

## GLOBAL ADJUSTMENT (GA) SMOOTHING

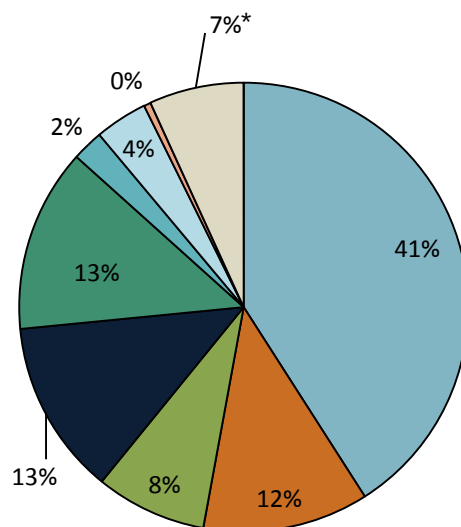
## Overview – GA Smoothing

- The Global Adjustment (GA) has risen over the past decade as the province's electricity system has decarbonized.
  - The vast majority of GA costs now stem from greenhouse gas (GHG) emissions-free renewable and nuclear generation facilities, as well as natural gas plants that were constructed to restore system reliability and replace coal-fired capacity.
  - Generators in Ontario received contracted or regulated rates, which are typically designed to recover capital, financing, and fixed operations costs. The GA recovers these fixed costs of running the province's generation fleet, as well as the cost of conservation programs.
- The majority of the province's electricity generators are under 20-year contracts and account for less than half of the GA. Some of these generators will continue to provide value to the electricity system beyond their contract lives (i.e., beyond 20-years).
  - There is an opportunity to recognize the long-term benefit of these assets to the electricity system and “bring forward” that benefit for ratepayers today by deferring some of the current costs.
  - GA Smoothing would spread these costs over a longer period and provide immediate ratepayer relief (i.e., similar to re-financing a mortgage). By recognizing that generation assets are expected to continue to provide residual benefit to future ratepayers, beyond the term of current contracts, future ratepayers are expected to be able to utilize these assets and reduce the need to finance the development of new generation assets.
- The GA Smoothing options under consideration are illustrative and show potential rate mitigation measures to meet a targeted 25%, 20% and 18% reduction from the projected residential bill in 2017.
  - These residential impacts are based on a forecast for a household connected to Toronto Hydro that consumes 750 kWh per month.
  - Actual ratepayer savings would vary due to differences in consumption patterns.
  - Targeted to residential and small business customers (RPP).
  - Rate increases would be capped at CPI for the first four years. Subsequent years would be set at or slightly above CPI in order to achieve OPG's financing requirements.

## GA Smoothing – Cost Breakout

- The Global Adjustment (GA) accounts for the fixed costs, including capital costs, of running Ontario's generation fleet, as well as the cost of conservation programs. The GA is instrumental in maintaining a reliable electricity system by ensuring that sufficient generating capacity is available.
  - Generators in Ontario received contracted or regulated rates, which are typically designed to recover capital, financing and fixed operations costs. Most generators are on 20-year contracts with the exception of hydroelectric and nuclear plants. They operate on longer contracts (or are regulated on a cost-of-service basis by the OEB) in recognition of the much longer operating lives of these facilities.
- Chart below shows the breakout of the GA by generator and program types. In 2016, the GA costs were \$12.3 billion. These costs will evolve over time as 2,181 MW of previously contracted generation comes online in the coming years.

**2016 GA Cost: \$12.3 billion**



|                                 |
|---------------------------------|
| Nuclear                         |
| Hydro                           |
| Natural Gas                     |
| Wind                            |
| Solar                           |
| Biomass, Landfill and Byproduct |
| Conservation                    |
| IEI Program                     |
| OEFC*                           |

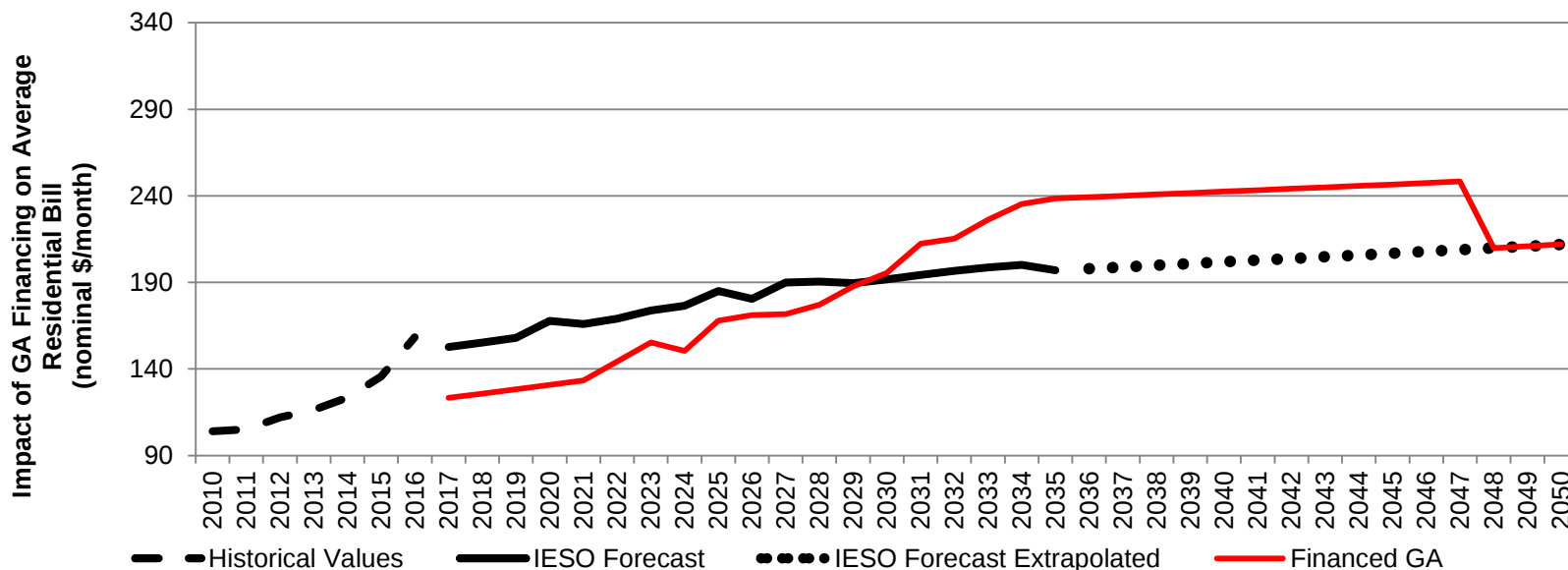
| GA (\$M) |
|----------|
| 5,053    |
| 1,473    |
| 985      |
| 1,552    |
| 1,630    |
| 278      |
| 467      |
| 60       |
| 842      |

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\*Note: OEFC indicates the cost of generator contracts managed by the OEFC which include contracts for natural gas, hydro and biomass generators.

\*\* Note: Conservation measures, not quantified here, serve to reduce Ontario energy demand. Actual electricity generation would be larger than 155 TWh in the absence of conservation programs.

## A. Option 1: GA Smoothing for RPP-Eligible Only (Borrow \$2.5 billion in 2017, Residential Bills Lowered 25%)



|                                                            | 2017  | 2018  | 2019  | 2020  | 2021  | 2022  | 2023  | 2024  | 2025  | 2026 | 2027  | 2028  | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | 2038 | 2039 | 2040 | 2041 | 2042 | 2043 | 2044 | 2045 | 2046 | 2047 | 2048 |
|------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Average Monthly Residential Bill Impact pre-tax (\$/month) | -26.1 | -26.1 | -26.2 | -32.8 | -28.7 | -22.0 | -16.3 | -23.0 | -15.2 | -8.4 | -16.1 | -11.8 | -1.7 | 3.3  | 15.9 | 16.5 | 24.3 | 31.1 | 36.7 | 36.5 | 36.4 | 36.2 | 36.1 | 35.9 | 35.8 | 35.6 | 35.5 | 35.3 | 35.2 | 35.0 | 34.9 | 0.0  |
| Total Accumulated Debt (\$ billion)                        | 2.5   | 5.1   | 7.9   | 11.4  | 14.6  | 17.6  | 20.2  | 23.6  | 26.4  | 28.6 | 31.7  | 34.5  | 36.4 | 38.0 | 38.3 | 38.5 | 37.9 | 36.6 | 34.5 | 32.4 | 30.1 | 27.7 | 25.2 | 22.6 | 19.8 | 16.9 | 13.9 | 10.7 | 7.3  | 3.7  | 0.0  | 0.0  |
| Total Change in Accumulated Debt (\$ billion)              | 2.5   | 2.6   | 2.8   | 3.5   | 3.2   | 3.0   | 2.6   | 3.4   | 2.8   | 2.2  | 3.1   | 2.8   | 1.9  | 1.5  | 0.3  | 0.2  | -0.6 | -1.3 | -2.1 | -2.2 | -2.3 | -2.4 | -2.5 | -2.6 | -2.8 | -2.9 | -3.1 | -3.2 | -3.4 | -3.5 | -3.7 | 0.0  |

**Notes:** Assumes 30 year financing period and a nominal interest rate of 5% (compounded monthly). Ratepayer GA payments increase annually beyond 2021 at the rate of inflation plus 0.3 percentage points with a limit of \$3.9 billion above the true cost of GA in any given year. IESO forecast is based on IESO's revised OPO forecast as of February 2017. Includes the cancellation of LRP II and EFW, expansion of ICI. Does not include smoothed OPG rates. Above residential bill is based on a 750 kWh per month Toronto Hydro customer.

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## A. Option 1: GA Smoothing for RPP-Eligible Only – Residential Bills Lowered 25% (with Tax-base Funded 8% Rebate and Social Programs, 2% increase)

- Total bill below is based on a revised IESO forecast. See footnotes for more information.

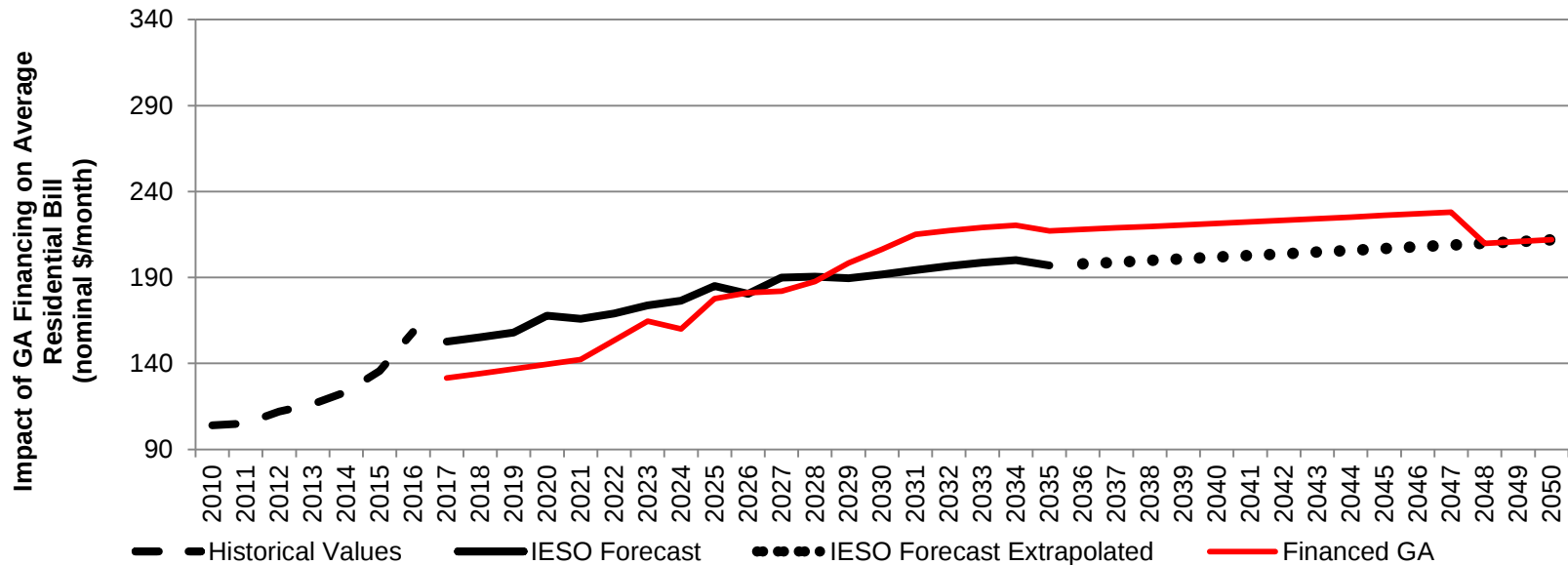
| Residential (750 kWh/month)          | Actual 2016 | 2017        | 2018        | 2019        | 2020        | 2021        |
|--------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Total Bill (includes HST)</b>     | <b>158</b>  | <b>164</b>  | <b>167</b>  | <b>170</b>  | <b>181</b>  | <b>178</b>  |
| Total Bill (excludes HST)            | 140         | 145         | 148         | 150         | 160         | 158         |
| Impact of GA Financing               |             | -26         | -26         | -26         | -32         | -28         |
| Impact of Tax-Basing Social Programs |             | -2          | -2          | -2          | -3          | -3          |
| Subtotal                             |             | 117         | 120         | 122         | 125         | 127         |
| 8% rebate                            |             | -9          | -10         | -10         | -10         | -10         |
| HST                                  |             | 15          | 16          | 16          | 16          | 17          |
| <b>Revised Bill (includes HST)</b>   | <b>158</b>  | <b>123</b>  | <b>126</b>  | <b>128</b>  | <b>131</b>  | <b>133</b>  |
| Year-over-Year Change                |             | -22%        | 2%          | 2%          | 2%          | 2%          |
| <b>Change from Forecast</b>          |             | <b>-25%</b> | <b>-25%</b> | <b>-25%</b> | <b>-28%</b> | <b>-25%</b> |

| Commercial & Small Industrial (\$/MWh)      | Actual 2016 | 2017       | 2018       | 2019       | 2020       | 2021       |
|---------------------------------------------|-------------|------------|------------|------------|------------|------------|
| <b>Class B Total (excludes HST)</b>         | <b>160</b>  | <b>165</b> | <b>160</b> | <b>162</b> | <b>173</b> | <b>169</b> |
| <b>Class B Revised Total (excludes HST)</b> | <b>160</b>  | <b>162</b> | <b>157</b> | <b>159</b> | <b>170</b> | <b>166</b> |
| Year-over-Year Change                       |             | 1%         | -3%        | 1%         | 7%         | -2%        |
| Change from Forecast                        |             | -2%        | -2%        | -2%        | -2%        | -2%        |

| Large Industrial (\$/MWh)                   | Actual 2016 | 2017      | 2018      | 2019      | 2020      | 2021      |
|---------------------------------------------|-------------|-----------|-----------|-----------|-----------|-----------|
| <b>Class A Total (excludes HST)</b>         | <b>90</b>   | <b>91</b> | <b>93</b> | <b>88</b> | <b>95</b> | <b>96</b> |
| <b>Class A Revised Total (excludes HST)</b> | <b>90</b>   | <b>88</b> | <b>90</b> | <b>84</b> | <b>92</b> | <b>93</b> |
| Year-over-Year Change                       |             | -2%       | 2%        | -6%       | 9%        | 1%        |
| Change from Forecast                        |             | -4%       | -4%       | -4%       | -4%       | -4%       |

**Notes:** Based on IESO's revised OPO forecast as of February 2017. Includes the cancellation of LRP II and EFW, expansion of ICI. Does not include smoothed OPG rates. Above residential bill is based on a 750 kWh per month Toronto Hydro customer. Above Class B estimate based on a 1 MW customer connected to Toronto Hydro, assumes delivery charge escalates as per residential forecast. "Social programs" refers to existing RRRP and OESP. While initiatives would take several months to implement, the above estimate for 2017 reflects a full-year impact. The 8% rebate above represents savings compared to status quo due to the reduction in the sub-total from GA financing.

## A. Option 2: GA Smoothing for RPP-Eligible Only (Borrow \$1.7 billion in 2017, Residential Bills Lowered 20%)



|                                                            | 2017  | 2018  | 2019  | 2020  | 2021  | 2022  | 2023 | 2024  | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | 2038 | 2039 | 2040 | 2041 | 2042 | 2043 | 2044 | 2045 | 2046 | 2047 | 2048 |
|------------------------------------------------------------|-------|-------|-------|-------|-------|-------|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Average Monthly Residential Bill Impact pre-tax (\$/month) | -18.8 | -18.7 | -18.7 | -25.0 | -20.8 | -14.0 | -8.1 | -14.6 | -6.5 | 0.5  | -7.0 | -2.5 | 7.8  | 12.9 | 18.4 | 18.3 | 18.1 | 18.0 | 17.8 | 17.7 | 17.6 | 17.6 | 17.5 | 17.4 | 17.3 | 17.3 | 17.2 | 17.1 | 17.0 | 17.0 | 16.9 | 0.0  |
| Total Accumulated Debt (\$ billion)                        | 1.7   | 3.6   | 5.5   | 8.1   | 10.3  | 12.3  | 13.7 | 15.9  | 17.4 | 18.3 | 19.9 | 21.2 | 21.5 | 21.2 | 20.4 | 19.6 | 18.7 | 17.7 | 16.7 | 15.7 | 14.6 | 13.4 | 12.2 | 10.9 | 9.6  | 8.2  | 6.7  | 5.2  | 3.5  | 1.8  | 0.0  | 0.0  |
| Total Change in Accumulated Debt (\$ billion)              | 1.7   | 1.8   | 1.9   | 2.6   | 2.3   | 2.0   | 1.5  | 2.2   | 1.5  | 0.8  | 1.7  | 1.3  | 0.3  | -0.2 | -0.8 | -0.9 | -0.9 | -0.9 | -1.0 | -1.0 | -1.1 | -1.2 | -1.2 | -1.3 | -1.3 | -1.4 | -1.5 | -1.6 | -1.6 | -1.7 | -1.8 | 0.0  |

**Notes:** Assumes 30 year financing period and a nominal interest rate of 5% (compounded monthly). Ratepayer GA payments increase annually beyond 2021 at the rate of inflation plus 0.3 percentage points with a limit of \$1.9 billion above the true cost of GA in any given year. IESO forecast is based on IESO's revised OPO forecast as of February 2017. Includes the cancellation of LRP II and EFW, expansion of ICI. Does not include smoothed OPG rates. Above residential bill is based on a 750 kWh per month Toronto Hydro customer.

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## A. Option 2: GA Smoothing for RPP-Eligible Only – Residential Bills Lowered 20% (with Tax-base Funded 8% Rebate and Social Programs, 2% increase)

- Total bill below is based on a revised IESO forecast. See footnotes for more information.

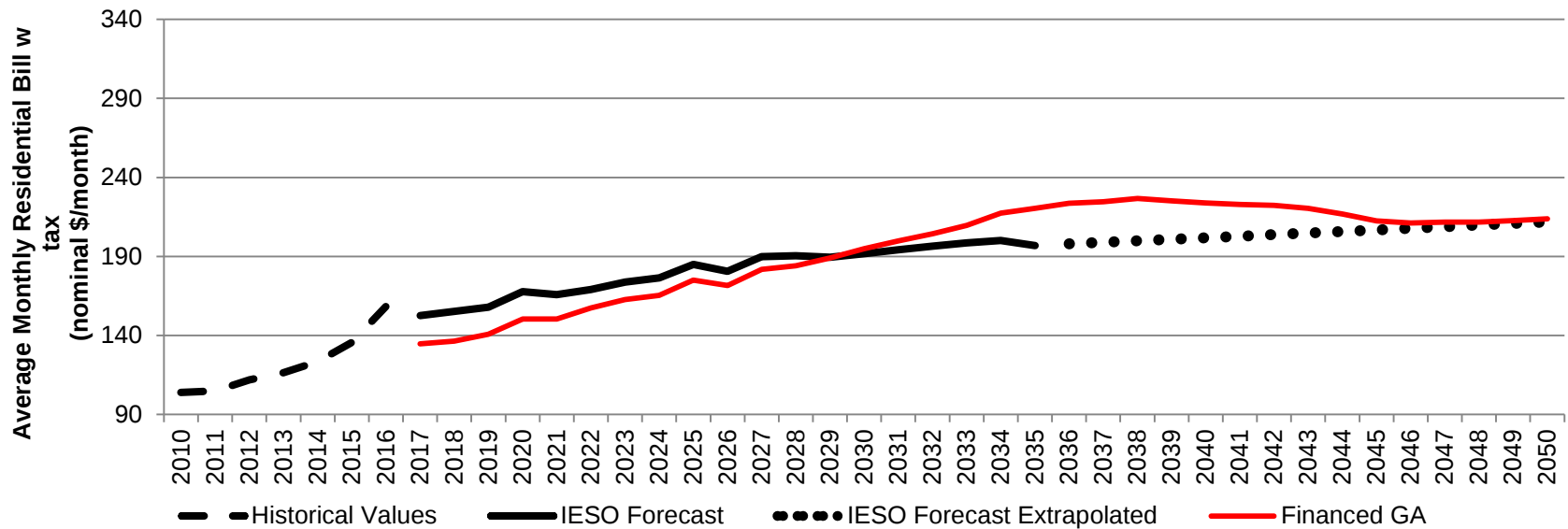
| Residential (750 kWh/month)          | Actual 2016 | 2017        | 2018        | 2019        | 2020        | 2021        |
|--------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Total Bill (includes HST)</b>     | <b>158</b>  | <b>164</b>  | <b>167</b>  | <b>170</b>  | <b>181</b>  | <b>178</b>  |
| Total Bill (excludes HST)            | 140         | 145         | 148         | 150         | 160         | 158         |
| Impact of GA Financing               |             | -18         | -18         | -18         | -24         | -19         |
| Impact of Tax-Basing Social Programs |             | -2          | -2          | -2          | -3          | -3          |
| Subtotal                             |             | 125         | 128         | 130         | 133         | 136         |
| 8% rebate                            |             | -10         | -10         | -10         | -11         | -11         |
| HST                                  |             | 16          | 17          | 17          | 17          | 18          |
| <b>Revised Bill (includes HST)</b>   | <b>158</b>  | <b>131</b>  | <b>134</b>  | <b>137</b>  | <b>140</b>  | <b>142</b>  |
| Year-over-Year Change                |             | -17%        | 2%          | 2%          | 2%          | 2%          |
| <b>Change from Forecast</b>          |             | <b>-20%</b> | <b>-20%</b> | <b>-19%</b> | <b>-23%</b> | <b>-20%</b> |

| Commercial & Small Industrial (\$/MWh)      | Actual 2016 | 2017       | 2018       | 2019       | 2020       | 2021       |
|---------------------------------------------|-------------|------------|------------|------------|------------|------------|
| <b>Class B Total (excludes HST)</b>         | <b>160</b>  | <b>165</b> | <b>160</b> | <b>162</b> | <b>173</b> | <b>169</b> |
| <b>Class B Revised Total (excludes HST)</b> | <b>160</b>  | <b>162</b> | <b>157</b> | <b>159</b> | <b>170</b> | <b>166</b> |
| Year-over-Year Change                       |             | 1%         | -3%        | 1%         | 7%         | -2%        |
| Change from Forecast                        |             | -2%        | -2%        | -2%        | -2%        | -2%        |

| Large Industrial (\$/MWh)                   | Actual 2016 | 2017      | 2018      | 2019      | 2020      | 2021      |
|---------------------------------------------|-------------|-----------|-----------|-----------|-----------|-----------|
| <b>Class A Total (excludes HST)</b>         | <b>90</b>   | <b>91</b> | <b>93</b> | <b>88</b> | <b>95</b> | <b>96</b> |
| <b>Class A Revised Total (excludes HST)</b> | <b>90</b>   | <b>88</b> | <b>90</b> | <b>84</b> | <b>92</b> | <b>93</b> |
| Year-over-Year Change                       |             | -2%       | 2%        | -6%       | 9%        | 1%        |
| Change from Forecast                        |             | -4%       | -4%       | -4%       | -4%       | -4%       |

**Notes:** Based on IESO's revised OPO forecast as of February 2017. Includes the cancellation of LRP II and EFW, expansion of ICI. Does not include smoothed OPG rates. Above residential bill is based on a 750 kWh per month Toronto Hydro customer. Above Class B estimate based on a 1 MW customer connected to Toronto Hydro, assumes delivery charge escalates as per residential forecast. "Social programs" refers to existing RRRP and OESP. While initiatives would take several months to implement, the above estimate for 2017 reflects a full-year impact. The 8% rebate above represents savings compared to status quo due to the reduction in the sub-total from GA financing.

## A. Option 3: GA Smoothing for RPP-Eligible Only (Borrow \$1.4 billion in 2017, Residential Bills Lowered 18%)



|                                                            | 2017  | 2018  | 2019  | 2020  | 2021  | 2022  | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | 2038 | 2039 | 2040 | 2041 | 2042 | 2043 | 2044 | 2045 | 2046 | 2047 | 2048 |
|------------------------------------------------------------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Average Monthly Residential Bill Impact pre-tax (\$/month) | -15.9 | -16.7 | -15.2 | -15.4 | -13.6 | -10.3 | -9.8 | -9.7 | -8.8 | -7.8 | -7.1 | -5.5 | -0.5 | 2.8  | 5.0  | 6.9  | 9.8  | 15.3 | 20.7 | 22.8 | 22.8 | 23.6 | 21.5 | 19.4 | 17.8 | 16.4 | 13.9 | 9.8  | 5.0  | 3.0  | 2.7  | 1.6  |
| Total Accumulated Debt (\$ billion)                        | 1.4   | 3.1   | 4.6   | 6.1   | 7.5   | 9.0   | 10.4 | 12.0 | 13.5 | 15.0 | 16.5 | 17.9 | 18.8 | 19.5 | 20.0 | 20.3 | 20.3 | 19.8 | 18.5 | 17.0 | 15.5 | 13.7 | 12.1 | 10.6 | 9.1  | 7.8  | 6.7  | 5.9  | 5.7  | 5.6  | 5.7  |      |
| Total Change in Accumulated Debt (\$ billion)              | 1.4   | 1.6   | 1.5   | 1.5   | 1.4   | 1.4   | 1.5  | 1.5  | 1.5  | 1.5  | 1.5  | 1.4  | 1.0  | 0.7  | 0.5  | 0.3  | 0.0  | -0.6 | -1.2 | -1.5 | -1.6 | -1.8 | -1.6 | -1.5 | -1.4 | -1.3 | -1.1 | -0.7 | -0.3 | -0.0 | -0.0 | 0.1  |

**Notes:** Assumes financing of all non-nuclear IESO contracts for an additional 10 years beyond the life of each contract and 15 year financing of the conservation cost in any given year. Assumes a nominal interest rate of 5% (compounded monthly). IESO forecast is based on IESO's revised OPO forecast as of February 2017. Includes the cancellation of LRP II and EFW, expansion of ICI. Does not include smoothed OPG rates. Above residential bill is based on a 750 kWh per month Toronto Hydro customer.

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## A. Option 3: GA Smoothing for RPP-Eligible Only – Residential Bills Lowered 18% (with Tax-Base Funded 8% Rebate and Social Programs)

- Total bill below is based on a revised IESO forecast. See footnotes for more information.

| Residential (750 kWh/month)          | Actual 2016 | 2017        | 2018        | 2019        | 2020        | 2021        |
|--------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Total Bill (includes HST)</b>     | <b>158</b>  | <b>164</b>  | <b>167</b>  | <b>170</b>  | <b>181</b>  | <b>178</b>  |
| Total Bill (excludes HST)            | 140         | 145         | 148         | 150         | 160         | 158         |
| Impact of GA Financing               |             | -15         | -16         | -14         | -14         | -12         |
| Impact of Tax-Basing Social Programs |             | -2          | -2          | -2          | -3          | -3          |
| Subtotal                             |             | 128         | 130         | 134         | 143         | 143         |
| 8% rebate                            |             | -10         | -10         | -11         | -11         | -11         |
| HST                                  |             | 17          | 17          | 17          | 19          | 19          |
| <b>Revised Bill (includes HST)</b>   | <b>158</b>  | <b>135</b>  | <b>136</b>  | <b>141</b>  | <b>150</b>  | <b>150</b>  |
| Year-over-Year Change                |             | -15%        | 1%          | 3%          | 7%          | 0%          |
| <b>Change from Forecast</b>          |             | <b>-18%</b> | <b>-18%</b> | <b>-17%</b> | <b>-17%</b> | <b>-16%</b> |

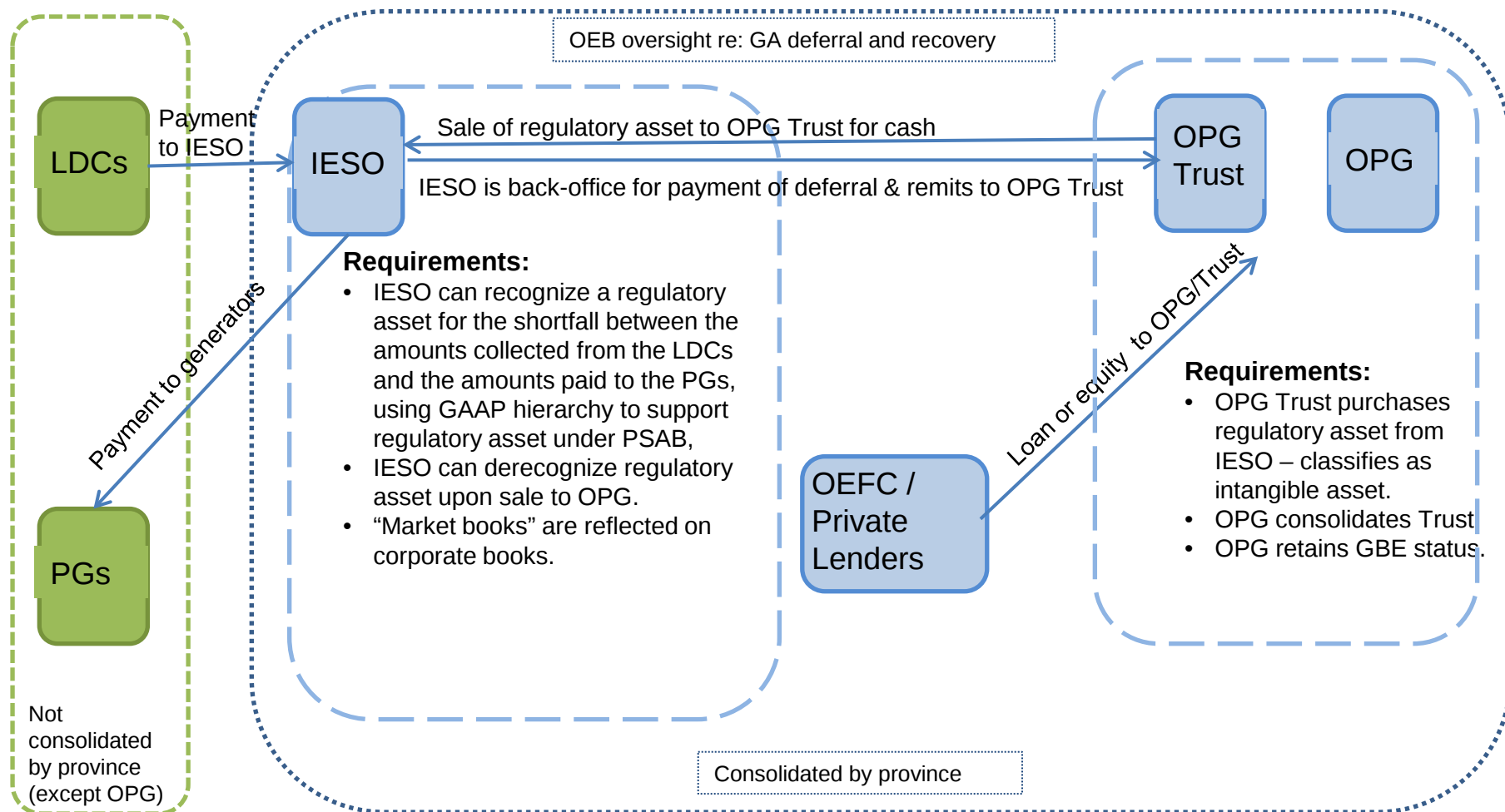
| Commercial & Small Industrial (\$/MWh)      | Actual 2016 | 2017       | 2018       | 2019       | 2020       | 2021       |
|---------------------------------------------|-------------|------------|------------|------------|------------|------------|
| <b>Class B Total (excludes HST)</b>         | <b>160</b>  | <b>165</b> | <b>160</b> | <b>162</b> | <b>173</b> | <b>169</b> |
| <b>Class B Revised Total (excludes HST)</b> | <b>160</b>  | <b>162</b> | <b>157</b> | <b>159</b> | <b>170</b> | <b>166</b> |
| Year-over-Year Change                       |             | 1%         | -3%        | 1%         | 7%         | -2%        |
| Change from Forecast                        |             | -2%        | -2%        | -2%        | -2%        | -2%        |

| Large Industrial (\$/MWh)                   | Actual 2016 | 2017      | 2018      | 2019      | 2020      | 2021      |
|---------------------------------------------|-------------|-----------|-----------|-----------|-----------|-----------|
| <b>Class A Total (excludes HST)</b>         | <b>90</b>   | <b>91</b> | <b>93</b> | <b>88</b> | <b>95</b> | <b>96</b> |
| <b>Class A Revised Total (excludes HST)</b> | <b>90</b>   | <b>88</b> | <b>90</b> | <b>84</b> | <b>92</b> | <b>93</b> |
| Year-over-Year Change                       |             | -2%       | 2%        | -6%       | 9%        | 1%        |
| Change from Forecast                        |             | -4%       | -4%       | -4%       | -4%       | -4%       |

**Notes:** Based on IESO's revised OPO forecast as of February 2017. Includes the cancellation of LRP II and EFW, expansion of ICI. Does not include smoothed OPG rates. Above residential bill is based on a 750 kWh per month Toronto Hydro customer. Above Class B estimate based on a 1 MW customer connected to Toronto Hydro, assumes delivery charge escalates as per residential forecast. "Social programs" refers to existing RRRP and OESP. While initiatives would take several months to implement, the above estimate for 2017 reflects a full-year impact. The 8% rebate above represents savings compared to status quo due to the reduction in the sub-total from GA financing.

## B. GA Smoothing – Potential Structure

- The following diagram provides an overview of a potential GA smoothing structure, as well as interactions between sector entities and elements required to meet accounting objectives.



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**Note:** Proposed structure is subject to legal and accounting confirmation, absent that confirmation, there would be a fiscal impact to the province.

## GA Smoothing – Accounting Considerations

- Analysis is not complete; several requirements (below) are high risk re: satisfactory resolution.
- Complexity of the structure and length of deferral/recovery increase risk and decrease transparency
- If all requirements can be met, an accounting analysis is expected to support: (1) increase in provincial borrowing (2) no increase in net debt, and (3) no impact on annual surplus/deficit, but depending on funding to OPG/Trust from Province, an increase in interest on debt and an increase in income from OPG will result.
- IESO requirements – IESO Finance, KPMG (Energy advisor and IESO auditor), OPCD and EY (OPCD advisor) are evaluating accounting risks:
  - IESO can recognize a regulatory asset for the shortfall between the amounts collected from the LDCs and the amounts paid to the PGs using GAAP hierarchy to support regulatory asset under PSAB
  - IESO can derecognize regulatory asset upon sale to OPG; and
  - “Market books” are reflected on corporate books.
- OPG requirements – OPG Finance, EY (OPG auditor), PwC (OPG Advisor), and OPCD are evaluating accounting risks:
  - OPG Trust purchases regulatory asset from IESO – classifies as intangible asset;
  - OPG consolidates Trust; and
  - OPG retains GBE status.
- No discussion with OAG; in previous Annual Reports, the OAG has raised concerns about the appropriateness of recognizing rate regulated assets and liabilities.

## GA Smoothing – IESO Considerations

- The *Electricity Act* enables IESO to recover from ratepayers the amounts paid to generators, distributors or other contracted entities.
- The accounting advice received by IESO is that reflecting market balances and regulated assets is a more appropriate presentation for its financial statements going forward.
- The IESO is characterized as an Other Government Organization (OGO) and consolidated on a line by line basis into the Provincial books.

| Issue                                    | Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Can IESO adopt regulatory accounting? | <ul style="list-style-type: none"> <li>• Public sector accounting does not address regulated assets.</li> <li>• Guidance can be drawn from other accounting bodies.</li> <li>• US Federal Accounting Standards Advisory Board (FASB), US Governmental Accounting Standards Board (GASB) and International Accounting Standards Board (IASB) do provide guidance.</li> <li>• FASB accounting standard 980 and IASB have specific references that support the adoption of regulatory accounting.</li> </ul> <p><b>Conclusion:</b> There is a hierarchy of accounting principles that support this approach.</p> |

## GA Smoothing – IESO Considerations

| Issue                                                                                                         | Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>2. Can IESO recognize the GA deferral as a regulatory variance account?</p>                                | <p>Criteria for recognition are:</p> <ul style="list-style-type: none"> <li>• Rates are established by or are subject to approval by an independent, third-party regulator.</li> <li>• Rates are designed to recover the specific costs of regulated business-type activities.</li> <li>• In view of demand, it is reasonable to assume that rates will be set to recover the regulated business-type and can be collected from customers.</li> </ul> <p><b>Conclusion:</b> Currently rates are approved by the OEB, legislation creates the right to collection, currently and in the future. The IESO can recognize this as a regulatory asset.</p> |
| <p>3. Can IESO sell the variance account related to the deferral of the annual Global Adjustment account?</p> | <ul style="list-style-type: none"> <li>• The sale of the variance account to OPG Trust must be structured as an absolute assignment of future economic benefits of the Asset with no obligations, rights or benefits remaining of IESO.</li> <li>• In that case, this would represent a sale of the future right to collect these amounts from the ratepayer.</li> </ul> <p><b>Conclusion:</b> Based upon proposed terms of the sale agreement, there would be no future economic benefit for IESO. Risk and rewards are entirely transferred to OPG Trust.</p>                                                                                       |

CONFIDENTIAL CABINET DOCUMENT

## GA Smoothing – OPG Accounting Considerations

- An SPV/Trust is a stand-alone entity able to conduct business separately under a Trust agreement.  
**Note:** The conditions required for OPG to consolidate the SPV/Trust are outlined in the following table

| Issue              | Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Decision Making | <ul style="list-style-type: none"> <li>OPG must have decision making authority on the operation of the SPV/Trust (without a veto right by the Province), including naming of trustees, establishing operating plans and budgets, setting or changing financing policies.</li> <li>The SPV/Trust while operating within the legislation, must be controlled by OPG to operate freely and to alter terms and conditions not specified in the legislation to ensure recovery of the deferred amounts.</li> </ul> |
| 2. Business Risk   | <ul style="list-style-type: none"> <li>The SPV/Trust must have variability of returns as a normal business enterprise would, including such things as interest charged on deferred amounts, decisions on how to finance these deferred amounts, the ability to make / lose and keep any spread from financing.</li> </ul>                                                                                                                                                                                     |
| 3. Funding         | <ul style="list-style-type: none"> <li>The Province cannot directly or indirectly fund more than 50% of SPV/Trust or any investment in the SPV/Trust.</li> <li>OPG must own at least 50% of the most exposed equity /sub-debt in the SPV/Trust.</li> </ul>                                                                                                                                                                                                                                                    |
| 4. Directive       | <ul style="list-style-type: none"> <li>Directive that is issued should not be prescriptive or direct OPG to set up this business. The directive should only be “guiding” i.e. to allow OPG to evaluate options and put forward to the OPG Board a recommended plan for Shareholder approval.</li> </ul>                                                                                                                                                                                                       |

## GA Smoothing – OPG Accounting Considerations (cont'd)

| Issue                        | Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5. Other required Attributes | <ul style="list-style-type: none"> <li>• The legislation that supports the formation of the SPV/Trust must have the following attributes: <ul style="list-style-type: none"> <li>– Must require interest, carrying and administrative costs be paid to the Trust to allow for Revenue recognition;</li> <li>– The amount to be deferred must either be specified or be calculated based on a specific formula that is not subject to ongoing decision making by the Province. <b><u>The Province cannot have the ability to override this formula;</u></b></li> <li>– Legislation should be written to avoid the possibility of being revoked with wording to ensure the SPV/Trust and its debt holders would have their capital guaranteed and paid for directly by the Province if such a situation were to happen; and</li> <li>– The spirit of the legislation should be reflected in the Trust Indenture Agreement.</li> </ul> </li> </ul> |

## GA Smoothing – OPG's Financing Structure Requirements

### KEY ELEMENTS REQUIRED TO ENSURE THE DEFERRAL OF GA CHARGES CAN BE FINANCED:

#### **Creation of Strong Property Rights**

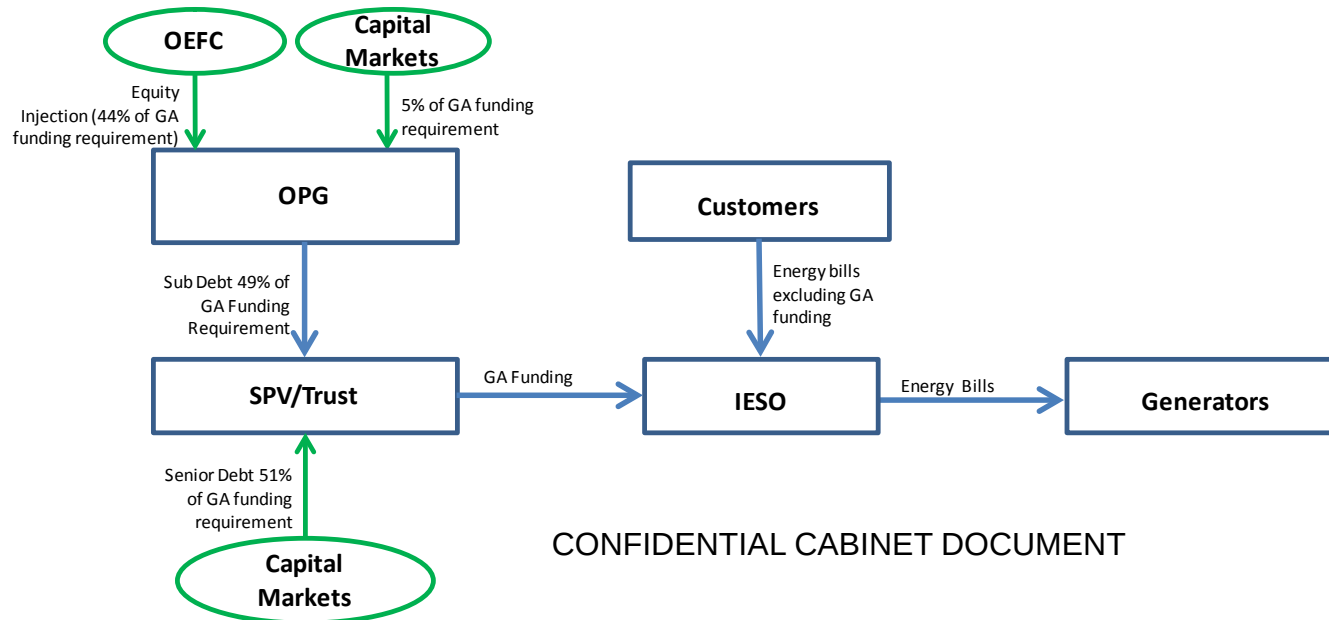
- Legislation enshrines the ability of the IESO to create a Right to charge customers in the future for the Global Adjustment (GA) deferred today including principal amount deferred, interest and other financing costs on the amount deferred and fees, expenses and other administrative costs.
- The Right can be sold to an appropriate Trust or Special Purpose Vehicle (SPV) to obtain funds to pay amounts due to generators under contracts or regulation. These SPVs are generally single purpose entities with no other operations that could add risk to the entity, dilute debt holder rights, allow parties from other operations to claim rights to the future recovery from customers or allow these other parties to initiate bankruptcy proceedings.
- Right must be irrevocable and if the Right is amended by future governments the debt holders have the right of action against the government to recover the amount outstanding including interest, fees, expenses and any damages resulting from the amendment.
- Right must specify the recovery period or the mechanism for setting the recovery rate including true up of the rate to ensure all amounts are recovered.

#### **Economic Factors**

- Limits on the recovery amount (principal, interest, fees and expenses) charged to customers in future periods must have compensating elements such as longer recovery period to ensure the full amount deferred plus interest, financing and other administration costs is recovered from customers.
- Need to balance customer relief with debt holder risk. Longer recovery periods and larger deferred balances increase risk to the debt holder of future government intervention.
- The amount required by the SPV to purchase and service the Right will be funded 51% from debt holders, 5% from OPG through capital markets and 44% from OPG via equity injection to OPG from the Province. The funding from OPG will be loaned to the SPV as subordinated debt.

## GA Smoothing – OPG’s Financing Structure Requirements (cont’d)

- SPV will be used to raise the GA financing and ring fence OPG from its legal obligations
- SPV will be structured to allow for GBE accounting consolidation into OPG
- Given that SPV will be consolidated into OPG for accounting purposes, the significant amount of debt required to fund the GA deferral will have a severe impact on OPG’s credit rating. If 100% of the requirement is funded by debt OPG would be downgraded.
- To manage this exposure and minimize the cost of funding. The required funding would be split into 2 buckets:
  1. 56% from capital markets; and
  2. The remainder provided by the Province via equity injection, which would be loaned to SPV as subordinated debt.
- The use of equity to fund a portion of the GA deferral also allows for an improvement in both Net Income and EBITDA as incremental revenue is captured by the increase in the value of the deferral which would offset the fiscal impact of the borrowing at Province level.
- Credit rating metrics are generally maintained within established limits.



## GA Smoothing – OEB Considerations

- Placeholder

## GA Smoothing – Legal Considerations

- The current GA amount paid by consumers is a regulatory charge. One of the requirements of a valid regulatory charge (as opposed to a tax) is that the person paying the charge either benefits from the regulatory structure or causes the need for regulation.
- In principle, refinancing the GA to spread the costs of generation and conservation assets over the useful life of the assets presents only a low risk of being a tax, as each cohort of consumers pays for a proportion of the GA cost roughly equal to the proportion of the benefit they receive from the useful life of the assets.
- A proposal for refinancing the GA that appears to cross-subsidize near-term consumers at the expense of long-term consumers by back-loading costs more than if costs were spread equally over the estimated lifespan of generation and conservation assets presents a moderately high risk (more likely than not) of constituting a tax.
- Were the charge characterized as a tax, in the event of a challenge, it would be struck down by a court as unconstitutional and consumers would be entitled to recover their payments. This risk could be eliminated, either up front or retroactively, by the imposition of a valid tax.

## GA Smoothing – Policy Considerations

- Borrowing money to smooth the Global Adjustment (GA), while lowering costs in the short term, results in a more rapid rise in electricity prices beyond the rate of increase already expected.
  - In addition, should Ontario electricity demand be lower than forecasted, the cost of paying off the debt will be spread over a smaller pool of consumption, further increasing future costs for individual ratepayers.
- The impacts are also based on a GA forecast. Since the GA fluctuates, actuals will vary based on demand, the addition of new generation and natural gas prices.
  - A “true-up” mechanism will be required to account for the difference between the “estimate” and “actual” GA costs.
- Although Class B electricity consumers, such as commercial and small industries, do not receive the benefit of GA Smoothing (i.e., because it is only targeted to RPP consumers), proposals to off-set their electricity costs are considered later in the submission (e.g., such proposals include ending DRC early, lowering the ICI threshold, etc).
  - Class B consumers have raised concerns about the cost of electricity and its impact on their business competitiveness.
  - Government is developing an option that would provide rate relief for Class B consumers.
- Given the legal framework the amount of GA smoothing needs to be proportionate to the generating contracts (i.e., 20-year) and the additional years of generation services still available (i.e., additional 10-years of service).
- Rating agencies and investors in the Province’s debt may view this borrowing as an obligation of the Province, regardless of accounting treatment. Depending on the magnitude of the debt to be incurred could have an impact on the Province’s borrowing cost.

## GA Smoothing – Fiscal Considerations

- If the proposed legal and accounting treatment of the GA financing smoothing proposal is not implemented, there would be a negative impact on the province's fiscal plan, as shown below.
- The table below shows the projected fiscal savings /costs related to GA smoothing Options 1 and 2 under these two legal/accounting treatment scenarios

| <b>Fiscal Impact (\$M)</b>                  | <b>2017-18</b> | <b>2018-19</b> | <b>2019-20</b> | <b>2020-21</b> | <b>2021-22</b> |
|---------------------------------------------|----------------|----------------|----------------|----------------|----------------|
| Without Proposed Legal/Accounting Treatment |                |                |                |                |                |
| Option 1 - Bills Lowered by 25%, RPP Only*  | 2,266          | 2,372          | 2,633          | 3,096          | 2,775          |
| Option 2 - Bills Lowered by 20%, RPP Only*  | 1,574          | 1,632          | 1,844          | 2,282          | 1,988          |
| Option 3 - Bills Lowered by 18%, RRP Only*  | 1,487          | 1,585          | 1,524          | 1,503          | 1,429          |

\*Numerical values represent amount borrowed in indicated fiscal year plus accumulated interest from previous year's accumulated debt

Source: Ministry of Energy

## Legislative Authority – Considerations

### GA Smoothing

- **Amendments to *Electricity Act, 1998 (EA)* and *Ontario Energy Board Act, 1998 (OEBA)***
  - The OPG Trust will require authority to recover principle, interest and administrative costs through GA from customers.
  - Legislation would authorize IESO to collect amounts on behalf of the OPG Trust and settle accounts with the OPG Trust as a service provider. Regulatory amendments to GA Regulations would require IESO to:
    - o Separately settle and track amounts received from the Financing Subsidiary to lower GA (including maintaining variance accounts).
    - o Separately settle and track amounts paid back to the Financing Subsidiary (including maintaining variance accounts).
    - o Distributors would continue to collect from consumers and settle with IESO. Generators would continue to be paid by IESO.
  - OEBA-related amendments would allow for OEB oversight. Light touch would focus on the borrowing entity's recovery of administrative costs and its calculation of amounts owing in a period. Heavy touch would give OEB the discretion to determine repayment over time.
  - The certainty of the legislative mechanism to recover the debt and interest, and the extent of discretion of the OEB to alter either amount over time, will have impacts on the availability and cost of capital.
  - Further legal analysis is required as the GA option is developed.