Ontario

MINISTRY OF
ENERGY

Price Mitigation Proposals

Working Draft

November 2016

CONFIDENTIAL DRAFT

Context

- Electricity costs are increasing as the necessary investments are made to decarbonize and modernize the province's electricity infrastructure.
  - Ontario has taken action to replace coal-fired generation with cleaner sources of energy. Since 2003, the Province has invested more than $35 billion in over 16,000 megawatts (MW) of new and refurbished clean generation, including nuclear, natural gas and renewables.
  - Over the same period, Hydro One has invested $15.5 billion to enhance and renew its transmission and distribution systems.

- Ontario has taken a number of actions to mitigate rate increases, including deferring investments in generation (e.g., new build nuclear and LRP II), improving market efficiency (e.g., introduction of wind dispatch), and decreasing the cost of renewable procurements (e.g., GEIA renegotiation and decreasing FIT prices).

- Since 2010, electricity prices have risen considerably, particularly for households and small businesses. Prices are forecast to continue to increase as additional generation comes online, nuclear units are refurbished, and distribution and transmission investments are made.

- This presentation will outline options for further rate relief.

Electricity Consumer Classes

- In Ontario, there are three classes of electricity consumers:

	Regulated Price Plan	Class B	Class A
Consumer Types	• Residential • Small Business • Farms	• Commercial • Institutional • Small industrial	• Large commercial • Large industrial
Load Size	Below 0.05 MW	Between 0.05 MW and 1 MW	Above 1 MW
Total Consumption	58 TWh	57 TWh	26 TWh
Share of Consumption	41.1%	40.4%	18.4%

Current Rate Mitigation Programs

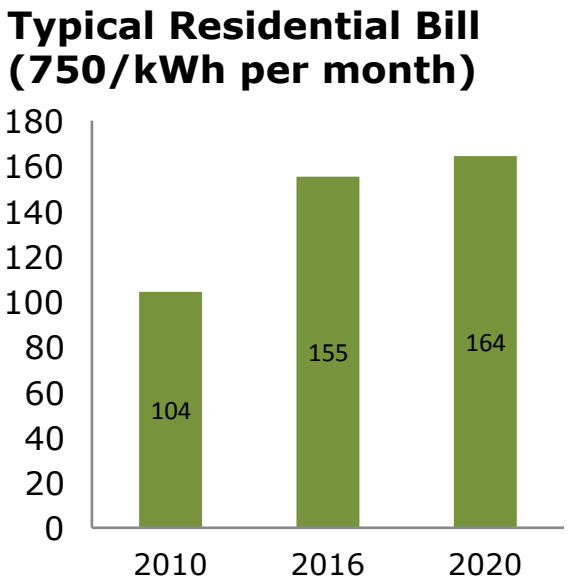
- Ontario has implemented several rate-based programs to help specific groups of electricity consumers:
  - Residential
    - The Ontario Electricity Support Program (OESP) provides ongoing assistance directly on the bills of eligible low-income electricity consumers.
    - The Rural or Remote Rate Protection (RRRP) program is provided to rural and remote residential and farm customers because the cost of distributing power to remote areas is much higher than for urban areas.
  - Industrial
    - The Industrial Conservation Initiative (ICI) encourages Ontario's largest consumers to reduce consumption during peak periods while reducing system costs.

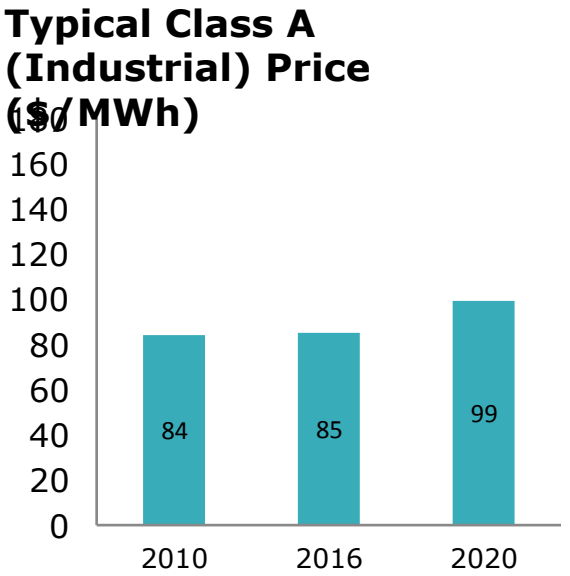
- While rate-based programs provide relief to certain consumers, they shift other costs to remaining ratepayers (see slides 22-24 in the Appendix for more details)

- There are also several programs that are funded through the tax-base:
  - Residential
    - Rebate the provincial portion of the HST from the electricity bills of residential, small business and farms as of January 1, 2017.
  - Industrial
    - Northern Industrial Electricity Rate Program (NIERP): participants receive a rebate of two cents per kilowatt hour. On average, industrial electricity prices can be reduced by up to 20%.

Prices by Electricity Consumer Class

- Since 2010, average bills for residential consumers (i.e., using 750 kWh/month) have increased by over 50%. Rates are forecast to continue to increase, with residential consumers paying an estimated 6% by 2020.
- Industrial electricity rates have remained relatively flat over the same time period, due primarily to the Industrial Conservation Initiative (ICI). ICI represents a cost shift of about $5/month for residential electricity consumers. Industrial electricity consumers are forecast to see an increase of 16% by and 2020.





Note: 2016 represents YTD September 2016 for residential after-tax and YTD September 2016 for commercial and industrial. Cap and trade proceeds recycling is included for commercial and industrial consumers for 2020.

Recent Actions to Bend the Cost Curve

- Since 2013, a number of actions have been taken to reduce overall electricity system costs:
  - Renegotiating the Green Energy Investment Agreement, reducing contract costs by $3.7 billion;
  - Deferring the construction of two new nuclear reactors at Ontario Power Generation's Darlington facility, avoiding an estimated $15 billion in new construction costs;
  - Approving Ontario Power Generation's plans to enable the ongoing operation of Pickering up to 2024, which is expected to save ratepayers as much as $600 million;
  - Reducing Feed-In-Tariff (FIT) prices through annual price reviews, saving ratepayers at least $1.9 billion relative to the 2013 Long-Term Energy Plan (2013 LTEP) forecast; and
  - Suspending the second round of the Large Renewable Procurement (LRP II) process and the Energy-from-Waste Standard Offer Program to save up to $3.8 billion in electricity system costs relative to 2013 LTEP.

Rate Mitigation Levers

- To provide further rate relief to Ontario electricity consumers, the government can use one or more of the levers outlined below:
  - **Tax-based Lever:**
    - Provide rebates funded from the tax-base or transfer items currently paid through the rate-base to the tax-base.
  - **Rate-based Lever:**
    - Shifts costs within the rate-base from one customer group to another to achieve electricity system benefits and/or policy goals.
  - **Cap and Trade Proceeds Lever:**
    - Use cap and trade proceeds on initiatives that help reduce greenhouse gas (GHG) emissions from the electricity sector (e.g., recycling proceeds during off-peak periods) while providing benefits to some or all electricity consumers.

Options for Rate Mitigation

- Five categories of initiatives that could provide further rate relief to some or all electricity consumers have been identified for consideration:

Proposal	Program / Initiative	Line on Bills	Who Benefits
1. Fund Electricity Support Programs Through The Tax-base	OESP, RRRP	Regulatory	All electricity consumers evenly
2. Eliminate Rate-based Industrial Programs	ICI	Electricity, Global Adjustment	Only Class B electricity consumers
3. Implement Market and Rate Design Initiatives	Market Renewal, rate design initiatives	Electricity, Global Adjustment, Regulatory	Market Renewal: All electricity consumers Rate Design Initiatives: Participating electricity consumers
4. Adjust Conservation Program Funding	Amortization	Electricity, Global Adjustment	Class B electricity consumers and to a lesser extent Class A consumers
5. Adjust Renewable Procurement Targets and Schedule	FIT, LRP	Electricity, Global Adjustment	Class B electricity consumers and to a lesser extent Class A consumers

Potential Residential Electricity Consumer Savings

$/750kWh	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
1. Fund Electricity Support Programs Through The Tax-base						
2. Eliminate Rate-based Industrial Programs						
3. Implement Market and Rate Design Initiatives						
4. Adjust Conservation Program Funding						
5. Adjust Renewable Procurement Targets and Schedule						
Total						

Note: The above initiatives will provide similar benefits for non-RPP Class B electricity consumers.

Potential Industrial Electricity Consumer Savings

$/MWh	2017	2018	2019	2020	2021	2022
1. Fund Electricity Support Programs Through The Tax-base						
2. Eliminate Rate-based Industrial Programs						
3. Implement Market and Rate Design Initiatives						
4. Adjust Conservation Program Funding						
5. Adjust Renewable Procurement Targets and Schedule						
Total						

1. Fund Electricity Support Programs Through the Tax-base

- Propose to fund electricity support programs, including Ontario Electricity Support Program (OESB) and Rural or Remote Electricity Rate Protection (RRRP), through the fiscal plan instead of a regulated charge. This would allow the OESP and the RRRP charges to be removed from the Regulatory line on electricity bills.
  - The total cost of RRRP and OESP in 2017 will be approximately $292 million and $157 million respectively.
  - The average 750 kWh bill impact for a residential customer to support RRRP and OESP through the regulatory charge was $1.80/month in 2016. This is expected to rise to approximately $2.45/month in 2017 as a result of the recently announced RRRP expansion.

Considerations

Consumer Impacts

- As RRRP and OESP provide strong social benefits, there is precedent for funding these programs through the tax-base.
- RRRP and OESP are included in the “Regulatory” line on bills. If RRRP and OESP were eliminated from bills, the Regulatory line would decrease; however, as the Regulatory line is the smallest line item component of invoices, there is risk the decrease may not be perceived by customers.
- Currently the recipients of RRRP and OESP pay for a small portion of the programs as they are still eligible for the related charges on their electricity invoices. Funding these programs with tax revenue would ensure that the households that are intended to benefit from these programs are also not directly paying for them, aside from contributions to the overall tax base.
- Consideration would have to be given on treatment of credits or rebates as taxable income. For OESP, Ministry engaged with Ministry of Finance and Canada Revenue Agency to ensure OESP was not treated as taxable income.

1. Fund Electricity Support Programs Through the Tax-base (cont'd)

Implementation

- Funding RRRP and/or OESP with tax revenue would require amendments to existing legislation and regulations.

- Provisions under the existing RRRP regulation allow for an escalating factor for the portion of the rate protection for Hydro One's low-density R2 customers, beginning in 2018. Changes to that mechanism may be necessary under a revised funding process.

- Additionally, the RRRP regulation provides a funding mechanism for transmission infrastructure required to grid connect remote First Nation communities. Considerations for how that funding will be supported by the tax base will need to be determined.

- The Financial Assistance Working Group advised the OEB that social programs typically maximize enrollment of potentially eligible participants at 40%, which would be reached after 3 years of program delivery.

- The OEB planned for OESP participation of 60% by the end of 2016 to ensure there were sufficient funds available if uptake exceeded Working Group projections.

1. Fund Electricity Support Programs Through the Tax-base (cont'd)

- To date, about 27% (155,000 customers) are enrolled, with a year-end figure that could be 31% (175,000 customers).

- Assuming no changes to the OESP credit amounts and ongoing annual administration costs of approximately $2.3 million (based on projected and actual OEB administration costs), estimated tax-base program costs are as follows:

Pending Updated Data

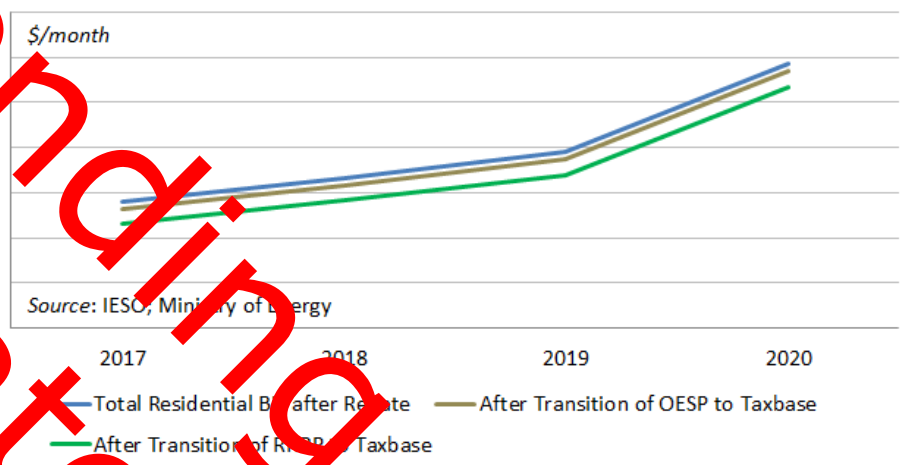
Fiscal Year	Annual Estimated Cost, 40% Participation	Annual Estimated Cost, 60% Participation
2017-2018	$84.2 million	$102.1 million
2018-2019	$95.4 million	$137.4 million
2019-2020	$98.2 million	$146.1 million

1. Fund Electricity Support Programs Through the Tax-base – Cost Savings

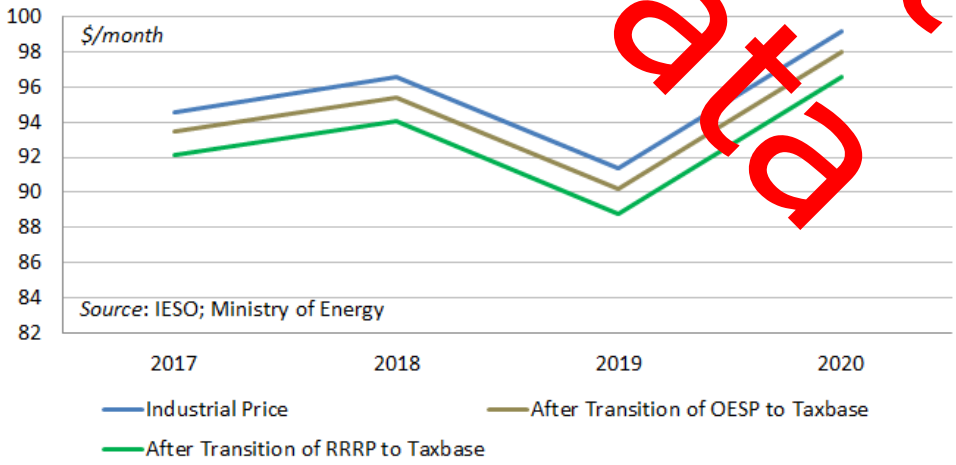
- Transitioning OESP and RRRP to the tax-base would reduce a typical residential bill by about $2.50/month.

Pending Updated Data

Typical Residential Electricity Bills
Highlighting Impact of OESP and RRRP



Typical Industrial Electricity Prices
Highlighting Impact of OESP and RRRP



2. Eliminate Rate-based Industrial Programs

- The cost shift from the Industrial Conservation Initiative (ICI) could be eliminated from electricity bills by allocating the costs to taxpayers rather than through the Global Adjustment (GA) mechanism.

- The ICI allows large electricity consumers to lower their electricity costs by reducing their demand during peak hours.

Considerations

- Absent ICI, industrial electricity rates would be substantially higher. Stakeholders have highlighted ICI as an integral factor in retaining industry in the province.

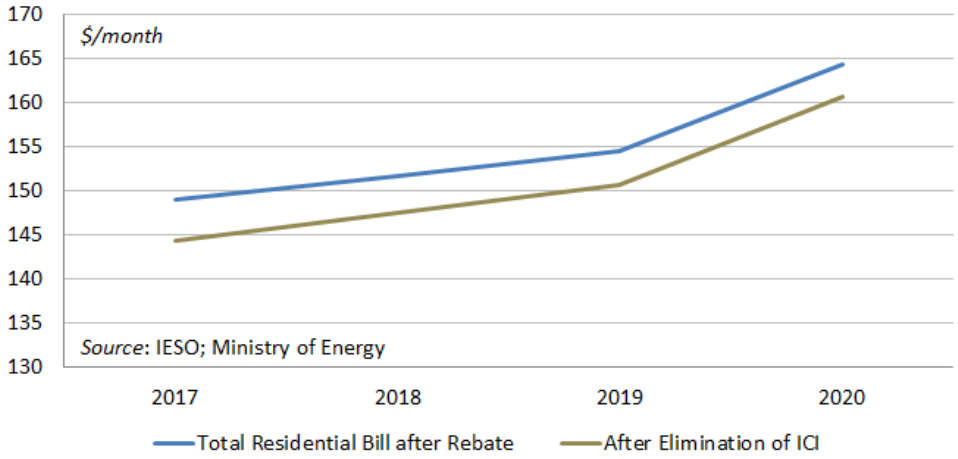
- While the total electricity cost is fairly stable, the GA is quite volatile in response to weather, natural gas prices, and electricity demand. This would pose a challenge when budgetting the fiscal plan.

- There is precedent for funding industrial support programs through the fiscal plan, including the Northern Industrial Electricity Rate Program (NIERP) and the Jobs and Prosperity Fund.

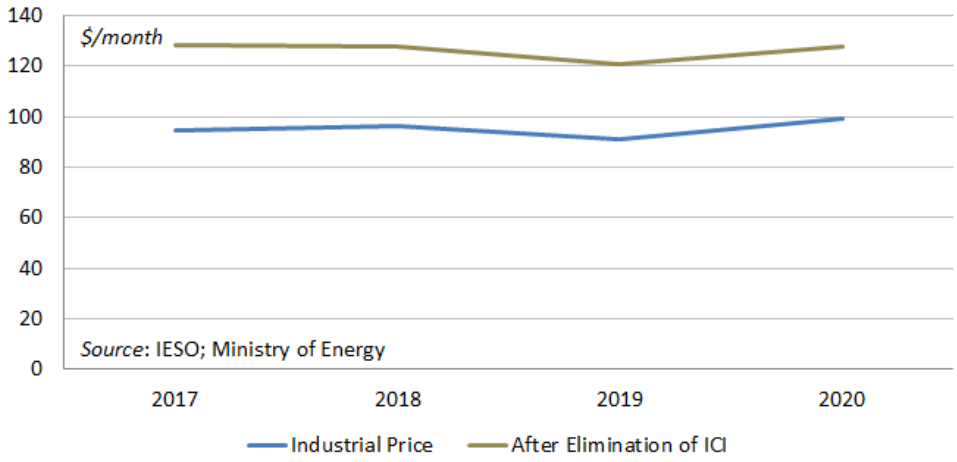
2. Eliminate Rate-based Industrial Programs – Cost Savings

- Eliminating ICI would result in a significant benefit for residential consumers (at current levels of global adjustment)…

Typical Residential Electricity Bills
Highlighting Impact of ICI



Typical Industrial Electricity Prices
Highlighting Impact of ICI



…however typical industrial prices would increase by about one-third, posing significant challenges for energy-intensive consumers.

3. Electricity Market and Rate Design Initiatives

- Continue to move forward with IESO's Market Renewal initiatives and OEB's Regulated Price Plan (RPP) roadmap.
  - Market Renewal encompasses projects such as a single-schedule system (from the current two-schedule system), more frequent intertie scheduling to better align with other jurisdictions and a day-ahead market.
  - The RPP roadmap includes initiatives to enhance Time-Of-Use (TOU) pricing including pricing pilots. TOU pricing could also be considered for Class B consumers to reduce Global Adjustment volatility and reduce system costs.

Considerations

- Market renewal is a broad initiative that will impact all aspects of the electricity market. Ontario has had a uniform price since market opening. Moving to zonal or locational pricing would be contentious for many stakeholders.

- As the electricity system has evolved, TOU pricing periods have remained fixed. Re-aligning the TOU periods or moving to Critical Peak Pricing could reduce system costs.

- Class B consumers currently pay GA on a volumetric basis. Moving them to TOU would provide an incentive to shift consumption to off-peak periods and provide more predictable pricing for business and institutional consumers.

3. Electricity Market and Rate Design Initiatives – Cost Savings

- [Placeholder for rate impacts]

Pending

4. Adjust Conservation Program Funding (i.e., An Alternate Approach to Recovering CDM Costs)

- In 2013, Ministry staff explored a potential new financing arrangement for electricity conservation programs that would have seen the former Ontario Power Authority (OPA) borrow funds from the Ontario Financing Authority (OFA) to fund certain CDM program costs.
- CDM expenditures would have been potentially recovered over a period of several years, potentially lessening short-term impacts of conservation programs on ratepayers.

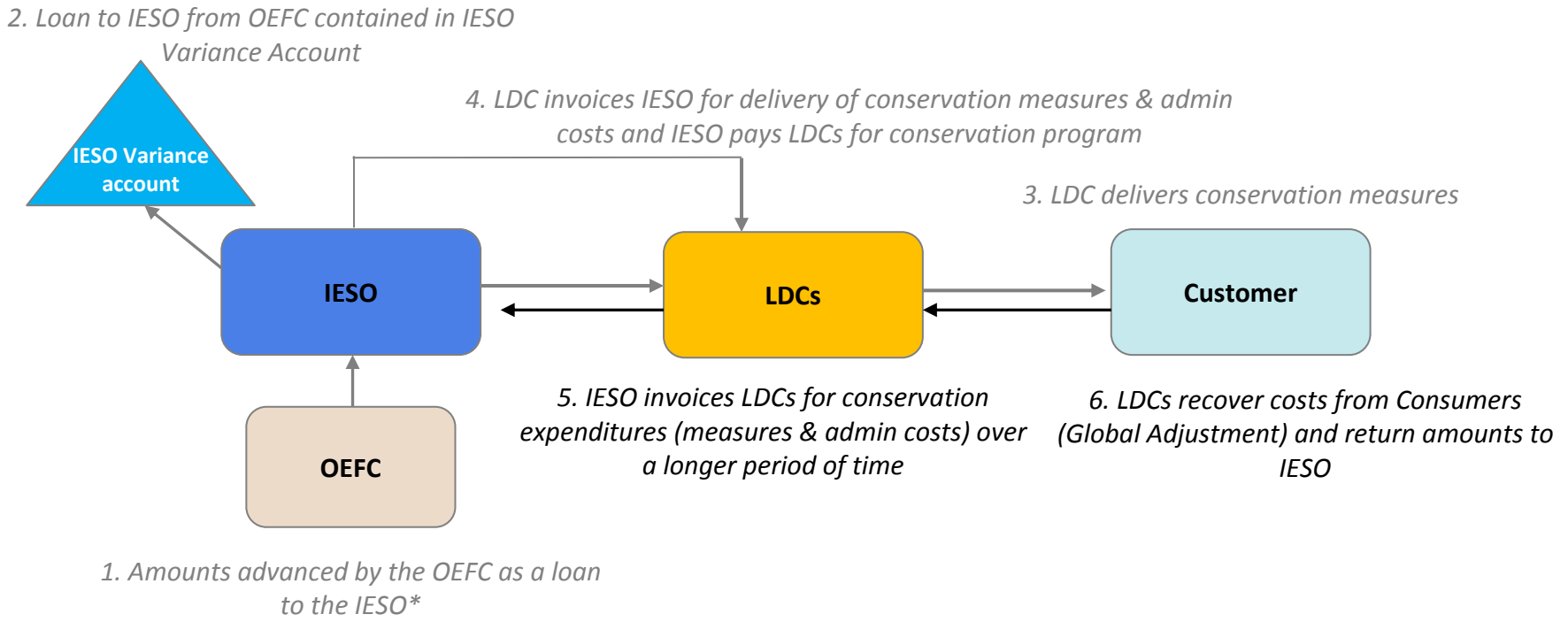
Considerations

- A decision was made not to proceed with this approach because:
  - It was uncertain whether accounting principles would allow for amortization of CDM expenditures.
  - Analysis showed interest charges would result in increased overall program costs.
  - Legislative amendments would be required to guarantee recovery of interest charges from Global Adjustment (GA).
- While CDM costs, on their own, are unlikely to meet the strict criteria of a capital asset under government accounting principles, they could be considered rate regulated amortizable assets under government accounting principles subject to approval from the Office of the Provincial Controller (OPC), IESO's External Auditor and the Auditor General.
- In 2013, rate-regulated accounting was under review by accounting standard setting bodies so its future is unclear at present. As such, further analysis is required to determine if costs would be recognized as rate regulated amortizable assets under government accounting principles.
- Based on initial legal analysis, there is sufficient flexibility in section 25.33 of the *Electricity Act, 1998* to permit recovery of costs over time. The Ministry would likely however, need to propose legislative amendments to guarantee recovery of interest charges.
- Further work is required to undertake a ratepayer impact analysis for the current Conservation First Framework, including consultation with IESO and Ministry Corporate Services Department.

4. Adjust Conservation Program Funding (Cont'd)

- Under a proposed amortization approach, the LDCs would continue to pay out incentives and programs costs in full on an "up-front" basis, and LDCs would continue to be paid as they incur the costs.

- However, costs would be recovered from consumers over a longer period; a new variance account would be setup containing funds which are loaned by the OEFC. The money from the variance account would be used by IESO to pay LDCs for the up front costs they incur in providing the consumer with the incentive.



***Note:** Only a portion of CDM expenditures may possibly be available for amortization if rate-regulated accounting methodology is found acceptable for use in Ontario. See slides 4 and 5 for more details. Further analysis is required to determine accounting treatment of CDM expenditures that are not amortizable.

4. Adjust Conservation Program Funding – Cost Savings

- [Placeholder for rate impacts]

Pending

5. Adjust Renewable Procurement Targets and Schedule

- Could consider the following actions to further mitigate impacts to electricity bills:
  - A. Do not procure unallocated and terminated capacity resulting from past procurements (i.e., not procure to the 20,000 MW LTEP 2013 target);
  - B. Revise the FIT 5 procurement target or cancel the FIT 5 procurement;
  - C. Cancel the FIT 6 procurement;
  - D. Cancel the microFIT 2017 procurement;
  - E. Cancel existing LRP I contracts; and
  - F. Cancel Support Programs.

<u>Considerations</u>

- The suspension of LRP II and Energy from Waste Standard Offer program was a significant action in this respect and is expected to save up to $3.8 billion in costs relative to the LTEP 2013 forecast.

- Ontario's commitment to renewables and the success of the Feed-In Tariff (FIT), microFIT, and competitive Large Renewable Procurement (LRP) programs has helped Ontario create a strong renewable energy sector.
  - The IESO has advised that Ontario will benefit from a robust supply of electricity over the coming decade to meet projected demand.

- With respect to canceling LRP I contacts, the Independent Electricity System Operator (IESO) or the Ontario Energy Board (OEB) could be requested to evaluate and provide guidance to the Ministry on potential ratepayer impacts/benefits [placeholder].

5A. Do Not Procure Unallocated or Terminated Capacity

- The 2013 Long-Term Energy Plan set a target of 10,700 MW of non-hydro renewables online by 2021 and 9,300 MW of hydro online by 2025.

- [placeholder for IESO: Report on amount unallocated capacity]

- [placeholder for IESO: Cost calculation relative to OPO and bill impact]

Considerations

- The megawatts are not part of any announced procurement beyond the broad commitment toward 20,000 MW of renewable generation.

- Retiring these megawatts does not require changes to procurements or existing contracts.

5B. Revise or Cancel FIT 5 Procurement

- **Scenario 1: Proceed with a 261 MW FIT 5 Procurement**
  - Procuring 261 MW for FIT 5 is estimated to cost approximately $730 million (NPV to 2016).
  - [placeholder for IESO: Cost calculation relative to OPO and associated bill impact]
- **Scenario 2: Proceed with a 150 MW FIT 5 Procurement**
  - Procuring 150 MW for FIT 5 is estimated to cost approximately $420 million (NPV to 2016).
  - [placeholder for IESO: Cost calculation relative to OPO and associated bill impact]
- **Scenario 3: Do not Proceed with a FIT 5 Procurement**
  - [placeholder for IESO: Cost calculation relative to OPO and associated bill impact]

Considerations

- On April 5, 2016, IESO was directed to launch the FIT 5 procurement with a base target of up to 150 MW and also include any contract capacity that has become available from any contract terminations under prior small FIT and microFIT procurements.
  - Limiting FIT 5 to a 150 MW target (Scenario 2) would require a direction to IESO stating that terminated capacity from small FIT and microFIT procurements will not be added to the FIT 5 target.
  - Cancelling the FIT 5 procurement (Scenario 3) would require a direction to IESO.
- The FIT 5 application window closes on November 25, 2016. Cancelling the FIT 5 procurement would not involve cancelling contracts.
- In light of the recent suspension of LRP II and the associated impact on Ontario's renewable energy manufacturing sector, not proceeding with planned procurements, particularly those already underway such as FIT 5, can be expected to result in a strong negative stakeholder reaction.

5C. Cancel FIT 6 Procurement

- FIT 6 is anticipated to have a 150 MW procurement target.

- A 150 MW FIT 6 procurement is estimated to have a value of [$XXX]

Considerations

- Cancelling FIT 6 would require a direction to IESO.

- Cancelling FIT 6 would be expected to result in a negative stakeholder reaction.

5D. Cancel microFIT 2017 Procurement

- Procuring 50 MW under microFIT 2017 is anticipated to cost approximately $190 million (NPV to 2016).

- [placeholder for IESO: Cost calculation relative to OPO and associated bill impact]

- The 2016 microFIT procurement target is 50 MW with applications being accepted until December 31, 2016.

Considerations

- Cancelling microFIT 2017 would require a direction to IESO.

- Cancelling microFIT 2017 would be expected to result in a strong negative stakeholder reaction.

5E. Cancel Existing LRP I Contracts

Considerations

- The 16 LRP I contracts have been executed and projects are already under development.
- The total value of LRP I contracts is estimated to be approximately $1 billion (NPV to 2016).
- The following analysis does not consider the risk and subsequent costs – both monetary and reputational – associated with potential law suits from the cancellation of existing contracts
- [placeholder for IESO: Cost calculation relative to OPO and associated bill impact]
- To help inform a decision on LRP I, the IESO or OEB could be requested to evaluate and provide guidance to the Ministry on potential ratepayer impacts/benefits.

5E. Cancel Existing LRP I Contracts (cont'd)

Considerations

- LRP I contracts include provisions that award pre-construction development costs up to the Pre Construction Liability Limit in the event of contract termination before a project has met all Key Development Milestones.

- The estimated total cost payable to current contract holders per contract termination provisions is approximately $8 million.
  - This would be the maximum cost payable to contract holders due to the cap on Pre Construction Liability Limits (see Slide 11 for calculation assumptions).
  - As of November 21, 2016, no LRP I developer had submitted their relevant REA or Class EA application (see attachment for status of projects).

- The Optional Termination provision in the LRP I Contract gives IESO the power to terminate any LRP I Contract, in its sole and absolute discretion, prior to the Commercial Operation Date (COD), by providing the developer with six months written notice of the termination.

- LRP I was developed with public and industry input from 2013 to 2015. As a result of stakeholder feedback on the draft LRP I Contract, IESO made some changes to the Optional Termination provision.

5E. Cancel Existing LRP I Contracts (cont'd)

Considerations

- The Optional Termination provision was in place throughout the LRP I procurement, including: when draft materials were made available for stakeholder feedback, at the time LRP I proposals were under development, and when contracts were offered by IESO on March 10, 2016.
  - All 16 successful LRP I developers accepted this provision when the LRP I Contracts were executed in April 2016.
  - The proposal security for any of the 103 LRP I proposals ($62,500 up to $2,000,000, depending on project size) would have been forfeited had a developer declined to sign back their contract.
- The obligations of IESO under the Optional Termination provision differ depending on whether the project has met all Key Development Milestones. To date, no LRP I projects have met their Key Development Milestones.
- The Key Development Milestones are complete when the proponent submits evidence to IESO that:
  - All connection agreements for the project are complete;
  - All environmental and regulatory approvals for the project are complete; and
  - Financing to complete the development, construction and commissioning of the project has been secured.

5E. Cancel Existing LRP I Contracts (cont'd)

Considerations

- If IESO were to enact the Optional Termination provision before a project has met all Key Development Milestones, IESO is required to pay pre-construction development costs up to the Pre Construction Liability Limit.

- Pre-construction development costs include costs incurred for feasibility studies, obtaining site access rights, work towards environmental approvals, business development plans, negotiation of contracts for design, equipment, construction and financing, reasonable overhead expenses, and other reasonable costs incurred.

- The Pre Construction Liability Limits are:
  - Non-Rooftop Solar: $250,000 plus $10.00/kW of Contract Capacity;
  - Waterpower: $500,000 plus $20.00/kW of Contract Capacity; and
  - On-Shore Wind: $400,000 plus $2.00/kW of Contract Capacity.

- According to the LRP I Optional Termination provision, the developer has a duty to take reasonable steps to mitigate losses, liabilities, costs and damages incurred as a result of the Optional Termination.
  - The IESO will not provide compensation for amounts which are attributable to a developer's failure to take reasonable steps to mitigate.

5F. Cancel Support Programs

- The 2016 Support Programs budget is $14 million.
  - $4 million of unallocated 2015 budget was added to the annual $10 million budget for 2016.

- The Support Programs included:
  - **Education and Capacity Building Program (ECB):** The ECB Program call for submissions window opened on October 24, 2016 and will close on December 21, 2016.
  - **Energy Partnerships Program (EPP):** All EPP applications received by December 9, 2016 will be reviewed as a batch.
  - **Aboriginal Community Energy Plans (ACEP):** The ACEP deadline for proposals was October 7, 2016 and proposals were evaluated in mid-November.

<u>Considerations</u>

- Cancelling support programs would be seen negatively by Indigenous Communities.

- Cancelling support programs would require a direction to IESO.

- The cost of delivering the Support Programs is very small relative to other energy initiatives and would represent negligible cost reductions to ratepayers.

5. Adjust Renewable Procurement Targets and Schedule – Cost Savings

- [Placeholder for rate impacts]

Pending

Appendix

Cost Shifts in the Electricity Sector – Current Programs

- Several programs in the electricity sector “shift costs” from one group of electricity consumers to another:
  - **Rural or Remote Rate Protect** (**RRRP)** is a longstanding program that reduces the delivery charge for rural electricity consumers and is paid for by all consumers in Ontario through a regulatory charge on bills.
  - **Ontario Electricity Support Program (OESP)** is funded via a regulatory charge on consumer bills and provides support for qualifying low income electricity consumers.
  - **Industrial Conservation Initiative (ICI)** empowers large consumers to lower their costs by reducing their demand during peak hours. In the process, ICI shifts costs from large electricity consumers to all other consumers in Ontario.
  - **Industrial Electricity Incentive** (**IEI**) program, offers reduced electricity prices for companies starting or expanding operations in Ontario. All electricity consumers in Ontario pay for the price reduction that IEI participants receive.

Cost Shifts in the Electricity Sector (Cont'd)

- The tables on the right show the estimated cost shifts that result from existing government programs.
- ICI has had the largest cost shift of all the programs, due to the large size of Global Adjustment (GA) and the way that it is recovered from consumer classes.
- RRRP and OESP impact the regulatory line on consumer bills, while ICI, IEI and conservation affect GA (i.e., Electricity line on bills of Regulated Price Plan consumers).

Cost Shift Impacts - Residential Bill

Typical 750 kWh/month Toronto Hydro consumer

$/month	2011	2012	2013	2014	2015	2016
ICI	2.65	3.25	3.88	3.53	4.75	4.77
RRRP	0.90	0.82	0.84	0.92	0.93	0.94
OESP	-	-	-	-	-	0.84
Conservation	1.85	1.92	2.00	1.58	2.43	2.45
IEI	-	-	0.08	0.09	0.11	0.12
Total	**5.41**	**5.99**	**6.81**	**6.13**	**8.21**	**9.12**

Cost Shift Impacts - Industrial Bill

Typical Class A consumer

$/MWh	2011	2012	2013	2014	2015	2016
ICI	-22.17	-26.36	-30.29	-25.91	-33.79	-33.92
RRRP	1.20	1.10	1.12	1.23	1.24	1.25
OESP	-	-	-	-	-	1.13
Conservation	1.53	1.59	1.66	1.31	2.01	2.02
IEI	-	-	0.07	0.08	0.09	0.10
Total	**-19.43**	**-23.67**	**-27.44**	**-23.29**	**-30.45**	**-29.43**

Note: OESP did not come into effect until 2016. The 2016 values represent forecasts and are subject to change.

Cost Shifts in the Electricity Sector (Cont'd)

- The table on the right shows the total cost for various government electricity programs. These programs are currently funded through the electricity system ratebase.

- Funding of these programs through the fiscal plan would remove these costs from the electricity system (i.e., Placing these costs on the taxbase).

Cost of Programs

By government program

$M	2011	2012	2013	2014	2015	2016
ICI	506	615	736	670	890	893
RRRP	172	156	159	176	174	176
OESP	-	-	-	-	-	158
Conservation	329	339	354	280	425	428
IEI	-	-	15	16	18	19

- For example, removing the roughly $900 million of program cost from the Industrial Conservation Initiative (ICI) program would save the typical residential electricity consumer $4.77 per month in 2016.

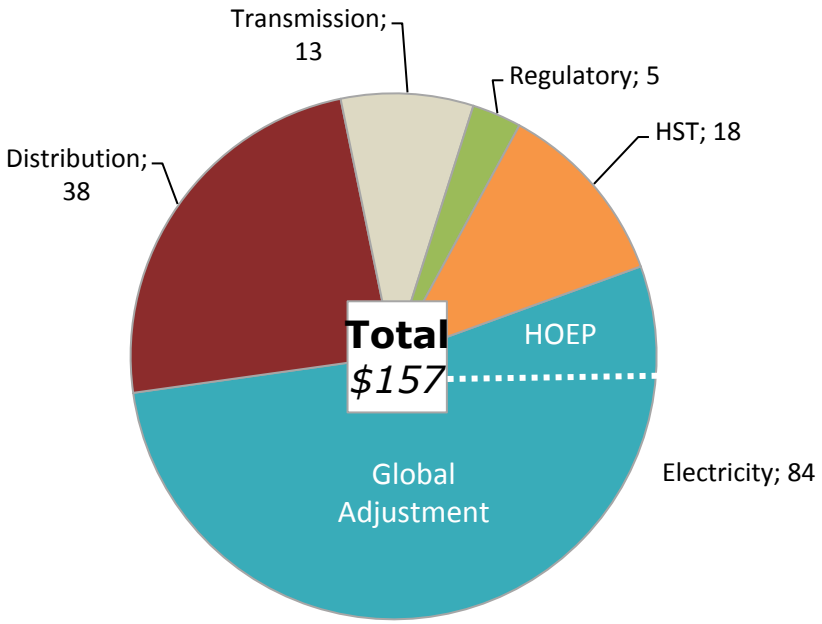
Note: OESP did not come into effect until 2016. The 2016 values represent forecasts and are subject to change.

Residential Electricity Prices

- There are approximately 4.5 million residential consumers in Ontario.
- The Regulated Price Plan includes nearly all residential consumers, as well as small businesses. Regulated Price Plan consumers pay a blended commodity rate regulated by the OEB, which is set every six months.
- For households, the Debt Retirement Charge (DRC) was removed from residential electricity bills as of January 1, 2016.
- In addition, the Ontario Electricity Support Program (OESP) provides an ongoing rate reduction directly on the bills of low-income electricity consumers who have applied and meet the eligibility requirements. The program is funded through the rate base.
- Rural customers, in particular those with electrical heating, pay higher monthly bills.

Typical Residential Monthly Bills ($)

As of November 1, 2016 (750 kWh/month)



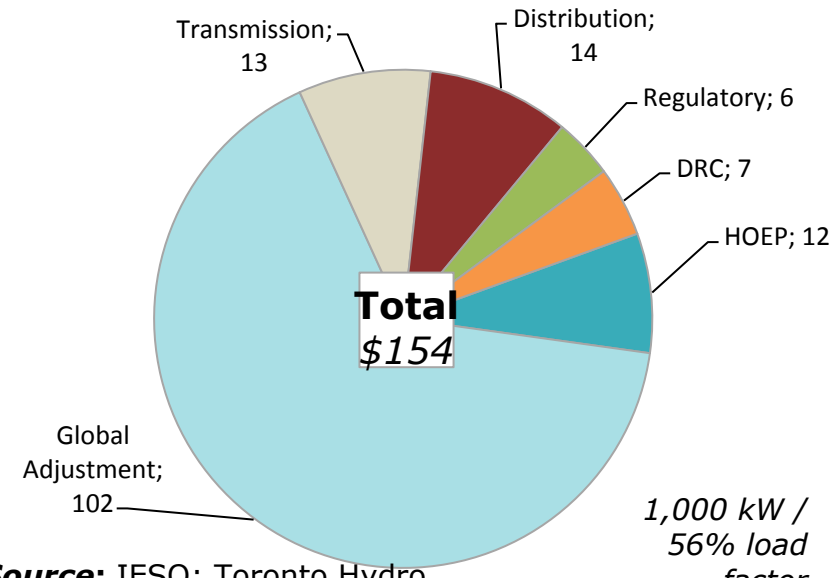
***Source*:** OEB, Toronto Hydro

Commercial Electricity Prices

- There are approximately 55,000 commercial and institutional consumers in the province. These consumers are Class B consumers, and have separate line items on the electricity bill for HOEP and GA.
- There is a high degree of differentiation amongst consumers within the commercial sector in terms of size and consumption patterns. For example, an elementary school has a much different hourly load profile compared to a full service restaurant. This is an important consideration when looking at the bill impacts of policy options.

Typical Commercial Price ($/MWh)

YTD June 2016 (Non-RPP Class B)



***Source*: IESO; Toronto Hydro**

- Consumers in the commercial sector do not pay time-of-use prices and have little incentive to shift demand away from high demand hours.
- Targeted pricing programs are currently not available for Class B consumers.

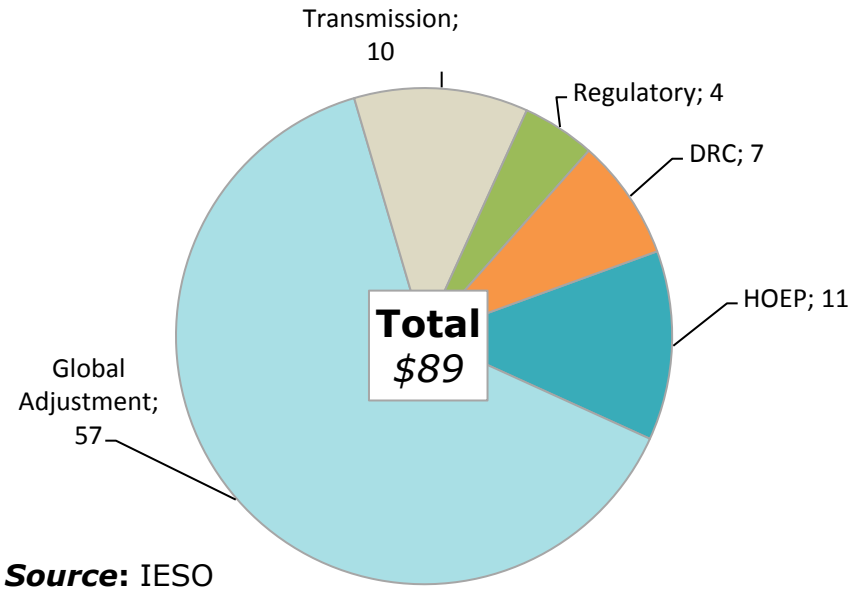
*** Note**: Most commercial consumers receive input tax credits for their HST.

Industrial Electricity Prices

- There are about 300 large industrial consumers in Ontario.
- Measures in place to mitigate industrial electricity prices include ICI and NIERP.
- ICI lowers costs for eligible large electricity consumers (i.e., those with monthly peak demand exceeding 3 MW) that reduce consumption during peak periods.
  - ICI consumers reduce their electricity rates by 25% on average.

Typical Large Industrial Price ($/MWh)

YTD June 2016



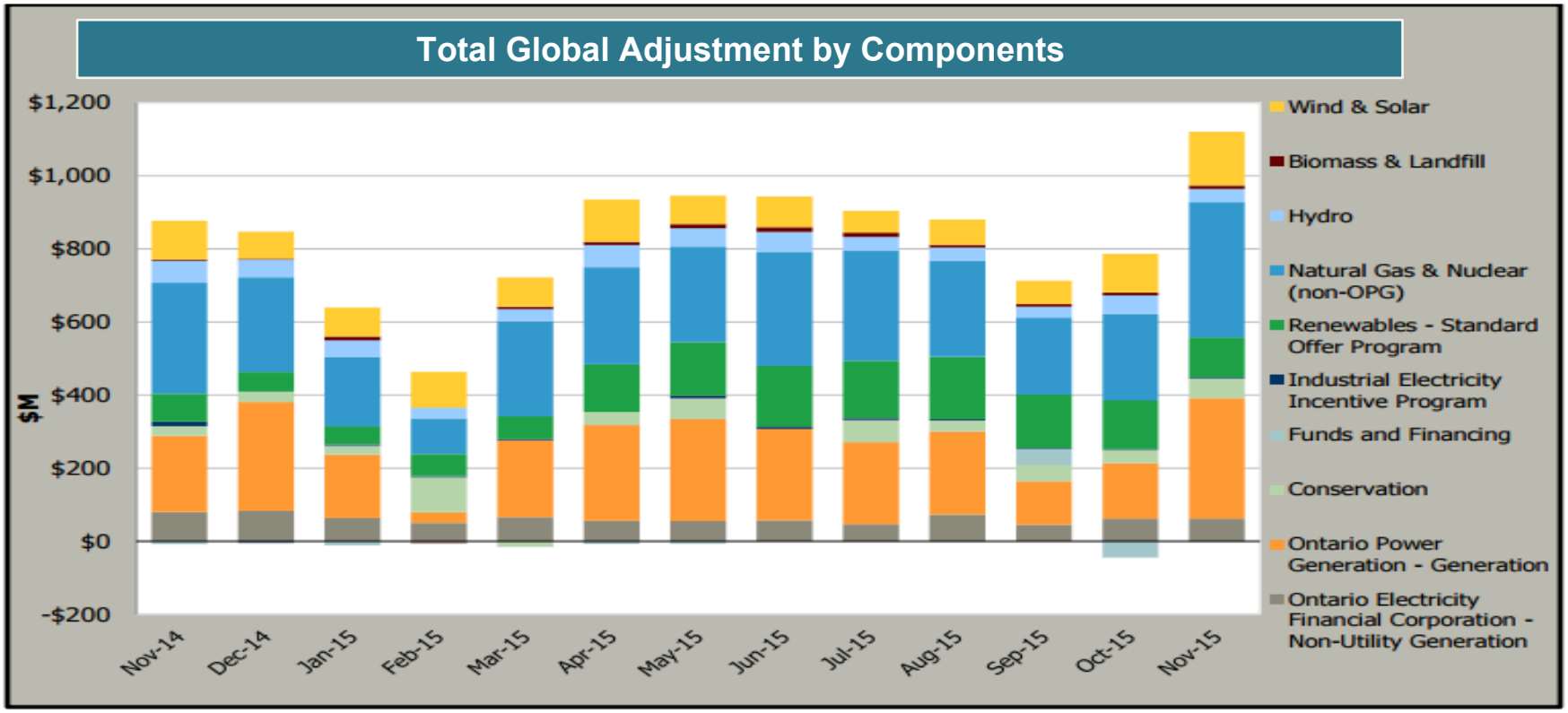
***Source*: IESO**

- Participants in NIERP receive a rebate of $20/MWh. On average, industrial electricity prices are reduced by about 20% through the program, reducing all-in prices to $69/MWh for these consumers. The program is funded through the tax base.

*** Note:** Industrial consumers receive input tax credits for their HST.

Total Components of Global Adjustment

- Global Adjustment (GA) is a market mechanism that recovers costs from electricity consumers, including the cost of almost all conservation programs in the province (i.e., approximately half a billion dollars in 2016).



Source: IESO Monthly Market Report (November 2015)

Adjust Conservation Program Funding (i.e., An Alternate Approach to Recovering CDM Costs)

Adjust Conservation Program Funding (i.e., An Alternate Approach to Recovering CDM Costs)

Proposal

- Ontario's Conservation First Framework (CFF) was launched January 1, 2015, which governs the delivery of electricity conservation programs.
  - ~$3 billion from the electricity ratepayer base will be spent on the CFF and Industrial Accelerator Program (IAP) programs between 2015 and 2020.
- Currently, Conservation and Demand Management (CDM) costs are expensed in the month they are incurred and recovered from consumers via the global adjustment (GA) mechanism in the same month.
- Under the proposed approach, certain CDM expenditures would be recovered from ratepayers through the GAM over a period of several years instead of the monthly recovery from GA currently in place for CDM expenditures.
- This approach would recognize that the CDM measures persist for a number of years and benefit ratepayers over a period of time.
- IESO/LDCs would continue to be paid as they incur costs but recovery from consumers would be delayed.
- This proposed approach would involve exploring whether the difference between costs incurred and what is recovered from ratepayers could be tracked in a variance account held by IESO for future recovery through GA. Those amounts would be advanced by the Ontario Electricity Financing Corporation (OEFC) as a loan to IESO. Energy and MOF Legal would need to confirm whether OEFC has sufficient authority to make the loan (governance, objects).
- The proposed approach also involves exploring whether amounts owed to the OEFC, could be recovered from consumers through GA and repaid over a period of several years.

Rationale

- The proposed approach could result in better matching of costs recovered from consumers with the expected benefits of the conservation initiatives, similar to how generation costs are recovered.
- The new approach could also assist in reducing a typical residential bill.

Adjust Conservation Program Funding (i.e., An Alternate Approach to Recovering CDM Costs)

Accounting Principles and Amortizable Assets

- Under government accounting principles (PSAB), which both the province and the IESO are required to comply, only certain assets can be amortized (pensions and capital assets). CDM costs, on their own, are unlikely to meet the strict criteria of a capital asset under government accounting principles for the following reasons:
  - Customers, not the IESO, would have ownership of installed CDM equipment.
  - Control of CDM equipment is generally not in the hands of LDCs, IESO or the government.
  - Conservation assets may not deliver full expected savings because of changes in policy, operational issues, optimistic assumptions or other reasons.

Rate-Regulated Accounting

- Rate-regulated accounting was developed to recognize the unique nature of regulated entities (e.g., electricity generators, distributors). Under rate-regulated accounting, a regulator established under legislation, such as the Ontario Energy Board, approves the prices that a regulated entity can charge customers and often allows regulated entities to defer (record as an asset) certain costs for recovery in future period.
- Such costs are typically set up as assets that, under normal generally accepted accounting principles (GAAP), would be expensed in the year incurred.
- Over the past several years, the Auditor General (AG) has expressed concerns regarding the appropriateness of recognizing rate-regulated assets and liabilities in the Province's consolidated financial statements. Specifically, the AG questioned whether rate-regulated assets and liabilities met the definition for inclusion as bona fide assets or liabilities in the Province's consolidated financial statements.
- In 2013, rate-regulated accounting was under review by accounting standard setting bodies so its future is unclear at present.
- An update on the status of rate-regulated accounting is required to determine if these accounting principles would allow for amortization of CDM expenditures.
- In order to mitigate risks, formal accounting advice should be sought from OPC. IESO external auditor and the Auditor General should be consulted .
- Further Policy and Legal analysis is required to determine whether CDM costs associated with the direction could validly be considered rate-regulated costs and therefore potentially amortizable under government accounting rules and current legislative framework.

Adjust Conservation Program Funding (i.e., An Alternate Approach to Recovering CDM Costs)

Legal Analysis on Collecting CDM Costs Over Time

- CDM expenditures could potentially be recovered over a period of several years instead of the more immediate current approach.
- There is sufficient flexibility in section 25.33 of the *Electricity Act, 1998,* and in term "G" of O.Reg. 429/04 to permit recovery of costs over a period of time. In case of term "G", it refers to "amounts payable" for a month but does not stipulate that such amounts payable must include all costs incurred during a given month.
- However, based on initial legal analysis, where implementation is triggered by a direction issued under section 25.32 of the Electricity Act, 1998 , there does not appear to be authority to include interest associated with loan payments as part of the GA.
- As such, to guarantee recovery of interest charges from GA, the ministry would propose legislative amendments.
- Further work must be completed with Ministry Legal, IESO and MOF (Ontario Financing Authority/ Ontario Electricity Financial Corporation (OEFC)) and Office of the Provincial Controller (OPC) to confirm legal and accounting viability and possible approaches to implementation.

Options for Amortizing CDM Costs

- A portion of CDM expenditures could be available for amortization. In particular, design and incentive costs associated with CDM programs could be good candidates for amortization.
  - In 2013 under the previous conservation framework (2011-2014), together these costs made up about 55% of total CDM spending annually (50% incentives and 5% design) or approximately $250 million per year.
- Analysis found that compared to the current approach, ratepayers would pay approximately $665 million (option 1) or $332 (option 2) more over the period due to interest charges, assuming an interest rate of 3.75 per cent.
- Further work is required to undertake a similar ratepayer impact analysis for the current Conservation First Framework, including consultation with IESO and Ministry Corporate Services Department.