

## Appendix B:

# Progress on conservation targets

### Abstract

This chapter describes Ontario's progress towards meeting government-established targets for reducing the use or making more efficient use of electricity, natural gas, propane, oil and transportation fuels. These targets have been established either through a formal government policy or via a Ministerial Directive to an organization or an agency. The latest date for which results are available varies by target, and is specified for each target.

Due to the change in provincial government in June 2018, some of these targets are under review and may be revised.

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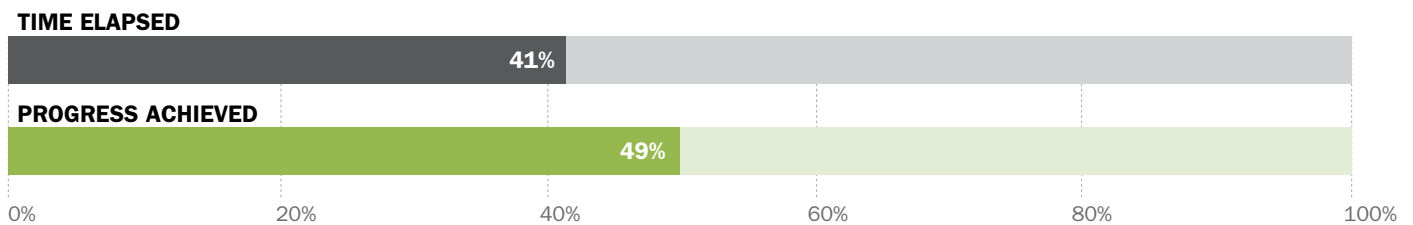
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## B.1 Electricity conservation targets

Results in 2016 and 2017 from electricity conservation programs are covered in more detail in **Appendix C** of this report.

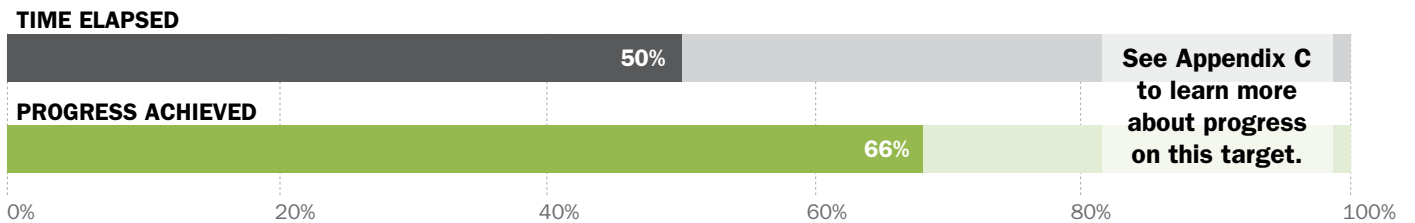
### B.1.1 Long-Term Energy Plan target

Target	30 TWh reduction in annual electricity consumption by 2032 due to conservation efforts from 2005 onwards
Source	Long-Term Energy Plans (2013, 2017)
Responsibility	Ministry of Energy, Northern Development and Mines; Independent Electricity System Operator
Results	14.7 TWh of savings projected to persist until 2032
Comment	The 2032 target represents approximately 20% of Ontario's current annual electricity consumption. As of December 31, 2017, 15.7 TWh of electricity savings have been achieved but not all will persist until 2032. These savings are attributable to utility-run electricity conservation programs, codes and standards, pricing policies, and other programs.
Time elapsed	41%
Progress achieved (as of December 31, 2017)	49%



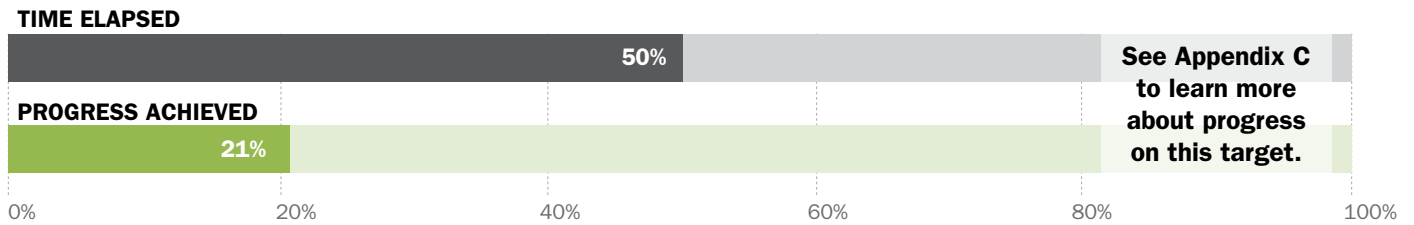
**B.1.2 Electricity conservation programs for distribution-connected customers**

Target	7.4 TWh (previously 7.0 TWh) <sup>1</sup> of persistent annual electricity savings in 2020 from conservation programs for distribution-connected customers that operate between January 1, 2015 and December 31, 2020
Source	Directives from the Minister of Energy to the Independent Electricity System Operator, March 31, 2014, February 8, 2018
Responsibility	Local distribution companies; Independent Electricity System Operator
Results	4.9 TWh of persistent energy savings to 2020
Comment	The 2020 target represents approximately 5% of Ontario's current annual electricity consumption. This target is part of the government's overall conservation target of 30.0 TWh by 2032, as set out in the 2017 Long-Term Energy Plan.
Time elapsed	50%
Progress achieved (as of December 31, 2017)	66%



### B.1.3 Electricity conservation programs for transmission-connected customers

Target	1.3 TWh (previously 1.7 TWh) <sup>2</sup> of persistent annual electricity savings in 2020 from the Independent Electricity System Operator's Industrial Accelerator Program for transmission-connected customers, from activities between January 1, 2015 and December 31, 2020
Source	Directives from the Minister of Energy to the Independent Electricity System Operator, March 31, 2014, February 8, 2018
Responsibility	Independent Electricity System Operator
Results	268 GWh of persistent energy savings to 2020
Comment	This target is part of the government's overall conservation target of 30 TWh by 2032, as set out in the 2017 Long-Term Energy Plan
Time elapsed	50%
Progress achieved (as of December 31, 2017)	21%



**B.1.4 Electricity demand response**

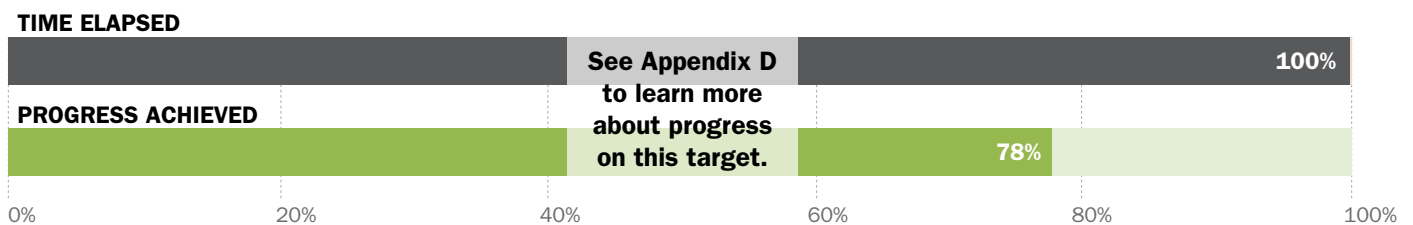
Target	10% of 2025 peak demand (roughly 2,400 MW) was previously targeted
Source	Long-Term Energy Plans (2013, 2017)
Responsibility	Ministry of Energy, Northern Development and Mines; Independent Electricity System Operator
Results	No longer applies
Comment	The target was originally set in the 2013 Long-Term Energy Plan. However, the 2017 Long-Term Energy Plan stated that “demand response capacity realized each year will depend on system needs and the competitiveness of demand response with other resources.” The Independent Electricity System Operator has confirmed that this means the original 10% target is no longer in effect. <sup>3</sup>
Time elapsed	No longer applies
Progress achieved	No longer applies

## B.2 Natural gas conservation targets

Ontario’s two largest natural gas companies, Enbridge Gas Distribution and Union Gas, deliver demand-side management (DSM) programs under the 2015-2020 DSM Framework, which is overseen by the Ontario Energy Board (OEB). Unlike the electricity conservation framework, natural gas conservation targets are adjusted on an annual basis. The interpretation of the 2016 targets is still under review. A breakdown and analysis of 2016 conservation program targets and results is available in **Appendix D** of this report. While these are not government-established targets, they are approved by the OEB, in a framework developed in response to a Ministerial Directive.

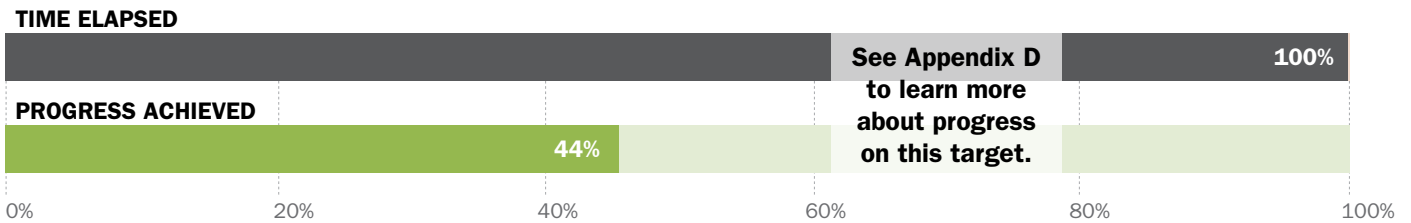
### B.2.1 Enbridge Gas conservation target

Target	1.080 billion m <sup>3</sup> lifetime natural gas savings from 2016 programs (319 million m <sup>3</sup> from small-volume customers, 665 million m <sup>3</sup> from large-volume customers and 97 million m <sup>3</sup> from low-income customers) <sup>4</sup>
Source	Enbridge 2015-2020 Demand-Side Management Plan (as modified by OEB decision)
Responsibility	Enbridge Gas Distribution
Results	0.837 billion m <sup>3</sup> net lifetime natural gas savings (395 million m <sup>3</sup> from small-volume customers, 329 million m <sup>3</sup> from large-volume customers and 114 million m <sup>3</sup> from low-income customers)
Time elapsed	100%
Progress achieved (as of December 31, 2016)	78%



**B.2.2 Union Gas conservation target**

Target	2.162 billion m <sup>3</sup> lifetime natural gas savings from 2016 programs (1,214 million m <sup>3</sup> from small-volume customers, 57 million m <sup>3</sup> from large-volume customers and 891 million m <sup>3</sup> from low-income customers) <sup>5</sup>
Source	Union 2015-2020 Demand-Side Management Plan (as modified by OEB decision)
Responsibility	Union Gas
Results	0.959 billion m <sup>3</sup> net lifetime natural gas savings (815 million m <sup>3</sup> from small-volume customers, 65 million m <sup>3</sup> from large-volume customers and 80 million m <sup>3</sup> from low-income customers)
Time elapsed	100%
Progress achieved (as of December 31, 2016)	44%



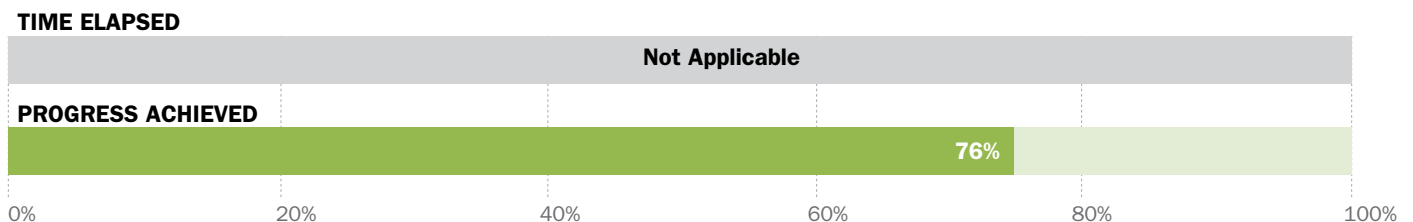


## B.3 Transportation fuel conservation targets

Transportation fuel targets include renewable fuel standards for gasoline and targets associated with switching to non-petroleum fueled vehicles, such as electric vehicles. Since such targets reduce the use of fossil fuels and improve energy efficiency, these fall under the ECO's reporting mandate. Given the recent change in provincial government, some of these targets may be reviewed or altered by the current government.

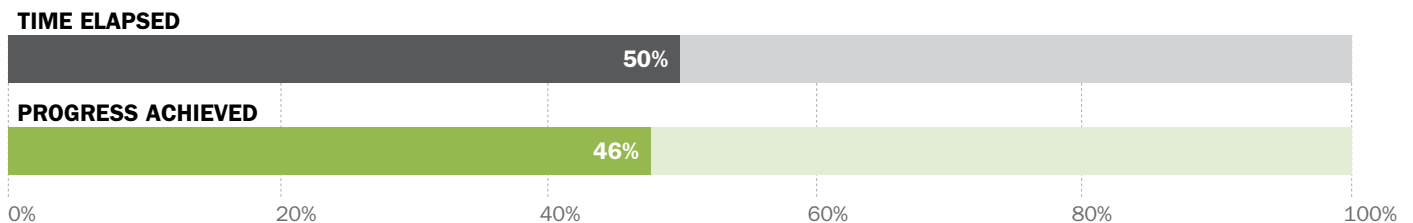
### B.3.1 Renewable content in gasoline

Target	10% renewable content in gasoline required by 2020
Source	O. Reg. 535/05 (Ethanol in Gasoline)
Responsibility	Ministry of Environment, Conservation and Parks (MECP)
Result	Ethanol levels in gasoline in 2016 were roughly 7.6%, which is higher than the current minimum requirement of 5% <sup>6</sup>
Comment	<p>MECP amended O. Reg. 535/05 (Ethanol in Gasoline) in spring 2018. These changes will require gasoline suppliers to maintain an average 10% renewable content (e.g., ethanol) in regular-grade gasoline, beginning in 2020, and will require the renewable content to have 45% lower lifecycle greenhouse gas emissions than gasoline.<sup>7</sup></p> <p>MECP estimates that once in effect, these changes would achieve a 4.1% reduction in GHG emissions relative to gasoline. MECP estimates current renewable content has 42% lower GHG emissions than gasoline, and reduces overall blended fuel GHG emissions by 3.2%.<sup>8</sup></p> <p>The government is currently proposing to amend O. Reg. 535/05 to further increase the renewable content in gasoline to 15% as early as 2025.<sup>9</sup></p>
Time elapsed	N/A
Progress achieved (as of December 31, 2016)	76%



**B.3.2 Increasing electric and hydrogen vehicle sales**

Target	5% of passenger vehicle sales to be electric or hydrogen in 2020 was previously targeted
Source	Climate Change Action Plan (2016)
Responsibilities	<p>Ministry of Transportation: Electric vehicle and charger incentives</p> <p>Ministry of Energy, Northern Development and Mines: Electric vehicle overnight charging incentives</p> <p>Ministry of Environment, Conservation and Parks: vehicle replacement incentives</p> <p>Ministry of Finance: Eliminating HST on battery electric vehicles</p> <p>Ministry of Infrastructure: Electric vehicle charging at government facilities</p> <p>Ministry of Municipal Affairs and Housing: Building Code amendments</p>
Results	Electric and hydrogen vehicles accounted for 2.3% (15,307) <sup>10</sup> of vehicle sales <sup>11</sup> in the first three quarters of 2018.
Comment	<p>The Ministry of Transportation does not track new vehicle sales so results are not official. The Ministry does track vehicle registration. As of January 31, 2019, 32,481 electric vehicles and five hydrogen vehicles were registered and active on the road, and 346 public electric vehicle charging stations have been installed in the province.<sup>12</sup></p> <p>The financial incentives supporting this target have been cancelled, so electric and hydrogen vehicles may not maintain this share of new vehicle sales. The draft Environment Plan identifies increased use of electric vehicles as an important part of the government's plan to reach its 2030 GHG reduction targets, but does not include a specific sales target.<sup>13</sup> It also does not include specific policies to promote adoption of electric vehicles.</p>
Time elapsed	50%
Progress achieved (as of December 31, 2017)	46%



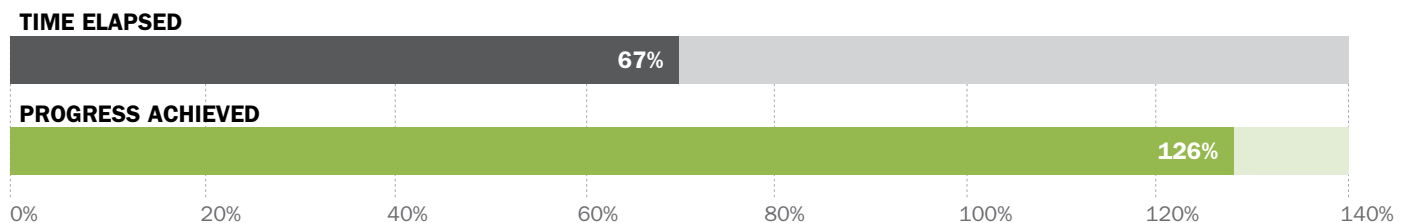
## B.4 Other fuels conservation targets

The Ministry of Energy’s 2017 Long-Term Energy Plan discussion guide, Planning Ontario’s Energy Future, posed the question “should Ontario set conservation targets for other fuel types, such as oil and propane.”<sup>14</sup> The ECO had urged the government to do just that in two recent reports.<sup>15</sup> However, the final 2017 Long-Term Energy Plan did not set conservation targets for other fuels.

## B.5 Ontario Public Service energy use reduction targets

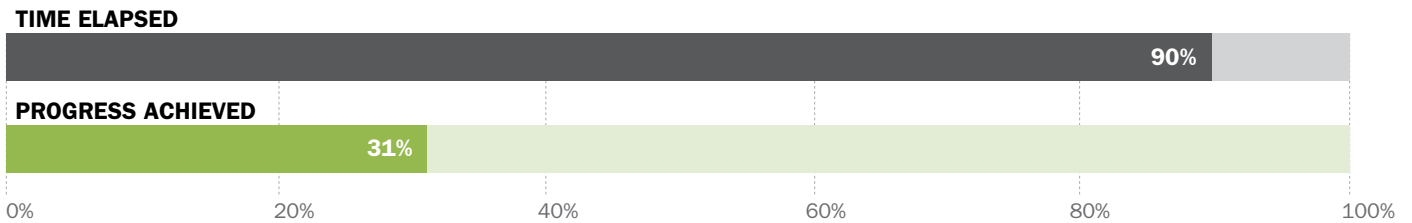
### B.5.1 Ontario Public Service greenhouse gas reduction target

Target	27% reduction in greenhouse gas emissions from the Ontario Public Service by 2020/2021 from 2006 baseline
Source	Ontario Green Transformation Strategy (2009)
Responsibility	Ministry of Environment, Conservation and Parks; Ministry of Consumer and Government Services
Results	34% reduction (93.9 kt CO <sub>2</sub> e) from the 2006 baseline <sup>16</sup> : <ul style="list-style-type: none"> <li>· 30% (29.8 kt CO<sub>2</sub>e) reduction in vehicle fuel consumption</li> <li>· 9% (0.5 kt CO<sub>2</sub>e) increase in air travel</li> <li>· 37% (64.6 kt CO<sub>2</sub>e) reduction in building energy use</li> </ul>
Comment	This target is under review as the government has committed to developing a Climate Change Governance Framework, <sup>17</sup> and will consider the role that Ontario Public Service greenhouse gas targets in this process. <sup>18</sup>
Time elapsed	67%
Progress achieved (as of March 31, 2017)	126%



**B.5.2 Ontario Public Sector electric vehicle target**

Target	500 electric vehicles added to the Ontario Public Service fleet by 2020
Source	Ontario Green Transformation Strategy (2009)
Responsibility	Ministry of Environment, Conservation and Parks; Ministry of Consumer and Government Services
Results	157 electric vehicles (22 battery electric vehicles and 135 plug-in hybrid electric vehicles), up from 90 electric vehicles in 2018 <sup>19</sup>
Comment	The Ontario Public Service fleet also includes 1,318 hybrid vehicles that are not plug-in, these are not counted towards the target results.
Time elapsed	90%
Progress achieved (as of January 2019)	31%



## Endnotes

1. This target was amended through a Ministerial directive in February 2018. The target for distribution-connected customers was increased by 0.4 TWh, and the target for transmission-connected customers was decreased by 0.4 TWh, preserving the combined target of 8.7 TWh.
2. This target was amended through a Ministerial directive in February 2018. The target for distribution-connected customers was increased by 0.4 TWh, and the target for transmission-connected customers was decreased by 0.4 TWh, preserving the combined target of 8.7 TWh.
3. Independent Electricity System Operator, information provided to the ECO (January 2019)
4. Ontario Energy Board, 2016 Natural Gas Demand Side Management Annual Verification by DNV-GL (Toronto: OEB, 30 October, 2018) online: <<https://www.oeb.ca/sites/default/files/OEB-2016-Natural-Gas-DSM-Annual-Verification-Report-20181030-2.pdf>>, at 18, 19. Enbridge has argued that the 2016 targets should be updated to reflect changes arising from the 2015 evaluation. If Enbridge's interpretation is accepted by the Ontario Energy Board, the updated 2016 target would be 727.8 million m<sup>3</sup> (332.2 million m<sup>3</sup> from resource acquisition programs for large-volume customers, 298.9 million m<sup>3</sup> from resource acquisition programs for small-volume customers, and 96.7 million m<sup>3</sup> from low-income programs. Enbridge, 2016 Demand Side Management Annual Report (Enbridge, 17 November 2018) online: <<http://www.rds.oeb.ca/HPECMWebDrawer/Record/628426/File/document>>, at 28, 75.
5. Ontario Energy Board, 2016 Natural Gas Demand Side Management Annual Verification by DNV-GL (Toronto: OEB, 30 October, 2018) online: <<https://www.oeb.ca/sites/default/files/OEB-2016-Natural-Gas-DSM-Annual-Verification-Report-20181030-2.pdf>>, at 26-28. Union has argued that the 2016 targets should be updated to reflect changes arising from the 2015 evaluation. If Union's interpretation is accepted by the Ontario Energy Board, the updated 2016 target would be 2,070.3 million m<sup>3</sup> (1,120.0 million m<sup>3</sup> from resource acquisition programs, 890.9 million m<sup>3</sup> from programs for large-volume customers, and 59.2 million m<sup>3</sup> from low-income programs. Union Gas, 2016 Demand Side Management Final Annual Report (Union Gas, 30 November 2018) online: <<http://www.rds.oeb.ca/HPECMWebDrawer/Record/627745/File/document>>, at 34, 70, 89.
6. Ministry of Environment, Conservation and Parks, information provided to the ECO (January 2019)
7. Environmental Registry Regulation Decision #013-1929, Low Carbon Transportation Fuels in Ontario: Amendments to Ethanol in Gasoline (O. Reg. 535/05) and Greener Diesel – Renewable Fuel Content Requirements for Petroleum Diesel Fuel (O. Reg. 97/14) Regulations (12 April 2018).
8. Ministry of Environment, Conservation and Parks, information provided to the ECO (January 2019)
9. Environmental Registry Regulation Proposal #013-4598, Increasing renewable content in fuels (12 February 2019).
10. Fleetcarma, "Electric Vehicle Sales Update Q3 2018, Canada" (November 6, 2018) online: <<https://www.fleetcarma.com/electric-vehicles-sales-update-q3-2018-canada/>>. [Accessed 21 February 2019]
11. Statistics Canada, "Table 20-10-0001-01 New motor vehicle sales" (February 14, 2019) online: <<https://www150.statcan.gc.ca/t1/tbl1/en/cv.action?pid=2010000101#timeframe>> .  
  
Vehicle sales in 2018 includes all on road vehicles. These include cars, minivans, sport-utility vehicles, light and heavy trucks, vans and buses. However, nearly all (98%) vehicles sales have been passenger vehicles in previous years (2015, 2016, 2017).  
  
Statistics Canada, "Table 20-10-0002-01 New motor vehicle sales, by type of vehicle" (February 14, 2019) online: <<https://www150.statcan.gc.ca/t1/tbl1/en/cv.action?pid=2010000201>>.
12. Ministry of Transportation, information provided to the ECO (January 2019, February 2019). A slightly higher number (33,637) are registered but not all are plated and active. Metrolinx has recently removed 24 installed charging stations at GO Transit parking lots, although these were not part of the provincial government's public Electric Vehicle Charging program.
13. Ministry of Transportation, information provided to the ECO (January 2019).
14. Ministry of Energy, Planning Ontario's Energy Future (Toronto: MENG, 2016) at 37.
15. Environmental Commissioner of Ontario, Developing the 2017 Long-Term Energy Plan (Toronto: ECO, 6 December 2016) at 18; Environmental Commissioner of Ontario, Conservation Let's Get Serious, Annual Energy Conservation Progress Report – 2015/2016 (Toronto: ECO, 31 May 2016) at 151.

16.

<b>Vehicle Travel</b>	<b>Baseline (2006/07)</b>	<b>2014/15</b>	<b>2015/2016</b>	<b>2016/17</b>	<b>2017/18</b>
Fuel (million L)	41	32	30	29	29
GHG emissions (kt CO <sub>2</sub> e)	98.3	76.5	72.0	68.5	68.4
GHG reduction from baseline	n/a	-22%	-27%	-30%	-30%
<b>Air Travel</b>	<b>Baseline (2006/07)</b>	<b>2014/15</b>	<b>2015/2016</b>	<b>2016/17</b>	<b>2017/18</b>
Distance (million km)	47	40	43	51	57
GHG emissions (kt CO <sub>2</sub> e)	5.6	4.8	5.2	6.1	6.8
GHG reduction from baseline	n/a	-14%	-7%	9%	21%
<b>Facilities</b>	<b>Baseline (2006)</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
GHG emissions (kt CO <sub>2</sub> e)	173.2	124.4	118.2	108.6	Not yet available
GHG reduction from baseline	n/a	-28%	-32%	-37%	Not yet available
<b>Total</b>					
GHG emission (kt CO <sub>2</sub> e)	277.2	205.7	195.4	183.2	Not yet available
GHG reduction from baseline	n/a	-26%	-30%	-34%	Not yet available

Facilities notes:

- Includes consumption from the following energy sources: electricity, natural gas, district steam, fuel oil, district hot water, propane and district chilled water.
- Baseline will change as a result of changing real estate portfolio. For guidance, the World Resource Institute standard for corporate reporting is used as guidance in making baseline adjustments.
- Current reporting year emissions are based on emission factors listed in the Ontario Public Service Guidance Document for Quantifying Projected and Actual GHG Emission Reductions prepared by Cheminfo and published on June 30, 2017, with the exception of the emission factor for steam (66.33 kg CO<sub>2</sub>e/mmBTU) taken from the U.S. Environmental Protection Agency.
- Includes Infrastructure Ontario managed facilities, Alternative Financing Procurement facilities, and custodial ministry managed facilities (include Ministry of Community Safety and Correctional Services, Ministry of Children and Youth Services, Ministry of Transportation, Ministry of Natural Resources and Forestry and Ministry of Education).
  - Consumption differences from year to year result from:
    - Infrastructure Ontario’s conservation efforts for energy target
    - Operational and program use changes
    - Alternative Financing Procurement net new consumption.

The added facilities (from 2009-current) have strict energy efficiency guidelines. However, all have been built after the 2006 baseline. The consumption has only added to total inventory consumption.

17. Ontario Ministry of the Environment, Conservation and Parks, Preserving and Protecting our Environment for Future Generations, A Made-in-Ontario Environment Plan, (Toronto, MECP, 2018) at 35.
18. Ministry of Environment, Conservation and Parks, information provided to the ECO (January 2019).
19. Ministry of Environment, Conservation and Parks, information provided to the ECO (January 2019).