Ontario

MINISTRY OF
ENERGY

# Rate Mitigation Plan – GA Smoothing Options

## Working Draft

February 2017

CONFIDENTIAL DRAFT

# 1a. Residential Bills Lowered 25% (with Tax-Base Funded 8% Rebate and Social Programs)

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

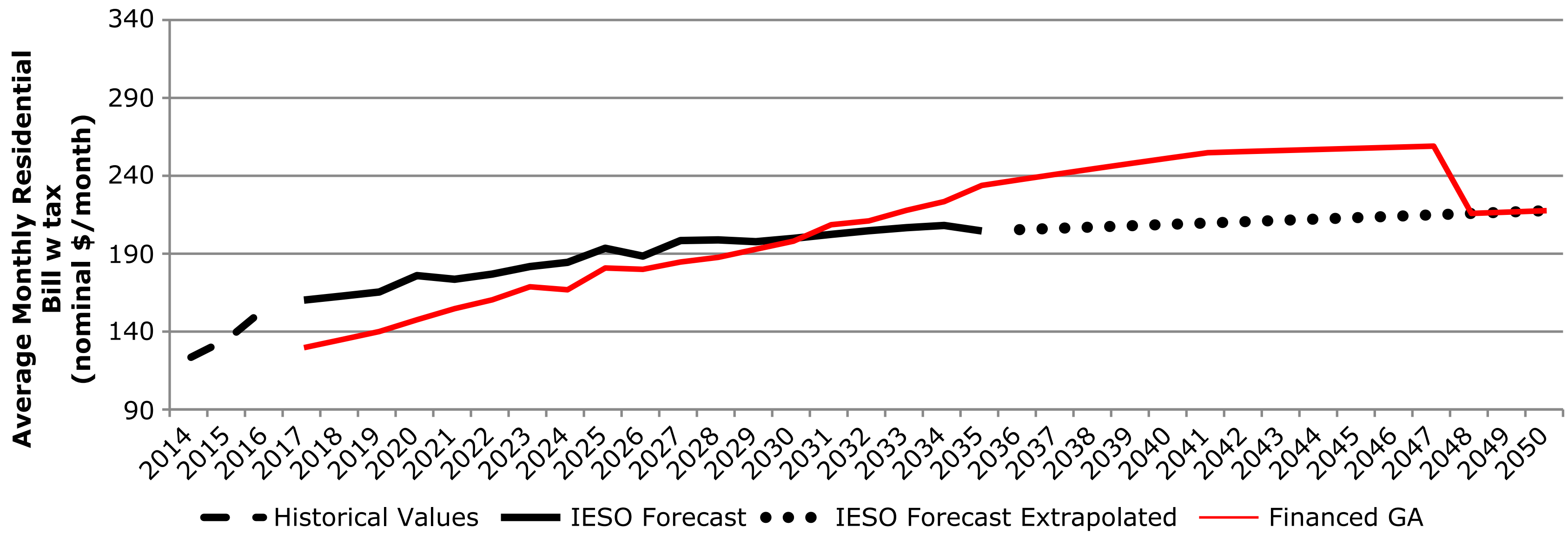
| Residential ($/month) | Actual 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|
| **Total Bill (includes HST)** | **163** | **172** | **175** | **178** | **189** |
| Total Bill (excludes HST) | 145 | 153 | 155 | 158 | 168 |
| Impact of GA Smoothing | | -27 | -25 | -22 | -25 |
| Impact of Tax-Basing Social Programs | | -2 | -2 | -2 | -3 |
| Subtotal | | 123 | 128 | 133 | 140 |
| 8% rebate | | -10 | -10 | -11 | -11 |
| HST | | 16 | 17 | 17 | 18 |
| **Revised Bill (includes HST)** | **163** | **129** | **134** | **139** | **147** |
| **Change from Forecast** | | **-25%** | **-23%** | **-22%** | **-22%** |

| Average Class A Consumer ($/MWh) | Actual 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|
| **Total (excludes HST)** | **90** | **91** | **93** | **88** | **95** |
| Impact of GA Smoothing | | -22 | -20 | -19 | -21 |
| Impact of Tax-Basing Social Programs | | -3 | -3 | -3 | -3 |
| **Revised Total (excludes HST)** | **90** | **65** | **69** | **66** | **71** |
| **Change from Forecast** | | **-28%** | **-26%** | **-25%** | **-25%** |

| Fiscal Impact ($M) | 17-18 | 18-19 | 19-20 | 20-21 |
|---|---|---|---|---|
| Tax-Basing Social Programs | 362 | 409 | 450 | 485 |

**Notes:** Based on IESO's revised OPO forecast as of December 2016. 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. "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.

# 1a. Residential Bills Lowered 25% – Impact of GA Smoothing




| | 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 *($/month)* | -27 | -25 | -22 | -25 | -17 | -15 | -11 | -16 | -11 | -8 | -12 | -10 | -4 | -2 | 5 | 6 | 10 | 14 | 26 | 28 | 31 | 33 | 35 | 38 | 40 | 40 | 40 | 40 | 39 | 39 | 39 | 0 |
| Total Accumulated Debt *($ billion)* | 5 | 9 | 14 | 19 | 23 | 27 | 30 | 34 | 38 | 41 | 46 | 50 | 53 | 56 | 58 | 60 | 61 | 62 | 60 | 58 | 55 | 52 | 48 | 43 | 38 | 33 | 27 | 20 | 14 | 7 | 0 | 0 |
| Total Change in Accumulated Debt *($ billion)* | 5 | 5 | 4 | 5 | 4 | 4 | 3 | 4 | 4 | 3 | 4 | 4 | 3 | 3 | 2 | 2 | 1 | 1 | -2 | -2 | -3 | -3 | -4 | -5 | -5 | -6 | -6 | -6 | -6 | -7 | -7 | 0 |

**Notes:** Assumes 30 year financing period and a nominal interest rate of 5.12% per year (compounded annually). Ratepayer GA payments increase annually beyond 2017 at inflation with GA over-payments capped at $7.5 billion above the true cost of GA in any given year.

# 1b. Residential Bills Lowered 25% (with Tax-Base Funded 15% Rebate)

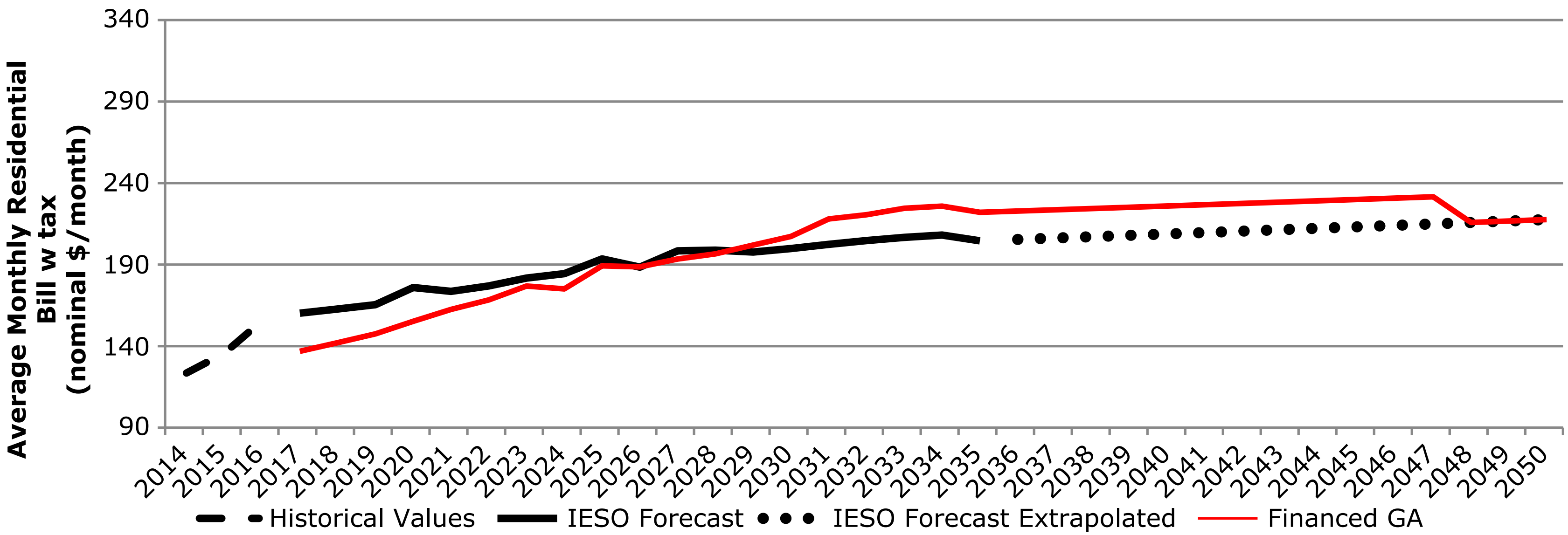
- Total bill below is based on a revised IESO forecast and is adjusted by the Ministry to reflect the proposed expansion of RRRP and OESP. See footnotes for more information.

| **Residential ($/month)** | **Actual 2016** | **2017** | **2018** | **2019** | **2020** |
|---|---|---|---|---|---|
| Social Programs Expansion | | 0.5 | 0.7 | 0.9 | 1.1 |
| **Total Bill (includes HST)** | **163** | **173** | **176** | **179** | **191** |
| Total Bill (excludes HST) | 145 | 153 | 156 | 158 | 169 |
| Impact of GA Smoothing | | -21 | -18 | -16 | -18 |
| Subtotal | | 132 | 137 | 143 | 150 |
| 15% rebate | | -20 | -21 | -21 | -23 |
| HST | | 17 | 18 | 19 | 20 |
| **Revised Bill (includes HST)** | | **130** | **135** | **140** | **147** |
| **Change from Forecast** | | **-25%** | **-23%** | **-22%** | **-23%** |

| **Average Class A Consumer ($/MWh)** | **Actual 2016** | **2017** | **2018** | **2019** | **2020** |
|---|---|---|---|---|---|
| Social Programs Expansion | | 0.7 | 1.0 | 1.3 | 1.4 |
| **Total (excludes HST)** | **90** | **92** | **94** | **89** | **96** |
| Impact of GA Smoothing | | -17 | -15 | -13 | -15 |
| **Revised Total (excludes HST)** | | **74** | **79** | **76** | **81** |
| **Change from Forecast** | | **-19%** | **-16%** | **-15%** | **-16%** |

**Notes:** Based on IESO's revised OPO forecast as of December 2016 as adjusted by the Ministry to include the cost of RRRP and OESP expansion. 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. "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 15% rebate above represents an incremental fiscal impact compared to status quo.

# 1b. Residential Bills Lowered 25% – Impact of GA Smoothing




| | 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 *($/month)* | -21 | -18 | -16 | -18 | -10 | -8 | -4 | -8 | -4 | 0 | -4 | -2 | 4 | 7 | 14 | 14 | 16 | 16 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 0 |
| Total Accumulated Debt *($ billion)* | 4 | 7 | 10 | 14 | 16 | 19 | 20 | 23 | 25 | 26 | 28 | 30 | 31 | 31 | 30 | 29 | 28 | 27 | 25 | 23 | 22 | 20 | 18 | 16 | 14 | 12 | 10 | 8 | 5 | 3 | 0 | 0 |
| Total Change in Accumulated Debt *($ billion)* | 4 | 3 | 3 | 4 | 2 | 2 | 2 | 3 | 2 | 1 | 2 | 2 | 1 | 0 | -1 | -1 | -1 | -1 | -1 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -3 | -3 | 0 |

**Notes:** Assumes 30 year financing period and a nominal interest rate of 5.12% per year (compounded annually). Ratepayer GA payments increase annually beyond 2017 at inflation with a limit of $2.8 billion above the true cost of GA in any given year.

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# 2a. Residential Bills Lowered 33% (with Tax-Base Funded 8% Rebate and Social Programs)

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

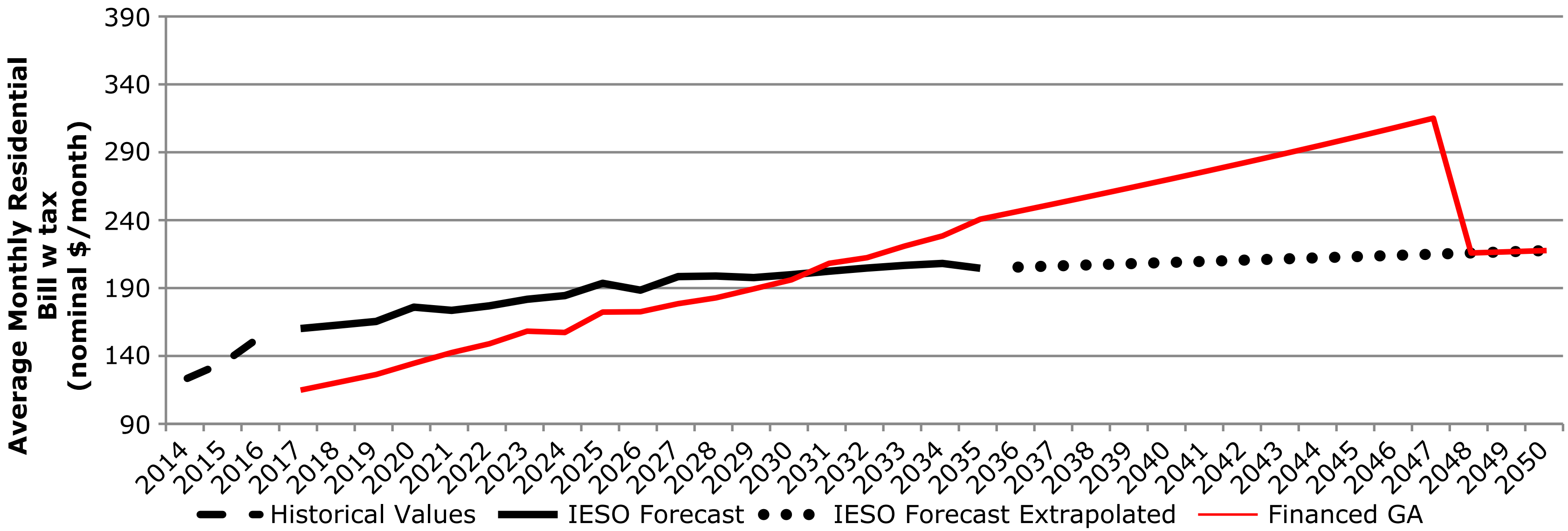
| Residential ($/month) | Actual 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|
| **Total Bill (includes HST)** | **163** | **172** | **175** | **178** | **189** |
| Total Bill (excludes HST) | 145 | 153 | 155 | 158 | 168 |
| Impact of GA Smoothing | | -40 | -37 | -35 | -37 |
| Impact of Tax-Basing Social Programs | | -2 | -2 | -2 | -3 |
| Subtotal | | 110 | 115 | 120 | 128 |
| 8% rebate | | -9 | -9 | -10 | -10 |
| HST | | 14 | 15 | 16 | 17 |
| **Revised Bill (includes HST)** | | **116** | **121** | **126** | **135** |
| **Change from Forecast** | | **-33%** | **-31%** | **-29%** | **-29%** |

| Average Class A Consumer ($/MWh) | Actual 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|
| **Total (excludes HST)** | **90** | **91** | **93** | **88** | **95** |
| Impact of GA Smoothing | | -33 | -31 | -29 | -30 |
| Impact of Tax-Basing Social Programs | | -3 | -3 | -3 | -3 |
| **Revised Total (excludes HST)** | **90** | **54** | **59** | **56** | **61** |
| **Change from Forecast** | | **-40%** | **-37%** | **-36%** | **-35%** |

| Fiscal Impact ($M) | 17-18 | 18-19 | 19-20 | 20-21 |
|---|---|---|---|---|
| Tax-Basing Social Programs | 362 | 409 | 450 | 485 |

**Notes:** Based on IESO's revised OPO forecast as of December 2016. 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. "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.

# 2a: Residential Bills Lowered 33% – Impact of GA Smoothing




| | 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 *($/month)* | -40 | -37 | -35 | -37 | -28 | -25 | -21 | -24 | -19 | -14 | -18 | -14 | -7 | -3 | 5 | 7 | 13 | 18 | 32 | 36 | 41 | 45 | 50 | 54 | 59 | 63 | 68 | 73 | 78 | 83 | 89 | 0 |
| Total Accumulated Debt *($ billion)* | 7 | 14 | 21 | 28 | 35 | 41 | 47 | 53 | 59 | 65 | 71 | 77 | 83 | 88 | 91 | 95 | 97 | 99 | 98 | 96 | 94 | 90 | 85 | 80 | 73 | 64 | 55 | 44 | 31 | 16 | 0 | 0 |
| Total Change in Accumulated Debt *($ billion)* | 7 | 7 | 7 | 8 | 6 | 6 | 6 | 7 | 6 | 6 | 6 | 6 | 5 | 5 | 4 | 3 | 3 | 2 | -1 | -2 | -3 | -4 | -5 | -6 | -7 | -8 | -10 | -11 | -13 | -14 | -16 | 0 |

**Notes:** Assumes 30 year financing period and a nominal interest rate of 5.12% per year (compounded annually). Ratepayer GA payments increase annually beyond 2017 at 2.7 percentage points above inflation with no limit on GA over-payments.

# 2b. Residential Bills Lowered 33% (with Tax-Based Funded 15% Rebate)

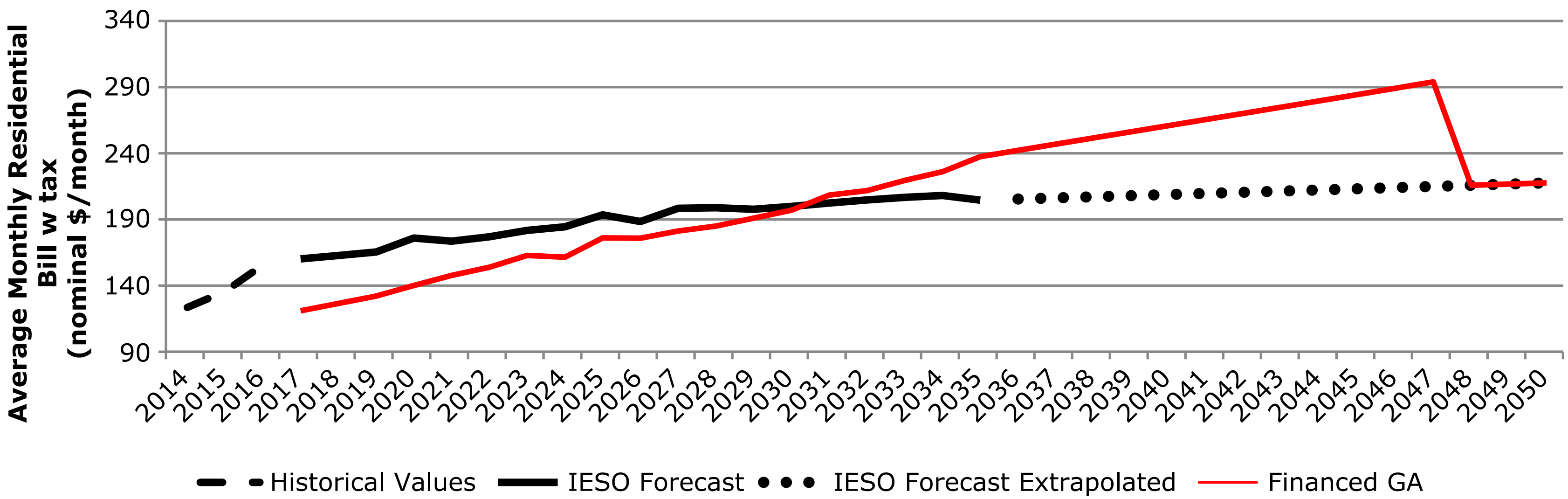
- Total bill below is based on a revised IESO forecast. See footnotes for more information.

| **Residential ($/month)** | **Actual 2016** | **2017** | **2018** | **2019** | **2020** |
|---|---|---|---|---|---|
| **Total Bill (includes HST)** | **163** | **172** | **175** | **178** | **189** |
| Total Bill (excludes HST) | 145 | 153 | 155 | 158 | 168 |
| Impact of GA Smoothing | | -35 | -32 | -29 | -32 |
| Subtotal | | 118 | 123 | 128 | 136 |
| 15% rebate | | -18 | -18 | -19 | -20 |
| HST | | 15 | 16 | 17 | 18 |
| **Revised Bill (includes HST)** | | **116** | **120** | **125** | **133** |
| **Change from Forecast** | | **-33%** | **-31%** | **-30%** | **-30%** |

| **Average Class A Consumer ($/MWh)** | **Actual 2016** | **2017** | **2018** | **2019** | **2020** |
|---|---|---|---|---|---|
| **Total (excludes HST)** | **90** | **91** | **93** | **88** | **95** |
| Impact of GA Smoothing | | -29 | -27 | -24 | -26 |
| **Revised Total (excludes HST)** | **90** | **62** | **66** | **63** | **69** |
| **Change from Forecast** | | **-32%** | **-29%** | **-28%** | **-28%** |

**Notes:** Based on IESO's revised OPO forecast as of December 2016. 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. "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 15% rebate above represents an incremental fiscal impact compared to status quo.

# 2b. Residential Bills Lowered 33% – Impact of GA Smoothing




| | 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 *($/month)* | -35 | -32 | -29 | -32 | -23 | -20 | -17 | -20 | -15 | -11 | -15 | -12 | -6 | -3 | 5 | 6 | 11 | 16 | 29 | 33 | 36 | 39 | 43 | 46 | 49 | 53 | 56 | 60 | 63 | 66 | 70 | 0 |
| Total Accumulated Debt *($ billion)* | 6 | 12 | 18 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 66 | 70 | 74 | 77 | 80 | 82 | 83 | 82 | 80 | 78 | 74 | 70 | 65 | 59 | 52 | 44 | 35 | 24 | 13 | 0 | 0 |
| Total Change in Accumulated Debt *($ billion)* | 6 | 6 | 6 | 7 | 5 | 5 | 5 | 6 | 5 | 5 | 5 | 5 | 4 | 4 | 3 | 3 | 2 | 1 | -1 | -2 | -3 | -3 | -4 | -5 | -6 | -7 | -8 | -9 | -10 | -12 | -13 | 0 |

**Notes:** Assumes 30 year financing period and a nominal interest rate of 5.12% per year (compounded annually). Ratepayer GA payments increase annually beyond 2017 at 1.4 percentage points above inflation with no limit on GA over-payments.

# 3. Residential Bills Lowered XX% (with Tax-Base Funded 15% Rebate and Social Programs)

- This option includes amortizing all 20-year generation contracts for an additional 10 years, as well as amortizing conservation costs over 15 years.

**Notes:** Based on IESO's revised OPO forecast as of December 2016. 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. "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 15% rebate above represents an incremental fiscal impact compared to status quo. Contract costs are based on Ministry analysis, actual costs would need to be provided by IESO.