

FAO interest assessment - 20171019.pdf

From: [Hume, Steen \(ENERGY\)](#)
To: [Christie, Tim \(ENERGY\)](#); [Cayley, Daniel \(ENERGY\)](#)
Cc: [Cox, Hilary \(ENERGY\)](#); [Lightbody, Ava \(ENERGY\)](#)
Subject: FAO interest assessment - 20171019
Date: October 20, 2017 10:56:10 AM
Attachments: @

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Hi. Let work from this version.

Thanks

Attachments:

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RE_ FAO Draft Report_ _An Assessment of the Fis...(1).pdf

From: [Christie, Tim \(ENERGY\)](#)
To: [Schlaepfer, Martin \(ENERGY\)](#)
Cc: [Cox, Hilary \(ENERGY\)](#); [Calwell, Carolyn \(ENERGY\)](#); [Sermat-Harding, Kaili \(ENERGY\)](#)
Subject: RE: FAO Draft Report: "An Assessment of the Fiscal Impact of the Province's Fair Hydro Plan"
Date: May 15, 2017 4:24:58 PM
Attachments: [image001.png](#)
[FA1710 DFR Comment Tracking Form 2017 05 12 ESP CRED.docx](#)
[FA1710 Combined DFR - V14 Ministry Review.docx](#)

Martin, attached are our comments on the FAO report, including one comment from CRED. I understand that SNAP will be forwarding their comments separately.

Tim

From: Hume, Steen (ENERGY)
Sent: May-12-17 4:45 PM
To: Schlaepfer, Martin (ENERGY)
Cc: Cox, Hilary (ENERGY); Christie, Tim (ENERGY); Calwell, Carolyn (ENERGY/MEDEI/MRI); Reid, Michael (ENERGY); Nelms, Scott (MOF); Sermat-Harding, Kaili (ENERGY); Schuurman, Tim (MOF)
Subject: FAO Draft Report: "An Assessment of the Fiscal Impact of the Province's Fair Hydro Plan"

Hi. Martin: Please find attached the FAO's report re OFHP. ESPD will coordinate comments from other divisions.

Ministry response is request by 2:00 pm on **Tuesday May 16, 2017**.

Thanks, Steen

From: Jeffrey Novak [<mailto:jnovak@fao-on.org>]
Sent: May-12-17 4:17 PM
To: Hume, Steen (ENERGY); Schuurman, Tim (MOF)
Cc: Matt Gurnham; Matthew Stephenson
Subject: FAO Draft Report: "An Assessment of the Fiscal Impact of the Province's Fair Hydro Plan"

Dear Steen and Tim,

In a couple of minutes, I'll transmit to you by secure e-mail the draft FAO report "An Assessment of the Fiscal Impact of the Province's Fair Hydro Plan" for review by your ministries. In order to meet our timelines we would like to receive a response to our review request by **2:00 pm on Tuesday May 16th**. Attached to the upcoming e-mail will be a letter with further explanation of this request.

Please treat this report as confidential, and do not share outside of the public service within the Ministries of Energy and Finance.

Please do not hesitate to contact me should you have any questions.

Kind regards,

[Jeffrey Novak](#)

Acting Chief Financial Analyst



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FA1710 DFR Comment Tracking Form 2017 05 12 E.pdf

Comment Tracking Form

Deliverable under review	Draft Final Report
Reviewing entity	Ministries of Energy and Finance
Date	May 12, 2017
Project Name	An Assessment of the Fiscal Impact of the Province's Fair Hydro Plan
FAO Reference	FA1710

General Comments	
Comment made by (person)	Comment
Tim Christie	Suggest changing "Electricity Cost Refinancing" to "Global Adjustment Refinancing" throughout the document so that it is clear to readers what costs are being refinanced. For example, "electricity cost" and "cost of electricity" are used often, at times in the same sentence as "electricity cost refinancing". Consider using "GA refinancing" to differentiate the initiative and the total electricity system costs.
Tim Christie	Recommend making it clear throughout the report whether values and corresponding figures are in real or nominal dollars.
Tim Christie	Recommend using net present values where appropriate. "Electricity cost refinancing" has a cost of \$21 billion (presumably in real dollars), but would be substantially lower (or even a benefit) in net present value depending on discount rate.
Tim Christie	FAO document seems to assume GA refinancing will end by 2045. Legislation proposes 2047 as the end date.

Specific Comments		
Report Section	Comment made by (person)	Comment
Section 1 – pg. 2	Tim Christie	Recommend the following edit: “a rebate to residential ratepayers ~~of~~ equivalent to the 8% provincial portion of the HST...”
Section 2 – pg. 3	Tim Christie	Figure 2-1: Suggest clarifying whether the values are before or after tax.
Section 2 – pg. 5	Tim Christie	Unsure of the value of this chart as it may be confused with 2-1. It appears one is real and one in nominal.
Section 2 – pg. 5	Tim Christie	Paragraph beginning with “Cost of providing electricity to eligible ratepayers”: Increases in generation cost could lead to a reduction in GA costs if the increased costs (e.g. fuel costs) are reflected in a higher HOEP. This would leave the refinancing proposal largely unaffected.
Section 2 – pg. 5	Tim Christie	While increasing demand was raised as a factor that could impact refinancing, the inverse is also true (i.e., the impact of decreasing demand). Additionally, increasing demand in the longer-term would decrease the average cost of repayment for eligible ratepayers.
Section 2 – pg. 6	Tim Christie	Relief Programs savings should extend indefinitely.
Page 6 (Figure 2-3)	Usman Syed	Estimated annual cost of relief programs to taxpayers is shown in Figure 2-3(e.g. ~\$0.45 Billion in year 1). However, the first values listed in the graph are for FY 2017-18. For comprehensiveness, the graph should show the \$100 M for the Affordability Fund in FY 2016-17. ENERGY provided information to the FAO in late March/early April (Excel attached) which identified A-Fund as a one-time cost from tax in FY 2016/17, pending a future request(s) for additional funding by the Ministry.
Section 3 – pg. 8	Tim Christie	The “obligation for ratepayers to repay the Province” is due to debtholders, including entities other than the province.
Section 5 – pg. 10	Tim Christie	It may be useful to indicate how much is being consumed for this monthly bill estimate. Is it based on 750 kWh per month?

Section 5 – pg. 10	Tim Christie	Regarding Table 5-1, the reduction of \$13 related to the tax line appears to be overstated. Both the 8% rebate and the 13% HST are applied on the amount before tax.
Section 5 – pg. 10	Tim Christie	Regarding Table 5-1, the impact of GA refinancing on the electricity line appears to be understated given that the reduction in the tax line is overstated.
Section 5 – pg. 10	Tim Christie	Regarding Table 5-1: The cost of RRRP and OESP are part of the regulatory line on a bill. Wholesale market service charges are a subset of the regulatory line.
Appendix B – p 11	Tim Christie	Interest rate assumption for OPG debt is too high. The spread between provincial and OPG debt will be less than the 270 basis points used in the analysis.

FA1710 Combined DFR - V14 Ministry Review.pdf



An Assessment of the Fiscal Impact of the Province's Fair Hydro Plan

Draft Final Report

May 12, 2017

Confidential Document

This document is confidential. It should not be shown or otherwise transmitted to anyone other than those who have been asked by the Financial Accountability Office of Ontario to provide comments.

Spring 2017

About this Document

Established by the *Financial Accountability Officer Act, 2013*, the Financial Accountability Office (FAO) provides independent analysis on the state of the Province's finances, trends in the provincial economy and related matters important to the Legislative Assembly of Ontario.

The FAO produces independent analysis on the initiative of the Financial Accountability Officer. Upon request from a member or committee of the Assembly, the Officer may also direct the FAO to undertake research to estimate the financial costs or financial benefits to the Province of any bill or proposal under the jurisdiction of the legislature.

This report was prepared on the initiative of the Officer in response to a request from a member of the Assembly. In keeping with the FAO's mandate to provide the Legislative Assembly of Ontario with independent economic and financial analysis, this report makes no recommendations.

This analysis was prepared by Matt Gurnham and Matthew Stephenson under the direction of Peter Harrison and Jeffrey Novak.



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Table of Abbreviations

Abbreviation	Long-Form
FAO	Financial Accountability Office
FHP	Fair Hydro Plan
GAAP	Generally Accepted Accounting Principles
HST	Harmonized Sales Tax
IESO	Independent Electricity System Operator
MPP	Members of Provincial Parliament
OAGO	Office of the Auditor General of Ontario
OEB	Ontario Energy Board
OESP	Ontario Electricity Support Program
OPG	Ontario Power Generation
RRRP	Rural or Remote Ratepayer Program

1 Introduction

On March 2, 2017, the Government of Ontario (the Province) announced its “Fair Hydro Plan” (FHP), a proposal to reduce electricity bills for all residential customers by an average of 25%, starting in the summer of 2017, and to limit the increase in electricity rates to the rate of inflation over the next four years.¹ The Province’s FHP also proposes additional assistance for eligible rural and low income ratepayers beyond the promised 25% electricity bill reduction.

The FHP includes the following initiatives:

- **Harmonized Sales Tax (HST) Rebate:** a rebate to residential ratepayers of the 8% provincial portion of the HST on electricity bills.
- **Electricity Cost Refinancing:** the Province is proposing to borrow an average of \$2.5 billion per year through 2027 to pay a portion of electricity generation costs, thereby temporarily reducing the cost of electricity for residential ratepayers. The Province would recover the borrowed funds, including interest, from ratepayers over an estimated 17-year period starting in 2028.
- **Adjusting Electricity Relief Programs:** currently the cost of the Rural or Remote Ratepayer Program (RRRP)² and Ontario Electricity Support Program (OESP)³ is recovered from all electricity ratepayers through the cost of electricity. The Province is proposing to take the cost of these programs from electricity bills and to transfer the cost to the Province. In addition, the Province plans to expand the support provided by the RRRP and OESP programs as well as establish a new First Nations On-Reserve Delivery Credit and Affordability Fund, all of which is to be funded by the Province.

This report reviews the fiscal impact of the proposed FHP, including the expected cost to the Province and the financial impact to electricity ratepayers.

Appendix D provides more information on the development of this report.

¹ See the news release “Ontario Cutting Electricity Bills by 25 Per Cent,” March 2, 2017, accessed on May 5, 2017: <https://news.ontario.ca/opo/en/2017/03/ontario-cutting-electricity-bills-by-25-per-cent.html>.

² The RRRP provides a rate subsidy to approximately 350,000 rural residential electricity ratepayers.

³ The OESP is an income-tested, application based program that provides a rate subsidy to eligible electricity ratepayer households.

2 Fiscal Impact of the FHP

The Financial Accountability Office (FAO) estimates that the FHP will cost the Province approximately \$44 billion over 29 years while providing overall savings to electricity ratepayers of \$23 billion. This results in a net cost of \$21 billion.

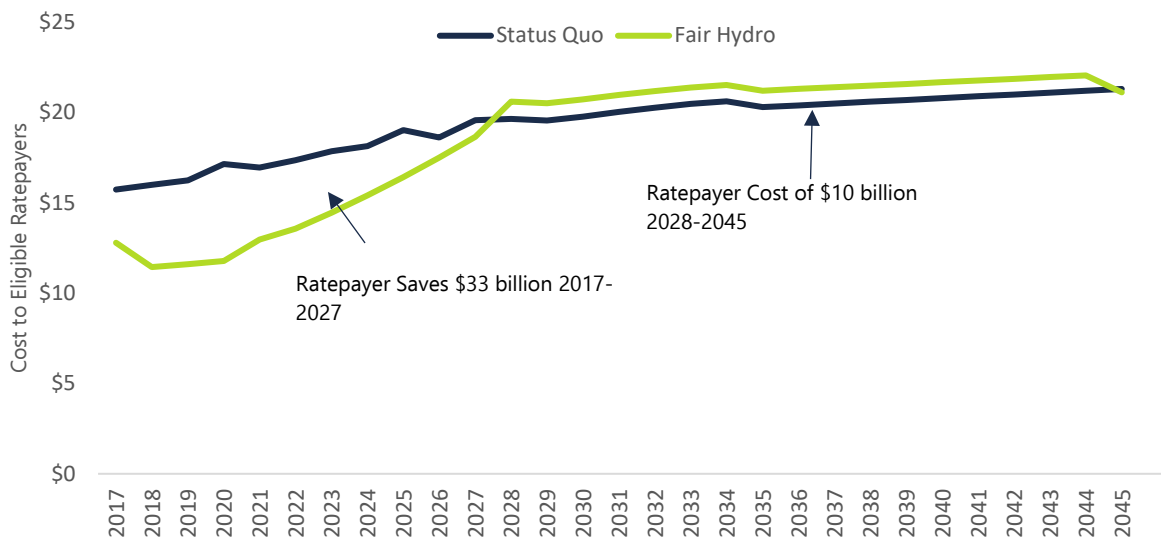
Impact on Eligible Ratepayers

The FAO estimates that the FHP will reduce costs for eligible electricity ratepayers⁴ by a total of \$23 billion from 2017 to 2045. The savings estimate of \$23 billion over 29 years is made up of the following components:

- HST Rebate: savings of \$41 billion.⁵
- Electricity Cost Refinancing: cost of \$21 billion.⁶
- Adjusting Electricity Relief Programs: savings of \$3 billion.⁷

Figure 2-1 shows the impact of the FHP on eligible ratepayer electricity costs against a status quo scenario (i.e. the FHP is not implemented). From 2017 to 2027, electricity costs are projected to be lower under the FHP compared to the status quo (for a total savings of \$33 billion), while after 2027 electricity costs are projected to be higher under the FHP compared to the status quo (for a total cost of \$10 billion). This results in net savings of \$23 billion over 29 years.

Figure 2-1 Impact of the FHP on Eligible Ratepayer Electricity Costs, billions of dollars



Source: FAO analysis of Provincial information.

The impact of the FHP on the average eligible ratepayer can be broken down into three distinct sub-periods:

⁴ "Eligible electricity ratepayers" are all Regulated Price Plan eligible customers which includes all households as well as over 500,000 small businesses and farms. The Province estimates that eligible electricity ratepayers comprise over 90% of electricity ratepayers in Ontario and represent about half of Ontario's electricity demand.

⁵ The FAO assumes that the HST Rebate will continue indefinitely. HST rebate reduces bills by 8% of the pre-tax amount.

⁶ See below for more analysis on the cost of this component of the FHP.

⁷ The FAO is forecasting the cost of the electricity relief programs based on the Province's announced commitments regarding the FHP and information provided by the Province to the FAO. As such, the FAO does not forecast the costs of the electricity relief programs beyond the year 2020-21. However, there is uncertainty with this assumption because (a) the electricity relief programs may continue after the year 2020-21 and (b) the Province may cease to fund the cost of these programs after the year 2020-21. Overall, the FAO estimates that the \$21 billion in net costs of the FHP would not change should the electricity relief programs continue beyond the year 2020-21. This is because the incremental savings to ratepayers would be exactly offset by costs to the Province.

Table 2-1 Breakdown of FAO Estimate of FHP Impact on Eligible Ratepayers

Time Period	Province's FHP Proposal	FAO's Analysis of FHP	Description
2017-2021	Reduce bills by 25% Cap bill increases at rate of inflation for 4 years Province funds and expands assistance for rural and low income ratepayers	Average bill will be reduced by 25% Bill increases will be capped at rate of inflation for four years	Savings to ratepayers of \$17.8 billion achieved as follows: HST Rebate - \$4.1 billion Electricity Cost Refinancing - \$10.7 billion Adjusting Electricity Relief Programs - \$3 billion
2021-2027	Continue Electricity Cost Refinancing	Bills to remain lower than status quo due to refinancing and HST rebate Bills projected to increase by 6.5% annually as financing costs accumulate	Savings to ratepayers of \$15.1 billion achieved as follows: HST Rebate - \$7.3 billion Electricity Cost Refinancing - \$7.8 billion
2028-2045	Ratepayer repays refinancing	Bills will be higher than status quo despite HST rebate	Net cost to ratepayers of \$10 billion as follows: Electricity Cost Refinancing – cost of \$39 billion HST Rebate – savings of \$29 billion

Source: FAO analysis of Provincial information.

See Appendix A for a more detailed analysis of the impact of the FHP on ratepayer bills.

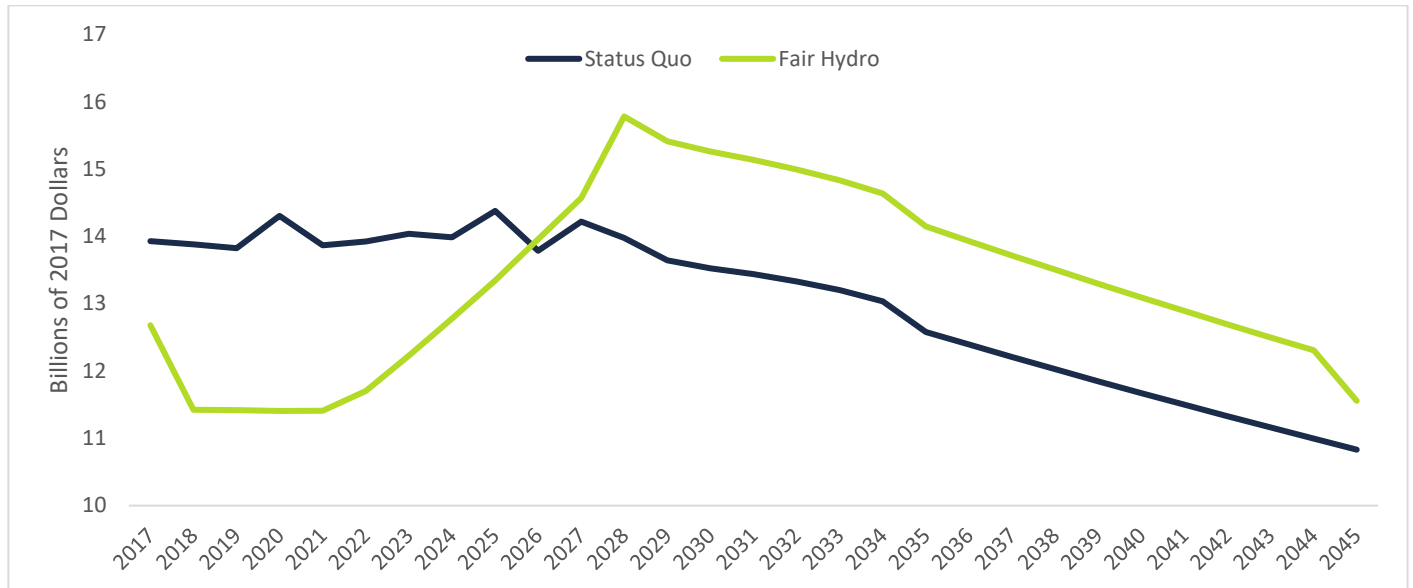
Key Considerations

The HST rebate and adjusting the electricity relief programs will transfer costs from ratepayers to the Province and have no net impact on the cost of electricity. However, the proposed electricity cost refinancing will increase the cost of electricity due to the interest on borrowed funds.

The majority of the savings to eligible electricity ratepayers from 2017 to 2027 will be accomplished by the electricity cost refinancing initiative. The Province plans to borrow an average of \$2.5 billion annually to pay a portion of the cost of electricity generation thereby lowering the price paid by ratepayers. The FAO estimates that a total of \$18.4 billion of electricity costs and \$7.8 billion of accumulated interest will be financed through 2027. The ratepayer will repay \$39.4 billion (\$18.4 billion of electricity costs, \$21 billion of interest) from 2028 to 2045.⁸ The reason for the high cost of interest relative to the amount of electricity costs financed is that the ratepayer does not begin repayment until 10-years after borrowing commences.

Figure 2-2 outlines the impact of the electricity cost refinancing by showing the cost to eligible electricity ratepayers on a real pre-tax basis, removing the impact of the HST rebate and electricity relief programs.

⁸ See Appendix B for more details on the refinancing.

Figure 2-2 Impact of Electricity Cost Refinancing on Real Electricity Costs

Source: FAO analysis of Provincial information

Under the status quo, real electricity costs are forecast to remain close to 2017 levels until 2027 and then decline over the following 17 years. The Province's proposed electricity cost refinancing initiative reduces ratepayer costs until 2026 by deferring \$18 billion of electricity costs. Starting in 2026, real pre-tax electricity costs are forecast to be higher under the FHP than the status quo. Real pre-tax costs under the FHP will remain higher than the status quo as the electricity ratepayers repays \$18 billion of deferred electricity costs and \$21 billion of interest.

Risks to the Electricity Cost Refinancing Initiative

The FAO has identified two key risks which could impact the electricity cost refinancing initiative.

- Cost of providing electricity to eligible ratepayers** – The amount of refinancing required to deliver the committed bill reductions to ratepayers from 2017 to 2021 depends on the total cost of generating and delivering electricity to eligible ratepayers. There is potential, for example, that eligible ratepayer demand increases as a result of the reduction in electricity prices or that costs to generate / deliver electricity are higher than expected. Increases in demand or generation costs would increase borrowing requirements to achieve the stated cost reductions, thus increasing the interest paid by eligible ratepayers during the repayment period.
- Interest rate assumptions** – Changes in the interest rate on funds borrowed to refinance electricity costs significantly impact the interest cost paid by ratepayers. Appendix B contains analysis of the impact of different interest rates on ratepayers.

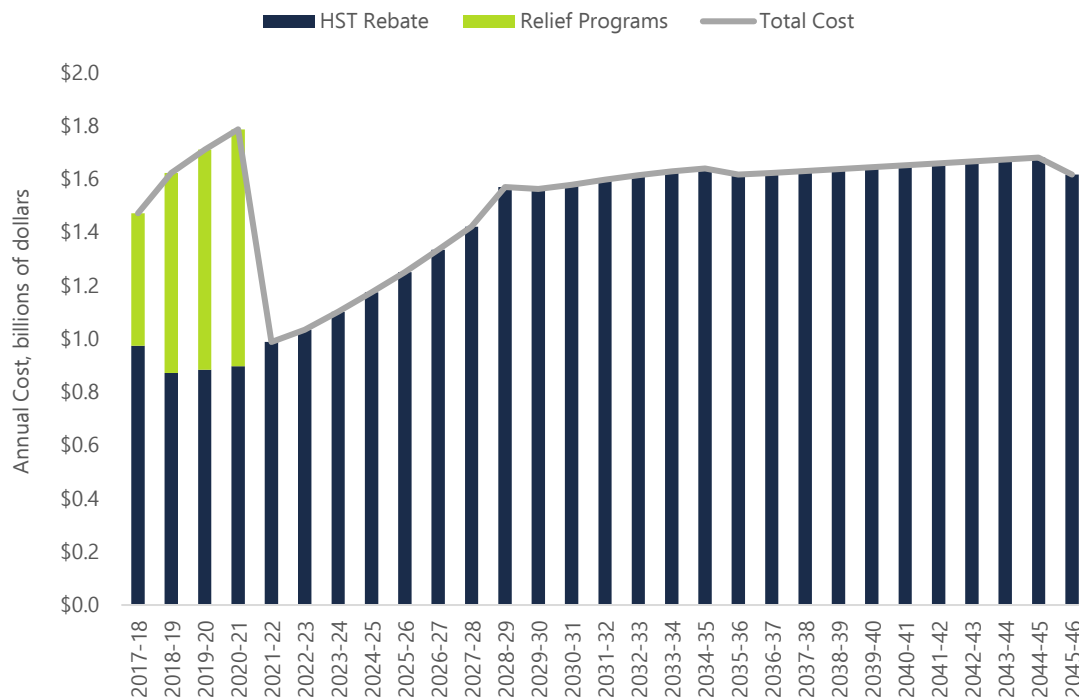
Impact on Provincial Finances

The FAO estimates that the FHP will cost the Province approximately \$44 billion over 29 years. The cost estimate is made up of the following two components:⁹

- HST Rebate: cost of \$41 billion.
- Adjusting Electricity Relief Programs: cost of \$3 billion.¹⁰

Figure 2-3 summarizes the FAO's estimate of the annual cost¹¹ of the FHP through to 2045-46. The FAO estimates the cost of the FHP to the Province will peak at \$1.8 billion in 2020-21, after which the FAO assumes that the electricity relief programs will no longer be funded by the Province. The HST Rebate is forecast to cost \$1 billion in 2021-22, rising rapidly to \$1.6 billion by 2028-29,¹²

Figure 2-3 FAO's Estimated Annual Cost of the FHP to the Province, 2017-18 to 2045-46, billions of dollars



Note: Provincial funding for electricity relief programs ends after 2020-21 based on the Province's announced commitments regarding the FHP and information provided by the Province to the FAO.

Source: FAO analysis of Provincial information.

⁹ The Province's FHP assumes that electricity cost refinancing would not impact net debt or the annual surplus / deficit. Please see chapter 5 for more details.

¹⁰ The FAO is forecasting the cost of the electricity relief programs based on the Province's announced commitments regarding the FHP and information provided by the Province to the FAO. As such, the FAO does not forecast the costs of the electricity relief programs beyond the year 2020-21. However, there is uncertainty with this assumption because (a) the electricity relief programs may continue after the year 2020-21 and (b) the Province may cease to fund the cost of these programs after the year 2020-21. Overall, the FAO estimates that the \$21 billion in net costs of the FHP would not change should the electricity relief programs continue beyond the year 2020-21. This is because the incremental savings to ratepayers would be exactly offset by costs to the Province.

¹¹ Annual cost defined as the impact to the Province's annual surplus / deficit.

¹² The rapid increase in the cost of the HST Rebate from 2021-22 to 2028-29 results from the increase in electricity cost over the corresponding time period. See Figure 2-1.

Key Considerations

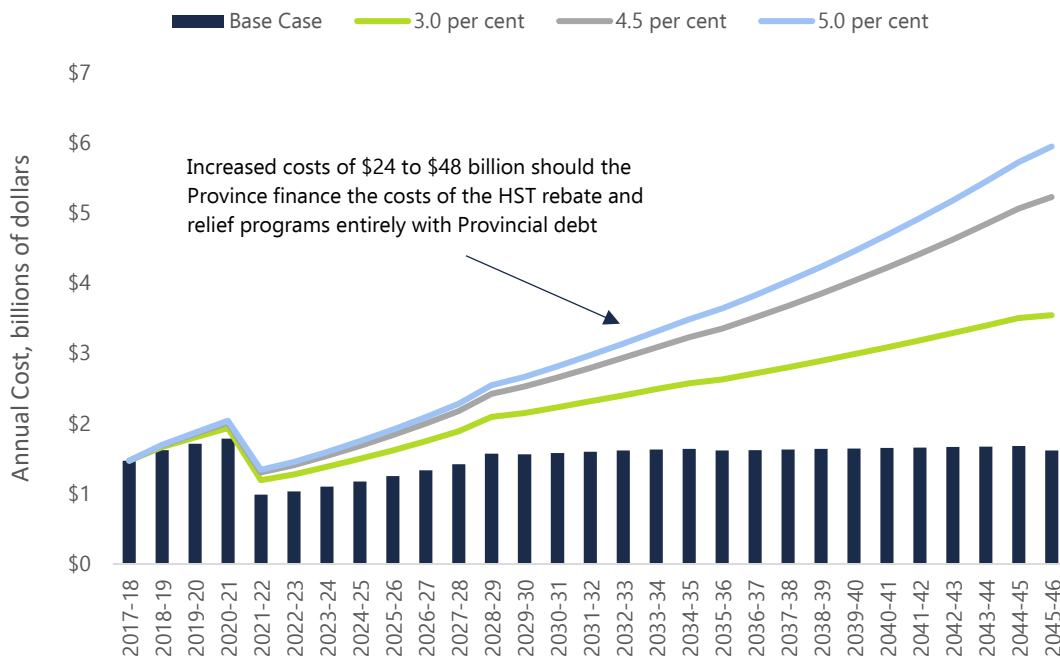
Electricity Cost Refinancing Accounting Treatment

As proposed by the Province, the electricity cost refinancing component of the FHP would not impact the annual surplus / deficit or net debt of the Province. However, gross debt would increase by \$26 billion by 2027-28, before being completely retired by 2045-46.¹³ Please see chapter 3 for more details.

Funding the Provincial FHP Cost

The FAO estimates that the FHP will cost the Province approximately \$44 billion over 29 years. However, this amount could increase if the Province funds the cost of the FHP (i.e. the HST Rebate and the electricity relief programs) through debt. For example, if the Province funds the HST rebate and electricity relief programs by borrowing over the 29-year period, it could increase costs by \$24 to \$48 billion, assuming an effective cost of borrowing between 3.0% and 5.0%. This could bring the total Provincial cost of the FHP to between \$68 and \$93 billion (Figure 2-4).

Figure 2-4 FAO's Estimated Annual Cost of the FHP to the Province, 2017-18 to 2045-46, billions of dollars



Source: FAO analysis of Provincial information

In the 2017 Ontario Budget, the Province is calling for balanced budgets from 2017-18 to 2019-20, which include the costs of the FHP. However, in the FAO's Fall 2016 Economic and Fiscal Outlook, the FAO is projecting continued budget deficits over the forecast period.¹⁴ If the Province is unable to balance the budget, then the estimated cost of the FHP will be higher than \$44 billion, as the Province will need to borrow to fund the FHP.

¹³ Provincial gross debt would increase by about \$12 billion, while Ontario Power Generation would issue about \$14 billion in debt. Please see the appendix for more details on the proposed financing structure of the electricity cost refinancing.

¹⁴ See the FAO's Economic and Fiscal Outlook, Fall 2016.

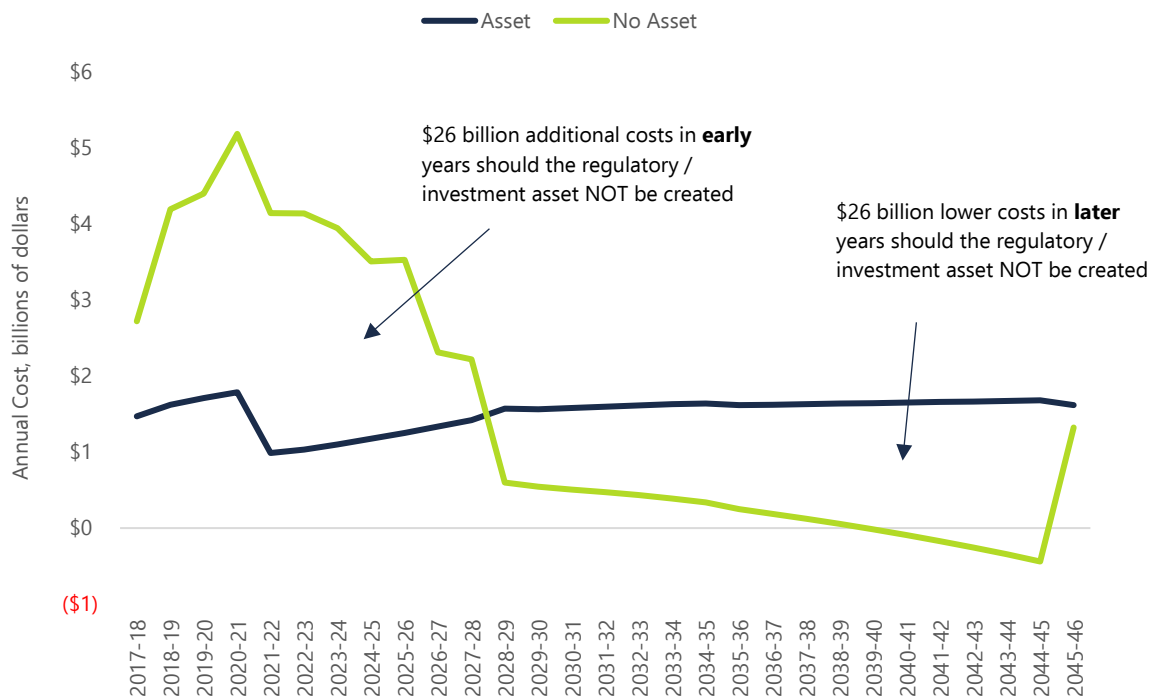
3 Accounting Treatment Uncertainty

The electricity cost refinancing component of the FHP involves a complicated accounting structure that will increase gross debt by approximately \$26 billion by 2027-28¹⁵, but does not impact the Province's net debt due to the creation of a regulatory / investment asset¹⁶ -- essentially an obligation for ratepayers to repay the Province approximately \$26 billion.¹⁷

Due to the complexity of the proposed financing transaction, the FAO recommends that Members of Provincial Parliament (MPPs) obtain assurance from the Office of the Auditor General of Ontario (OAGO) that the Province's proposed financing structure and accounting treatment for the electricity cost refinancing meet public sector accounting standards and will not impact the Province's annual surplus / deficit and net debt.¹⁸

If the creation of the regulatory / investment asset does not meet public sector accounting standards, then the electricity cost refinancing initiative would impact the Province's annual surplus / deficit over the 29-year period. In the absence of a regulatory / investment asset, the FAO estimates that costs to the Province would increase by an additional \$26 billion over the next 11 years but would decrease by the same amount over the following 18 years thereafter (Figure 3-1).

Figure 3-1: FAO's Estimated Annual Cost to the Province of the FHP Should the Regulatory / Investment Asset be Created or Not Created, 2017-18 to 2045-46, billions of dollars



Source: FAO analysis of Provincial information

¹⁵ Provincial gross debt would increase by about \$12 billion, while Ontario Power Generation would issue about \$14 billion in debt. Please see the appendix for more details on the proposed financing structure of the electricity cost refinancing.

¹⁶ Please see the appendix for more details on the proposed financing structure of the electricity cost refinancing.

¹⁷ This asset will be recorded on the financial statements of Ontario Power Generation, which will then increase the Province's asset value labelled, "investment in government business enterprises".

¹⁸ Please see the appendix for more information on the potential issues with the Province's proposed accounting treatment of the electricity cost refinancing.

4 Conclusion

The FAO estimates that the net cost of the Province's FHP to be \$21 billion over 29 years. However, the impact to the Province and eligible electricity ratepayers differs.

Eligible electricity ratepayers are projected to experience savings of \$33 billion from 2017 to 2027 and increased cost of \$10 billion from 2028 to 2045 for a net savings of \$23 billion.

The FHP is projected to cost the Province approximately \$44 billion over 29 years. However, if the Province funds the cost of the FHP through debt, this amount could increase to between \$68 and \$93 billion.

The Province's proposed accounting treatment of the electricity cost refinancing initiative results in no impact to the Province's annual surplus / deficit. However, if the Province's proposed accounting treatment does not meet public sector accounting standards, then the electricity cost refinancing initiative would result in \$26 billion in additional costs to the Province from 2017-18 to 2027-28 and \$26 billion in savings to the Province from 2028-29 to 2045-46.

Questions for Legislators

On the basis of the analysis presented in this report, Members of Provincial Parliament may wish to ask the Province the following questions to gain a better understanding of the proposed Fair Hydro Plan.

Issue and Importance	Questions
Accounting treatment uncertainty:	
Due to the complexity of the proposed financing transaction, the FAO recommends that Members of Provincial Parliament (MPPs) obtain assurance from the Office of the Auditor General of Ontario (OAGO) that the Province's proposed financing structure and accounting treatment for the electricity cost refinancing component of the FHP meet public sector accounting standards and will not impact the Province's annual surplus / deficit and net debt.	Has the Province reviewed its proposed accounting treatment for the electricity cost refinancing initiative with the OAGO?

5 Appendices

Appendix A: Ratepayer Bill Projection

Prior to the introduction of the HST Rebate and the proposed FHP, the “average” eligible electricity ratepayer had a monthly bill of \$164.¹⁹ Table 5-1 outlines what the average ratepayer’s 2017 bill will look like after the implementation of the FHP.

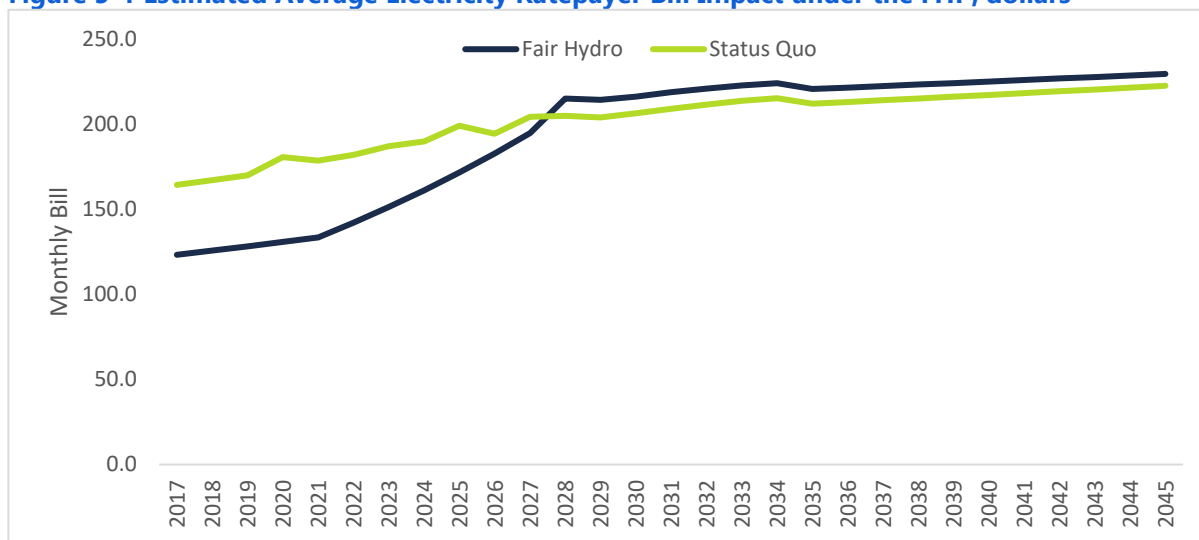
Table 5-1: FHP Impact on 2017 Monthly Bill

Category	Pre-FHP Bill	FHP Impact	Post FHP Bill	Explanation
Electricity	\$85.0	-\$16	\$59.4	Impact of electricity cost refinancing
Delivery	\$54.7	0	\$54.7	No change
Wholesale Market Charge	\$5.7	-\$2.4	\$3.3	Removal of RRRP and OESP from ratepayer bills
Tax	\$18.9	-\$13	\$5.9	Impact of HST rebate
Total	\$164.3	-\$41	\$123.3	25% reduction

Source: FAO analysis of Provincial information

The impact on the typical electricity ratepayer bill over the life of the FHP can be seen in Figure 5-1. The FHP will reduce eligible ratepayer bills, on average, by 25% with increases capped at inflation for four years. After 2021, average eligible ratepayer bills are estimated to increase by 6.5% per year to \$215 when the repayment of the electricity cost refinancing begins in 2028. From 2028 until 2045, the repayment of electricity cost refinancing will add approximately \$20/month to the average eligible ratepayer bill. Bills are projected to be an average of 4% higher under the FHP than the status quo despite the HST rebate. Note: the actual impact on individual ratepayers will depend on how much electricity they consume.

Figure 5-1 Estimated Average Electricity Ratepayer Bill Impact under the FHP, dollars



Source: FAO analysis of Provincial information

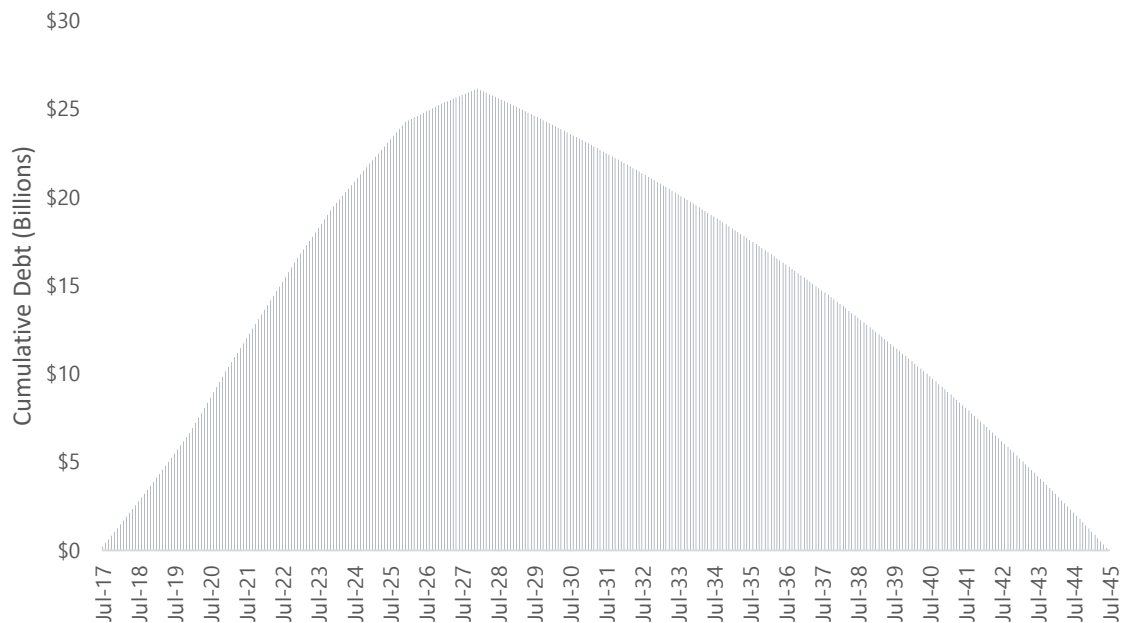
¹⁹ According to the IESO, 750 kWh per month is typical household consumption. Source: 2016 Ontario Planning Outlook

Appendix B: Electricity Cost Refinancing

Refinancing Plan

Under the Province's assumption of a 5% interest rate, total debt would peak in 2027 at \$26.2 billion (Figure 5-2). The \$26.2 billion balance would then be amortized and repaid by eligible ratepayers from 2028-2045 in monthly payments that total \$2.2 billion annually.

Figure 5-2 Refinancing Balance, billions of dollars



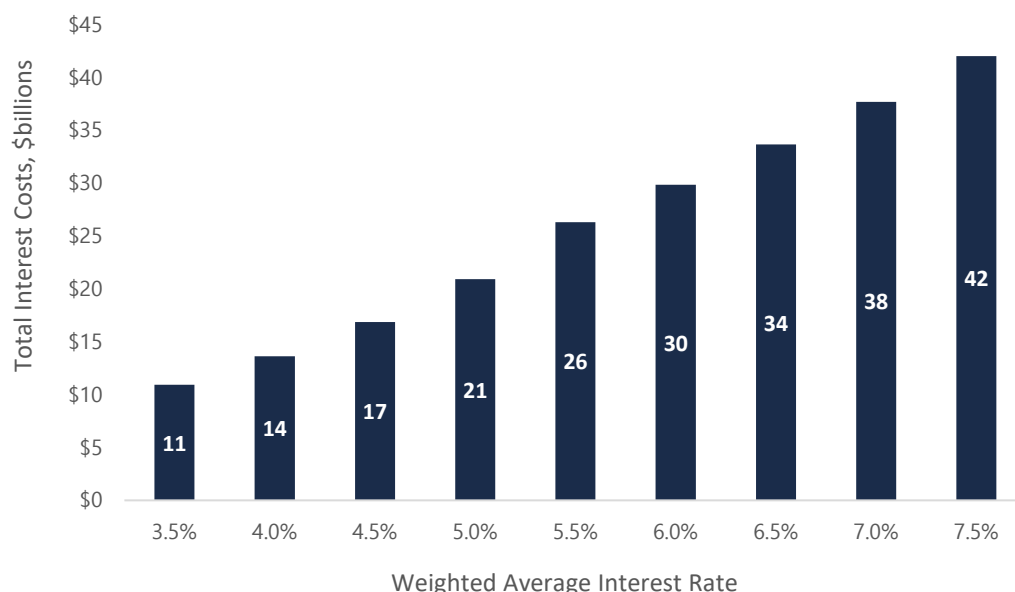
Source: FAO analysis of Provincial information

Interest Rate Sensitivity

The FAO assumes that total debt issued to finance the electricity cost refinancing has a weighted average interest rate of 5%. For example, the FAO assumes that Ontario Power Generation will finance 55% of the electricity cost refinancing, while the Province will finance the remaining 45%. The FAO assumes interest rates of 6.2% and 3.5% for OPG and Provincial debt, respectively.

Assuming a weighted average interest rate of 5%, the FAO estimates that the electricity cost refinancing results in total interest costs to eligible ratepayers of about \$21 billion.²⁰ Figure 7-3 shows the FAO's estimate of interest costs to eligible ratepayers under different interest rate scenarios. The estimates are based on the assumption that the repayment term will not extend beyond 20 years.

²⁰ See Appendix C for details on the financing structure.

Figure 5-3 FAO Estimate of Impact of Changes in Interest Rate on Electricity Refinancing Cost, billions of dollars

Source: FAO analysis of Provincial information

If the weighted average interest rate increases from 5% to 6%, then the FAO estimates that ratepayers would pay an additional \$9 billion in interest expense related to the electricity cost refinancing. If the weighted average interest rate decreased to 4%, then the FAO estimates that ratepayers would pay \$7 billion less in interest expense. If the Province financed the entire electricity cost refinancing, as opposed to only 45%, the FAO estimates that ratepayers would save about \$10 billion in interest expense, because the interest rate on Provincial debt is lower than the interest rate on OPG's debt.

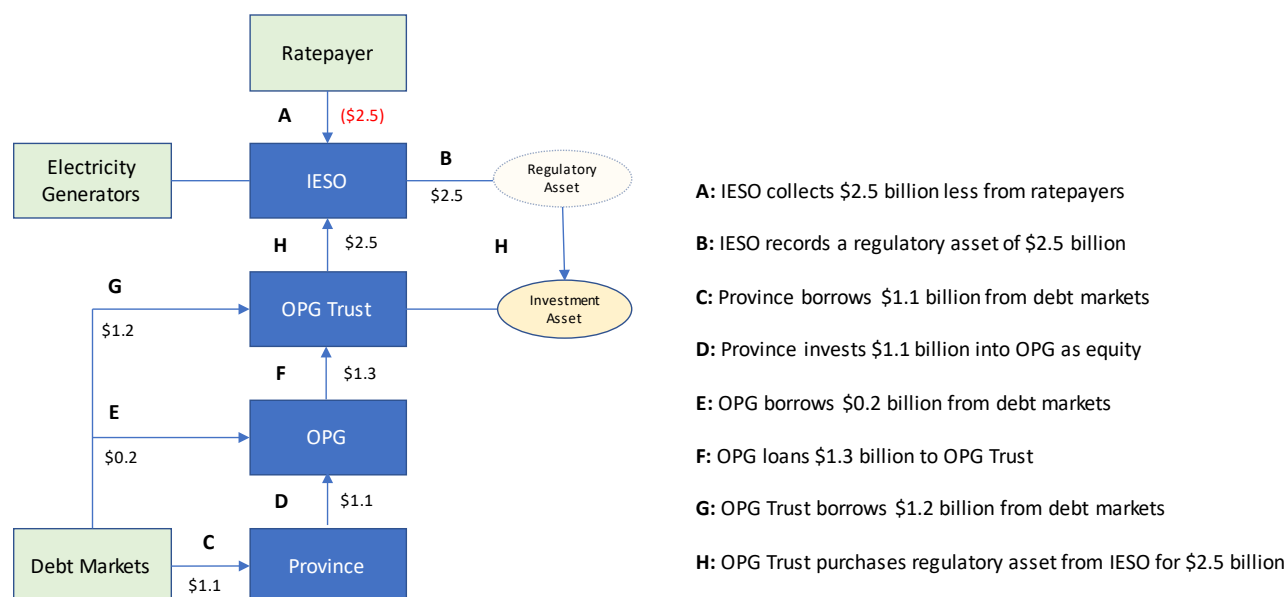
Appendix C: Accounting Treatment Analysis

Financing Structure²¹

The Province is proposing that it will finance about 45% of the electricity cost refinancing, while Ontario Power Generation (OPG) will finance the remaining 55%. The Province will issue debt to finance its portion, and then invest this amount into OPG. Then, OPG will take the funding provided by the Province and loan it to a newly created trust (OPG Trust), which will be consolidated within OPG. The OPG Trust will then issue debt to finance OPG's portion of the electricity cost refinancing. Finally, the OPG Trust will purchase the regulatory asset from the Independent Electricity System Operator (IESO). This purchase converts the regulatory asset into an investment asset.²² Figure 5-4 summarizes the proposed financing structure. It illustrates how the \$2.5 billion in average annual electricity costs over the first 10 years of the FHP will be financed by the Province and its consolidated entities.

²¹ Based on FAO analysis of information provided by the Province.

²² See section 28(1) of the proposed Bill 132, the *Fair Hydro Act, 2017*.

Figure 5-4 Proposed Financing Structure for \$2.5 billion in Electricity Cost Refinancing

Source: FAO analysis of Provincial information

Regulatory / Investment Asset

The FAO is uncertain as to whether the creation and recording of the regulatory / investment asset, as proposed under the electricity cost refinancing initiative, is consistent with Canadian public-sector accounting standards.

For example, regulatory assets are permitted under U.S. Generally Accepted Accounting Principles (US GAAP). However, the IESO prepares its financial statements in accordance with Canadian public-sector accounting standards, which do not permit regulatory assets.

OPG provides an example of how regulatory assets are created and reported on balance sheets in Ontario. OPG prepares its financial statements in accordance with U.S. GAAP and notes in its financial statements that:

US GAAP recognizes that rate regulation can create economic benefits and obligations that are required by the regulator to be obtained from, or settled with, the customers. When the Company assesses that there is sufficient assurance that incurred costs in respect of the regulated facilities will be recovered in the future, those costs are deferred and reported as a regulatory asset.²³

The *Ontario Energy Board Act, 1998* and *Ontario Regulation 53/05* provide that OPG receives regulated prices for electricity generated from the Sir Adam Beck 1, 2 and Pump hydroelectric generating stations, the DeCew Falls 1 and 2 hydroelectric generating stations, the R.H. Saunders Hydroelectric GS, the 48 hydroelectric generating stations prescribed for rate regulation effective in 2014, and the Pickering and Darlington nuclear generating stations (collectively, prescribed facilities or regulated facilities). OPG's regulated prices for these facilities are determined by the Ontario Energy Board (OEB).²⁴

In other words, OPG is allowed to record regulatory assets on its balance sheet if it incurs costs that are related to a prescribed list of its electricity generation assets. Further, OPG expects these costs to be recovered in the future, because the price it receives for electricity generation is regulated by the Ontario Energy Board (OEB). Lastly, OPG can record the regulatory asset because it prepares its financial statements in accordance with U.S. GAAP.

²³ Ontario Power Generation's financial statements, 2016, page 12

²⁴ Ontario Power Generation's financial statements, 2016, page 12

Overall, US GAAP recognizes that in certain circumstances, the actions of a rate regulator can create economic rights or obligations of the entity that should be recognized in the financial statements as assets and liabilities.

The following conditions apply:

1. Rates that bind customers are established by an independent, third party regulator or governing board.
2. Rates are designed to recover the entity's cost of providing the regulated services or products.
3. It is reasonable to assume that rates are set at levels that can be charged to and collected from customers.²⁵

Both the IESO and OPG are entities that are regulated by the OEB, and it is reasonable to assume that the electricity cost refinancing will be collected from ratepayers in the future. However, the FAO is primarily concerned with the Province's proposal as it relates to the second condition to record a regulatory asset; rates are designed to recover the entity's cost of providing the regulated services or products.

For example, which services or products is the electricity cost refinancing related to? In principle, the electricity refinancing costs are related to the costs of generating electricity in Ontario. However, there are many different electricity generators in Ontario that contribute to the final cost that is paid by ratepayers. For example, OPG accounts for roughly half of electricity supply in Ontario.

In this sense, the electricity cost refinancing is related to a wide variety of electricity generation assets, half of which are outside of OPG's ownership (and prescribed list of generating facilities). Further, non-OPG electricity generators do not receive regulated prices from the OEB, so they may not record regulatory assets on their balance sheets. Overall, the FAO is concerned with the Province's proposal, because the electricity cost refinancing is not wholly related to either the IESO or OPG's asset bases.

Alternatively, an argument can be made that the electricity cost refinancing is not related to the cost of generating electricity in Ontario. This is because the Province has indicated that the contracts that generators have with the IESO will not be changed, which dictate how much money generators will receive for their electricity production. Further, this implies that the price that electricity ratepayers pay for electricity generation does not change.

In this sense, the costs of the Province's proposal are more like direct financing costs, as opposed to electricity generation costs. However, direct financing is not a regulated service or product.

In summary, the FAO has identified the following uncertainties related to the Province's proposed accounting treatment and financing structure of the electricity cost refinancing:

1. The IESO prepares its financial statements in accordance with Canadian public-sector accounting standards, which do not permit the recording of regulatory assets on its balance sheet.
2. The electricity refinancing costs are not related to the services or products that the IESO provides, and only partially related to the services or products that OPG provides.
3. Direct financing costs, without a regulated asset base, are not permitted to be capitalized as regulatory assets under US GAAP.

Nevertheless, as Figure 5-4 illustrates, the Province is proposing that the regulatory asset will ultimately be recorded on OPG's balance sheet as an investment asset through the established trust. Due to the complexity of the proposed financing transaction, the FAO recommends that Members of Provincial Parliament (MPPs) obtain assurance from the OAGO that the Province's proposed financing structure and accounting treatment for the electricity cost refinancing meet public sector accounting standards.

²⁵ Rate-regulated Activities: Accounting under U.S. GAAP, T. Linsmeier, December, 2014: <http://www.ifrs.org/Meetings/MeetingDocs/ASAF/2014/December/05A-RRR-FASB.pdf>.

Appendix D: Development of this Report

Authority

The Financial Accountability Officer decided to undertake the analysis presented in this report under section 10(1)(b) of the *Financial Accountability Officer Act, 2013*.

Key Questions

The following key questions were used as a guide while undertaking research for this report:

- What is the financial impact over 30 years to electricity ratepayers of the Fair Hydro Plan (FHP)?
- What is the financial (fiscal) impact over 30 years to the Province of the FHP?
 - o How will the Province's income statement, including surplus and/or deficit, be affected?
 - o How will the Province's balance sheet (assets, liabilities and net debt) be affected?
- What is the financial impact of using Ontario Power Generation to conduct financing operations rather than the Ontario Electricity Financial Corporation?

Methodology

This report has been prepared with the benefit of information provided by the Province, meetings with staff from the Ministry of Energy, the Ontario Financing Authority and the Ministry of Finance, a review of the proposed Bill 132, the *Fair Hydro Act, 2017*, a review of relevant literature, as well as other publicly available information. Specific sources are referenced throughout.

This report reviews the FAO's estimate of the fiscal impact of the Province's FHP on the Province and electricity ratepayers. The FAO's estimates are subject to many assumptions and uncertainties, which are referenced throughout the report. As such, the actual fiscal impact of the FHP may differ significantly from the FAO's estimates.

All dollar amounts are in Canadian, current dollars (i.e. not adjusted for inflation) unless otherwise noted.

RE_ FAO Draft Report_ _An Assessment of the Fis....pdf

From: [Schlaepfer, Martin \(ENERGY\)](#)
To: [Christie, Tim \(ENERGY\)](#); [Feather, Adam \(ENERGY\)](#)
Cc: [Cox, Hilary \(ENERGY\)](#); [Calwell, Carolyn \(ENERGY/MEDEI/MRI\)](#); [Sermat-Harding, Kaili \(ENERGY\)](#)
Subject: RE: FAO Draft Report: "An Assessment of the Fiscal Impact of the Province's Fair Hydro Plan"
Date: May 15, 2017 4:33:41 PM
Attachments: [FA1710 DFR Comment Tracking Form 2017 05 12 ESP CRED.DOCX](#)
[FA1710 Combined DFR - V14 Ministry Review.docx](#)
[image001.png](#)

Thanks, Tim.

Adam, can you please integrate SNAP's comments into the attached so we have a consolidated version. We need this for **EOD today**.

Thanks,
Martin

From: Christie, Tim (ENERGY)
Sent: May 15, 2017 4:25 PM
To: Schlaepfer, Martin (ENERGY)
Cc: Cox, Hilary (ENERGY); Calwell, Carolyn (ENERGY/MEDEI/MRI); Sermat-Harding, Kaili (ENERGY)
Subject: RE: FAO Draft Report: "An Assessment of the Fiscal Impact of the Province's Fair Hydro Plan"

Martin, attached are our comments on the FAO report, including one comment from CRED. I understand that SNAP will be forwarding their comments separately.

Tim

From: Hume, Steen (ENERGY)
Sent: May-12-17 4:45 PM
To: Schlaepfer, Martin (ENERGY)
Cc: Cox, Hilary (ENERGY); Christie, Tim (ENERGY); Calwell, Carolyn (ENERGY/MEDEI/MRI); Reid, Michael (ENERGY); Nelms, Scott (MOF); Sermat-Harding, Kaili (ENERGY); Schuurman, Tim (MOF)
Subject: FAO Draft Report: "An Assessment of the Fiscal Impact of the Province's Fair Hydro Plan"

Hi. Martin: Please find attached the FAO's report re OFHP. ESPD will coordinate comments from other divisions.

Ministry response is request by 2:00 pm on **Tuesday May 16, 2017**.

Thanks, Steen

From: Jeffrey Novak [<mailto:jnovak@fao-on.org>]
Sent: May-12-17 4:17 PM
To: Hume, Steen (ENERGY); Schuurman, Tim (MOF)
Cc: Matt Gurnham; Matthew Stephenson
Subject: FAO Draft Report: "An Assessment of the Fiscal Impact of the Province's Fair Hydro Plan"

Dear Steen and Tim,

In a couple of minutes, I'll transmit to you by secure e-mail the draft FAO report "An Assessment of the Fiscal Impact of the Province's Fair Hydro Plan" for review by your ministries. In order to meet our timelines we would like to receive a response to our review request by **2:00 pm on Tuesday May 16th**. Attached to the upcoming e-mail will be a letter with further explanation of this request.

Please treat this report as confidential, and do not share outside of the public service within the Ministries of Energy and Finance.

Please do not hesitate to contact me should you have any questions.

Kind regards,

Jeffrey Novak
Acting Chief Financial Analyst



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FA1710 DFR Comment Tracking Form 2017 05 12 E_1.pdf

Comment Tracking Form

Deliverable under review	Draft Final Report
Reviewing entity	Ministries of Energy and Finance
Date	May 12, 2017
Project Name	An Assessment of the Fiscal Impact of the Province's Fair Hydro Plan
FAO Reference	FA1710

General Comments	
Comment made by (person)	Comment
Tim Christie	Suggest changing "Electricity Cost Refinancing" to "Global Adjustment Refinancing" throughout the document so that it is clear to readers what costs are being refinanced. For example, "electricity cost" and "cost of electricity" are used often, at times in the same sentence as "electricity cost refinancing". Consider using "GA refinancing" to differentiate the initiative and the total electricity system costs.
Tim Christie	Recommend making it clear throughout the report whether values and corresponding figures are in real or nominal dollars.
Tim Christie	Recommend using net present values where appropriate. "Electricity cost refinancing" has a cost of \$21 billion (presumably in real dollars), but would be substantially lower (or even a benefit) in net present value depending on discount rate.
Tim Christie	FAO document seems to assume GA refinancing will end by 2045. Legislation proposes 2047 as the end date.

Specific Comments		
Report Section	Comment made by (person)	Comment
Section 1 – pg. 2	Tim Christie	Recommend the following edit: “a rebate to residential ratepayers ~~of~~ equivalent to the 8% provincial portion of the HST...”
Section 2 – pg. 3	Tim Christie	Figure 2-1: Suggest clarifying whether the values are before or after tax.
Section 2 – pg. 5	Tim Christie	Unsure of the value of this chart as it may be confused with 2-1. It appears one is real and one in nominal.
Section 2 – pg. 5	Tim Christie	Paragraph beginning with “Cost of providing electricity to eligible ratepayers”: Increases in generation cost could lead to a reduction in GA costs if the increased costs (e.g. fuel costs) are reflected in a higher HOEP. This would leave the refinancing proposal largely unaffected.
Section 2 – pg. 5	Tim Christie	While increasing demand was raised as a factor that could impact refinancing, the inverse is also true (i.e., the impact of decreasing demand). Additionally, increasing demand in the longer-term would decrease the average cost of repayment for eligible ratepayers.
Section 2 – pg. 6	Tim Christie	Relief Programs savings should extend indefinitely.
Page 6 (Figure 2-3)	Usman Syed	Estimated annual cost of relief programs to taxpayers is shown in Figure 2-3(e.g. ~\$0.45 Billion in year 1). However, the first values listed in the graph are for FY 2017-18. For comprehensiveness, the graph should show the \$100 M for the Affordability Fund in FY 2016-17. ENERGY provided information to the FAO in late March/early April (Excel attached) which identified A-Fund as a one-time cost from tax in FY 2016/17, pending a future request(s) for additional funding by the Ministry.
Section 3 – pg. 8	Tim Christie	The “obligation for ratepayers to repay the Province” is due to debtholders, including entities other than the province.
Section 5 – pg. 10	Tim Christie	It may be useful to indicate how much is being consumed for this monthly bill estimate. Is it based on 750 kWh per month?

Section 5 – pg. 10	Tim Christie	Regarding Table 5-1, the reduction of \$13 related to the tax line appears to be overstated. Both the 8% rebate and the 13% HST are applied on the amount before tax.
Section 5 – pg. 10	Tim Christie	Regarding Table 5-1, the impact of GA refinancing on the electricity line appears to be understated given that the reduction in the tax line is overstated.
Section 5 – pg. 10	Tim Christie	Regarding Table 5-1: The cost of RRRP and OESP are part of the regulatory line on a bill. Wholesale market service charges are a subset of the regulatory line.
Appendix B – p 11	Tim Christie	Interest rate assumption for OPG debt is too high. The spread between provincial and OPG debt will be less than the 270 basis points used in the analysis.

FA1710 Combined DFR - V14 Ministry Review_1.pdf



An Assessment of the Fiscal Impact of the Province's Fair Hydro Plan

Draft Final Report

May 12, 2017

Confidential Document

This document is confidential. It should not be shown or otherwise transmitted to anyone other than those who have been asked by the Financial Accountability Office of Ontario to provide comments.

Spring 2017

About this Document

Established by the *Financial Accountability Officer Act, 2013*, the Financial Accountability Office (FAO) provides independent analysis on the state of the Province's finances, trends in the provincial economy and related matters important to the Legislative Assembly of Ontario.

The FAO produces independent analysis on the initiative of the Financial Accountability Officer. Upon request from a member or committee of the Assembly, the Officer may also direct the FAO to undertake research to estimate the financial costs or financial benefits to the Province of any bill or proposal under the jurisdiction of the legislature.

This report was prepared on the initiative of the Officer in response to a request from a member of the Assembly. In keeping with the FAO's mandate to provide the Legislative Assembly of Ontario with independent economic and financial analysis, this report makes no recommendations.

This analysis was prepared by Matt Gurnham and Matthew Stephenson under the direction of Peter Harrison and Jeffrey Novak.



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Table of Abbreviations

Abbreviation	Long-Form
FAO	Financial Accountability Office
FHP	Fair Hydro Plan
GAAP	Generally Accepted Accounting Principles
HST	Harmonized Sales Tax
IESO	Independent Electricity System Operator
MPP	Members of Provincial Parliament
OAGO	Office of the Auditor General of Ontario
OEB	Ontario Energy Board
OESP	Ontario Electricity Support Program
OPG	Ontario Power Generation
RRRP	Rural or Remote Ratepayer Program

1 Introduction

On March 2, 2017, the Government of Ontario (the Province) announced its “Fair Hydro Plan” (FHP), a proposal to reduce electricity bills for all residential customers by an average of 25%, starting in the summer of 2017, and to limit the increase in electricity rates to the rate of inflation over the next four years.¹ The Province’s FHP also proposes additional assistance for eligible rural and low income ratepayers beyond the promised 25% electricity bill reduction.

The FHP includes the following initiatives:

- **Harmonized Sales Tax (HST) Rebate:** a rebate to residential ratepayers of the 8% provincial portion of the HST on electricity bills.
- **Electricity Cost Refinancing:** the Province is proposing to borrow an average of \$2.5 billion per year through 2027 to pay a portion of electricity generation costs, thereby temporarily reducing the cost of electricity for residential ratepayers. The Province would recover the borrowed funds, including interest, from ratepayers over an estimated 17-year period starting in 2028.
- **Adjusting Electricity Relief Programs:** currently the cost of the Rural or Remote Ratepayer Program (RRRP)² and Ontario Electricity Support Program (OESP)³ is recovered from all electricity ratepayers through the cost of electricity. The Province is proposing to take the cost of these programs from electricity bills and to transfer the cost to the Province. In addition, the Province plans to expand the support provided by the RRRP and OESP programs as well as establish a new First Nations On-Reserve Delivery Credit and Affordability Fund, all of which is to be funded by the Province.

This report reviews the fiscal impact of the proposed FHP, including the expected cost to the Province and the financial impact to electricity ratepayers.

Appendix D provides more information on the development of this report.

¹ See the news release “Ontario Cutting Electricity Bills by 25 Per Cent,” March 2, 2017, accessed on May 5, 2017: <https://news.ontario.ca/opo/en/2017/03/ontario-cutting-electricity-bills-by-25-per-cent.html>.

² The RRRP provides a rate subsidy to approximately 350,000 rural residential electricity ratepayers.

³ The OESP is an income-tested, application based program that provides a rate subsidy to eligible electricity ratepayer households.

2 Fiscal Impact of the FHP

The Financial Accountability Office (FAO) estimates that the FHP will cost the Province approximately \$44 billion over 29 years while providing overall savings to electricity ratepayers of \$23 billion. This results in a net cost of \$21 billion.

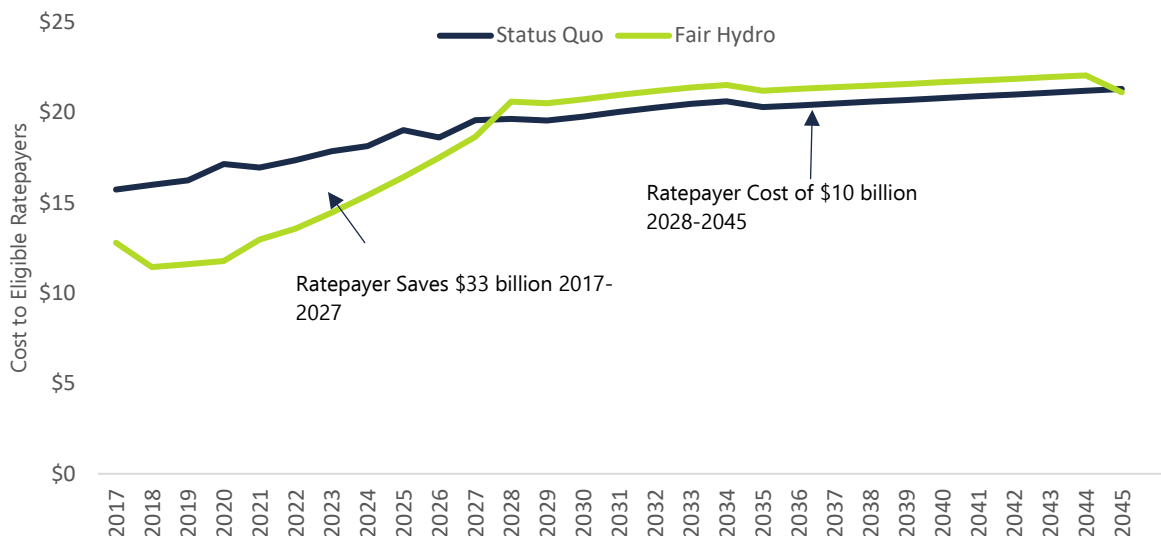
Impact on Eligible Ratepayers

The FAO estimates that the FHP will reduce costs for eligible electricity ratepayers⁴ by a total of \$23 billion from 2017 to 2045. The savings estimate of \$23 billion over 29 years is made up of the following components:

- HST Rebate: savings of \$41 billion.⁵
- Electricity Cost Refinancing: cost of \$21 billion.⁶
- Adjusting Electricity Relief Programs: savings of \$3 billion.⁷

Figure 2-1 shows the impact of the FHP on eligible ratepayer electricity costs against a status quo scenario (i.e. the FHP is not implemented). From 2017 to 2027, electricity costs are projected to be lower under the FHP compared to the status quo (for a total savings of \$33 billion), while after 2027 electricity costs are projected to be higher under the FHP compared to the status quo (for a total cost of \$10 billion). This results in net savings of \$23 billion over 29 years.

Figure 2-1 Impact of the FHP on Eligible Ratepayer Electricity Costs, billions of dollars



Source: FAO analysis of Provincial information.

The impact of the FHP on the average eligible ratepayer can be broken down into three distinct sub-periods:

⁴ "Eligible electricity ratepayers" are all Regulated Price Plan eligible customers which includes all households as well as over 500,000 small businesses and farms. The Province estimates that eligible electricity ratepayers comprise over 90% of electricity ratepayers in Ontario and represent about half of Ontario's electricity demand.

⁵ The FAO assumes that the HST Rebate will continue indefinitely. HST rebate reduces bills by 8% of the pre-tax amount.

⁶ See below for more analysis on the cost of this component of the FHP.

⁷ The FAO is forecasting the cost of the electricity relief programs based on the Province's announced commitments regarding the FHP and information provided by the Province to the FAO. As such, the FAO does not forecast the costs of the electricity relief programs beyond the year 2020-21. However, there is uncertainty with this assumption because (a) the electricity relief programs may continue after the year 2020-21 and (b) the Province may cease to fund the cost of these programs after the year 2020-21. Overall, the FAO estimates that the \$21 billion in net costs of the FHP would not change should the electricity relief programs continue beyond the year 2020-21. This is because the incremental savings to ratepayers would be exactly offset by costs to the Province.

Table 2-1 Breakdown of FAO Estimate of FHP Impact on Eligible Ratepayers

Time Period	Province's FHP Proposal	FAO's Analysis of FHP	Description
2017-2021	Reduce bills by 25% Cap bill increases at rate of inflation for 4 years Province funds and expands assistance for rural and low income ratepayers	Average bill will be reduced by 25% Bill increases will be capped at rate of inflation for four years	Savings to ratepayers of \$17.8 billion achieved as follows: HST Rebate - \$4.1 billion Electricity Cost Refinancing - \$10.7 billion Adjusting Electricity Relief Programs - \$3 billion
2021-2027	Continue Electricity Cost Refinancing	Bills to remain lower than status quo due to refinancing and HST rebate Bills projected to increase by 6.5% annually as financing costs accumulate	Savings to ratepayers of \$15.1 billion achieved as follows: HST Rebate - \$7.3 billion Electricity Cost Refinancing - \$7.8 billion
2028-2045	Ratepayer repays refinancing	Bills will be higher than status quo despite HST rebate	Net cost to ratepayers of \$10 billion as follows: Electricity Cost Refinancing – cost of \$39 billion HST Rebate – savings of \$29 billion

Source: FAO analysis of Provincial information.

See Appendix A for a more detailed analysis of the impact of the FHP on ratepayer bills.

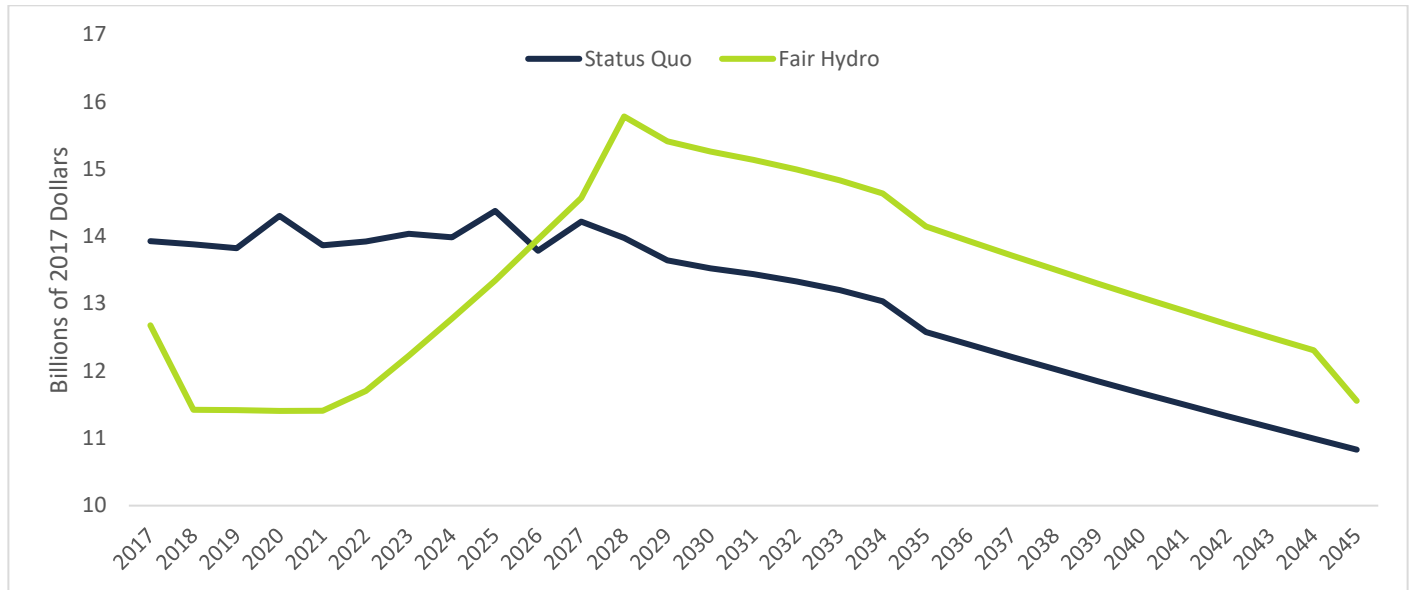
Key Considerations

The HST rebate and adjusting the electricity relief programs will transfer costs from ratepayers to the Province and have no net impact on the cost of electricity. However, the proposed electricity cost refinancing will increase the cost of electricity due to the interest on borrowed funds.

The majority of the savings to eligible electricity ratepayers from 2017 to 2027 will be accomplished by the electricity cost refinancing initiative. The Province plans to borrow an average of \$2.5 billion annually to pay a portion of the cost of electricity generation thereby lowering the price paid by ratepayers. The FAO estimates that a total of \$18.4 billion of electricity costs and \$7.8 billion of accumulated interest will be financed through 2027. The ratepayer will repay \$39.4 billion (\$18.4 billion of electricity costs, \$21 billion of interest) from 2028 to 2045.⁸ The reason for the high cost of interest relative to the amount of electricity costs financed is that the ratepayer does not begin repayment until 10-years after borrowing commences.

Figure 2-2 outlines the impact of the electricity cost refinancing by showing the cost to eligible electricity ratepayers on a real pre-tax basis, removing the impact of the HST rebate and electricity relief programs.

⁸ See Appendix B for more details on the refinancing.

Figure 2-2 Impact of Electricity Cost Refinancing on Real Electricity Costs

Source: FAO analysis of Provincial information

Under the status quo, real electricity costs are forecast to remain close to 2017 levels until 2027 and then decline over the following 17 years. The Province's proposed electricity cost refinancing initiative reduces ratepayer costs until 2026 by deferring \$18 billion of electricity costs. Starting in 2026, real pre-tax electricity costs are forecast to be higher under the FHP than the status quo. Real pre-tax costs under the FHP will remain higher than the status quo as the electricity ratepayers repays \$18 billion of deferred electricity costs and \$21 billion of interest.

Risks to the Electricity Cost Refinancing Initiative

The FAO has identified two key risks which could impact the electricity cost refinancing initiative.

- Cost of providing electricity to eligible ratepayers** – The amount of refinancing required to deliver the committed bill reductions to ratepayers from 2017 to 2021 depends on the total cost of generating and delivering electricity to eligible ratepayers. There is potential, for example, that eligible ratepayer demand increases as a result of the reduction in electricity prices or that costs to generate / deliver electricity are higher than expected. Increases in demand or generation costs would increase borrowing requirements to achieve the stated cost reductions, thus increasing the interest paid by eligible ratepayers during the repayment period.
- Interest rate assumptions** – Changes in the interest rate on funds borrowed to refinance electricity costs significantly impact the interest cost paid by ratepayers. Appendix B contains analysis of the impact of different interest rates on ratepayers.

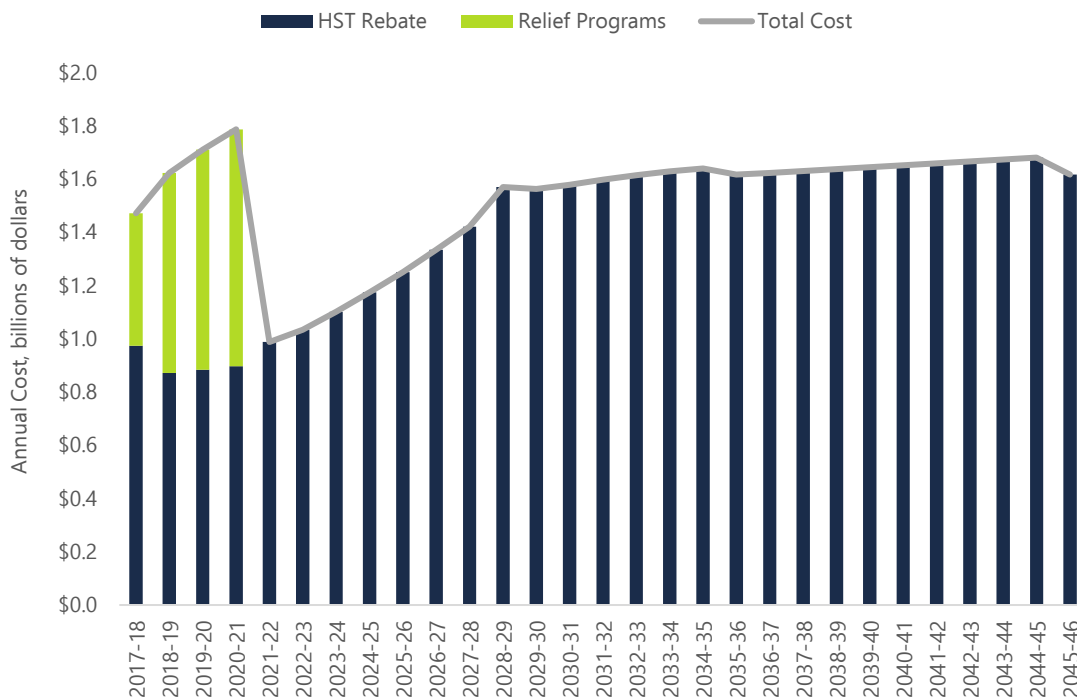
Impact on Provincial Finances

The FAO estimates that the FHP will cost the Province approximately \$44 billion over 29 years. The cost estimate is made up of the following two components:⁹

- HST Rebate: cost of \$41 billion.
- Adjusting Electricity Relief Programs: cost of \$3 billion.¹⁰

Figure 2-3 summarizes the FAO's estimate of the annual cost¹¹ of the FHP through to 2045-46. The FAO estimates the cost of the FHP to the Province will peak at \$1.8 billion in 2020-21, after which the FAO assumes that the electricity relief programs will no longer be funded by the Province. The HST Rebate is forecast to cost \$1 billion in 2021-22, rising rapidly to \$1.6 billion by 2028-29,¹²

Figure 2-3 FAO's Estimated Annual Cost of the FHP to the Province, 2017-18 to 2045-46, billions of dollars



Note: Provincial funding for electricity relief programs ends after 2020-21 based on the Province's announced commitments regarding the FHP and information provided by the Province to the FAO.

Source: FAO analysis of Provincial information.

⁹ The Province's FHP assumes that electricity cost refinancing would not impact net debt or the annual surplus / deficit. Please see chapter 5 for more details.

¹⁰ The FAO is forecasting the cost of the electricity relief programs based on the Province's announced commitments regarding the FHP and information provided by the Province to the FAO. As such, the FAO does not forecast the costs of the electricity relief programs beyond the year 2020-21. However, there is uncertainty with this assumption because (a) the electricity relief programs may continue after the year 2020-21 and (b) the Province may cease to fund the cost of these programs after the year 2020-21. Overall, the FAO estimates that the \$21 billion in net costs of the FHP would not change should the electricity relief programs continue beyond the year 2020-21. This is because the incremental savings to ratepayers would be exactly offset by costs to the Province.

¹¹ Annual cost defined as the impact to the Province's annual surplus / deficit.

¹² The rapid increase in the cost of the HST Rebate from 2021-22 to 2028-29 results from the increase in electricity cost over the corresponding time period. See Figure 2-1.

Key Considerations

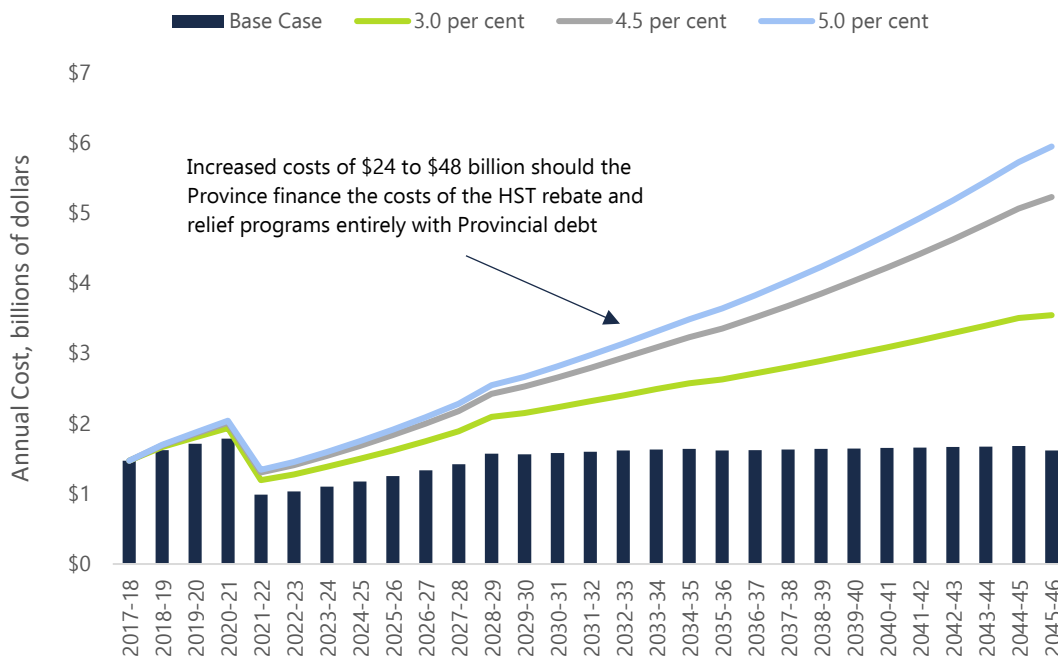
Electricity Cost Refinancing Accounting Treatment

As proposed by the Province, the electricity cost refinancing component of the FHP would not impact the annual surplus / deficit or net debt of the Province. However, gross debt would increase by \$26 billion by 2027-28, before being completely retired by 2045-46.¹³ Please see chapter 3 for more details.

Funding the Provincial FHP Cost

The FAO estimates that the FHP will cost the Province approximately \$44 billion over 29 years. However, this amount could increase if the Province funds the cost of the FHP (i.e. the HST Rebate and the electricity relief programs) through debt. For example, if the Province funds the HST rebate and electricity relief programs by borrowing over the 29-year period, it could increase costs by \$24 to \$48 billion, assuming an effective cost of borrowing between 3.0% and 5.0%. This could bring the total Provincial cost of the FHP to between \$68 and \$93 billion (Figure 2-4).

Figure 2-4 FAO's Estimated Annual Cost of the FHP to the Province, 2017-18 to 2045-46, billions of dollars



Source: FAO analysis of Provincial information

In the 2017 Ontario Budget, the Province is calling for balanced budgets from 2017-18 to 2019-20, which include the costs of the FHP. However, in the FAO's Fall 2016 Economic and Fiscal Outlook, the FAO is projecting continued budget deficits over the forecast period.¹⁴ If the Province is unable to balance the budget, then the estimated cost of the FHP will be higher than \$44 billion, as the Province will need to borrow to fund the FHP.

¹³ Provincial gross debt would increase by about \$12 billion, while Ontario Power Generation would issue about \$14 billion in debt. Please see the appendix for more details on the proposed financing structure of the electricity cost refinancing.

¹⁴ See the FAO's Economic and Fiscal Outlook, Fall 2016.

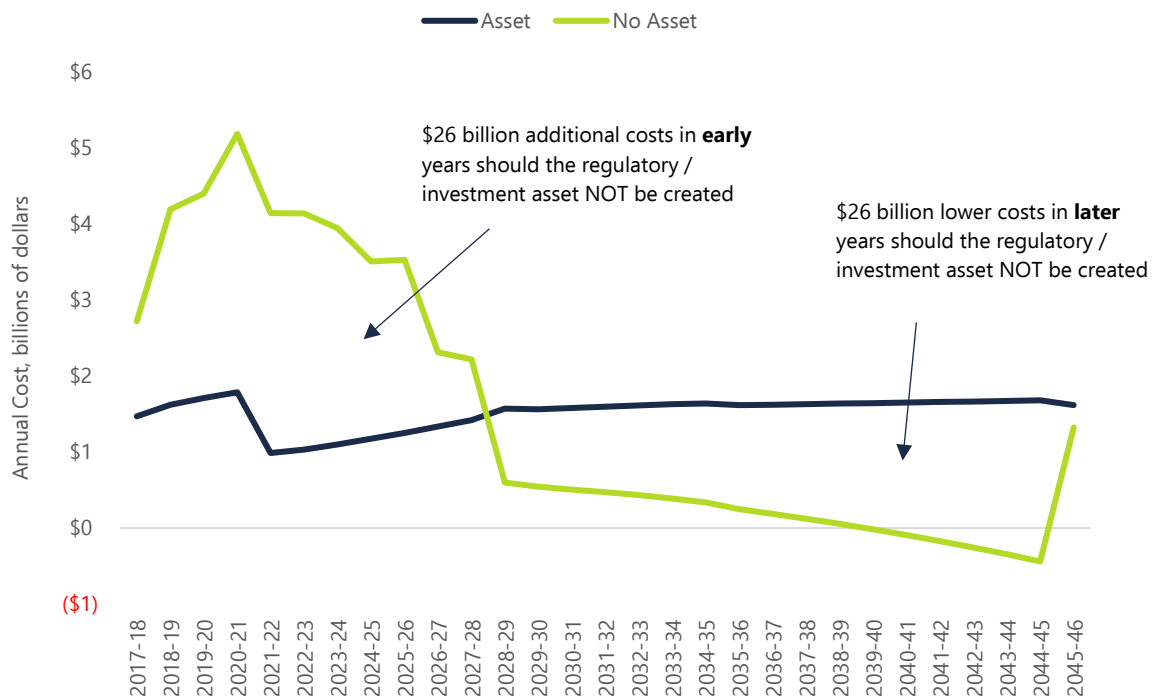
3 Accounting Treatment Uncertainty

The electricity cost refinancing component of the FHP involves a complicated accounting structure that will increase gross debt by approximately \$26 billion by 2027-28¹⁵, but does not impact the Province's net debt due to the creation of a regulatory / investment asset¹⁶ -- essentially an obligation for ratepayers to repay the Province approximately \$26 billion.¹⁷

Due to the complexity of the proposed financing transaction, the FAO recommends that Members of Provincial Parliament (MPPs) obtain assurance from the Office of the Auditor General of Ontario (OAGO) that the Province's proposed financing structure and accounting treatment for the electricity cost refinancing meet public sector accounting standards and will not impact the Province's annual surplus / deficit and net debt.¹⁸

If the creation of the regulatory / investment asset does not meet public sector accounting standards, then the electricity cost refinancing initiative would impact the Province's annual surplus / deficit over the 29-year period. In the absence of a regulatory / investment asset, the FAO estimates that costs to the Province would increase by an additional \$26 billion over the next 11 years but would decrease by the same amount over the following 18 years thereafter (Figure 3-1).

Figure 3-1: FAO's Estimated Annual Cost to the Province of the FHP Should the Regulatory / Investment Asset be Created or Not Created, 2017-18 to 2045-46, billions of dollars



Source: FAO analysis of Provincial information

¹⁵ Provincial gross debt would increase by about \$12 billion, while Ontario Power Generation would issue about \$14 billion in debt. Please see the appendix for more details on the proposed financing structure of the electricity cost refinancing.

¹⁶ Please see the appendix for more details on the proposed financing structure of the electricity cost refinancing.

¹⁷ This asset will be recorded on the financial statements of Ontario Power Generation, which will then increase the Province's asset value labelled, "investment in government business enterprises".

¹⁸ Please see the appendix for more information on the potential issues with the Province's proposed accounting treatment of the electricity cost refinancing.

4 Conclusion

The FAO estimates that the net cost of the Province's FHP to be \$21 billion over 29 years. However, the impact to the Province and eligible electricity ratepayers differs.

Eligible electricity ratepayers are projected to experience savings of \$33 billion from 2017 to 2027 and increased cost of \$10 billion from 2028 to 2045 for a net savings of \$23 billion.

The FHP is projected to cost the Province approximately \$44 billion over 29 years. However, if the Province funds the cost of the FHP through debt, this amount could increase to between \$68 and \$93 billion.

The Province's proposed accounting treatment of the electricity cost refinancing initiative results in no impact to the Province's annual surplus / deficit. However, if the Province's proposed accounting treatment does not meet public sector accounting standards, then the electricity cost refinancing initiative would result in \$26 billion in additional costs to the Province from 2017-18 to 2027-28 and \$26 billion in savings to the Province from 2028-29 to 2045-46.

Questions for Legislators

On the basis of the analysis presented in this report, Members of Provincial Parliament may wish to ask the Province the following questions to gain a better understanding of the proposed Fair Hydro Plan.

Issue and Importance	Questions
Accounting treatment uncertainty: Due to the complexity of the proposed financing transaction, the FAO recommends that Members of Provincial Parliament (MPPs) obtain assurance from the Office of the Auditor General of Ontario (OAGO) that the Province's proposed financing structure and accounting treatment for the electricity cost refinancing component of the FHP meet public sector accounting standards and will not impact the Province's annual surplus / deficit and net debt.	
	Has the Province reviewed its proposed accounting treatment for the electricity cost refinancing initiative with the OAGO?

5 Appendices

Appendix A: Ratepayer Bill Projection

Prior to the introduction of the HST Rebate and the proposed FHP, the “average” eligible electricity ratepayer had a monthly bill of \$164.¹⁹ Table 5-1 outlines what the average ratepayer’s 2017 bill will look like after the implementation of the FHP.

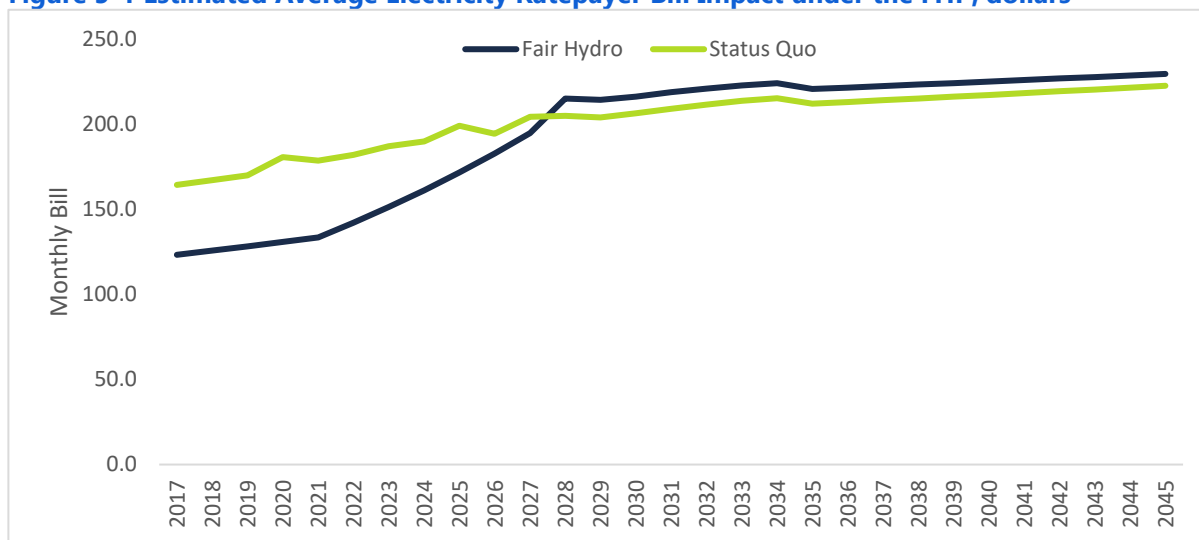
Table 5-1: FHP Impact on 2017 Monthly Bill

Category	Pre-FHP Bill	FHP Impact	Post FHP Bill	Explanation
Electricity	\$85.0	-\$16	\$59.4	Impact of electricity cost refinancing
Delivery	\$54.7	0	\$54.7	No change
Wholesale Market Charge	\$5.7	-\$2.4	\$3.3	Removal of RRRP and OESP from ratepayer bills
Tax	\$18.9	-\$13	\$5.9	Impact of HST rebate
Total	\$164.3	-\$41	\$123.3	25% reduction

Source: FAO analysis of Provincial information

The impact on the typical electricity ratepayer bill over the life of the FHP can be seen in Figure 5-1. The FHP will reduce eligible ratepayer bills, on average, by 25% with increases capped at inflation for four years. After 2021, average eligible ratepayer bills are estimated to increase by 6.5% per year to \$215 when the repayment of the electricity cost refinancing begins in 2028. From 2028 until 2045, the repayment of electricity cost refinancing will add approximately \$20/month to the average eligible ratepayer bill. Bills are projected to be an average of 4% higher under the FHP than the status quo despite the HST rebate. Note: the actual impact on individual ratepayers will depend on how much electricity they consume.

Figure 5-1 Estimated Average Electricity Ratepayer Bill Impact under the FHP, dollars



Source: FAO analysis of Provincial information

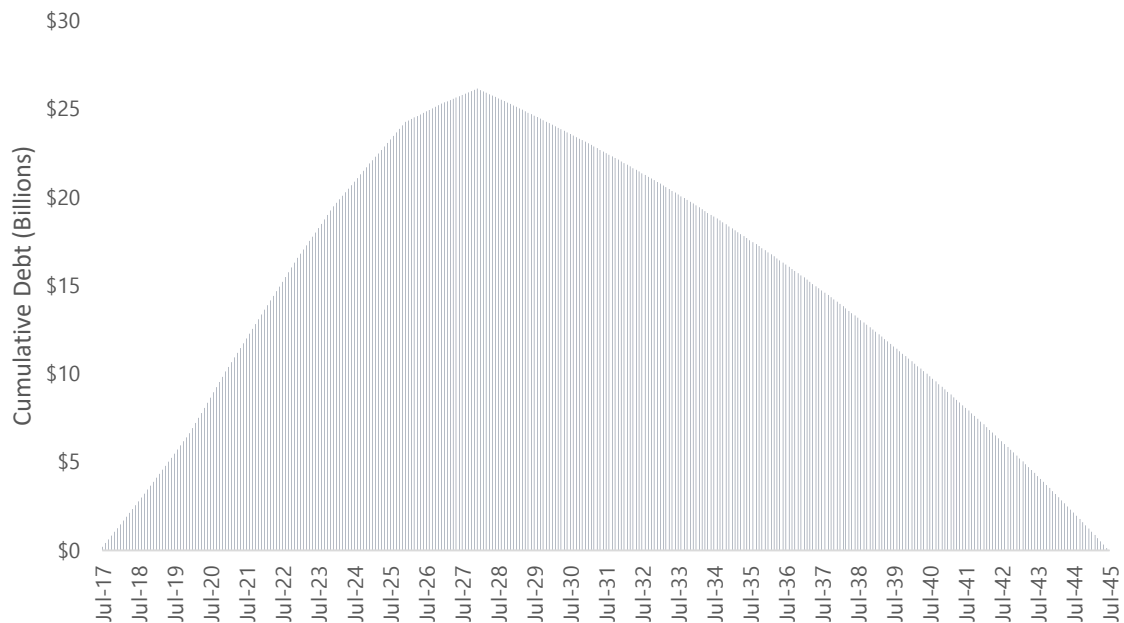
¹⁹ According to the IESO, 750 kWh per month is typical household consumption. Source: 2016 Ontario Planning Outlook

Appendix B: Electricity Cost Refinancing

Refinancing Plan

Under the Province's assumption of a 5% interest rate, total debt would peak in 2027 at \$26.2 billion (Figure 5-2). The \$26.2 billion balance would then be amortized and repaid by eligible ratepayers from 2028-2045 in monthly payments that total \$2.2 billion annually.

Figure 5-2 Refinancing Balance, billions of dollars



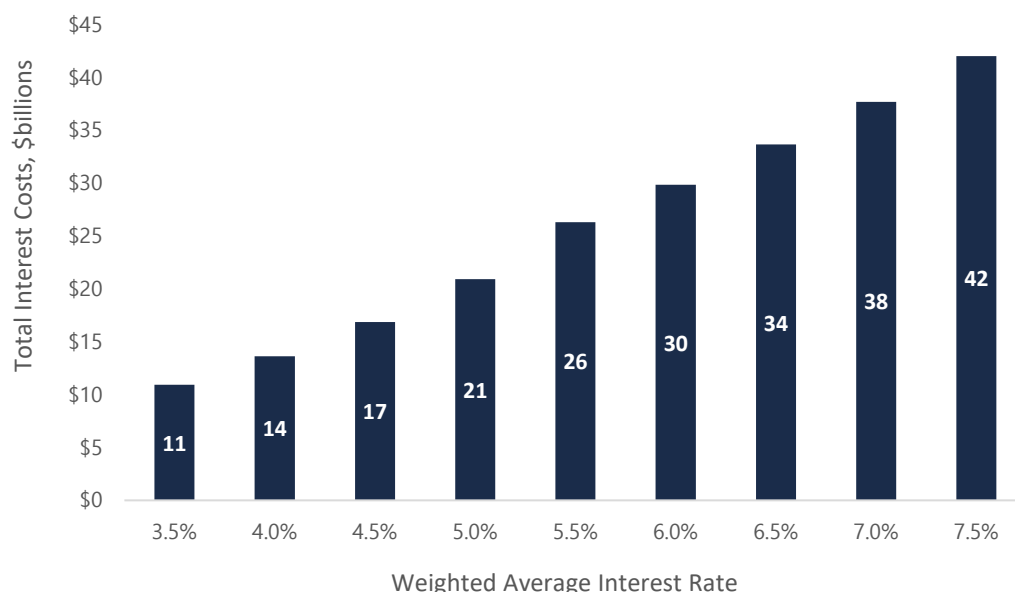
Source: FAO analysis of Provincial information

Interest Rate Sensitivity

The FAO assumes that total debt issued to finance the electricity cost refinancing has a weighted average interest rate of 5%. For example, the FAO assumes that Ontario Power Generation will finance 55% of the electricity cost refinancing, while the Province will finance the remaining 45%. The FAO assumes interest rates of 6.2% and 3.5% for OPG and Provincial debt, respectively.

Assuming a weighted average interest rate of 5%, the FAO estimates that the electricity cost refinancing results in total interest costs to eligible ratepayers of about \$21 billion.²⁰ Figure 7-3 shows the FAO's estimate of interest costs to eligible ratepayers under different interest rate scenarios. The estimates are based on the assumption that the repayment term will not extend beyond 20 years.

²⁰ See Appendix C for details on the financing structure.

Figure 5-3 FAO Estimate of Impact of Changes in Interest Rate on Electricity Refinancing Cost, billions of dollars

Source: FAO analysis of Provincial information

If the weighted average interest rate increases from 5% to 6%, then the FAO estimates that ratepayers would pay an additional \$9 billion in interest expense related to the electricity cost refinancing. If the weighted average interest rate decreased to 4%, then the FAO estimates that ratepayers would pay \$7 billion less in interest expense. If the Province financed the entire electricity cost refinancing, as opposed to only 45%, the FAO estimates that ratepayers would save about \$10 billion in interest expense, because the interest rate on Provincial debt is lower than the interest rate on OPG's debt.

Appendix C: Accounting Treatment Analysis

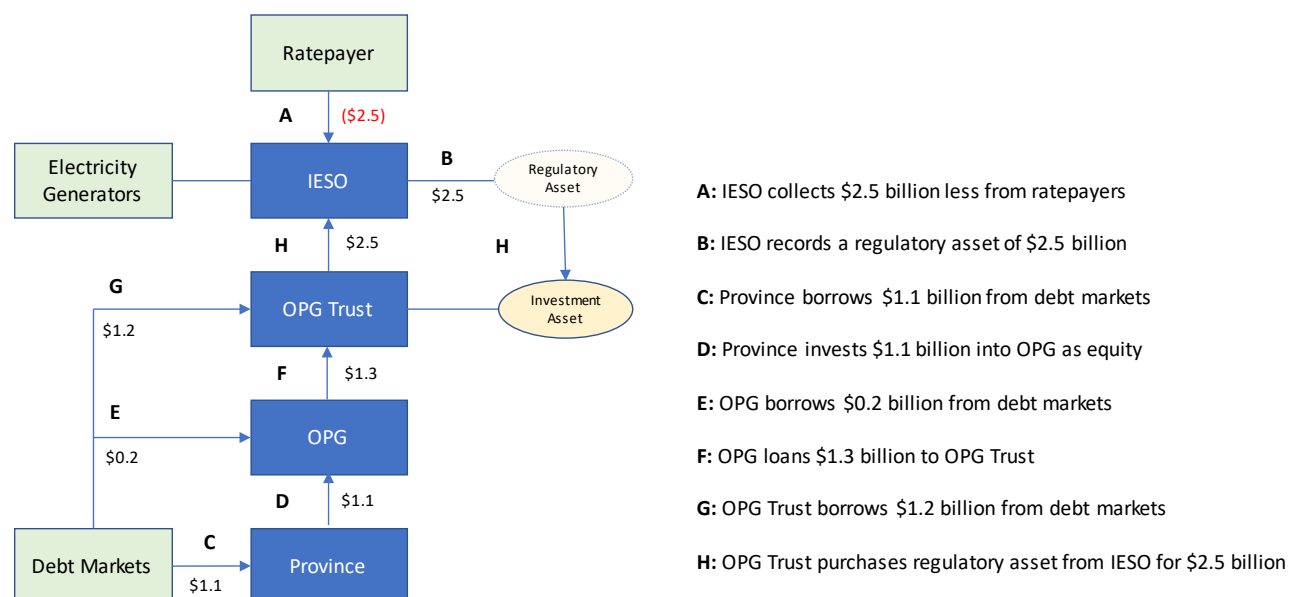
Financing Structure²¹

The Province is proposing that it will finance about 45% of the electricity cost refinancing, while Ontario Power Generation (OPG) will finance the remaining 55%. The Province will issue debt to finance its portion, and then invest this amount into OPG. Then, OPG will take the funding provided by the Province and loan it to a newly created trust (OPG Trust), which will be consolidated within OPG. The OPG Trust will then issue debt to finance OPG's portion of the electricity cost refinancing. Finally, the OPG Trust will purchase the regulatory asset from the Independent Electricity System Operator (IESO). This purchase converts the regulatory asset into an investment asset.²² Figure 5-4 summarizes the proposed financing structure. It illustrates how the \$2.5 billion in average annual electricity costs over the first 10 years of the FHP will be financed by the Province and its consolidated entities.

²¹ Based on FAO analysis of information provided by the Province.

²² See section 28(1) of the proposed Bill 132, the *Fair Hydro Act, 2017*.

Figure 5-4 Proposed Financing Structure for \$2.5 billion in Electricity Cost Refinancing



Source: FAO analysis of Provincial information

Regulatory / Investment Asset

The FAO is uncertain as to whether the creation and recording of the regulatory / investment asset, as proposed under the electricity cost refinancing initiative, is consistent with Canadian public-sector accounting standards.

For example, regulatory assets are permitted under U.S. Generally Accepted Accounting Principles (US GAAP). However, the IESO prepares its financial statements in accordance with Canadian public-sector accounting standards, which do not permit regulatory assets.

OPG provides an example of how regulatory assets are created and reported on balance sheets in Ontario. OPG prepares its financial statements in accordance with U.S. GAAP and notes in its financial statements that:

US GAAP recognizes that rate regulation can create economic benefits and obligations that are required by the regulator to be obtained from, or settled with, the customers. When the Company assesses that there is sufficient assurance that incurred costs in respect of the regulated facilities will be recovered in the future, those costs are deferred and reported as a regulatory asset.²³

The *Ontario Energy Board Act, 1998* and *Ontario Regulation 53/05* provide that OPG receives regulated prices for electricity generated from the Sir Adam Beck 1, 2 and Pump hydroelectric generating stations, the DeCew Falls 1 and 2 hydroelectric generating stations, the R.H. Saunders Hydroelectric GS, the 48 hydroelectric generating stations prescribed for rate regulation effective in 2014, and the Pickering and Darlington nuclear generating stations (collectively, prescribed facilities or regulated facilities). OPG's regulated prices for these facilities are determined by the Ontario Energy Board (OEB).²⁴

In other words, OPG is allowed to record regulatory assets on its balance sheet if it incurs costs that are related to a prescribed list of its electricity generation assets. Further, OPG expects these costs to be recovered in the future, because the price it receives for electricity generation is regulated by the Ontario Energy Board (OEB). Lastly, OPG can record the regulatory asset because it prepares its financial statements in accordance with U.S. GAAP.

²³ Ontario Power Generation's financial statements, 2016, page 12

²⁴ Ontario Power Generation's financial statements, 2016, page 12

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Overall, US GAAP recognizes that in certain circumstances, the actions of a rate regulator can create economic rights or obligations of the entity that should be recognized in the financial statements as assets and liabilities.

The following conditions apply:

1. Rates that bind customers are established by an independent, third party regulator or governing board.
2. Rates are designed to recover the entity's cost of providing the regulated services or products.
3. It is reasonable to assume that rates are set at levels that can be charged to and collected from customers.²⁵

Both the IESO and OPG are entities that are regulated by the OEB, and it is reasonable to assume that the electricity cost refinancing will be collected from ratepayers in the future. However, the FAO is primarily concerned with the Province's proposal as it relates to the second condition to record a regulatory asset; rates are designed to recover the entity's cost of providing the regulated services or products.

For example, which services or products is the electricity cost refinancing related to? In principle, the electricity refinancing costs are related to the costs of generating electricity in Ontario. However, there are many different electricity generators in Ontario that contribute to the final cost that is paid by ratepayers. For example, OPG accounts for roughly half of electricity supply in Ontario.

In this sense, the electricity cost refinancing is related to a wide variety of electricity generation assets, half of which are outside of OPG's ownership (and prescribed list of generating facilities). Further, non-OPG electricity generators do not receive regulated prices from the OEB, so they may not record regulatory assets on their balance sheets. Overall, the FAO is concerned with the Province's proposal, because the electricity cost refinancing is not wholly related to either the IESO or OPG's asset bases.

Alternatively, an argument can be made that the electricity cost refinancing is not related to the cost of generating electricity in Ontario. This is because the Province has indicated that the contracts that generators have with the IESO will not be changed, which dictate how much money generators will receive for their electricity production. Further, this implies that the price that electricity ratepayers pay for electricity generation does not change.

In this sense, the costs of the Province's proposal are more like direct financing costs, as opposed to electricity generation costs. However, direct financing is not a regulated service or product.

In summary, the FAO has identified the following uncertainties related to the Province's proposed accounting treatment and financing structure of the electricity cost refinancing:

1. The IESO prepares its financial statements in accordance with Canadian public-sector accounting standards, which do not permit the recording of regulatory assets on its balance sheet.
2. The electricity refinancing costs are not related to the services or products that the IESO provides, and only partially related to the services or products that OPG provides.
3. Direct financing costs, without a regulated asset base, are not permitted to be capitalized as regulatory assets under US GAAP.

Nevertheless, as Figure 5-4 illustrates, the Province is proposing that the regulatory asset will ultimately be recorded on OPG's balance sheet as an investment asset through the established trust. Due to the complexity of the proposed financing transaction, the FAO recommends that Members of Provincial Parliament (MPPs) obtain assurance from the OAGO that the Province's proposed financing structure and accounting treatment for the electricity cost refinancing meet public sector accounting standards.

²⁵ Rate-regulated Activities: Accounting under U.S. GAAP, T. Linsmeier, December, 2014: <http://www.ifrs.org/Meetings/MeetingDocs/ASAF/2014/December/05A-RRR-FASB.pdf>.

Appendix D: Development of this Report

Authority

The Financial Accountability Officer decided to undertake the analysis presented in this report under section 10(1)(b) of the *Financial Accountability Officer Act, 2013*.

Key Questions

The following key questions were used as a guide while undertaking research for this report:

- What is the financial impact over 30 years to electricity ratepayers of the Fair Hydro Plan (FHP)?
- What is the financial (fiscal) impact over 30 years to the Province of the FHP?
 - o How will the Province's income statement, including surplus and/or deficit, be affected?
 - o How will the Province's balance sheet (assets, liabilities and net debt) be affected?
- What is the financial impact of using Ontario Power Generation to conduct financing operations rather than the Ontario Electricity Financial Corporation?

Methodology

This report has been prepared with the benefit of information provided by the Province, meetings with staff from the Ministry of Energy, the Ontario Financing Authority and the Ministry of Finance, a review of the proposed Bill 132, the *Fair Hydro Act, 2017*, a review of relevant literature, as well as other publicly available information. Specific sources are referenced throughout.

This report reviews the FAO's estimate of the fiscal impact of the Province's FHP on the Province and electricity ratepayers. The FAO's estimates are subject to many assumptions and uncertainties, which are referenced throughout the report. As such, the actual fiscal impact of the FHP may differ significantly from the FAO's estimates.

All dollar amounts are in Canadian, current dollars (i.e. not adjusted for inflation) unless otherwise noted.

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