



STAFF REPORT ACTION REQUIRED

Annual Report - Energy Consumption and Greenhouse Gas Emissions in City Facilities

Date:	August 18, 2016
To:	Parks and Environment Committee
From:	Chief Corporate Officer
Wards:	All
Reference Number:	P:\2016\Internal Services\E&E\Pe16007e&e (AFS #23433)

SUMMARY

The City of Toronto Annual Energy Consumption & Greenhouse Gas Emissions report was published in July 2016 to provide information on 2014 energy consumption and greenhouse gas emissions from a select group of City of Toronto operations. It contains information provided to the Ontario Ministry of Energy (OME) based on the mandates of the Ontario Green Energy Act, Regulation 397/11 required for 2016.

<http://www1.toronto.ca/City%20Of%20Toronto/Environment%20and%20Energy/Greening%20City%20Operations/PDFs/Renewable%20Energy/2014%20Annual%20Energy%20Consumption%20and%20GHG%20Emissions%20Report%20-%20City%20of%20Toronto.pdf>

RECOMMENDATIONS

The Chief Corporate Officer recommends that:

1. The Parks and Environment Committee receive this report for information.

Financial Impact

There is no financial impact resulting from this staff report.

The Deputy City Manager & Chief Financial Officer has reviewed the report and agrees with the recommendations.

ISSUE BACKGROUND

In 2009, the Ontario legislature passed the Green Energy and Green Economy Act (GEA). As one of its objectives, the GEA aims to increase conservation by introducing measures to help Ontarians manage energy use. The Green Energy Act Regulation 397/11, published in August 2012, requires all public agencies to prepare and publish:

1. Annually updated reports on the energy consumption and greenhouse gas (GHG) emissions for City's facilities.
2. A report outlining plans for further identification and implementation of energy conservation and demand management projects throughout City facilities. The first report from the City of Toronto was released in July 2014 and will be updated every five years thereafter.

At its meeting of July 7 to 11, 2014 Toronto City Council adopted PE28.5 "Corporate Energy Conservation and Demand Management Plan (2014-2019) - Green Energy Act - Regulation 397/11".

Energy Conservation and Demand Management (ECDM) Plan:

[http://www1.toronto.ca/City%20of%20Toronto/Environment%20and%20Energy/Action%20Plans,%20Policies%20&%20Research/PDFs/City%20of%20Toronto%20ECDM%20\(2014-2019\).pdf](http://www1.toronto.ca/City%20of%20Toronto/Environment%20and%20Energy/Action%20Plans,%20Policies%20&%20Research/PDFs/City%20of%20Toronto%20ECDM%20(2014-2019).pdf)

COMMENTS

In addition to the mandated OME operation types required by the Green Energy Act, several additional operation types have been included in the 2014 Annual Consumption and Greenhouse Gas Emissions Report. The City has chosen to exceed minimum reporting requirements based on the fact that these additional operations contribute significantly to the energy consumption and GHG within City Toronto's facilities. Some operations have not been included, such as, Toronto Zoo, Exhibition Place, and vacant or new buildings. New operation types will be added in future reports as data becomes available. Note that the report does not include emissions and consumption associated with City vehicles.

Figure 1 illustrates the City's energy consumption and GHG emissions by fuel type for the reported facilities, which amounts to 5,726,224 gigajoules of energy and 146,127 tonnes of GHG emissions. Of the reported facilities, electricity consumption far exceeds other energy sources at nearly 3,682,243 gigajoules or 64% of the overall energy use. Natural gas makes up 1,866,185 gigajoules or approximately 33%.

In terms of GHG emissions, natural gas accounts for 92,231 tonnes (63%), while electricity accounts for 46,130 tonnes (32%). With the elimination of coal-fired electricity generation in Ontario in recent years, natural gas now accounts for substantially more GHG emissions from City buildings than electricity.

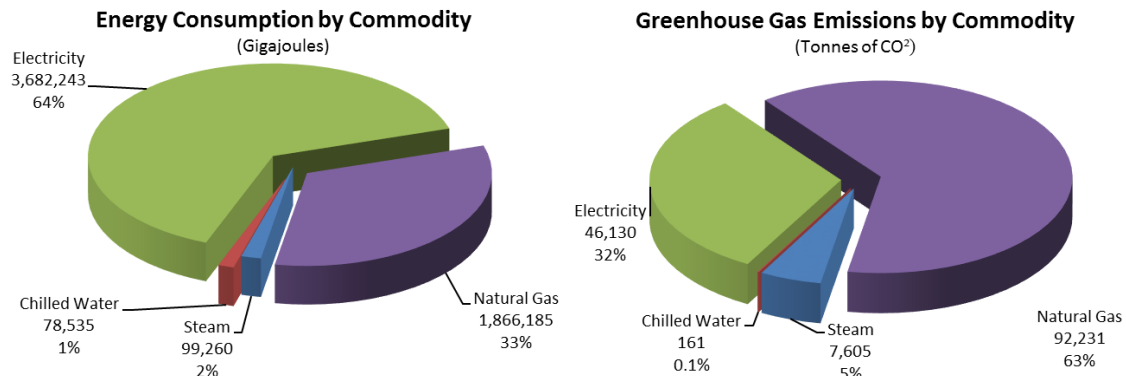
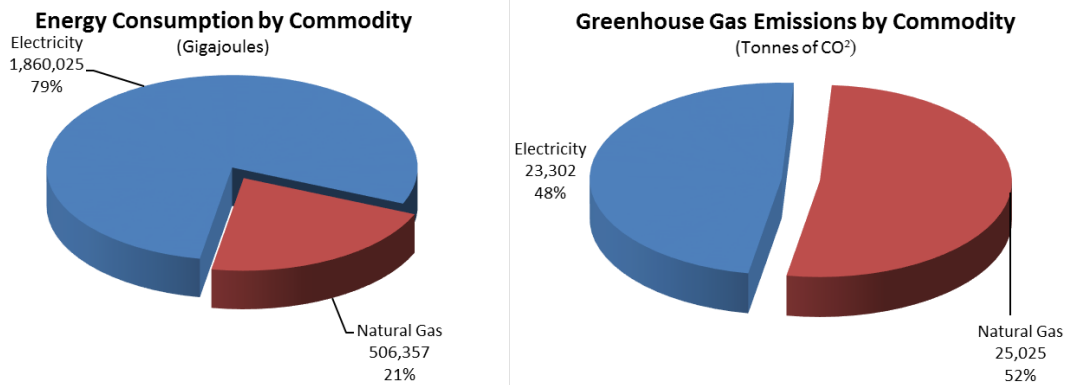


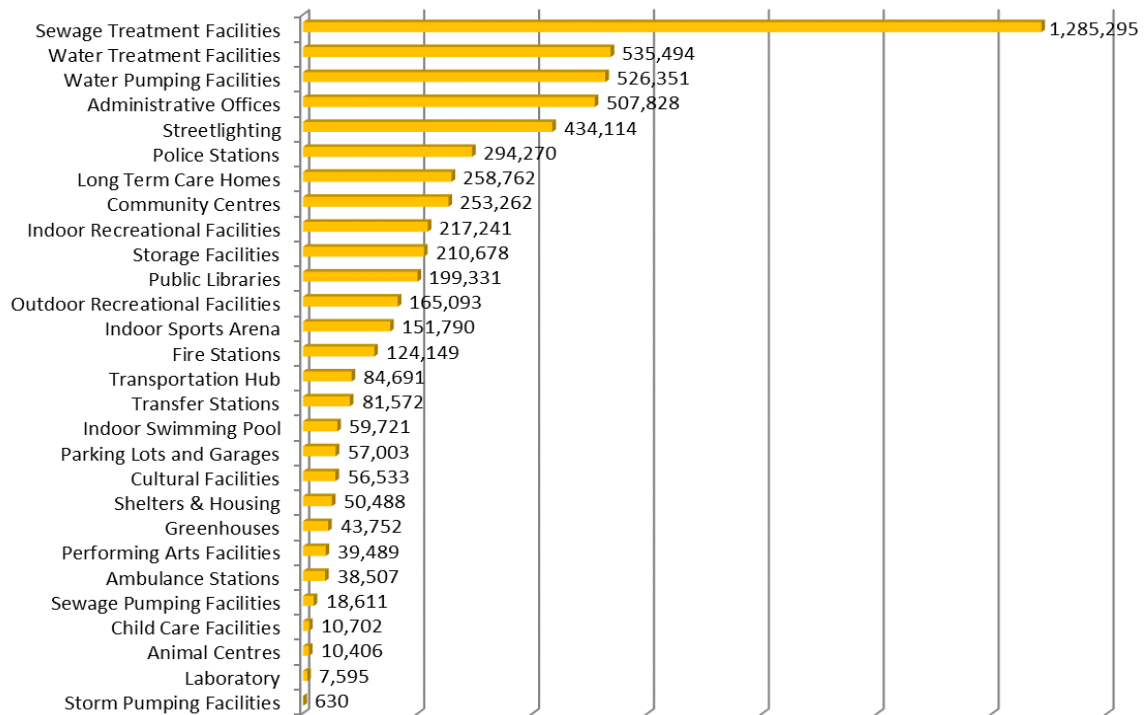
Figure 1: Energy Consumption and GHG Emissions by Energy Type

Of the reported facilities, water and wastewater operations make up a significant portion of the energy and greenhouse gas emissions. Accounting for 2,366,382 gigajoules of energy, these process based operations account for 41% of total energy consumption of the reported facilities. This is mainly due to their continuous operation, energy intensive equipment and regulatory requirements.



Administrative offices, including City Hall, Metro Hall, Civic Centres and other office buildings, is the highest operation type related to building energy use. With over 4.5 million square feet, these facilities require significant amounts of energy to operate.

Energy Consumption by Operation Type
(GigaJoules)



Strategies for reducing greenhouse gas emissions from City buildings will be presented as part of the TransformTO report, which will be before the Parks and Environment Committee in November 2016.

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SIGNATURE

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