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2017 OPERATING BUDGET BRIEFING NOTE

Potential Impact on 2017 Energy & Fuel Costs

Ontario Cap and Trade Program & Economic Factors

Issue:

To evaluate the potential energy and fuel costs impact based on the recent announcement by the Government of Ontario to introduce a new cap and trade program effective January 1, 2017, and to provide a total impact that includes forecasted economic factors that are not related to cap and trade, as well as a brief analysis of possible future year impacts.

Key Points:

- On February 24, 2016, the Ontario government introduced new Climate Change Legislation: <https://news.ontario.ca/ene/en/2016/02/ontario-introduces-new-climate-change-legislation.html>
- Also on the same day, Bill 172 "Climate Change Mitigation and Low-carbon Economy Act, 2016" has passed its first reading: http://www.ontla.on.ca/web/bills/bills_detail.do?locale=en&Intranet=&BillID=3740
- Subsequently on February 25, 2016, the Ontario government introduced the Cap and Trade Regulation to limit greenhouse gas (GHG) pollution: <https://news.ontario.ca/ene/en/2016/02/ontario-posts-cap-and-trade-regulation.html>
- The regulation has established year 1990 as the baseline year, with a target to reduce by 15% by 2020, 37% by 2030 and 80% by 2050.

Cap and Trade is meant to reduce the use of fossil fuels by putting a limit on how many tonnes of GHG pollution businesses and residents can emit. This will have an impact on energy & fuel costs in 2017 and going forward. Other factors unrelated to Cap and Trade will also affect future energy and fuel costs.

Potential Cost Impacts of Cap and Trade:

The Cap and Trade program targets fossil fuel energy such as vehicle fuel and natural gas and will increase their cost. The following provides a preliminary analysis on the potential cost increases effective January 1, 2017, based on the information as posted on the Ontario government website, <https://www.ontario.ca/page/cap-and-trade>. The analysis also includes the forecasted economic inflation to provide a total potential cost impact for 2017.

1) Vehicle Fuel - Diesel and Gasoline

The website indicates that "price of gasoline is estimated to increase 4.3 cents a litre in 2017." Assuming the 4.3 cents also applies to diesel fuel, this represents about 5.5% increase in gasoline and diesel costs.

The City and ABCs have hedges in place for 2017 that fix vehicle fuel prices for about 60% of fuel consumption; however, Cap and Trade will apply to both hedged and unhedged purchases. For the large ABCDs, the increases in vehicle fuel costs are as follows:

	City Fleet	TTC	Police Fleet	Total
Estimated 2016 fuel consumption in litres (diesel & gasoline)	15,600,000	100,000,000	7,900,000	123,500,000
Estimated Cost Increase (\$)	\$670,800	\$4,300,000	\$339,700	\$5,310,500

2) Natural Gas

The website also indicates an "estimated average monthly increase of \$5 for natural gas for households." According to various sources in the natural gas industry, the estimated increase in 2017 is in the range of 3 to 3.3 ¢/m³ based on a carbon price of \$18 per tonne. GazMetro is a natural gas distributor in Quebec which is currently charging customers 3.29 ¢/m³ under Quebec's Cap and Trade program.

Assuming the increased is 3.3 ¢/m³, the cost impact would be about a 14% increase, since the City is currently paying about 24 ¢/m³. Through the City's natural gas bulk purchasing program, the unit rate for 2017 is anticipated to drop 1¢ down to 23 ¢/m³. The combined net impact would be 2.3 ¢/m³ or 10% year over year (2.3¢ over 24¢). For corporate facilities managed by EED, the estimated cost increase would be \$262,000 in 2017. The impact on all other divisions is estimated to be \$1,530,000.

3) Steam Heating

District steam is provided by Enwave and is generated using natural gas. Although Enwave is subject to carbon charges on its natural gas bill, it is also likely to receive carbon credits or allowances for the first few years since it is considered a large emitter (>25,000 tonnes).

The total estimated impact of Cap and Trade for City Divisions (fuel and natural gas) in 2017 is \$932,800, plus any amount that may be attributable to Enwave. The fuel cost impact for TTC and Police is an additional \$4,639,700, for a total estimated impact of \$7,102,500.

Summary of Cap and Trade Impact

	City Fleet	TTC	Police Fleet	EED Managed Divisions*	All Other City Divisions	Total
Fuel	670,800	4,300,000	339,700			5,310,500
Natural Gas				262,000	1,530,000	1,792,000
Total						7,102,500

* Including Police and FM

Estimated Price Increases not Attributable to Cap and Trade:

4) Steam Heating

Natural gas prices for 2017 are estimated to increase by 3% based on the current natural gas market. The actual increase will not be known until the fall of 2017, when Enwave provides its updated steam rate. For corporate facilities managed by EED, the estimated cost increase would be \$94,000 in 2017.

5) Electricity

The announcement indicates that "Households will not see increases in their electricity rates as a result of the cap and trade program." However all previous green plans has already increased electricity costs and foreseen to continue to increase. Based on City's electricity advisor estimation, the electricity rate is anticipated to increase by about 7% in 2017. For corporate facilities managed by EED, the estimated cost increase would be \$1,356,000 in 2017.

6) Water

Water is not part of the Cap and Trade program. However the water rate is set by City Council and is forecasted to increase by 5% in 2017. For corporate facilities managed by EED, the estimated cost increase would be \$100,000 in 2017.

7) Chilled Water

Chilled water is not affected by the Cap and Trade program. However as per agreement with Enwave, the annual rate increase is tied to the Ontario inflation rate which is estimated to be 2.1% for 2017. For corporate facilities managed by EED, the estimated cost increase would be \$21,000 in 2017.

Summary:

The potential total cost impact for both Cap and Trade and economic factors in 2017 for corporate facilities managed by E&ED is as follows:

Description	Nat. Gas	Steam	Electricity	Water	Chi.Water	Total
2016 Requested Budget	\$2,622,989	\$3,119,896	\$19,378,000	\$1,993,542	\$1,016,726	\$28,131,154
Estimated Increase for 2017	\$262,000	\$94,000	\$1,356,000	\$100,000	\$21,000	\$1,833,000
Estimated 2017 Utility Budget	\$2,884,989	\$3,213,896	\$20,734,000	\$2,093,542	\$1,037,726	\$29,964,154

Future Years:

Energy and fuel costs will continue to increase as the Province lowers its carbon cap from the 2017 cap of 142 megatonnes to 125 megatonnes by 2020 (total 12% over 3 years). This will be followed by decreases of an additional 37% by 2030 and 80% by 2050. The potential impact on energy and fuel costs will likely increase as the emission target is tighter, a declining credit

allowance for large emitters and the price of carbon continues to increase. A natural gas industry source has indicated that the increase will be about 5% plus CPI each year.

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