CONFIDENTIAL

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

Draft Final Report

May 12, 2017

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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.

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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 Rate Protection 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 or remote and low income ratepayers beyond the promised 25% electricity bill reduction. Eligible small businesses and farms would also receive a benefit.

The FHP includes the following initiatives:

- **Harmonized Sales Tax (HST) Rebate:** a rebate to residential ratepayers for an amount equal to the 8% provincial portion of the HST on electricity bills.
- **Electricity Cost Refinancing:** the Province is proposing to establish a structure under which the IESO / OPG special purpose vehicle (SPV) or Trust would finance an estimated 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. Under the proposed structure, the deferred costs, which includes an assumed amount of interest, would be recovered from ratepayers over an estimated 17-year period starting in 2028.
- **Adjusting Electricity Relief Programs:** currently the cost of the Rural or Remote Rate Protection 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.

Commented [TP(1]: From a technical/communication perspective, we are not rebating the HST amount that ratepayers are paying – we are providing an on-bill rebate of 8%, equivalent to the provincial portion of the HST. Suggest using the term "Ontario Rebate to Electricity Consumers" (which is the official name of the program).

Commented [TP(2]: The term Fiscal Impact is generally reserved for impacts on the provinces fiscal plan. Since fiscal impact in the report includes both impacts on the ratepayer and taxpayer, consider changing the term fiscal impact to total impact or estimated impact.

[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 ratepayers[4] 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.

Commented [TP(3]: See above comment.

Commented [TP(4]: Would it be possible for the FAO to share their calculations with us? We assume that the costs are also based on an increase in electricity prices over the next three decades - which would reflect a higher rebate amount.

Commented [RK5]: Suggest revising, to reflect that these program costs would be government-funded going forward, not just the first three years. Energy may have better wording. FAO could also look to the proposed legislation

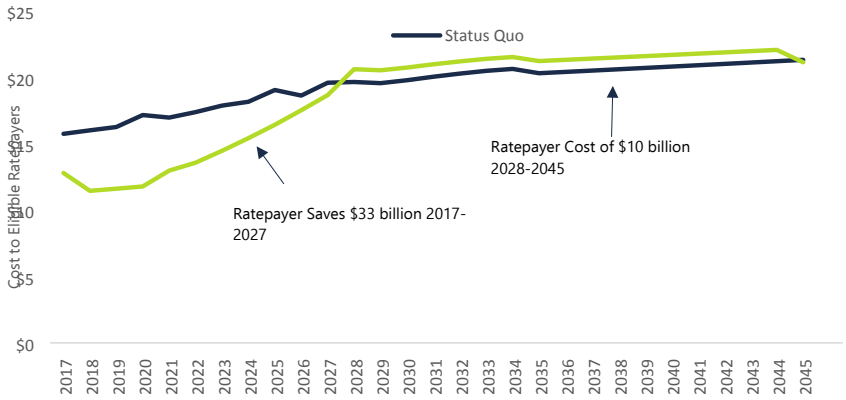
Commented [TP(6]: Note that this is only up to 2020-21.

Commented [RK7]: Revise based on updating the $3 bn amount above.

Commented [RK8]: Revise, as noted, to reflect RRRP and OESP ratepayer cost savings going-forward.

[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~~]. [NTD: Suggest revising the preceding. Energy may have better wording. FAO could also look to the proposed legislation.] 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.

Figure { STYLEREF 1 \s }-{ SEQ Figure * ARABIC \s 1 } Impact of the FHP on Eligible Residential 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:

Table { STYLEREF 1 \s }-{ SEQ Table * ARABIC \s 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.

Commented [BA9]: Confirm source based on information provided?

Commented [TP(10)]: This figure is higher than what was built into the fiscal plan in 2017 Budget. The fiscal plan built in $3.6B from 2017-18 to 2020-21.

Commented [TP(11)]: See previous comment (re: calculation)

Commented [TP(12)]: See previous comment (re: calculation)

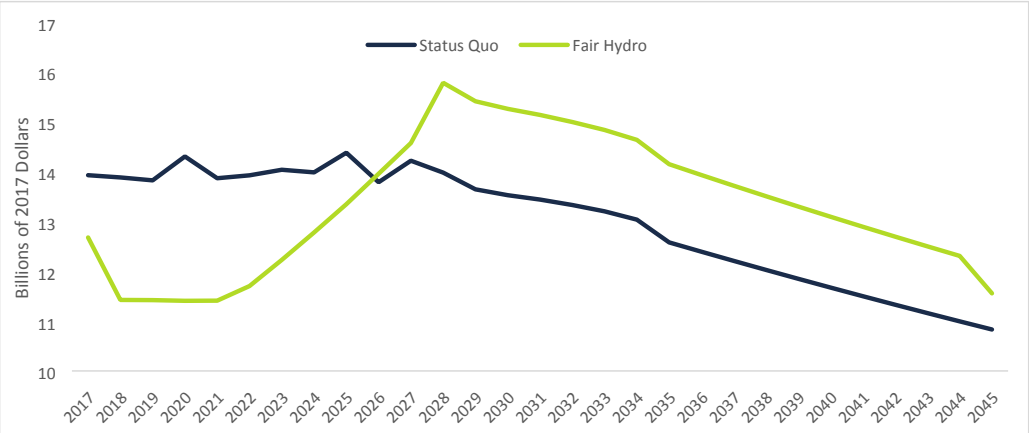
Key Considerations

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 temporarily lowering the rates 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.

Figure { STYLEREF 1 \s }-{ SEQ Figure * ARABIC \s 1 } 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.

Commented [BA13]: Consistent with ENE model, but solely based on an illustrative assumed 5% interest cost. Actual cost will depend on actual interest rates.

Commented [RK14R14]: Illustrative costs at a 5% interest rate should not be considered an estimate or prediction of the actual interest rates for the GA deferral financing. It was intended to illustrate the impact of "refinancing" – however, based on current interest rates, the overall interest costs could be substantially lower, as per the sensitivity analysis performed.

Commented [BA15]: Is breakdown does not seem correct/relevant (see Record 16)

Commented [BA16]: Confirm numbers based on info provided

Commented [RK17]: See related comments above.

[8] See Appendix B for more details on the refinancing.

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.

Commented [SK818]: Demand increases may in fact spread the fixed costs of the electricity system over a larger consumption amount, thereby decreasing the per unit cost of electricity (eg. the GA portion).

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]

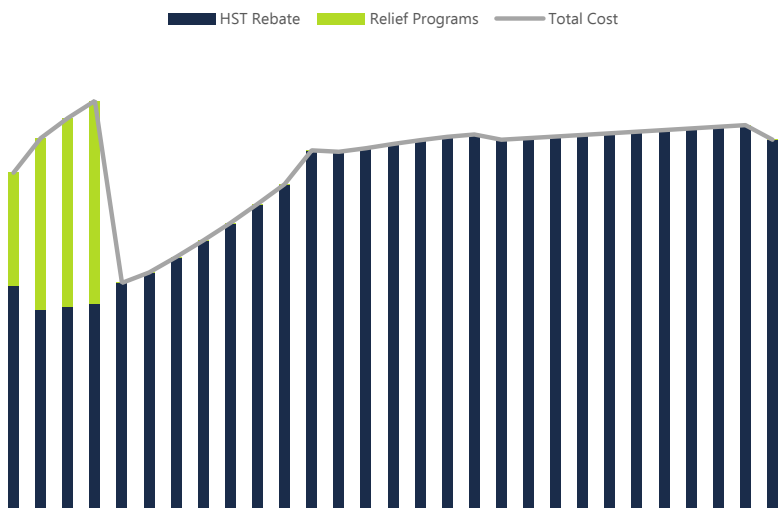
- HST Rebate: cost of $41 billion.
- Adjusting Electricity Relief Programs: cost of $3 billion.[10]

Figure 2-3 summarizes the FAO's estimate of the annual cost[11] 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 { STYLEREF 1 \s }-{ SEQ Figure * ARABIC \s 1 } 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.

Commented [BA19]: FAO's Source for 8% rebate costs?

Commented [RK20R20]: And, as above on comment on $3 bn amount.

Commented [TP(21]: the FAO report includes only the cost of the electricity social programs for the next four year (i.e. they do not forecast the cost of the programs beyond 2020-21). The report indicates that this is based on material that they have. However, not sure if this assumption is plausible, given that the legislation that was introduced in the House transfers these programs from the rate-base to government funded - leading to a more probable case of the province continuing to fund these programs in the future. Also, if they are assuming that the 8% rebate program would continue indefinitely, it may make sense (from a consistency perspective) to also assume that the electricity social programs will continue past 2021 as well.

Commented [RK22]: Suggest deleting. FAO should refer to the proposed legislation to clarify that the social programs would continue to be government-funded.

Key Considerations

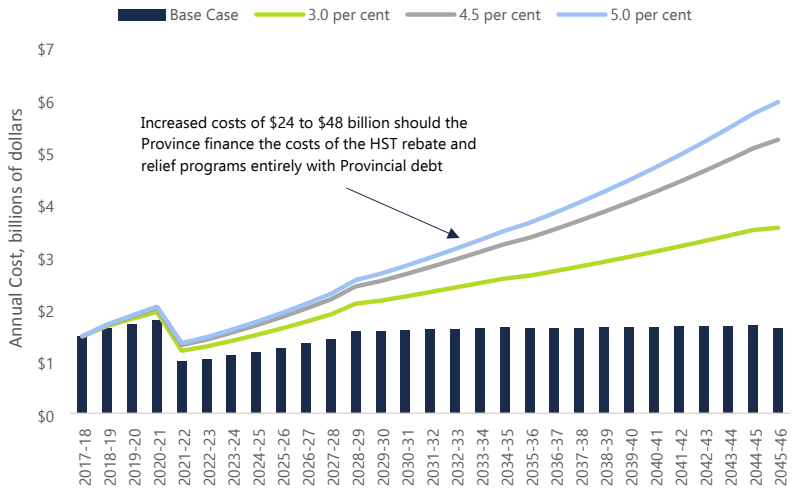
Electricity Cost Refinancing Accounting Treatment

As proposed by the Province, the electricity cost refinancing component of the FHP would not impact the reported annual surplus / deficit or net debt of the Province. The underlying substance of this part of the plan is that the Province is reducing amounts that would be otherwise owed by ratepayers now, and collecting those amounts in future years. While the Province is facilitating the transaction, the Province is not relieving the ratepayers of this obligation. 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 { STYLEREF 1 \s }-{ SEQ Figure * ARABIC \s 1 } 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.

Commented [BA23]: Appears consistent with model; however, it is based on the illustrative, assumed 5% interest rate. The actual interest rate could be lower, as per current rates. As such, gross debt would increase by much less.

Commented [RK24]: To be revised based on revised assumptions on RRRP and OESP cost timeframe.

Commented [TP(25]: These ranges may be overstated. Once repayment commences in 2027 the Province's net borrowings should be considerably lower.

3 Accounting Treatment Uncertainty

The electricity cost refinancing component of the FHP involves a complicated structure that will increase gross debt by approximately $26 billion by 2027-28, assuming an interest cost of 5% (actual borrowing costs may differ),[15] but does not impact the Province's net debt. This is due to the role Ontario Power Generation is taking on with respect to financing the structure, which includes purchasing from the IESO the right to collect the future cash flows for the amounts deferred – essentially the expected future recoveries from ratepayers to repay the IESO / OPG Trust approximately $26 billion, as estimated assuming a 5% interest rate.[16]

While the legislation for the FHP was introduced on May 11, 2017, additional details will be available through the finalization of regulations and commercial contracts. Due to the complexity of the proposed transaction, the FAO recommends it would be useful for Members of Provincial Parliament (MPPs) to understand the due diligence completed on this structure by the Province and also request that the Office of the Auditor General of Ontario (OAGO) review the Province's proposed financing structure and accounting treatment for the electricity cost refinancing once the key documents are complete, to assess the impact on the Province's annual surplus / deficit and net debt under public sector accounting standards.[17]

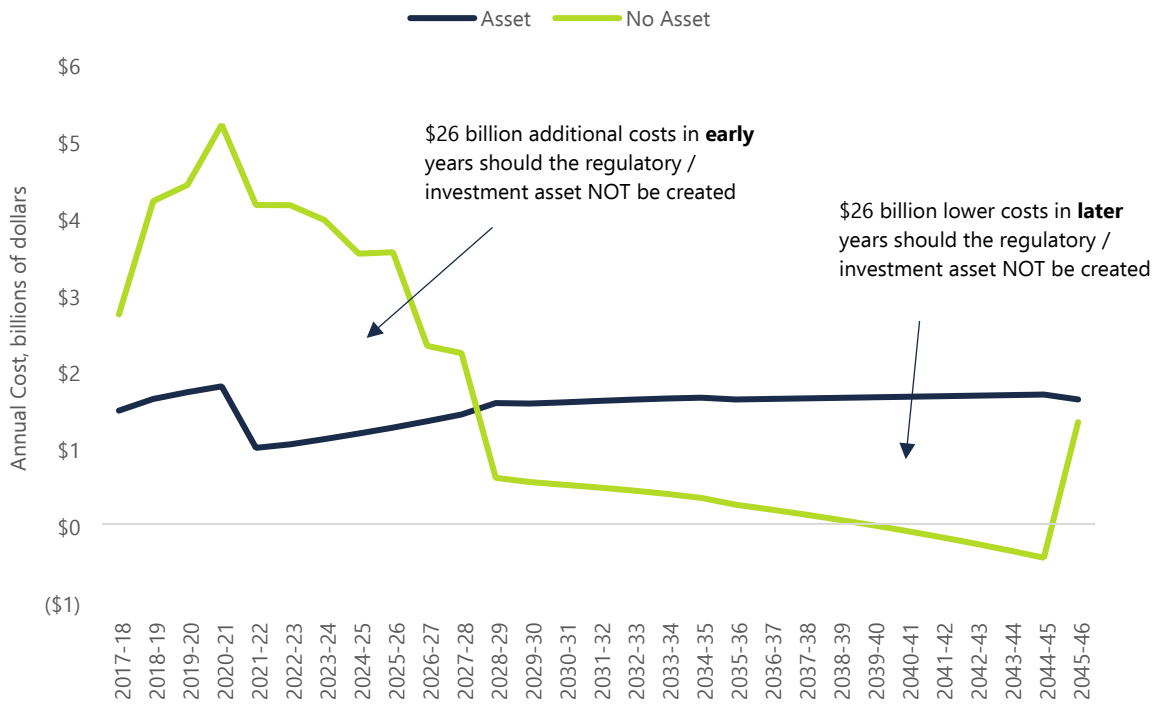
If the structure as contemplated does not result in a fiscally neutral impact to the Province's annual surplus/deficit, then the electricity cost refinancing initiative would impact the Province's annual surplus / deficit over the 29-year period. The FAO estimates that costs to the Province would increase 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). Under the Province's proposed accounting, impact of the transaction would best reflect the economic substance of the series of transactions on the Province's financial reports, and not portray a ratepayer cost as a cost to be borne by the taxpayer in the early years prior to recovery.

Figure { STYLEREF 1 \s }-{ SEQ Figure * ARABIC \s 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

[15] Provincial gross debt would increase by an estimated about $12 billion, with zero increase in net debt, while Ontario Power Generation Trust would issue an estimated about $26 billion in debt (in each case assuming an illustrative 5% interest rate. Please see the appendix for more details on the proposed financing structure of the electricity cost refinancing.

[16] This asset will be recorded on the financial statements of Ontario Power Generation Trust which would be consolidated by OPG and, which would then increase the Province's asset value labelled,
"investment in government business enterprises".

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



Source: FAO analysis of Provincial information

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.

Commented [RK26]: Revise numbers, as per above, to reflect RRP and OESP amounts.

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 final details of the structure do not support the Province's proposed accounting treatment under public sector accounting standards, then the electricity cost refinancing initiative would be reported as an illustrative increase estimated at $26 billion in additional expenses to the Province from 2017-18 to 2027-28 and $26 billion in additional revenues to the Province from 2028-29 to 2045-46, despite the fact that the deferred costs and related financing would be recovered from ratepayers and not the taxpayer.

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 transaction, once additional details of the transaction are available from regulations and commercial agreements, the FAO recommends that Members of Provincial Parliament (MPPs) understand the final views of the Public Service and the Office of the Auditor General of Ontario (OAGO) with respect to the Province's accounting treatment for the structure.	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 rebate for an amount equal to the 8% provincial portion of the HST and the proposed FHP, the "average" eligible residential electricity ratepayer had a monthly bill of $164.[18] Table 5-1 outlines what the average ratepayer's 2017 bill will look like after the implementation of the FHP.

Table { STYLEREF 1 \s }-{ SEQ Table * ARABIC \s 1 }: FHP Impact on 2017 Residential 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**

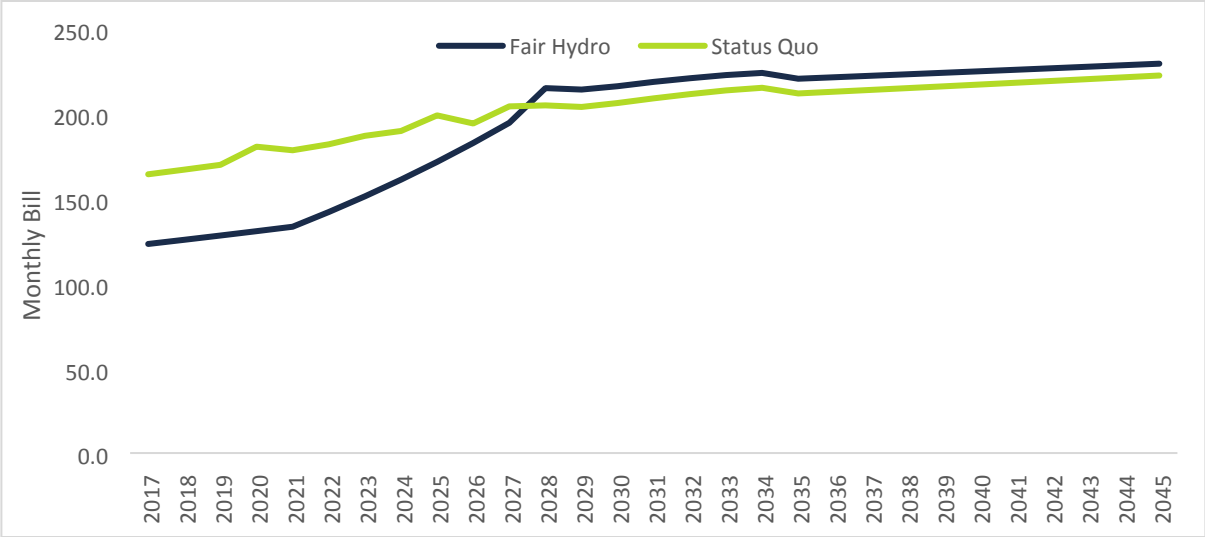
Source: FAO analysis of Provincial information

The impact on the typical residential electricity ratepayer bill over the life of the FHP can be seen in Figure 5-1. The FHP will reduce eligible residential ratepayer bills, on average, by 25% with increases capped at inflation for four years. After 2021, average eligible residential 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 residential 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.

Commented [BA27]: 1. Not an HST rebate
2.Need to split into two lines OREC and HST impacts. FHP impacts ($9.4m) and $3.6m) respectively.
3. Note FHT Impacts do not add to the $41m. Believe Electricity and WMC impacts need to be recalculated.
4. These amounts can be calculated from table provided to FAO "Record 1 FA1710 Fair Hydro Plan…"

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

Figure { STYLEREF 1 \s }-{ SEQ Figure * ARABIC \s 1 } Estimated Average Residential Electricity Ratepayer Bill Impact under the FHP, dollars



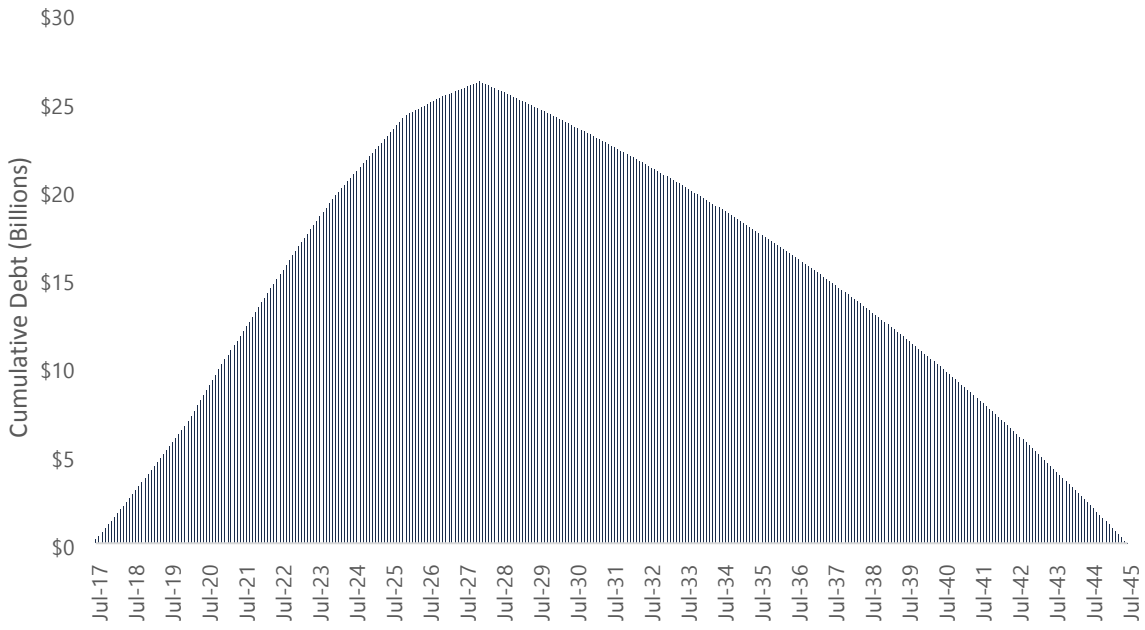
Source: FAO analysis of Provincial information

Appendix B: Electricity Cost Refinancing

Refinancing Plan

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

Figure { STYLEREF 1 \s }-{ SEQ Figure * ARABIC \s 1 } Refinancing Balance, billions of dollars



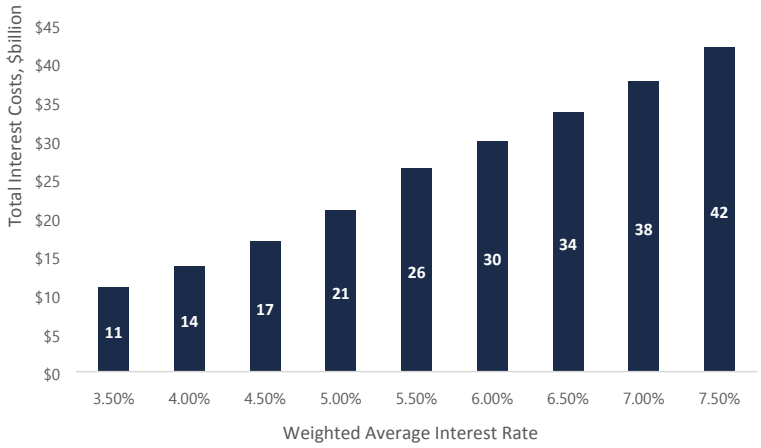
Source: FAO analysis of Provincial information

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 recoverable financing costs to eligible ratepayers of about $21 billion.[19] 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.

Figure { STYLEREF 1 \s }-{ SEQ Figure * ARABIC \s 1 } 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 for Electricity Cost Refinancing

[19] See Appendix C for details on the financing structure.

Commented [RK28]: Showing this section as a range may make more sense, rather than a point estimate of 5%.

Current long-term rates are closer to 3.5%, while shorter-term rates are lower, suggesting that an illustrative 5% rate is likely to be higher than actual rates.

Commented [RK29]: A 270 basis point spread between Provincial and OPG Trust borrowing rates appears substantially too high. Actual spreads may be more in the 20 – 50 bps range.

Commented [JK30R30]: It would depend on terms used 270bps is likely too high.

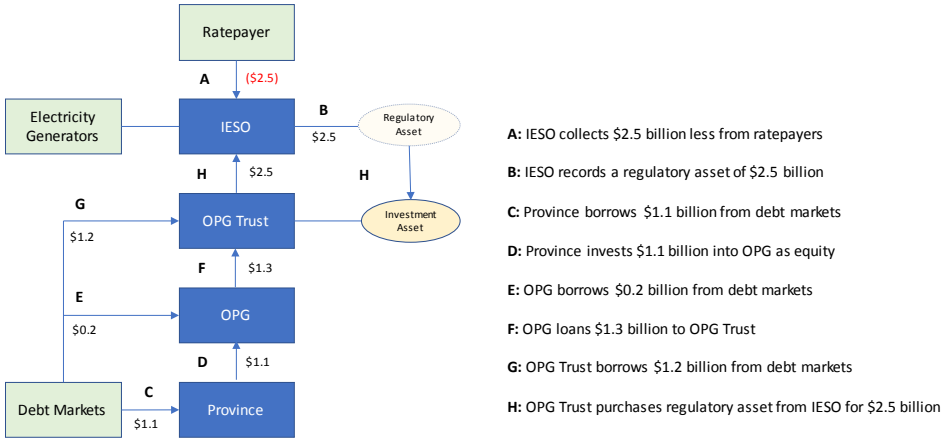
Commented [RK31]: Based on expected interest rate spreads between the Province and OPG of closer to 20-50 bps, the interest cost reductions compared to the 5% illustrative case is likely to be much closer to $10 bn regardless of the percentage financed by the OPG Trust versus the Province.

Financing Structure[20]

One of IESO's roles is to operate and settle the wholesale electricity market, which includes paying the generators for power and collecting from the ratepayers, generally through distributors. The settlement process occurs on a monthly basis, although there is an element of estimation in rate-setting that requires amounts be trued up over a period of months. The role of the IESO will not change in the new financing structure, except that the settlement process for the portion of the costs that are deferred will be extended to years vs. months. The IESO will continue to pay the amount due to the generators for power, but will collect less from the ratepayers in the initial years of the structure resulting in a shortfall. The shortfall created during the early years of the structure will be financed with debt.

Provincial equity injections into OPG (44%) financed with Provincial debt and OPG financing from capital markets (5%) will finance about 49% of the electricity cost refinancing, and 51% will be funded directly from capital markets. During the later years when the deferred amounts are recovered from the ratepayers, the amounts collected from the ratepayers will exceed the amounts paid to the power generators, and that excess will be used to repay the debt. Figure 5-4 summarizes the proposed financing structure. It illustrates how the estimated $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.

Figure { STYLEREF 1 \s }-{ SEQ Figure * ARABIC \s 1 } Proposed Financing Structure for $2.5 billion in Electricity Cost Refinancing



Source: FAO analysis of Provincial information

Commented [TP(32]: Suggest A and B refer to the $2.5B amount as the "shortfall" to bridge the previous discuss to this diagram.

Regulatory / Investment Asset

The FAO is uncertain as to whether the creation and recording of the regulatory asset by the IESO, as proposed under the electricity cost refinancing initiative, is consistent with Canadian public-sector accounting standards (PSAS). PSAS does not explicitly address rate regulated accounting and the recording of a regulatory asset.

Regulatory assets are permitted under many other accounting frameworks such as U.S. Generally Accepted Accounting Principles (US GAAP), International Financial Reporting Standards (IFRS), Accounting Standards for Private Enterprises (ASPE) and Governmental Accounting Standards Board in the United States (GASB). IFRS, ASPE and GASB standards on

[20] Based on FAO analysis of information provided by the Province.

rate regulated accounting are all based on US GAAP standard on rate regulated accounting. When PSAS does not explicitly address an accounting topic, professional judgement must be applied in determining the appropriate accounting which best reflects the economic substance of the transactions. PSAS, like other accounting frameworks, provide guidance on considering other accounting frameworks in exercising professional judgement.

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.[21]
>
> 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). [22]

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 standalone financial statements in accordance with U.S. GAAP. For purposes of consolidation on the Province's financial reports, commencing April 1, 2016, OPG's results will be reflected in accordance with International Financial Reporting Standards which also support OPG's recording of regulatory assets. In other words, the Province's annual surplus/deficit is currently impacted by the recording of regulatory assets and liabilities of OPG. The same is true for Hydro One.

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 by its own governing board empowered by statute or contract to establish rates that bind customers.
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 will recover the entity's costs that can be charged to and collected from customers.[23]

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 proposed accounting treatment as it relates to the second condition with respect to IESO's recording of 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.

Commented [TP(33]: What is the purpose of this example?

[21] Ontario Power Generation's financial statements, 2016, page 12
[22] Ontario Power Generation's financial statements, 2016, page 12
[23] Rate-regulated Activities: Accounting under U.S. GAAP, T. Linsmeier, December, 2014: http://www.ifrs.org/Meetings/MeetingDocs/ASAF/2014/December/05A-RRA-FASB.pdf.

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, the IESO has contractual agreements with the power generators, which sets the terms, including the pricing, of what the generators are to be paid. The IESO is responsible for making payments to these generators, and has the right through the legislative framework and rates for ratepayers that are set by the Ontario Energy Board to recover these payments. In this sense, the rates are designed to recover the IESO's cost of providing the regulated service of settling the market.

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 explicitly address accounting for rate regulatory assets.
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 in applying professional judgement in the application of public sector accounting standards, is proposing that the regulatory asset will be recorded initially on the IESO's books and then sold to OPG Trust and recorded as an intangible asset in OPG's consolidated financial statements. Due to the complexity of the proposed transaction, the FAO recommends that Members of Provincial Parliament (MPPs) obtain the Public Service's final view and OAGO's final view of whether the Province's proposed accounting treatment for the electricity cost refinancing structure is consistent with PSAS.

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Commented [TP(35]: To discuss how this sentence is relevant to the analysis.

Commented [TP(36]: To discuss how this sentence is relevant to the analysis.

Commented [TP(37]: See previous addition – they are related to the role of settling the wholesale electricity market.

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 anticipated financial (fiscal) impact over 30 years to the Province of the FHP?

  - How will the Province's income statement, including surplus and/or deficit, be affected?
  - 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.

Commented [TP(38]: Should the OAGO or materials provided by that office also be referenced as a source?

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.