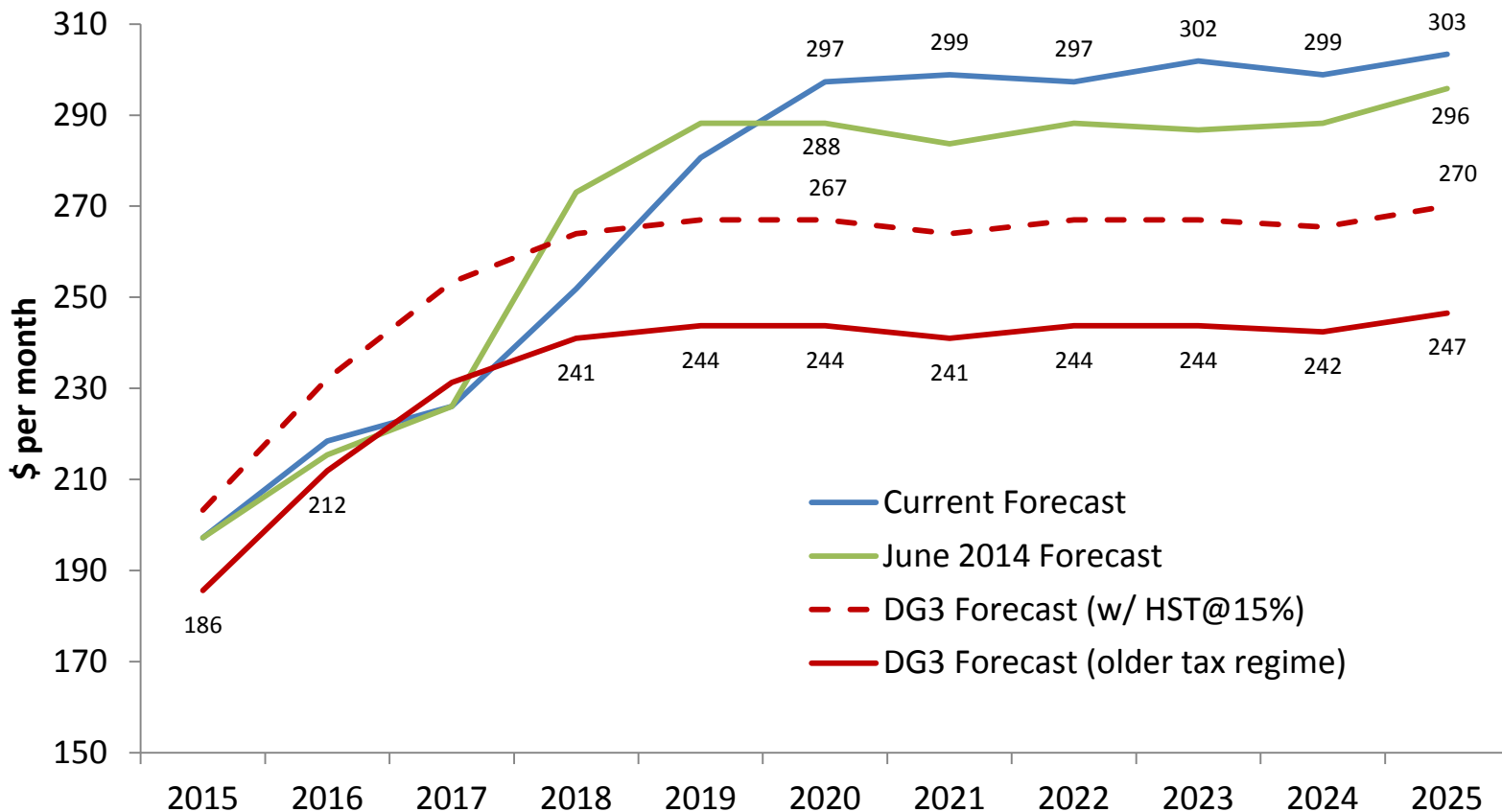
Some rates may also vary since their publication in May 2015, except NL in July 2015.

\* Comparative industrial rate data is not publically available for PEI, AB and ON.

# Latest Domestic Rate Projections

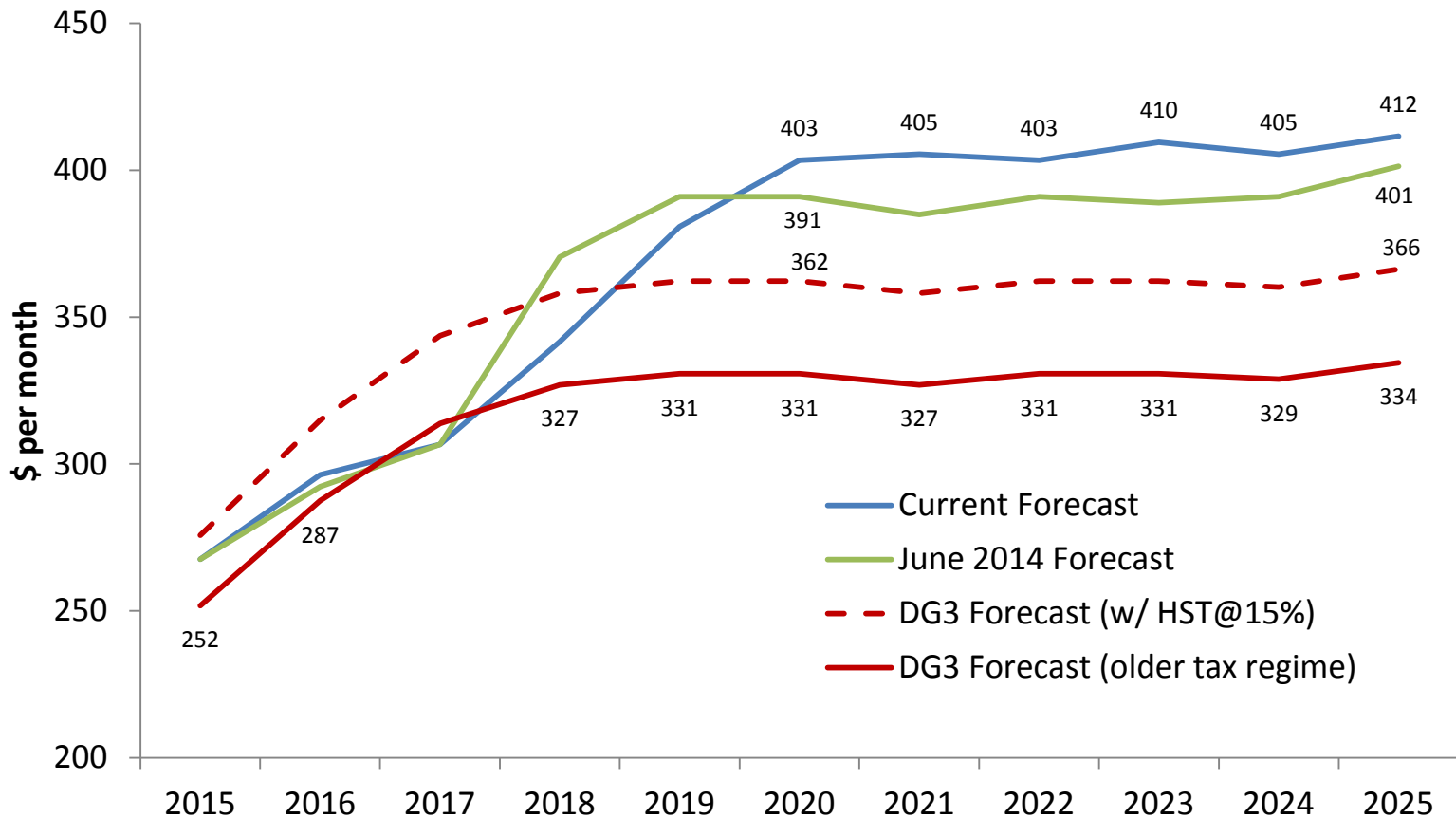


# Effect on Monthly Bills (Average Island Customer)



\* Based on 1,517 kWh average monthly consumption

# Effect on Monthly Bills (Average Electric Heat Customer)



\* Based on 2,058 kWh average monthly consumption



# Rate Mitigation - Background



- Electricity rate projections were made available to the public during Muskrat Falls debate (DG3).
- Any increase in project cost has a knock-on effect on electricity rates.
- When the cost increased from \$6.2B to \$6.99B was announced on June 26, 2014, Government made the following statement:
  - “The ratepayers of the province have always been the primary focus for this government in pursuing the Muskrat Falls Project. Our government has recognized that when first power comes from the project and rates are affected, the government at the time would decide what to do with the return coming from the project. We maintain that position. **If first power were flowing today, our government would use money from the project’s revenue streams to offset the increases in electricity rates over and above what we anticipated at sanction.** We have remained committed to doing what is in the best interest of ratepayers.”
- This was the approach to rate mitigation at that time.

# Rate Mitigation Alternatives



1. Defer increases by NL Hydro borrowing and ratepayers repaying the debt over a longer period
2. Mitigate rate increases by Government subsidy using future dividends from Nalcor revenue
3. Defer to the PUB to exercise its authority to determine whether any such mitigation is necessary and to determine how to do so

# Alternative 1

## Ratepayer Debt Deferral



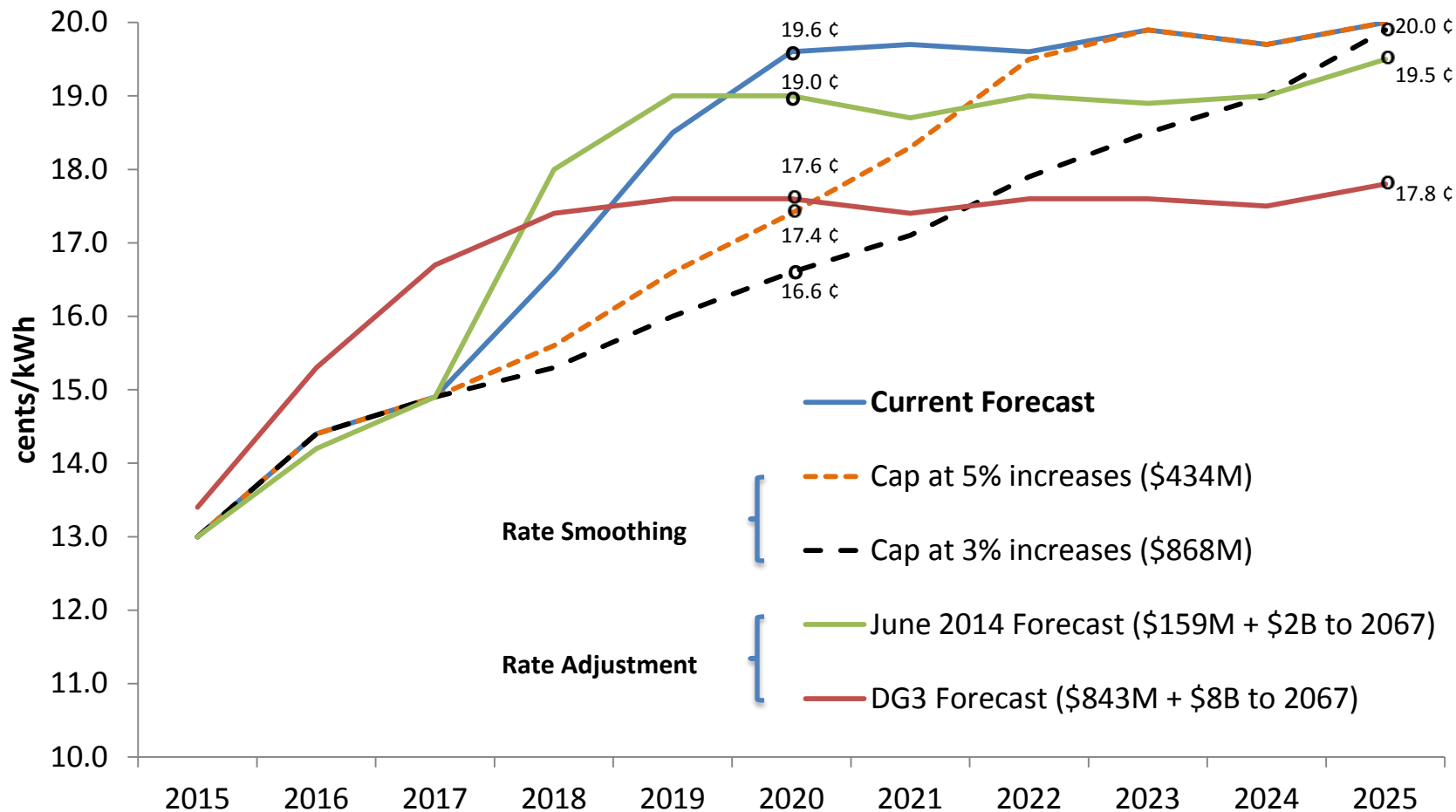
- NL Hydro can borrow to reduce its revenue requirement from ratepayers once Muskrat Falls enters service
- Ratepayers will repay the debt over a longer period of time (e.g. 5 to 15 years) to gradually increase rates
- Higher cost alternative due to interest costs on new debt
- Could negatively impact NL Hydro overall creditworthiness and Province's credit rating due to guarantee of NL Hydro debt
- Regulators do not support intergenerational inequity
  - Future ratepayers subsidizing current ratepayers

# Alternative 2 - Government Subsidy



- NL Hydro has proposed four options for a Government subsidy based on using future dividends projected to be available from Nalcor.
  - Option 1: Cap retail rate increases at 5% per year until 2022
  - Option 2: Cap retail rate increases at 3% per year until 2025
  - Option 3: Set rate increases to equal those previously announced at DG3 in 2012, with project costs at \$6.2B (June 2014 commitment)
  - Option 4: Set rate increases to equal those forecast in June 2014, when project costs had increased to \$6.99B.
- Options 1&2 are rate smoothing (time limited) and Options 3&4 are rate adjustments (project life).
- Rate smoothing and adjustment options are not mutually exclusive.

# Alternative 2 – Government Subsidy



\* Based on 1,517 kWh average monthly consumption

# Alternative 2 - Government Subsidy (cont'd)



- Each option requires a Government subsidy from future Nalcor sources. Potential sources of funding to 2025 include:
  - Government's return on incremental equity investment required to cover cost overruns on the Labrador-Island Link (\$509M)
  - Muskrat Falls export sales (\$483M)
  - Upper Churchill recall sales (\$543M)
  - Muskrat Falls water power rental fees (\$120M)
  - NL Hydro regulated dividends (\$225M)
  - Upper Churchill water power rental royalty (\$41M)
  - Upper Churchill preferred dividends (\$24M)
- Will reduce planned future revenue to Government and negatively impact 5 year recovery plan.
- All taxpayers in NL would subsidize Island rates

# Alternative 3 – Defer to PUB



- Muskrat Falls Project exempt from PUB oversight and costs are directed into rate base
- But PUB still has to set final rates for customers
- Government could defer the decision to the PUB
- PUB has regulatory authority to assess merits of any rate application and impose appropriate mitigation
- Mitigation would be funded exclusively by ratepayers
- Introduces risk that the issue will not be dealt with in a way that is satisfactory to Government
- Government position – ratepayers will not pay for Muskrat Falls until in service

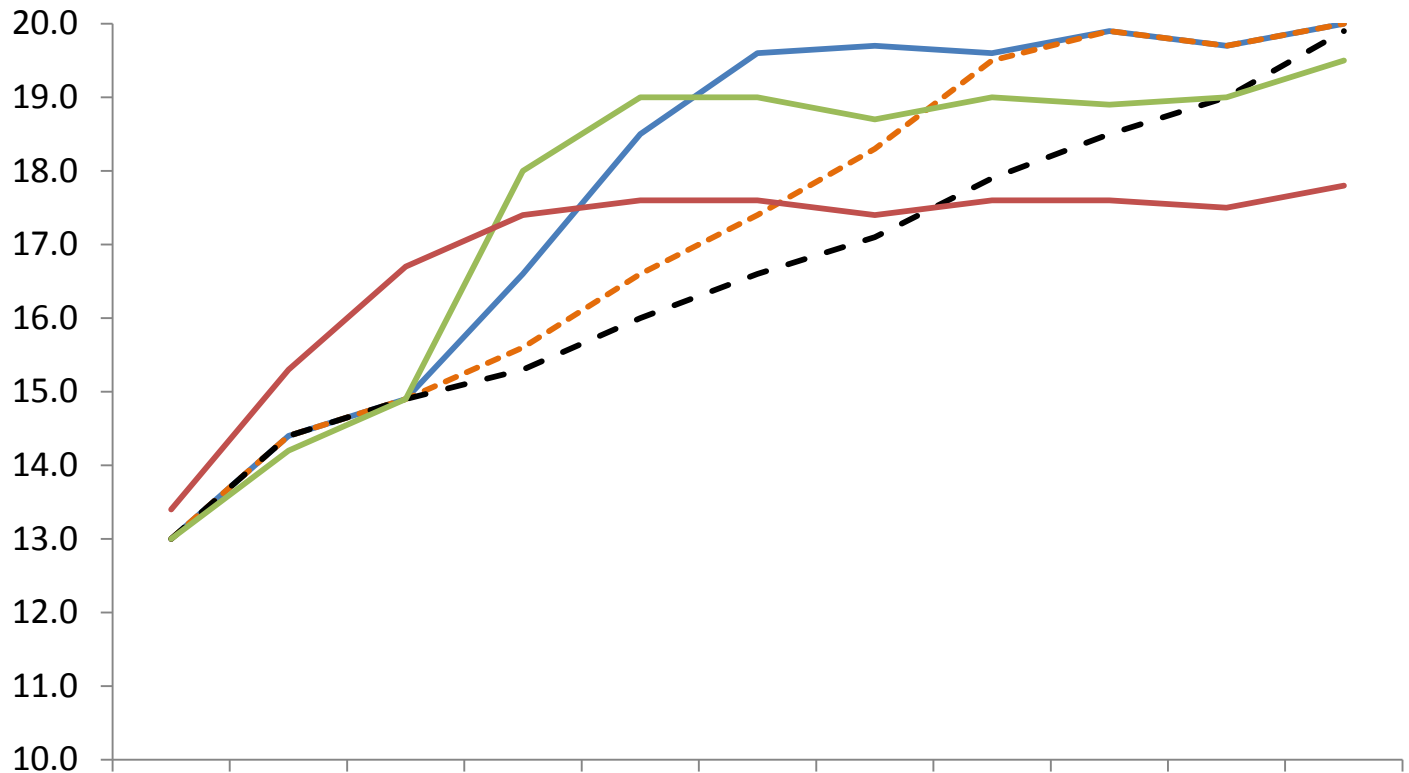
# Additional Slides



- **Thoughts?**



# Alternative 2 – Government Subsidy - Monthly Bills



Monthly Bills \$

Current Forecast



Cap at 5% increases (\$434M)



Cap at 3% increases



June 2014 Forecast



DG3 Forecast (w/ HST@15%)

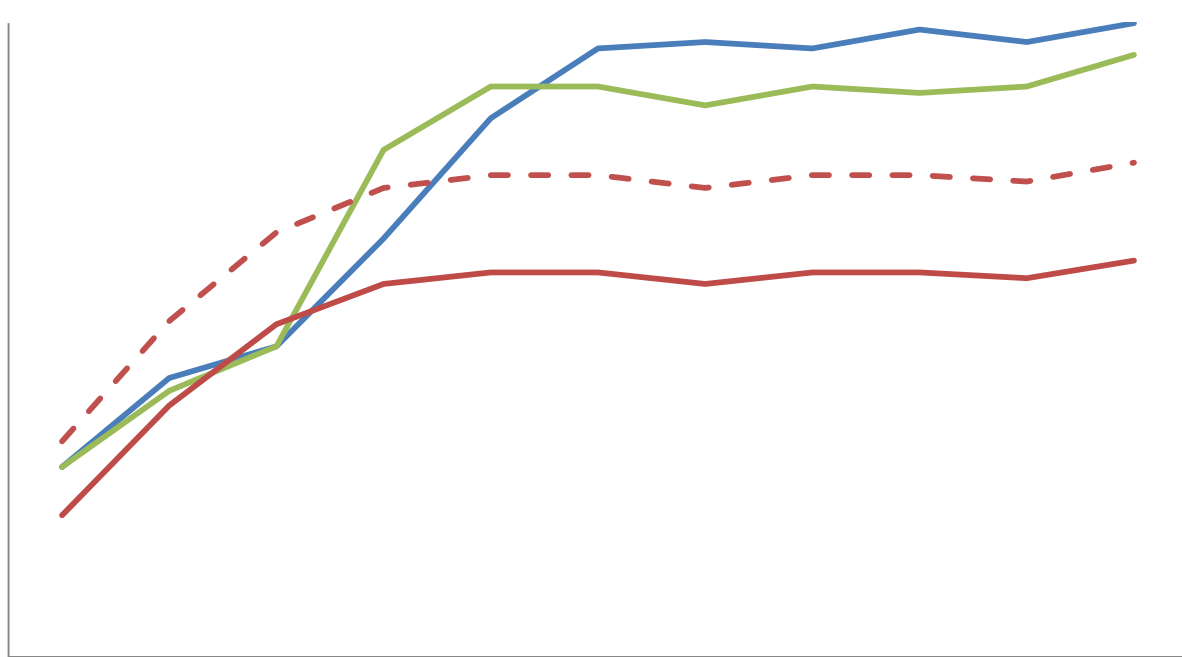


	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Current Forecast	197	218	226	252	281	297	299	297	302	299	303
Cap at 5% increases (\$434M)	197	218	226	237	252	264	278	296	302	299	303
Cap at 3% increases	197	218	226	232	243	252	259	272	281	288	302
June 2014 Forecast	197	215	226	273	288	288	284	288	287	288	296
DG3 Forecast (w/ HST@15%)	203	232	253	264	267	267	264	267	267	265	270

# Latest Domestic Rate Projections

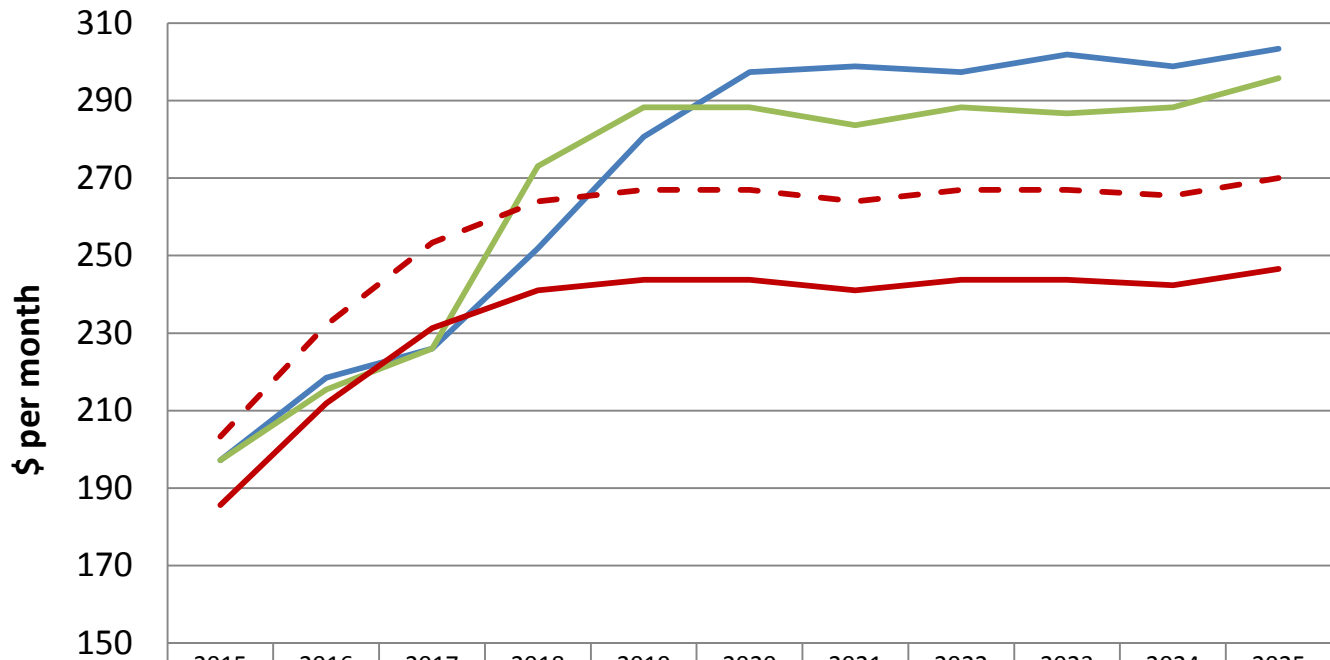


cents/kWh



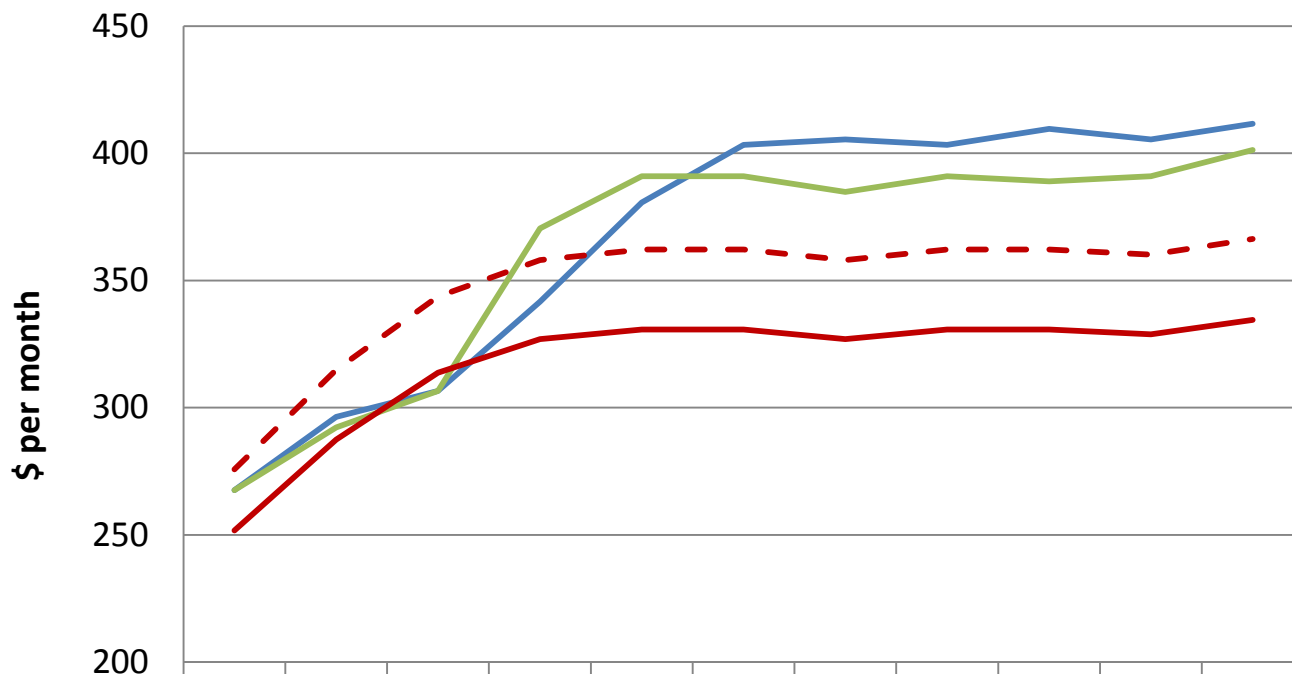
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
— Current Forecast	13.0	14.4	14.9	16.6	18.5	19.6	19.7	19.6	19.9	19.7	20.0
— June 2014 Forecast	13.0	14.2	14.9	18.0	19.0	19.0	18.7	19.0	18.9	19.0	19.5
- - DG3 Forecast (w/ HST@15%)	13.4	15.3	16.7	17.4	17.6	17.6	17.4	17.6	17.6	17.5	17.8
— DG3 Forecast (older tax regime)	12.2	14.0	15.2	15.9	16.1	16.1	15.9	16.1	16.1	16.0	16.3

# Effect on Monthly Bills (Average Island Customer)



	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
— Current Forecast	197	218	226	252	281	297	299	297	302	299	303
— June 2014 Forecast	197	215	226	273	288	288	284	288	287	288	296
- - - DG3 Forecast (w/ HST@15%)	203	232	253	264	267	267	264	267	267	265	270
— DG3 Forecast (older tax regime)	186	212	231	241	244	244	241	244	244	242	247

# Effect on Monthly Bills (Average Electric Heat Customer)



	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
— Current Forecast	268	296	307	342	381	403	405	403	410	405	412
— June 2014 Forecast	268	292	307	370	391	391	385	391	389	391	401
- - - DG3 Forecast (w/ HST@15%)	276	315	344	358	362	362	358	362	362	360	366
— DG3 Forecast (older tax regime)	252	287	314	327	331	331	327	331	331	329	334

**Information Note**  
**Department of Natural Resources**

**Title:** Electricity Rate Mitigation for Muskrat Falls Project

**Issue:** Options to address electricity rate increases projected after Muskrat Falls enters service

**Background and Current Status:**

- NL Hydro is a regulated utility whose electricity rates are approved by the PUB based on its costs to generate or purchase electricity. NL Hydro has a contract with Nalcor's subsidiary, Muskrat Falls Corporation, to begin purchasing power from Muskrat Falls after the project enters service. As a regulated utility, NL Hydro's only source of revenue is electricity rates, the company's Muskrat Falls costs must be fully recovered from its customers unless other revenue sources are made available.
- The Muskrat Falls project was sanctioned in 2012 as it was determined to be the least cost long term source of new generation. Based on the information available at the time of the sanction decision, the Muskrat Falls project cost was shown to be approximately \$2.4B less than the next alternative, known as the Isolated Island option.
- Island residential rates were projected to increase by 2020 under either option as new supply sources were needed to meet Island demand. With Muskrat Falls, rates were projected to increase 31% by 2020 and then stabilize. With the Isolated Island option, rates were projected to increase 35% by 2020 and then continue to climb due to its reliance on fossil fuels.
- Electricity rate projections were made available to the public through the PUB Muskrat Falls review process and through reports released by government based on costs determined at the Decision Gate 2 (DG2) and Decision Gate 3 (DG3) stages of the project.
- At the time, oil prices were high and projected to increase, thus electricity rate projections showed a gradual increase until Muskrat Falls entered service, after which rates would stabilize. Since DG3, oil prices have defied forecasts, which led to minimal rate increases between 2012 and 2015 and resulted in a projected spike in rates as Muskrat Falls enters service.
- In June 2014, project costs were announced to have increased from \$6.2B at DG3 to \$6.99B, causing concerns of an even higher spike in rates beginning around 2018. An analysis of options and impacts was completed at that time and it was determined that using revenue from Muskrat Falls export sales was the preferred option to mitigate rates. It should be noted

that the forecast amount of revenue from export sales had increased from initial estimates following the conclusion of agreements with Emera.

- Premier Marshall announced on June 26, 2014, “If first power were flowing today, our government would use money from the project’s revenue streams to offset the increases in electricity rates over and above what we anticipated at sanction.”
- With costs now expected to increase beyond \$6.99B, the provincial portion of the HST having been reapplied to electricity rates, and the provincial portion of the HST set to increase by 2% effective January 1, 2016, an updated analysis of rate impacts and mitigation options will be required.
- It is common in other jurisdictions that rate increases be mitigated in response to large capital build requirements. Manitoba’s Public Utilities Board recently approved a rate increase, of which a portion will be held in a deferral account to offset future rate increases from a transmission project coming into service in 2018. Similarly, the Ontario Energy Board has found that including costs during construction in rates before a project is complete can provide a smoothing or phased-in effect on rates and can reduce project borrowing costs.
- There are two approaches to mitigate rate increases:
  - Rate smoothing involves increasing rates over a period of time to reflect cost increases. Costs associated with rate smoothing are time limited, as the smoothing ends when the electricity rate equalizes with the pre-mitigation rate. The rate impact is felt over a short period of time (5-8 years) or a longer period of time (10-15 years)
  - Rate adjustment involves pegging rates at a level defined by previous planning (e.g. DG3 costs, first cost adjustment). These rate adjustment costs are continuous over the life of the project.
- For Muskrat Falls, the commitment has been that NL ratepayer will not incur any cost until the project enters service.
- NR and Nalcor have developed a number of options aimed at addressing rate mitigation. These are discussed below.

**Analysis:**

- At DG3 in 2012, estimates made public by Nalcor showed an approximate 20% increase in rates between 2015 and 2020. In 2014, when costs increased to \$6.99B, estimates that were not released publicly showed rate increases totaling 40% over the same period.

- Based on the most recent capital cost estimate of \$7.6B, domestic rates are now projected to reach 19.6 cents/kWh by 2020 without mitigating actions. This amounts to an increase of approximately 50% over five years from the 2015 average electricity rate of 13.0 cents/kWh. An overview of pre-tax electricity rates across Canada is included in Appendix A and the latest rate projections for NL are included in Appendix B.
- At 13.0 cents/kWh, the average monthly bill would be approximately \$197. At 19.6 cents/kWh, the monthly bill would be \$297.
- Within the electricity industry, such an annual rate increase is typically referred to as “rate shock” as it can be difficult for ratepayers to absorb. Electricity regulators across Canada have on numerous occasions taken action to mitigate significant rate increases proposed by utilities. Governments may also choose to take action to mitigate rate shock based on their own policy objectives.
- To avoid rate shock, NR and Nalcor are investigating several alternatives that fall into three broad categories:
  1. Actively defer rate increases by NL Hydro borrowing and having ratepayers repay the debt over a longer period of time;
  2. Actively mitigate rate increases by Government subsidy using future dividends and/or other sources of income from Muskrat Falls/Churchill Falls; and
  3. Defer to the PUB to exercise its authority to determine whether any such mitigation is necessary and to determine how to do so.

#### *Alternative 1- Ratepayer Debt Deferral*

- NL Hydro can borrow additional funds to reduce its revenue requirement from ratepayers once Muskrat Falls enters service. Ratepayers will then repay the debt over a longer period of time (e.g. 5 to 15 years) leading to a more gradual increase in rates.
- This alternative will lead to a higher cost overall due to interest costs on the new debt.
- NL Hydro has previously discussed this option with credit rating agencies who have indicated they would view the practice negatively in terms of the potential impact on NL Hydro overall creditworthiness. The size and nature of any deferral might also have implications for the province regarding its guarantee of NL Hydro debt.
- Regulators generally do not support the practice of reducing rates in the short term by passing additional costs on to future ratepayers. This practice is an example of what is known as intergenerational inequity, where those who benefit from a project might not pay their fair share of the costs.

*Alternative 2 – Government Subsidy Using Muskrat Falls Dividends and/or Other Sources of Income*

- **NL Hydro has proposed four separate options for a Government subsidy based on using future dividends and/or other sources of income projected to be available from Nalcor.**
  - **Option 1: Cap retail rate increases at 5% per year until 2022.**
    - **This rate smoothing approach would increase rates by a maximum of 5% per year between 2018 and 2022.**
    - **Limiting rate increases to 5% will create a revenue shortfall for NL Hydro that would be paid by Government from its future Nalcor dividends and/or other sources of income.**
    - **After 2022, there would be no longer be a revenue shortfall as rates will have increased enough to cover NL Hydro's costs.**
    - **This option would cost an estimated \$434M over the 2018-2022 period.**
  - **Option 2: Cap retail rate increases at 3% per year until 2025.**
    - **This rate smoothing approach would increase rates by a maximum of 3% per year between 2018 and 2025.**
    - **Limiting rate increases to 3% will create a revenue shortfall for NL Hydro that Government would pay from its future Nalcor dividends and/or other sources of income.**
    - **After 2025, there would be no longer be a revenue shortfall as rates will have increased enough to cover NL Hydro's costs.**
    - **This option would cost an estimated \$868M over the 2018-2025 period.**
  - **Option 3: Set rate increases to equal those previously announced at DG3 in 2012, when project costs were \$6.2B.**
    - **This rate adjustment approach holds rates indefinitely at the level forecast publicly at DG3 in 2012.**
    - **This is the option described by Premier Marshall on June 26, 2014 in the press release accompanying the capital cost increase announcement.**
    - **Holding rates at this level would create a revenue shortfall for NL Hydro that Government would pay from its future Nalcor dividends and/or other sources of income.**
    - **Under this option, rate revenue will never increase enough to cover NL Hydro's costs.**
    - **This option would cost an estimated \$843M during the period 2018-2025 and an additional \$8B to extend out to 2067.**



- **Option 4: Set rate increases to equal those forecast in June 2014, when project costs had increased to \$6.99B.**
  - **This rate adjustment approach holds rates indefinitely at the level forecast in 2014, which was not publicized at that time.**
  - **Holding rates at this level would create a revenue shortfall for NL Hydro that Government would pay from its future Nalcor dividends and/or other sources of income.**
  - **Under this option rate revenue will never increase enough to cover NL Hydro's costs.**
  - **This option would cost an estimated \$159M during the period 2020-2025 and an additional \$2B to extend out to 2067.**
- **Each of these four options requires a Government subsidy drawn from its future Nalcor dividends and/or other sources of income. Government may choose to earmark any combination of the following sources of funding:**
  - **Government's return on incremental equity investment required to cover cost overruns on the Labrador-Island Link (\$509M)**
  - **Muskrat Falls export sales (\$483M)**
  - **Upper Churchill recall sales (\$543M)**
  - **Muskrat Falls water power rental fees (\$120M)**
  - **NL Hydro regulated dividends (\$225M) – this option only available from 2021-2025**
  - **Upper Churchill water power rental royalty (\$41M)**
  - **Upper Churchill preferred dividends (\$24M)**
- **These future Nalcor dividends and/or other sources of income are included the Government's revenue projections included in the "Five Year Plan for Fiscal Recovery". Any use of these revenue sources for rate mitigation will increase the projected deficits for the 2018-19 and 2019-20 fiscal years and would likely create projected deficit for the 2020-21 fiscal year where Government was projecting a return to surplus as one of its five Fiscal Performance Targets. It could also impact Government's ability to manage the budget within the four remaining Fiscal Performance Targets.**
- **To maintain the current Fiscal Recovery Plan, Government would need to either increase revenues from other sources to replace the forgone Nalcor dividends or reduce expenditure in other programs and services.**
- **It would also mean that taxpayers in Labrador will be effectively subsidizing Island rates, since the rate increases being mitigated would apply only to Island customers.**

***Alternative 3 – Defer to PUB***

- While Government has exempted the project from PUB regulation, PUB must still set rates based on NLH's revenue requirements which include MF costs.
- As a regulated utility, NL Hydro is obliged under legislation to propose rates to the PUB and the PUB sets rates based on its analysis. The PUB has the regulatory authority to assess the merits of any rate application and impose any rate mitigation it deems appropriate. Therefore, Government intervention may not be required to avoid rate shock. However, leaving the decision to the PUB means that any mitigation would be funded exclusively by ratepayers. This alternative also introduces the risk that the issue will not be dealt with in a way that is satisfactory to Government.
- If Government defers the decision to the PUB, NL Hydro would submit a general rate application as project construction nears completion and the PUB would determine when rates should increase, and by how much. This could include rate increase deferrals (as in Alternative 1) or other approaches prescribed by the PUB.

**Actions Being Taken:**

- NR and Nalcor will have to undertake further analysis on all rate mitigation alternatives under consideration.

**Prepared/Approved by:** C. Snook, P. Morris, T. English, W. Parsons, J. Cowan, C. Martin/  
**Ministerial Approval:**

September 18, 2015



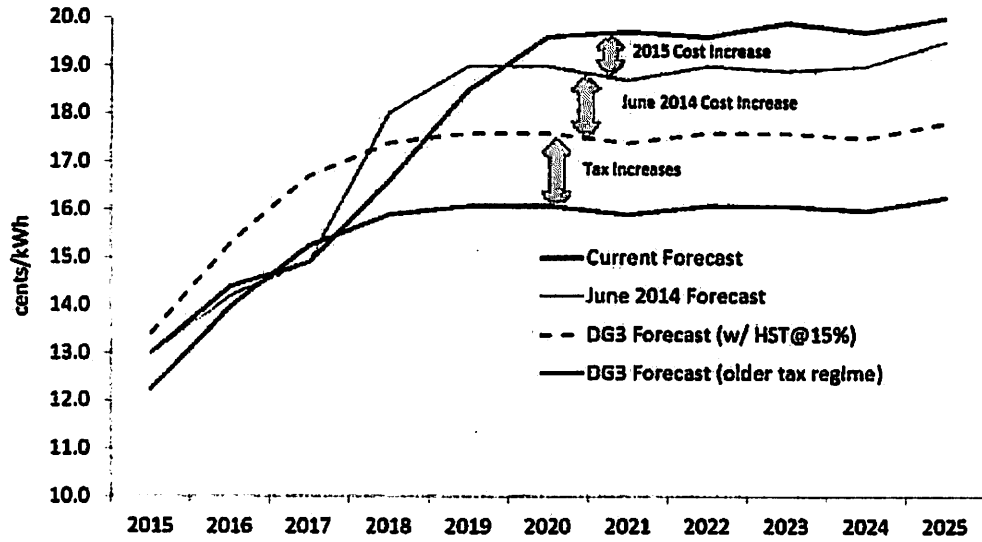
**Appendix A**  
**Canadian Electricity Rates (excluding tax)**

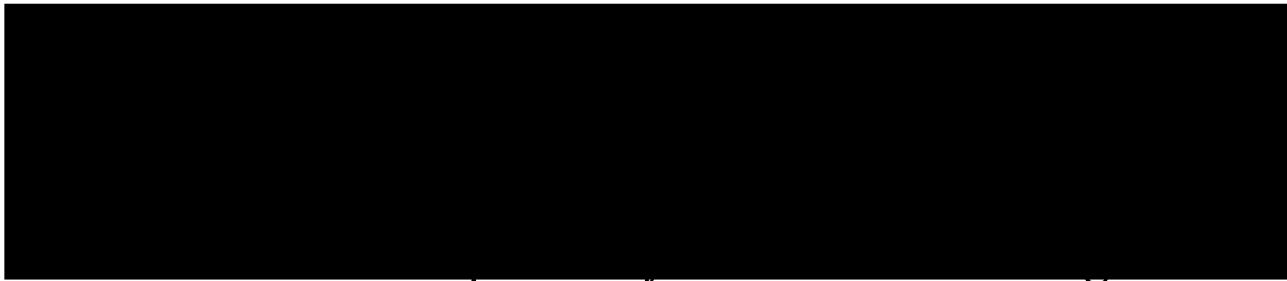
Province	Residential Retail Rate in May 2015 (¢/kWh)
Ontario*	16.49
Nova Scotia	16.03
Prince Edward Island (April 2014)*	15.24
Saskatchewan	14.37
Newfoundland Island Interconnected (July 2015 Average)	<b>12.40</b>
New Brunswick	12.29
Alberta*	12.18
British Columbia	10.29
Manitoba	8.11
Quebec	7.19
Labrador Interconnected (July 2015 Average)	4.70

NOTE: Rates in this table exclude taxes and are based on average consumption level, thus actual rates may vary. Some rates may also vary since their publication in May 2015, except NL in July 2015.

\* Comparative industrial rate data is not publically available for PEI, AB and ON.

### Appendix B Latest Domestic Rate Projections





2015/09/21

██████████-0376

FIN/DM  
TB/Secretary  
NR/DM  
Deputy Clerk  
File

██████████-112.

A Presentation respecting Muskrat Falls Project – Rate Mitigation Considerations was received from the Assistant Deputy Minister of Finance, Taxation and Fiscal Policy. Cabinet endorsed the concept of rate smoothing and directed the Department of Finance and the Department of Natural Resources to return to Cabinet for further consideration of options.

Clerk of the Executive Council