

# INFORMATION REPORT

| то:                | Chair and Members Audit, Finance and Administration Committee   |  |  |  |  |
|--------------------|---|--|--|--|--|
| COMMITTEE DATE:    | June 6, 2019  |  |  |  |  |
| SUBJECT/REPORT NO: | 2018 Annual Energy Report on Commodity Price Hedging (FCS19026 / PW19044) (City Wide)                     |  |  |  |  |
| WARD(S) AFFECTED:  | City Wide   |  |  |  |  |
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| SUBMITTED BY:      | Rom D'Angelo, C.E.T.; CFM<br>Director, Energy, Fleet and Facilities Management<br>Public Works Department |  |  |  |  |
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### **COUNCIL DIRECTION**

The City's Corporate Energy Policy stipulates the General Manager of Finance and Corporate Services, reports to Council at least once each fiscal year with respect to any Energy Commodity agreements. In May 2014, Council approved a revision to the City's Corporate Energy Policy (refer to Report PW14050) which now incorporates the City's previously separate Energy Commodity Policy into one comprehensive policy.

### **INFORMATION**

The City of Hamilton's 2018 Annual Report on Commodity Price Hedging deals exclusively with the City's energy commodity price hedging agreements and utility rate transactions for natural gas, electricity and fuel.

As defined in the Corporate Energy Policy, "Energy Commodities" means electricity, green power, natural gas, methane and all other petroleum based fuel products such as, diesel, bio-diesel, gasoline, fuel oil, propane and any other bulk commodity primarily used by the City for the purpose of heating and cooling of buildings and other structures, electricity generation, cogeneration demand response programs, smart grid programs and the fuelling of City fleets, as determined by the Manager of Energy Initiatives.

## Utility Rates and Commodity Strategies Results

The utility rates and commodity strategies results include Global Adjustment (GA) rate changes and natural gas hedging programs. For the 2018 calendar year, there was a \$6.9 M cost benefit; \$6.4 M as a result of Class A and \$529 K savings from hedging of natural gas.

Figure 1: 2018 Utility Rates and Commodity Strategies Results

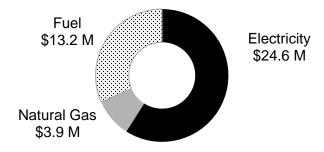
| 2018 Results        | \$M | % Levy | % Rate |
|---------------------|-----|--------|--------|
| Global Adjustment   | 6.4 | 31%    | 69%    |
| Natural Gas Hedging | 0.5 | 88%    | 12%    |
| Total               | 6.9 | 35%    | 65%    |

Further breakdown of these results can be found in the Global Adjustment and Natural Gas Risk Management sections in the report.

#### Overall Costs

In the City's 2018 Annual Energy Report (refer to Report PW19043), the total actual energy costs for electricity, natural gas and fuels were reported at \$41.7 M. This is less than a 1% decrease from 2017 energy costs. The breakdown is shown in Figure 2.

Figure 2: 2018 Total Energy Costs (Electricity, Natural Gas & Fuel) in Millions (M)



The electricity and natural gas costs, including those from district heating and cooling are incurred by City-owned buildings / facilities, Hamilton Water, Public Works Operations and Street and Traffic lighting. It excludes CityHousing Hamilton. Utilities include Alectra Utilities, Hydro One and Union Gas (now Enbridge Gas Inc.). Sites with only partial data may be excluded. Fuel includes diesel, unleaded gasoline and compressed natural gas (CNG) for all Fleet, Operations and Transit vehicles but does not include Hamilton Police Services or Darts.

### Electricity

The electricity price comprises commodity, as well as, costs for distribution, transmission, regulatory and delivery. Hamilton is served by two local distribution companies (Alectra Utilities and Hydro One). Both Alectra Utilities and Hydro One are regulated by the Ontario Energy Board (OEB) and must get approval for any rate changes.

In 2018, the City's overall expenditure for electricity was \$24.6 M. Overall, electricity costs in 2018 decreased by 6.5% compared to 2017. There was a slight increase of less than 1% in overall consumption when compared to 2017. The City's overall average price of electricity per kilowatt-hour (kWh) decreased from 12.2 cents per kWh (¢/kWh) in 2017 to 11.4 ¢/kWh in 2018.

The average price for electricity, year over year, from 2005 to 2018 is outlined in Figure 3.

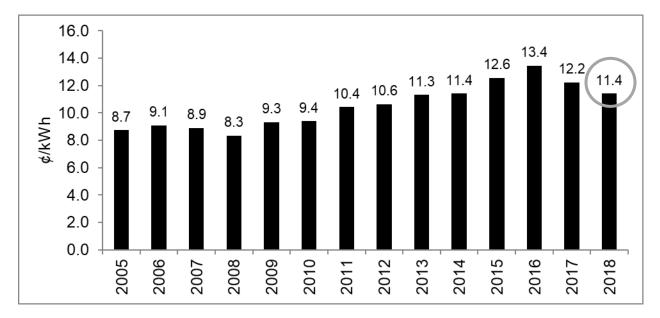


Figure 3: City of Hamilton Annual Average Electricity Price (¢/kWh)

There are a variety of factors that can impact electricity cost, some of which are consumption and process changes, regulatory changes, market activity and weather. In 2018, the two major impacts were weather, which lead to increases in consumption and regulatory programs, which reduced overall costs.

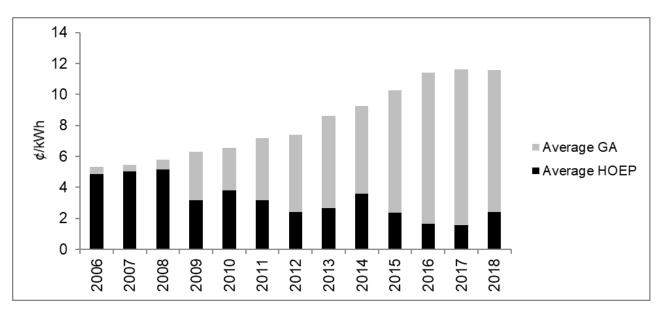
Although energy efficiency projects and peak day reduction activities have helped to mitigate increases to consumption, summer temperatures in 2018 did lead to increases in electrical consumption for many sites, particularly those with public programming. The cooling degree days in Hamilton were 67% higher in 2018 versus 2017 and 35% higher than the five-year average.

Costs, on the other hand, were 6.5% lower than in 2017. One of the major reasons that costs decreased from 2017 was the introduction of Ontario's Fair Hydro Plan in the summer of 2017. For 2018, the City's electricity costs benefited from a full year under that regulated rate relief program for small to mid-size commercial sites. In addition, rates were also impacted by market conditions for both commodity and Global Adjustment.

The electricity market in Ontario itself is complex and volatile. Ontario's electricity commodity includes the Hourly Ontario Electricity Price (HOEP) and the Global Adjustment (GA). When the HOEP is low, the GA increases to cover the costs of generation. The monthly costs vary depending on consumer demand, the generation mix, weather conditions and how often each type of generation is offered into the market.

It is possible to fix the price on forward terms for the HOEP. However, doing so does little to protect against the greater fluctuations of the GA, which makes up the larger portion of commodity costs. Staff recommendations have been to not hedge against the HOEP due to unfavourable market conditions. While the HOEP has declined over recent years, this has been offset by significant increases to the price of the Global Adjustment, as illustrated in Figure 4.





The annual average HOEP in 2018 was 2.4 ¢/kWh in 2018, which was a 54% increase over 2017. The HOEP increase was slightly offset by a decrease in the GA. The average GA price in 2018 was 9.1 ¢/kWh. This represents a 9% decrease from 2017. The overall combined commodity price for electricity (11.6 ¢/kWh) remained flat compared to 2017.

### Global Adjustment

The Global Adjustment (GA) is a market mechanism to account for differences between the market price and the rates paid to regulated and contracted generators and for conservation and demand management programs. Most of the GA costs arise from contracts that the Independent Electricity System Operator (IESO) has with generators, many of which are fixed price or guaranteed revenue agreements. There is no market mechanism to hedge specifically against the GA rate.

When spot prices (HOEP) are lower, the generator does not earn enough revenue from power sales to meet its revenue guarantees. In that case, the IESO pays the generator to make up this difference and the costs are recovered from consumers through the GA. Therefore, in a month when the market price of electricity is low, the GA will be higher and conversely when market prices are high, the GA will be lower.

For billing of the GA costs, most commercial consumers are on a Class B rate. Class B consumers pay a regulated GA rate set monthly and posted by the IESO. Eligible, high electrical demand customers can opt for a Class A rate. Class A rate customers pay the GA costs based on their percentage contribution to the total monthly provincial GA costs, calculated on the top five peaks during a peak setting period. Class A customers can impact their GA costs by reducing demand during peak periods, resulting in lower costs. Class A sites within the City include 900 Woodward Avenue, 850 Greenhill Avenue, 1579 Burlington Street, FirstOntario Centre, CUP Operations and Tim Hortons Field. The results for 2018 was a cost benefit of \$6.4 M as shown in Figure 5.

Figure 5: Annual Global Adjustment Class A Results 2011-2018

| Year  | Standard Global<br>Adjustment Charge |            | Actual Global<br>Adjustment Charge |            | Cost Benefit |            |
|-------|--------------------------------------|------------|------------------------------------|------------|--------------|------------|
| 2011  | \$                                   | 2,703,065  | \$                                 | 1,640,102  | \$           | 1,062,963  |
| 2012  | \$                                   | 3,852,903  | \$                                 | 2,354,335  | \$           | 1,498,568  |
| 2013  | \$                                   | 5,720,669  | \$                                 | 3,220,565  | \$           | 2,500,104  |
| 2014  | \$                                   | 5,574,562  | \$                                 | 3,127,867  | \$           | 2,446,695  |
| 2015  | \$                                   | 7,931,504  | \$                                 | 4,020,207  | \$           | 3,911,297  |
| 2016  | \$                                   | 9,132,962  | \$                                 | 4,450,757  | \$           | 4,682,206  |
| 2017  | \$                                   | 10,218,507 | \$                                 | 4,242,405  | \$           | 5,976,103  |
| 2018  | \$                                   | 10,417,523 | \$                                 | 4,012,950  | \$           | 6,404,572  |
| TOTAL | \$                                   | 55,551,695 | \$                                 | 27,069,187 | \$           | 28,482,508 |

#### **Natural Gas**

The natural gas price includes commodity, transportation, regulatory and delivery. Hamilton is served by one local distribution company, Union Gas. In January 2019, Union Gas and Enbridge Gas Distribution amalgamated to form one utility, Enbridge Gas Inc.

The City's overall expenditure for 2018 natural gas, including the commodity costs and utility charges for delivery, transportation and storage was \$3.9 M. This is a slight increase of 0.2% over 2017 costs. There was an increase of 4.6% in natural gas consumption compared to 2017 totals. The overall average unit price was 30.9 cents per cubic metre ( $\phi/m^3$ ), which was a 4% decrease when compared to 2017's price of 32.2  $\phi/m^3$ . The average price for natural gas, year over year, from 2005 to 2018 is outlined in Figure 6.

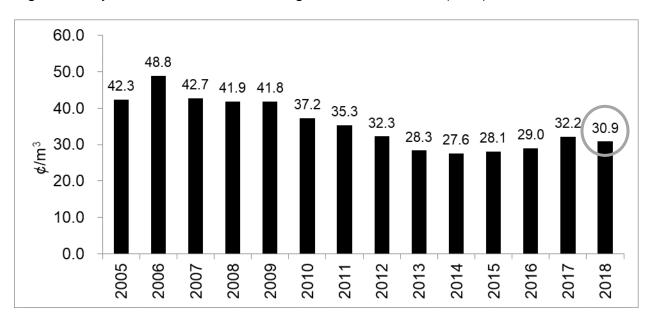


Figure 6: City of Hamilton Annual Average Natural Gas Cost (¢/m³)

Consumption increased in 2018 when compared to 2017. This can be largely attributed to the weather and the increase in heating degree days, which were 9% higher in 2018 over 2017. Although the consumption increased, costs themselves remained relatively stable. Ongoing hedging activity, described below in the Natural Gas Risk Management section, helped to mitigate any market fluctuations due to the colder weather. The other impact to costs was the Cap and Trade program charge that was introduced in January 2017. The program, designed to meet provincial GHG emission reduction targets, meant consumers were charged for the price of carbon. The Cap and Trade charge continued to be embedded within the Union Gas delivery charges until October 1, 2018 when it was removed due to a repeal of the program. There were no carbon-related charges included on the natural gas from October to December 2018.

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# Natural Gas Risk Management

Natural gas can be a volatile commodity. There are many factors that can influence prices in natural gas markets including weather, supply, demand, geo-political events and changes to refining and extraction technologies. To maintain control of costs and minimize the degree of price volatility, the City has purchased its natural gas directly from the wholesale market (since June 2006). The City has supply agreements with multiple parties to allow for competitive purchasing.

Overall, the procurement strategy is dynamic as staff, in conjunction with industry experts and the retained consultancy firm, make purchasing decisions based on market conditions. A portion of natural gas supply may be purchased as much as two to three years in advance to protect against market volatility while other portions are purchased just a month or two in advance. Fixing the price on a portion of the City's natural gas volumes results in better budget predictability and protection against spot market fluctuations, particularly during extreme weather conditions or unforeseen market events.

The City purchases natural gas for City-owned facilities (excluding CityHousing Hamilton) and for compressed natural gas (CNG) for the Transit natural gas bus fleet. The average 2018 price for the natural gas commodity only was \$3.66 per gigajoule (GJ) (\$0.142/m³) including a blend of hedged and unhedged volumes. This does not include any Union Gas charges such as delivery or storage which make up the total price.

For the majority of 2018, 76% of natural gas supply was fully hedged, with a further 13% of transportation only hedged up until the end of October 2018. This was based on 2018 volume requirements. As of the end of 2018, further volumes were hedged for the periods starting November 1, 2018, November 1, 2019 and November 1, 2020. Figure 7 provides a profile of the completed hedges.

Staff monitors the market and continues to develop strategies for purchasing into the forward terms to further capture agreeable market opportunities.

Figure 7: Natural Gas Hedge Profile (as of December 2018)

| GJ/Day |                           |                           |                 | Legend:                     |
|--------|---------------------------|---------------------------|-----------------|-----------------------------|
| 2000   |                           |                           |                 | Complete                    |
| 1900   | Monthly Index             |                           |                 | Variable                    |
| 1800   | monthly mack              | Monthly Index             |                 | Transport only              |
| 1700   |                           |                           |                 | •                           |
| 1600   | 500 GJ @ \$3.62 @         | 250 GJ @ \$3.14 @         |                 |                             |
| 1500   | Dawn (\$2.47+             | 230 G3 @ \$3.14 @ Dawn    |                 |                             |
| 1400   | \$1.15)                   | Dawii                     | 500 GJ/d @      |                             |
| 1300   |                           | 250 GJ @ \$3.195          | \$3.135 @ PKY   |                             |
| 1200   | 250 GJ @ dnit 5A          | @ PKY                     |                 |                             |
| 1100   | + \$1.18 @ PKY            | @ 1 K1                    |                 |                             |
| 1000   | + ¥1.10 @ 1 K1            | 250 GJ @ \$3.43 @         |                 |                             |
| 900    |                           | 250 GJ @ \$5.45 @<br>Dawn |                 |                             |
| 800    |                           | Dawii                     | 500 GJ @ \$3.30 |                             |
| 700    | 600 GJ @ \$3.99 @         | 250 GJ @ \$3.49 @         | @ PKY           | 250 GJ @ \$3.10 @           |
| 600    | PKY                       | PKY                       |                 | 250 G3 @ \$3.10 @  <br>Dawn |
| 500    |                           | 1 17 1                    |                 | Dawii                       |
| 400    |                           |                           |                 |                             |
| 300    | 250 C L @ \$2.775         | 500 GJ @ \$3.68 @         | 500 GJ @ \$3.25 | 500 GJ @ \$3.165            |
| 200    | 350 GJ @ \$3.775<br>@ PKY | PKY                       | @ Dawn          | @ PKY                       |
| 100    | ⊌ FKT                     |                           |                 | _                           |
| Term   | Nov 17 - Oct 18           | Nov 18 - Oct 19           | Nov 19 - Oct 20 | Nov 20 - Oct 21             |

#### Notes:

- GJ/Day = Gigajoule per day
- PKY = Parkway Ontario delivery point
- Dawn = Union Dawn Ontario delivery point
- Transport only = volume only fixed for transportation of gas from AECO to Ontario delivery point
- AECO (dnit 5A) = Alberta index delivery point

To evaluate the performance of the hedging program, the City benchmarks its natural gas hedging activities against the procurement program offered by the Association of Municipalities of Ontario / Local Authority Services (AMO / LAS). Although the City has enough volume to allow for wholesale purchase from market suppliers, smaller municipalities may not have the volume or expertise to manage their own programs and may benefit from and highly valued AMO / LAS purchasing program.

The City and AMO / LAS program comparison is shown in Figure 8 with overall results shown in Figure 9.

Figure 8: Average Price Comparison of City to AMO/LAS Natural Gas Program

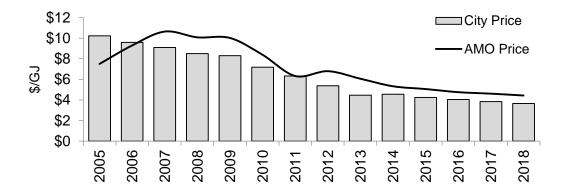


Figure 9: Performance of Natural Gas Hedging Activity Compared to AMO/LAS Program

| Natural Gas Hedging Performance Results |    | 2018 Results |    | Cumulative Results* |  |
|---|----|--------------|----|---------------------|--|
| Levy (Tax) Supported Budget             | \$ | 465,571      | \$ | 6,491,454           |  |
| Rate Supported Budget                   | \$ | 64,126       | \$ | 1,131,095           |  |
| Total Cost Benefits:                    | \$ | 529,698      | \$ | 7,622,550           |  |

<sup>\*</sup>Performance relative to AMO/LAS Natural Gas Hedging Program since 2007

Natural Gas Agreements for Supply, Transportation, Storage and Delivery

In 2018, the City had master agreements for natural gas supply in place with Shell Energy North America (Canada) Inc., EDF Trading North America, LLC, Tidal Energy Marketing Inc. and Royal Bank of Canada. All current supply counterparties have credit ratings that are compliant with the Corporate Energy Policy.

In addition, the City has several contracts in place with Union Gas that are required to facilitate the transportation, delivery and storage of the City's natural gas supply. The utility agreements include direct purchase agreements for City sites, a T1 rate storage contract for managing Transit CNG and M13 rate production contract for renewable natural gas.

Direct Purchase Agreements (DPA) with Union Gas

DPAs outline the terms of service for delivery of natural gas, including designated delivery points, contract volumes and storage within the Union Gas franchise area. The parameters are shown below in gigajoules (GJ) which is the unit in which gas is purchased to meet the requirements. Prices and consumption data on Union Gas bills are reported in cubic metres (1 GJ =  $\sim$ 26 cubic metres). In 2018, the agreements and parameters on contract renewal were:

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- SA9369 for 116 GJ/day 25 miscellaneous City natural gas accounts which run from February 1 to January 31 each year.
- SA7020 for 1,154 GJ/day 205 miscellaneous City natural gas accounts which run from November 1 to October 31 each year.
- T1 for 439 GJ/day (increased from 320 GJ/day as of September 2017) For Transit's CNG bus fleet and transit site. The contract runs September 1 to August 31 each year.

Each DPA has its own specific delivery requirements, at different points along the variety of pipelines within North America and are reviewed and renewed annually. DPAs may also be amended throughout the year. As of November 1, 2018, the accounts on the SA9369 agreement were moved into the SA7020 agreement so there is now only one DPA for general City sites. For the T1 contract, additional volume (over the DCQ) is typically delivered to accommodate for increases in fleet size throughout the year.

#### Natural Gas Market

Overall, natural gas commodity prices in 2018 were relatively stable, with periods of higher volatility occurring throughout the winter and summer months. Daily Dawn (Ontario pricing hub) prices for most of the year were averaged in the \$3.50 to \$3.60 per GJ range. However, as the cold set in, prices averaged \$4.75 per GJ for the last quarter of 2018, with some day prices well over the \$6.00 per GJ range. The City does have hedged volumes that insulate the impacts from high price swings. The market for forward terms did give some opportunity for purchases in April 2018, where prices were favourable for the periods starting November 2018, November 2019 and November 2020.

Weather in 2018 was both warmer and cooler than in 2017. The summer period led to increased demand for gas-fired electrical generation for cooling. The colder winter led to a faster decrease in the storage levels as several areas of North America experienced prolonged cold weather. Production remained strong throughout 2018 and there were no extreme weather events shutting in Gulf production. This limited the impact from higher demand and lent some protection from prices moving too high. Heading into 2019, production continues to be strong and long-term pricing has been moving slowly downward. However, unexpected weather events, changes to demand, production levels, pipeline capacity pressures and the lower value of the Canadian dollar will impact pricing and could cause prices to rise in the short and long terms.

Although hedging activities do serve to effectively manage the commodity portion of natural gas prices, controlling consumption plays a role in managing the overall costs of natural gas. Consumption reduction helps to mitigate the potential for increased costs of natural gas due to changes in utility or regulated rates (i.e. delivery, carbon programs), while further reducing the footprint of the City's facilities by reducing carbon emissions.

Compressed Natural Gas (CNG)

Natural gas is also purchased for Transit's fleet of natural gas buses. The CNG station at the Mountain Transit Centre services the fleet of existing and growing number of natural gas buses for the City.

The CNG station operates under a natural gas storage contract (T1). The T1 contract is a daily-balanced contract with storage availability. The amount of storage volume is contracted annually and for the 2018 contract term (September 2018 to August 2019), the T1 was allotted 15,140 GJs of storage. The difference between the daily volumes purchased and consumed are injected or withdrawn from the storage account. The contract allows for greater flexibility in managing the supply but must be reviewed daily to adhere to specific storage parameters.

The Transit fleet of natural gas buses totalled 120 by the end of 2018 and is expected to increase in the coming years. Natural Gas has a lower cost compared to diesel, however, it does operate at approximately 75% efficiency per diesel litre equivalent when compared to diesel bus usage. Despite its lower efficiency, its lower cost and lower GHG emissions is of benefit to the City. In 2018, the total cost of natural gas for the buses was \$1.03 M. Figure 10 shows the City's monthly fuel prices with CNG price converted to diesel equivalent (DLE).

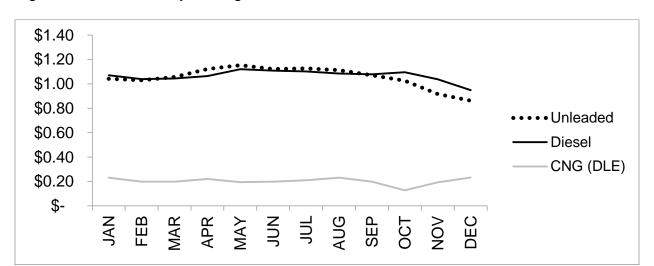


Figure 10: 2018 Monthly Average Fuel Prices for Diesel, Unleaded Gasoline and CNG

When converted to diesel equivalent dollars and adjusting for efficiency, Transit spent \$2.9 M less in fuel costs using CNG buses than they would have using only diesel buses.

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Figure 11: 2018 Cost Benefit of CNG as Compared to Diesel

| Diesel Litre Equivalent (L)                       | 5,104,215    |
|---|--------------|
| Number of DLE Litres of Diesel Required*          | 3,777,119    |
| Diesel cost at \$1.06/L (Average 2018 Fuel Price) | \$ 4,003,746 |
| 2018 CNG Cost                                     | \$ 1,032,545 |
| Cost Benefit of CNG                               | \$ 2,971,201 |

<sup>\*</sup> Average of CNG buses run at 75% of DLE compared to average DSL bus

# Traditional Fuel Supply

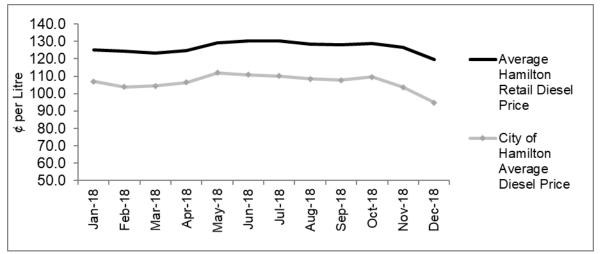
The City of Hamilton purchases diesel and gasoline fuel for its fleet of vehicles including buses, waste collection vehicles, snow removal trucks, street sweepers, forestry and parks vehicles, as well as, Fire and Emergency Services vehicles. In addition, the City purchases fuel for Hamilton Police Services.

In 2018, the City's fuel procurement strategy involved utilizing a contractual bulk supply agreement with Suncor Energy Products Partnership. Fuel contracts are reviewed annually and based on pricing, deliverability and fuel types, the strategy can be adjusted accordingly.

The pricing arrangement for 2018 was based on the daily "rack" price of each required fuel type (diesel and gasoline) from a designated source terminal with negotiated discounts, delivery charges and taxes. Paying daily rack pricing for fuel assures customers are getting the lowest available price on the market for that day. Suncor Energy Products Partnership has a credit rating that is compliant with the Corporate Energy Policy.

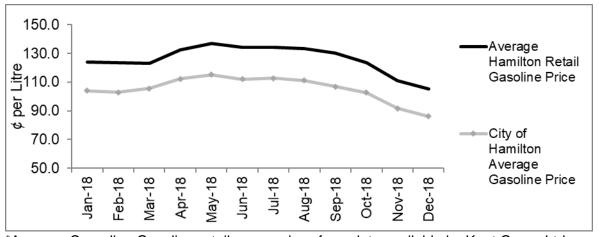
Wholesale purchase of diesel and gasoline offer lower prices than those at public fuel stations across the City. With data collected from reliable industry sources on average fuel pump prices in Hamilton, Figures 12 and 13 show the comparison between the average prices paid for diesel and gasoline purchased under City wholesale contracts versus the average retail prices paid at the pump ("Pump") by the public at fuel stations throughout Hamilton.

Figure 12: 2018 Monthly Average Price of Diesel Paid by City versus at the Pump



<sup>\*</sup>Average Canadian Diesel retail pump prices from data available by Kent Group Ltd.

Figure 13: 2018 Monthly Average Price of Gasoline Paid by City versus at the Pump



<sup>\*</sup>Average Canadian Gasoline retail pump prices from data available by Kent Group Ltd.

Fuel purchases for diesel and gasoline, as reported in the 2018 Annual Energy Report (refer to Report PW19043), excludes Hamilton Police Services. City departments used approximately 9.2 million litres of diesel, a 2% reduction from 2017. City departments used approximately 2.2 million litres of gasoline, a 5% increase over 2017. A large part of the continued decrease in diesel usage can be attributed to the increase in CNG usage for Transit buses.

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The 2018 budget prices for diesel and gasoline were set at \$0.95 per litre and \$1.01 per litre, respectively. For 2018, the average diesel and gasoline prices were over budget, with overall costs at 4% above budget. Figure 14 shows the 2018 results as compared to budget.

Figure 14: 2018 Actual Fuel Consumption and Costs Compared to Budget

| Fuel Type                | 2018 Budget 2018 Actual |            |                  | 2018 Variance<br>(Actual - Budget) |         |
|--------------------------|-------------------------|------------|------------------|------------------------------------|---------|
| Diesel Consumption (L)   |                         | 9,779,599  | 9,172,662        | -                                  | 606,937 |
| Diesel Cost (\$)         | \$                      | 9,290,620  | \$<br>9,752,970  | \$                                 | 462,350 |
| Diesel Unit Price (\$)   | \$                      | 0.95       | \$<br>1.06       | \$                                 | 0.11    |
| Gasoline Consumption (L) |                         | 2,268,991  | 2,248,360        | -                                  | 20,631  |
| Gasoline Cost (\$)       | \$                      | 2,291,670  | \$<br>2,372,824  | \$                                 | 81,154  |
| Gasoline Unit Price (\$) | \$                      | 1.01       | \$<br>1.06       | \$                                 | 0.05    |
| Total Consumption (L)    |                         | 12,048,590 | 11,421,022       | -                                  | 627,568 |
| Total Costs (\$)         | \$                      | 11,582,290 | \$<br>12,125,794 | \$                                 | 543,504 |

### Fuel Risk Management

Like other commodities, diesel and gasoline markets are volatile and are impacted by many localized and global geopolitical factors. One method to manage volatility is to hedge volumes for a forward term at a set price. As hedge products for diesel and gasoline are not available, financial hedges for heating oil do exist to manage fluctuations in the market. Although the City has hedged in the past and staff continues to monitor the heating oil markets for favorable opportunities, no volumes were hedged in 2018 or are currently hedged.

#### Fuel Market Update

One of the drivers for diesel and gasoline are crude oil prices. The global crude market started 2018 on an upward trend. The Organization of Petroleum Exporting Countries (OPEC) continued with its production limits for 2018 and there was increased demand for refined products (diesel and gasoline) which supported increased prices. Global prices for crude continued to rise into the second and third quarters as geo-political turmoil and proposed US sanctions on Iran all indicated uncertainty around global supply. However, as the year drew to a close, prices waned as economic uncertainty, lower demand and record levels of production indicated possible oversupply in the marketplace.

Crude oil is only one component of diesel and gasoline prices. Other impacts to prices are the refining capacity, costs and demands for export, the value of the Canadian dollar, marketing and carbon initiatives. The weakened Canadian dollar led to higher gasoline and diesel prices throughout most of 2018. The repeal of the Cap and Trade program in October 2018 did provide some relief at the pumps for gasoline.

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Any savings that would be felt, will likely be reversed in the second quarter of 2019 when the federal carbon pricing tax is implemented in provinces where no carbon pricing plan is established. This could add up to \$0.06 per litre to prices. Diesel prices did not fall as fast as there continues to be higher global diesel demand for industrial use.

Purchasing wholesale fuel does help insulate the City from some of the costs associated with pump prices, largely the marketing fees.

### Commodity Stabilization Reserve

Considering the volatility of fuel costs, a Commodity Stabilization Reserve (110043) was established in 2011 by Council as a reserve to allow for commodity related budget over-runs. The use of this Reserve is expected to occur when no other operating surplus is available to offset over budget commodity expenses. The Reserve was established with an initial \$1.5 M contribution.

### **Contract Agents**

Managing the annual energy cost of over \$40 M requires continuous attention within an ever-changing energy industry. To maximize available expertise, the City uses outside consultants (Contract Agents) to assist staff in negotiating the unstable and complex energy commodity markets and associated regulatory frameworks. The use of these Contract Agents has proven valuable in that they are immersed daily in the energy commodity markets and have specialized expertise with respect to monitoring and responding to market changes. With Council approval, the City has a professional services agreement with Agent Energy Advisors to assist with the day-to-day management of the City's natural gas portfolio.

Additionally, the City reviews several market-based publications and engages with outside parties to further gather information on factors influencing pricing both domestically and globally.

Consistency with City Energy Commodity Hedging Policy and Goals

The agreements executed during the reporting period are consistent with the City's Commodity Price Hedging Policy and Goals:

- The agreements have provided for a price of natural gas that was more stable and therefore, less risky than it would have been omitting the agreements;
- The actions taken through the authority of the Energy Commodity Policy have reduced uncertainty about energy costs, which have a direct impact on the City's financial position. It has also enabled staff to respond to favourable market conditions;
- Credit ratings for the City's primary commodity suppliers remain above the minimum threshold outlined in the policy;
- Commodity hedging provides municipalities with added flexibility to potentially mitigate or manage potential price fluctuations.

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### Policy Reporting Requirements

The General Manager, Finance and Corporate Services shall report to Council at least once each fiscal year with respect to any and all energy commodity price hedging agreements and other energy commodity agreements in place. The report shall contain, at a minimum, all requirements as set out in O. Reg. 653/05 (as it exists from time to time) and shall include:

- A statement about the status of the energy commodity price hedging agreements during the period of the report, including a comparison of the expected and actual results of using the agreements;
- A statement by the General Manager, Finance and Corporate Services indicating whether, in his opinion, all the agreements entered during the period of the report, are consistent with this Energy Commodity Policy relating to the use of financial agreements to address commodity pricing and costs;
- 3) An overview of any agreements with contract agents (including, without limitation, actual costs, services provided and frequency of use) and a statement by the General Manager, Finance and Corporate Services indicating whether, in his opinion, all of these agreements are consistent with this Energy Commodity Policy with respect to the use of contract agents;
- 4) An overview of any co-operative energy purchasing initiatives and / or agreements and a statement by the General Manager, Finance and Corporate Services indicating whether, in his opinion, all these agreements are consistent with this Energy Commodity Policy with respect to the use of co-operative energy purchasing;
- 5) Such other information as Council may require; and
- 6) Such other information as the General Manager, Finance and Corporate Services considers appropriate to include in the report.

The City of Hamilton's commitment to responsibly managing energy costs plays an important role in supporting the City's Strategic Plan by contributing to a prosperous and healthy community, providing valued and sustainable services and demonstrating innovation and leadership. Ongoing success of the energy program requires engagement of all Five Pillars of Our Culture: Collective Ownership; Steadfast Integrity; Sensational Service; Engaged, Empowered Employees; and Courageous Change.

#### APPENDICES AND SCHEDULES ATTACHED

Not applicable.

TC/JS/mg/dt