[DRAFT] Rate Mitigation Measures

Presentation for Ministry of Energy

December 2, 2016

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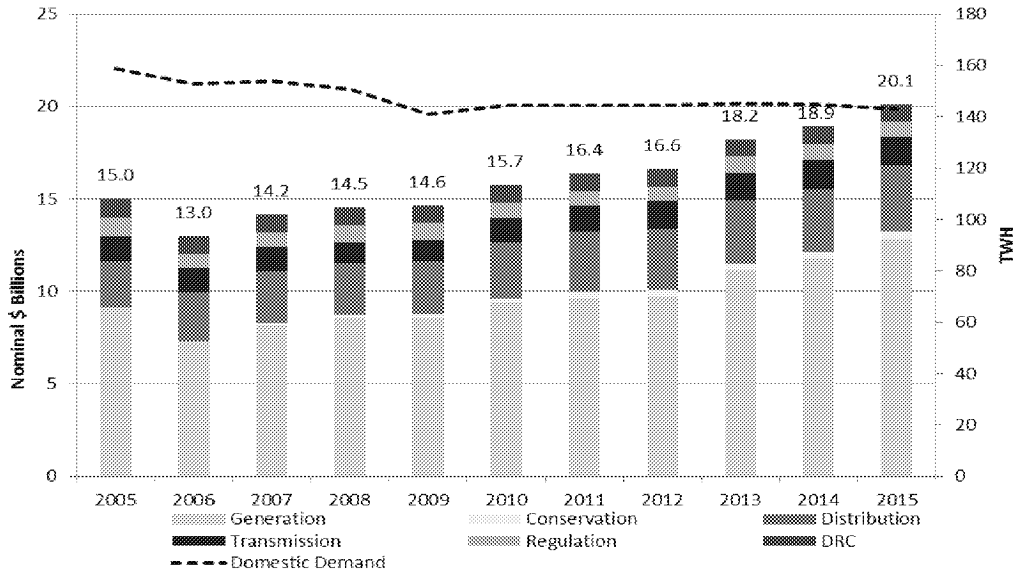
Overview

- Over the past decade Ontario has experienced yearly electricity rate increases averaging 5.1 percent, peaking at 18 percent in 2016.
- However, rates are expected to stabilize and remain flat in real dollars and increase by 2.1% annually in nominal dollars from 2016 to 2020.
- The IESO has ongoing initiatives, like Market Renewal and Non Utility Generator (NUG) renegotiations, that will help minimize rate increases.
- There are additional options that could be considered by the government to reduce rate increases further, but these rate mitigating measures predominantly occur beyond a 5-year timeframe.
- The IESO has assessed the impact of a number of potential rate mitigation measures. The analysis provided in the following slides is preliminary but provides a directional indication of savings.

Historical Total Cost of Electricity Service



- From 2006 to 2015 the total cost of electricity has increased about 54%
- Average annual increases of about 5%/Yr (Inflation has been about 1.8% per year during this period)
- Domestic electricity demand dropped about 11% from 2005 to 2009 or 1% per year when averaged over the period. About 6.3% of this decrease occurred between 2008/09
- From 2010 to 20015, the domestic demand has remained relatively flat

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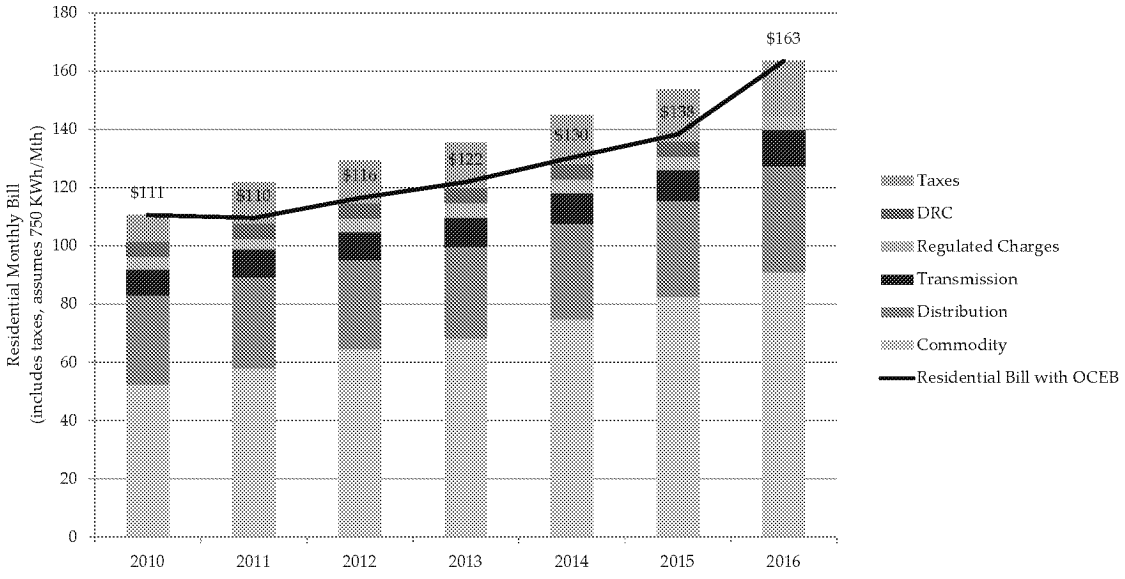
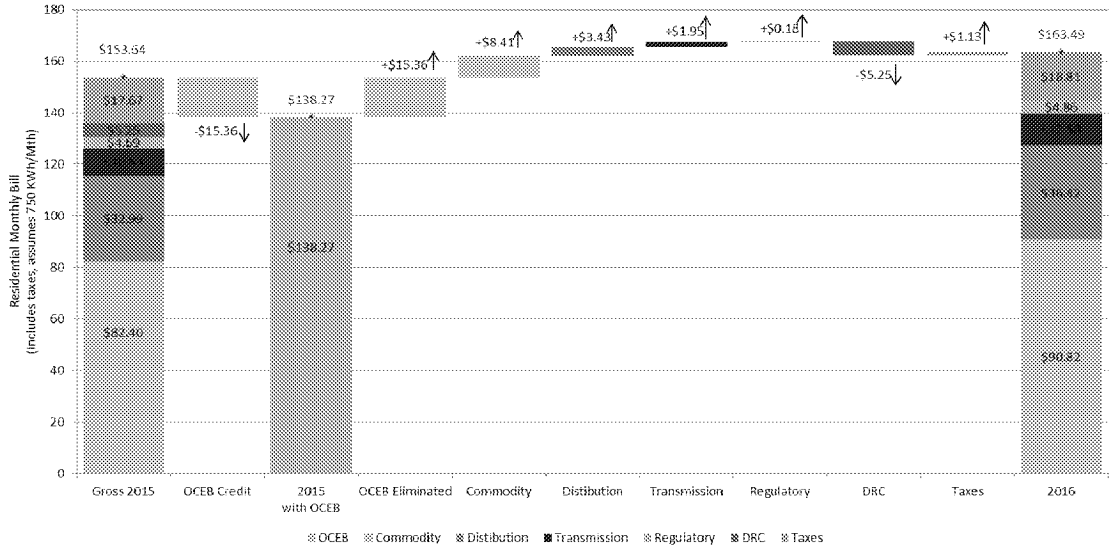
Historical Toronto Hydro Residential Monthly Bill



- The residential monthly bill included the Ontario Clean Energy Benefit (OCEB) during 2011 to 2015, in 2016 the OCEB was removed
- The annual increase from 2015 to 2016 was 18% which is a period the OCEB was eliminated
- The annual average increase from 2010 to 2015 was 4.6% per year

Drivers for the 2016 Rate Increase



- Monthly bill increase is 18% for 2016 compared to 2015; of which the elimination of the OCEB is responsible for 60% of is 18% increase (10.8% of the 18%), with the remaining 40% (or 7.2%) of the increase due other factors.
- The commodity and regulatory costs increased by 10% and 4%, respectively from the prior year. This amounts to a $8.60 increase that would have been a 6.2% increase experienced by all residential customers.

Residential Monthly Bill is based on the monthly average bill for a Toronto Hydro customer using 750 kWh/Mth during the 2015 and 2016 calendar year

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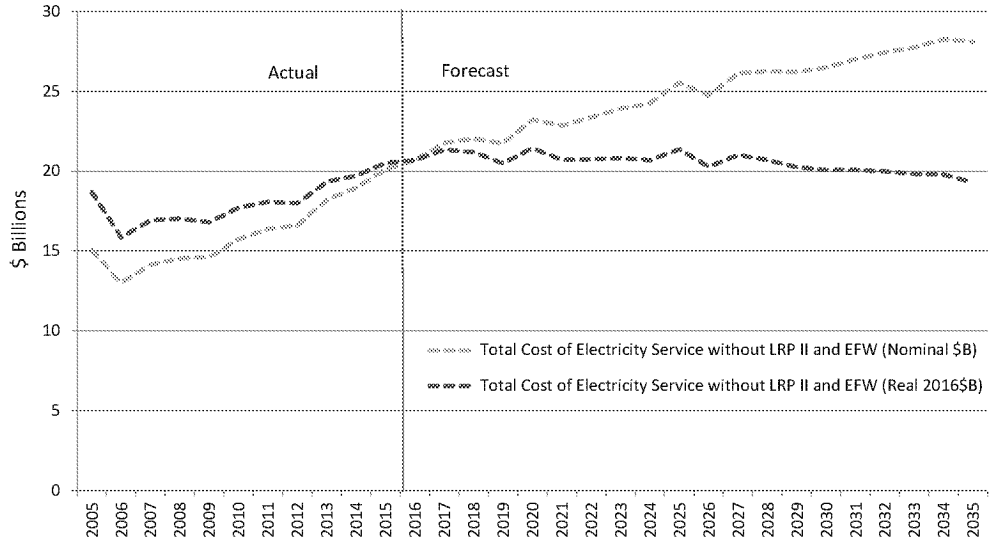
Evolution of Historical Total Cost of Electricity Service into the Future



- Projected total cost for electricity service is expected to increase at a slower rate than experienced historically
- Cost of Electricity Service as per OPO projection Outlook B and Estimated Cost without LRP II and EFW

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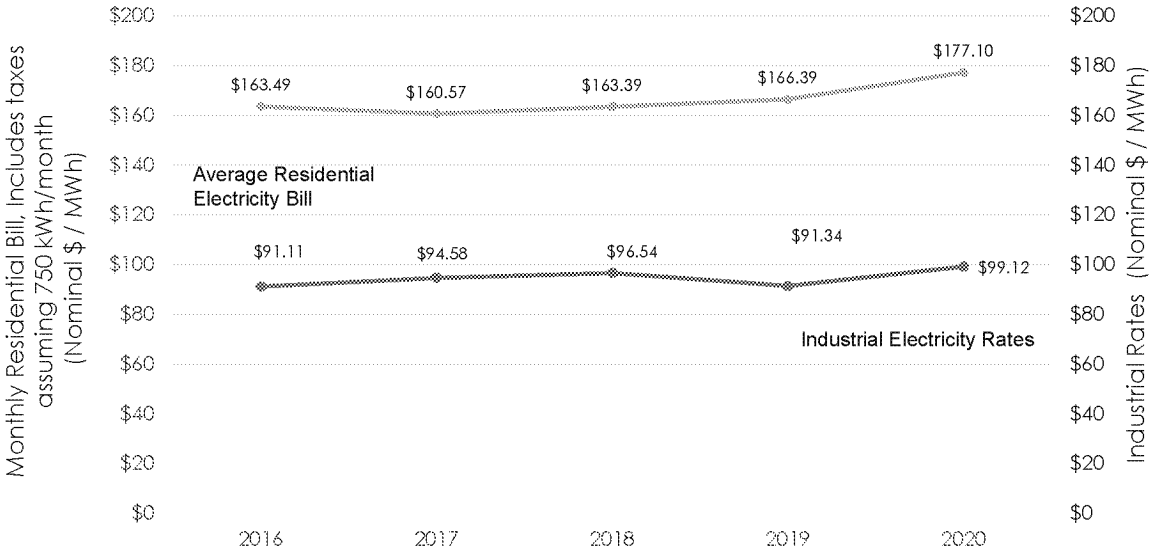
Average Residential Electricity Bill and Industrial Electricity Rate



- The average residential electricity bill includes 8% Rebate, MOE's estimated ICI Expansion, and RRRP costs increase
- The industrial electricity rate includes MOE's estimated cost for Proceed Recycling and RRRP rate increase
- MOE assumes no impact on this "implied" Class A rate for expansion of the Class A customers (from >3MW to 1MW)

Ongoing IESO initiatives that will help further reduce future rate increases

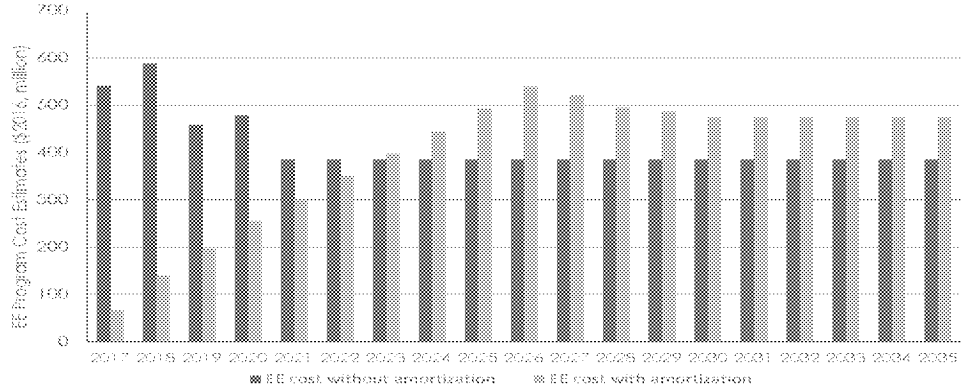
- **The Market Renewal Project**
  - The IESO is working with its stakeholders to consider important enhancements to Ontario's wholesale electricity market, and introducing a technology agnostic and competitive procurement of resources
  - Market Renewal will draw on lessons learned and best practices in Ontario and elsewhere to achieve material efficiencies in the near and longer term
  - The IESO is in the process of quantifying the expected benefits before committing to developing and implementing the various projects. The Benefits Case is expected to be completed in Q1 2017
- **NUG Re-negotiations**
  - The IESO has been pursuing more flexible operation from the natural gas NUGs still under contract with the OEFC
  - Potential for ratepayer savings of up to $135 million over four years based on avoided gas and variable O&M costs
  - This will also have the effect of reducing electricity sector GHG emissions

Additional rate mitigation options

- The IESO has included a number of additional measures that could be taken to help reduce or defer future rate increases, including:
  1. Amortization of conservation costs
  2. Eliminate planned and directed renewables procurements
  3. Halt the procurement of further gas Combined Heat and Power (CHP) projects allowed through the Conservation First Framework
  4. Continue to re-negotiate NUG Contracts
  5. Transfer certain electricity costs from the rate base to the tax base

1. Amortization of conservation costs

- Conservation program expenditures are approximately $500 M/year
- Treat conservation cost recovery consistent with generation and transmission
- A 10 year amortization period would decrease near-term ratepayer impacts , while increasing longer term rate impacts. The overall cost to ratepayers will be higher due to borrowing costs.



Option	2016 $ Million			
	2017	2018	2019	2020
Savings Through Conservation Amortization	**$473**	**$448**	**$263**	**$223**
% of Total Cost of Electricity Service	2.26%	2.15%	1.30%	1.05%
Monthly Residential Bill Savings, assuming 750 kWh/month ($ Nominal/mth)	**-$3.45**	**-$3.35**	**-$2.04**	**-$1.77**

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Conservation delivers savings over several years (approximately 10 years on average) but costs are incurred in the first year

Costs could be amortized to more closely align costs and benefits over time

This approach is used in some jurisdictions

Could create regulatory risk and uncertainty related to cost recovery that might discourage LDC participation

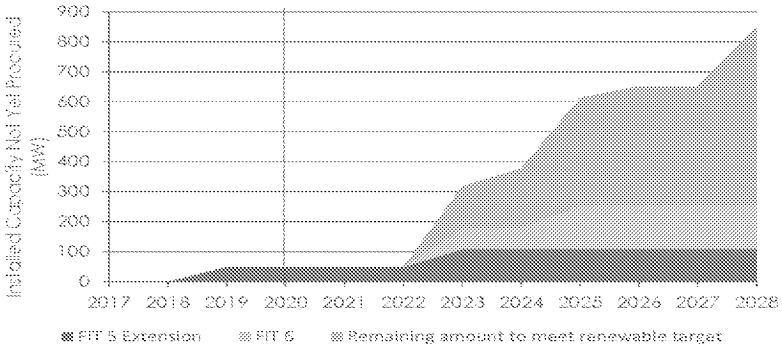
Some measures (i.e. Demand Response) have shorter persistence (1-5 years) than energy efficiency (up to 20 years) leading to some accounting complexity

Some conservation programs have long term contracts (i.e. Industrial Accelerator) that may be better aligned with this approach than residential programs where incentives are paid up front.

Costs are managed by the OPA and also by the OEB for LDC programs that are OEB approved, both are charged to the Global Adjustment

2. Eliminate planned and directed renewables procurements

- The elimination of remaining renewable target would help reduce rate increases with minimal impact on future capacity and reliability forecasts
- The majority of this capacity reduction will be achieved in the later part of the forecast, beyond 2020



Option	2016 $ Million											
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Savings Through Elimination of Remaining Renewables			**$18**	**$18**	**$18**	**$18**	**$48**	**$57**	**$92**	**$98**	**$98**	**$127**
% of Total Cost of Electricity Service	0.00%	0.00%	0.09%	0.08%	0.08%	0.08%	0.23%	0.27%	0.43%	0.48%	0.46%	0.61%
Monthly Residential Bill Savings, assuming 750 kWh/month ($ Nominal/Mth)	**$0.00**	**$0.00**	-$0.13	-$0.13	-$0.14	-$0.14	-$0.39	-$0.47	-$0.77	-$0.84	-$0.85	-$1.12

3. Halt procurement of further gas CHP projects

- The Conservation First Framework currently allows for the procurement of gas CHP facilities, which could also increase GHG emissions.
- The government could remove these types of facilities from the CFF and reduce costs and emissions from the electricity sector.
- Halting the procurement of these facilities would impact the overall CFF target, and those of specific LDCs

Option	2016 $ Million			
	2017	2018	2019	2020
Future CHP Gas Energy Saved (700 GWh) No phasing in period	**$0**	**$60**	**$60**	**$0**
% of Total Cost of Electricity Service	0.00%	0.29%	0.30%	0.00%
Monthly Residential Bill Savings, assuming 750 kWh/month ($ Nominal/mth)	**$0.00**	**-$0.44**	**-$0.45**	**$0.00**
Future CHP Gas Energy Saved (550 GWh) With phasing in period	**$0**	**$45**	**$45**	**$0**
% of Total Cost of Electricity Service	0.00%	0.22%	0.22%	0.00%
Monthly Residential Bill Savings, assuming 750 kWh/month ($ Nominal/mth)	**$0.00**	**-$0.33**	**-$0.34**	**$0.00**

Note: With phasing in period recognizes retaining applications that are in progress via customer discussion and are identified projects that are part of LDC plans

4. Re-negotiate NUG contracts

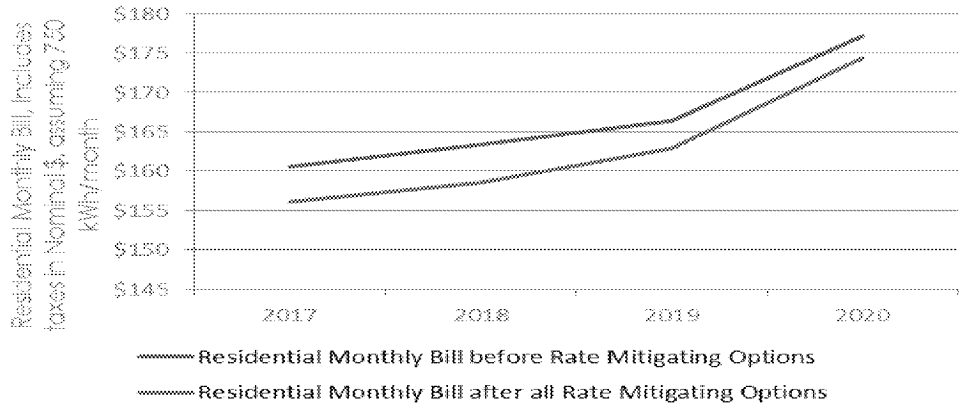
- Re-negotiating NUG contracts to seek greater flexibility from the resources and no longer operate as base load generators
- This will also have the effect of reducing surplus base load generation
- As the facilities will no longer operate 24/7 there will be an expected reduction in GHG emissions

Option	2016 $ Million			
	2017	2018	2019	2020
Savings Through Re-negotiating NUG contracts	**$60**	**$45**	**$15**	**$15**
% of Total Cost of Electricity Service	0.29%	0.22%	0.07%	0.07%
Monthly Residential Bill Savings, assuming 750 kWh/month ($ Nominal/mth)	**-$0.43**	**-$0.33**	**-$0.11**	**-$0.11**

5. Transferring costs to taxpayers

- Over the past decade investments made in the electricity sector achieved policy objectives beyond meeting electricity system reliability needs
- The costs of some of these policy-based initiatives could be transferred to the tax base, like the Industrial Electricity Incentive program that represents about $400 million over the next four years
- There are approximately $20 billion in yearly electricity system costs, so every $200 million transferred from the rate base to the tax base would reduce electricity system costs by approximately 1 percent annually
- There is also an opportunity for better coordination between the Conservation First Framework and Climate Change Action Plan between tax payer and rate payer programs

Residential Monthly Bill Impact with Rate Mitigating Options



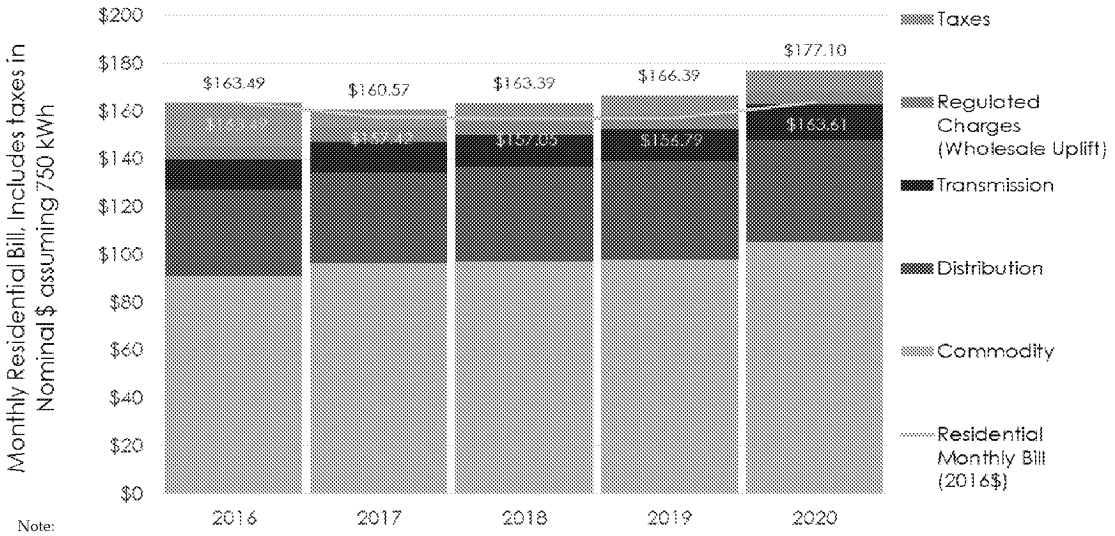
Residential Monthly Bill, Includes taxes in Nominal $, assuming 750 kWh/month

$ Nominal / Month	2017	2018	2019	2020
Residential Monthly Bill before Rate Mitigating Options	**$ 160.57**	**$ 163.39**	**$ 166.39**	**$ 177.10**
Renewables	$0.00	$0.00	-$0.13	-$0.13
IEI Transfer to Tax Base	-$0.63	-$0.86	-$0.87	-$0.80
CHP Conservation	$0.00	-$0.33	-$0.34	$0.00
Renegotiating NUGs	-$0.43	-$0.33	-$0.11	-$0.11
Conservation amortization	-$3.45	-$3.35	-$2.04	-$1.77
Total Cost Savings for all Rate Mitigating Options	-$4.51	-$4.87	-$3.49	-$2.82
Residential Monthly Bill after all Rate Mitigating Options	**$ 156.07**	**$ 158.52**	**$ 162.90**	**$ 174.28**

Appendix

Average Residential Electricity Bill

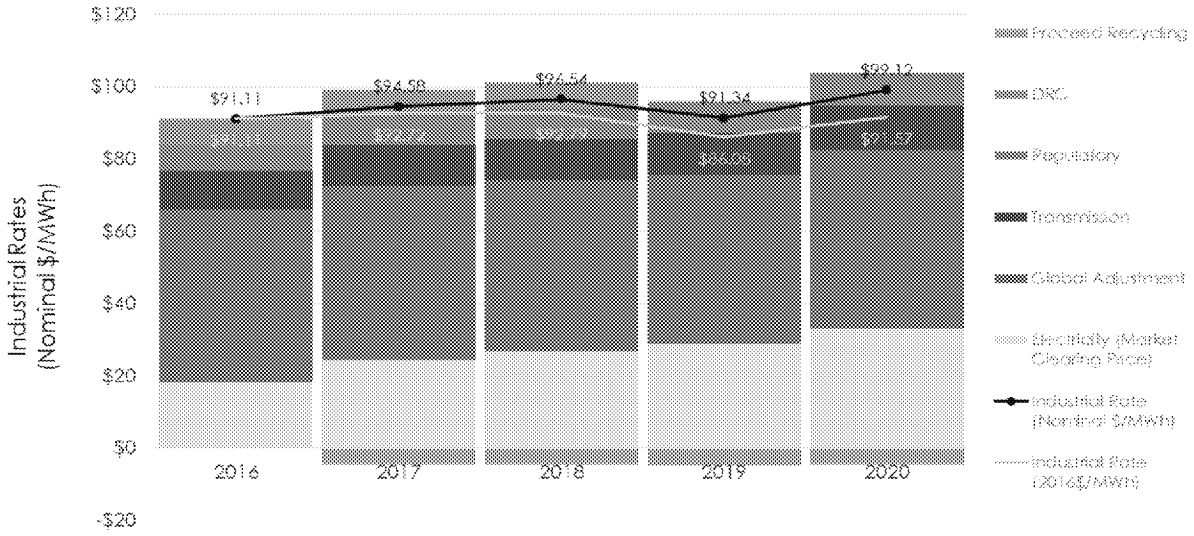
- Minor impact on upcoming residential bills
- The monthly residential bill assuming consumption of 750kWh/month will increase in nominal terms from $163.49/month in 2016 to $177.10/month by 2020, an annual average increase of 2.02% per year (0.02% per year in real).
- Includes 8% Rebate, MOE's estimated ICI Expansion, and RRRP costs increase



Note:
EB-2012-0410 proposing changes to residential distribution rates, transitioning from a mixed fixed/volumetric charge to a pure fixed charge. This change is not assumed in the above analysis

Industrial Electricity Rate

- Proceed Recycling estimate from MOE provides a benefit for industrial rates
- Increases by 2.1% annually in nominal dollars from 2016 to 2020 in nominal dollars (0.1% per year in 2016$ Real).
- In 2019, the upward trend is interrupted when the debt retirement charge is assumed to be eliminated for all remaining consumers.
- Includes MOE's estimated cost for Proceed Recycling and RRRP rate increase
- MOE assumes no impact on this "implied" Class A rate for expansion of the Class A customers (from >3MW to 1MW)



Note:
Industrial Customer assumes a direct connect customer, so no distribution costs are included