



INFORMATION REPORT

TO: Chair and Members Audit, Finance and Administration Committee	WARD(S) AFFECTED: CITY WIDE
COMMITTEE DATE: June 11, 2012	
SUBJECT/REPORT NO: 2011 Annual Energy Report on Commodity Price Hedging (FCS12032/PW12032) (City Wide)	
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Council Direction:

The City of Hamilton's **Energy Commodity Policy** approved by Council in December 2008, requires the General Manager, Finance and Corporate Services to report to Council, at least once each fiscal year, regarding any and all energy commodity price hedging agreements.

Information:

In recognition of the unique position of Energy Commodities, energy prices are set by varying market conditions (i.e. supply and demand), fluctuating hourly, daily and seasonally. Supply challenges for these commodities and varying supply and demand have contributed to price volatility and have created pressures creating budgetary uncertainty.

Ontario energy consumers who wish to mitigate price risk may do so by executing some form of commodity price hedging agreements. This Statement of Policies and Goals lays out the strategy framework for the purchase, sale, delivery and storage of Energy

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Commodities and the consideration of price hedging by the City of Hamilton (City) for all Energy Commodities.

As defined in the Policy, “Energy Commodities” means electricity, Green Power, natural gas, methane and all other petroleum based fuel products, e.g., diesel, bio-diesel, gasoline, fuel oil, lubricants, 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, co-generation and the fuelling of City fleets, as determined by the Manager of Energy Initiatives.

Policy Statement

The City will procure the necessary quality and quantity of Energy Commodities in an efficient, timely and cost-effective manner, while maintaining the controls necessary for a public institution in accordance with this Energy Commodity Policy. The City will encourage the negotiation of fair Master Agreements, and agreements with Contract Agents, with respect to the purchase, sale, delivery and storage of Energy Commodities. The City will strive to ensure that the best value is obtained and that the financial stability of Energy Commodity suppliers meets high thresholds to ensure sustainability and reliability of supply.

The City will consider commodity price hedging agreements as a means of fixing, directly or indirectly, or enabling the City to fix the price or range of prices to be paid by the City for the future delivery of some or all of a specific Energy Commodity; or the future cost to the municipality of an equivalent quantity of the Energy Commodity, where it is advantageous for the City to do so.

The City will also consider opportunities for entering into agreements with utilities and other transportation and delivery supplier contracts (i.e., pipeline supply) to secure commodity supply and utility rates of specific Energy Commodities.

The 2011 Annual Report on Commodity Price Hedging deals exclusively with the City’s energy commodity price hedging agreements and energy rate transactions for natural gas, electricity and fuel.

Commodity and Rate Savings

The following Table outlines the combined energy commodity and utility rate savings for the 2011 calendar year and the accumulated total from June 2006 to December 31, 2011. The commodity costs are lower compared to our benchmark, while utility rate savings are a combination of avoided costs and lower rates due to hedging.

Combined Energy Commodity and Utility Rate Benchmark Savings

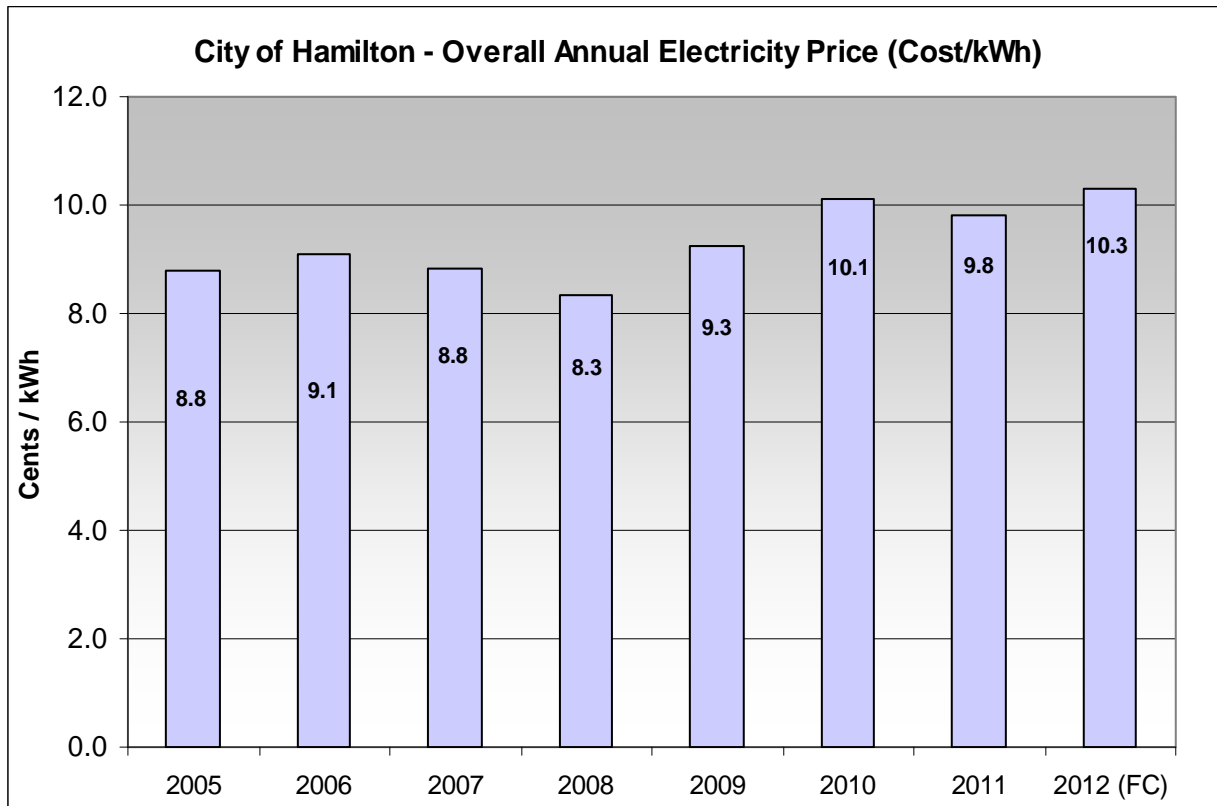
2011 Savings:	\$1.80 million	(34% Levy, 66% Rate)
Accumulated Savings to Date:	\$10.8 million	(68% Levy, 32% Rate)

Note: Levy savings is a reduction reflected in the tax base; Rate savings is a reduction to the water rate base; and Avoided costs refers to the costs avoided by the City through a reduction in energy rates, or an expense that would have been accrued if a project or action did not proceed.

For 2012 budget purposes, utility cost budget guidelines accounted for a 6% increase in electricity rates, 12% for budgeted fuel and a decrease of 10% in overall natural gas rates, compared to 2011.

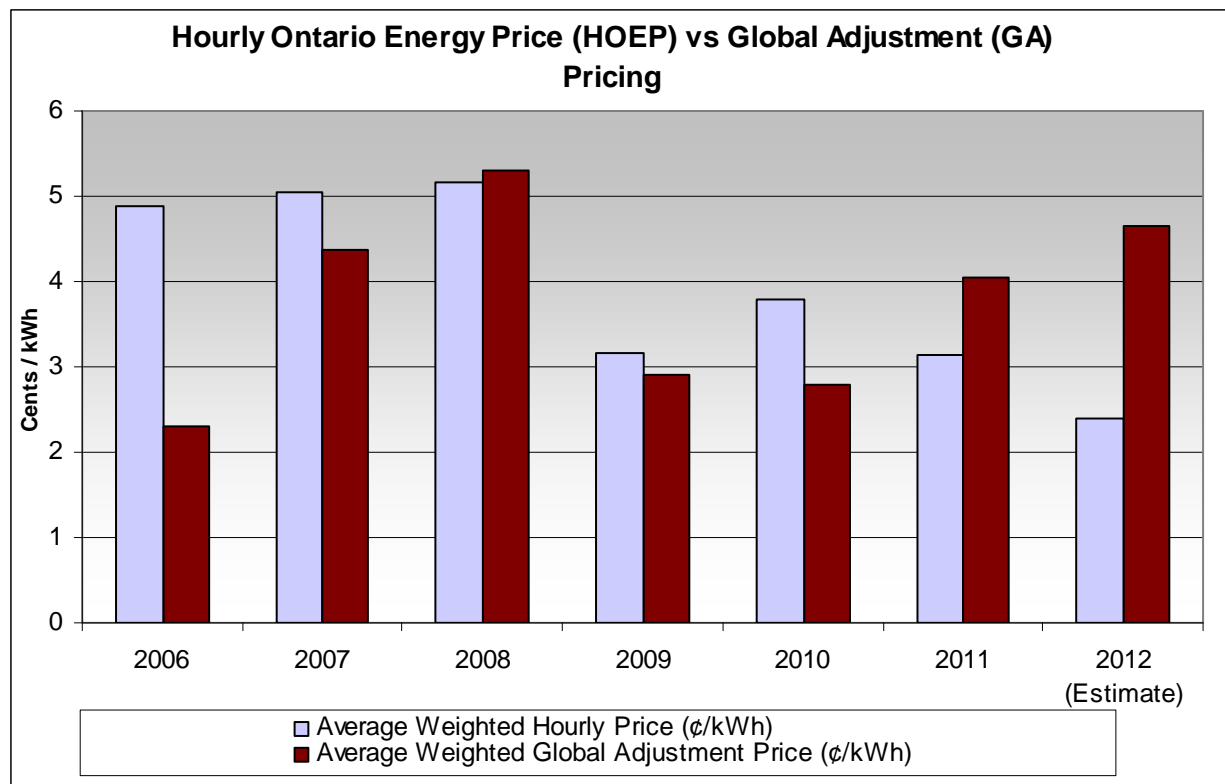
ELECTRICITY

The average electricity price decreased by 3%, from 10.1 cents/kWh in 2010 to 9.8 cents/kWh in 2011. Projections for 2012 are an increase of 6% in electricity cost over 2011, which includes all commodity and regulatory costs on the bill.



Note: kWh = kilowatt hour

Hedging the commodity portion of the electrical cost only stabilizes a small portion of the overall costs. This overall cost includes; the Global Adjustment, transmission and distribution charges, and taxes.



Note: kWh = kilowatt hour

Since 2006, annual average spot price or Hourly Ontario Energy Price (HOEP) averaged 4.8 cents/kWh in 2006 to a high of 5.2 cents/kWh in 2008 and back down to its current low of 2.4 cents/kWh for the first two months of 2012. This graph illustrates the downward trend on the Hourly Ontario Energy Price in relation to the Global Adjustment charges.

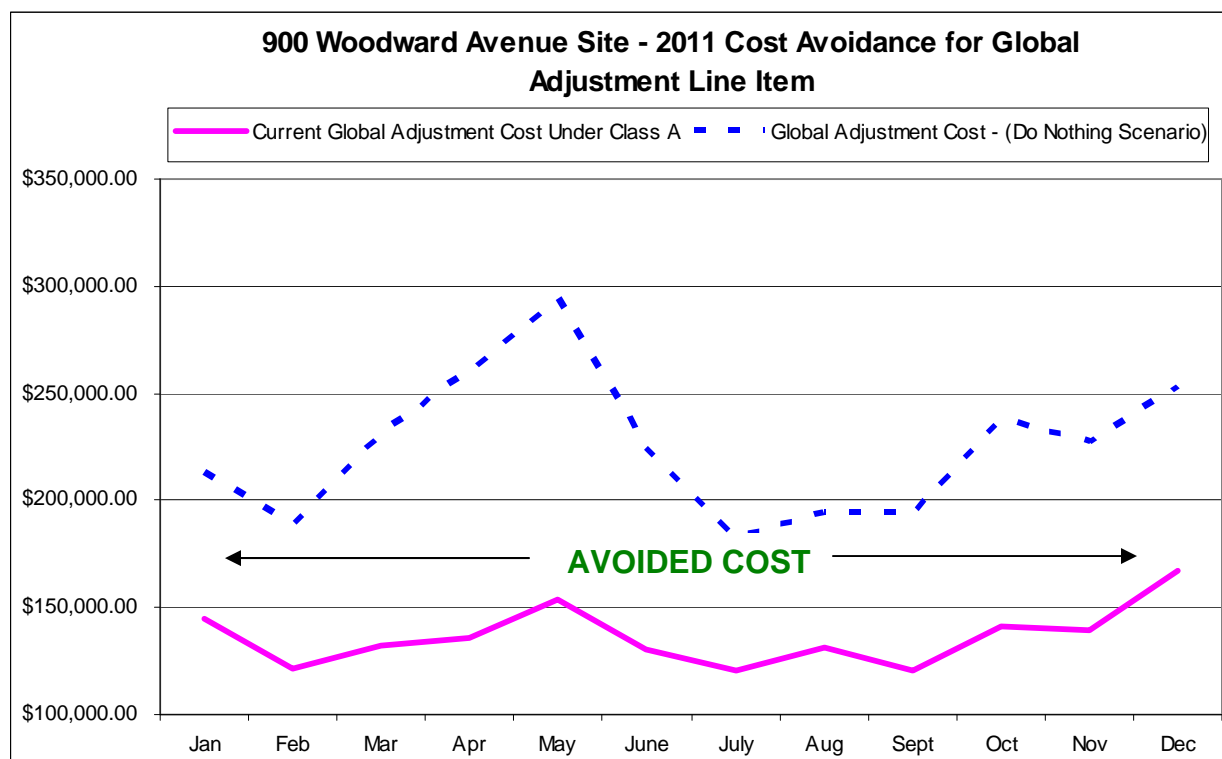
Global Adjustment (Class A Customers)

As of January 1, 2011, customers with an average peak demand of over 5 megawatts (MW) during a defined Base Period are able to elect to become 'Class A' customers. Global Adjustment (GA) costs for Class A customers are now based on the percentage that their peak demand contributes to overall system demand during the five peak hours of a defined Base Period. All other consumers are 'Class B' and continue to pay for the Global Adjustment based on their total monthly consumption. In 2011 all City electricity accounts fell under the Class B category, except the Woodward Water Waste Water facility.

In recent years, the GA has become the driving force behind the increase in price of electricity. The 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. Some of the GA costs arise from the contracts that Ontario Power Authority (OPA) has with generators, many of which are at fixed prices or guaranteed revenue. When spot prices are lower, the generator

does not earn enough revenue from power sales to meet its revenue guarantees. The OPA 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 when market prices are high, the GA will be lower. The latter example was the rationale for the old name "Provincial Benefit" which is no longer used.

The City's largest electricity user, the 900 Woodward Avenue site, was switched to the Class A calculation methodology starting Jan 1st, 2011. The overall impact was \$1.0 million of cost avoidance in the GA for 2011 alone. This cost avoidance has played an important role in reducing energy costs, and further emphasizes the need to monitor regulatory changes for opportunities.



Global Adjustment - Future Impacts

Although only the Woodward facility currently participates as a Class A utility, the City is also exploring other options to aggregate multiple large energy consuming buildings with interval meters together under the same Class A methodology. It is currently being reviewed by Horizon Utilities for feasibility and implementation.

Regulatory Updates

In the recent 2012 Provincial Budget, it was proposed that residential and small commercial energy users, who were eligible for the Ontario Clean Energy Benefit (OCEB), a rebate introduced in 2011, would not receive the benefit for any month in which they exceeded a cap of 3000 kWh per month. This impacts some of the City's

small users, typically those with an annual average usage of between 40,000 and 250,000 kWh with demand of less than 50 kilowatts (kW). Many of the City's smallest users will continue to receive the OCEB in 2012, and the largest users will not be impacted, as they were not eligible for the rebate.

NATURAL GAS:

The City has Master Agreements for Natural Gas Supply in place with BP Canada Energy Group ULC and with Shell Energy North America (Canada) Inc. The City is also reviewing additional supplier agreements in an ongoing effort to diversify our purchasing options.

The City's natural gas hedging strategies have been successful since they were implemented in June 2006. Based on the volume of natural gas that has been hedged for 2012, costs are expected to decrease by 10% over 2011 actual costs. On average, the City purchases approximately 80% of its natural gas supply requirements on a forward basis as market conditions appear favourable. Some natural gas supply is purchased as much as 2 years in advance to protect against market volatility. Generally, purchasing for terms that are beyond 2 years are rarely recommended due to higher premiums paid over current market values. The balance of the remaining gas volumes are purchased monthly as per the contract terms established with Union Gas Limited, which are renewed on an annual basis.

Natural Gas - Transportation, Storage and Delivery

The City has several contracts in place that are required to facilitate the transportation, delivery and storage of the City's natural gas supply. Those contracts include:

- Gas Suppliers - currently the City has contracts with:
 - BP Canada Energy Group
 - Shell Energy North America (Canada) Inc.
- TransCanada Pipe Lines
- Alliance Pipeline
- Vector Pipeline
- Union Gas
- Trunkline Pipeline
- Panhandle Pipelines

Direct Purchase Agreements (DPA) with Union Gas

The City has three DPA's in place with Union Gas Limited. These agreements outline the terms of delivery of natural gas, contract volumes and storage within Union Gas' franchise area. The agreements are:

- SA9367 for 226 GJ's/day - For Transit's natural gas bus fleet which runs from February 1 to January 31 each year
- SA9369 for 54 GJ's/day - 15 City natural gas accounts which runs from February 1 to January 31 each year
- SA7020 for 1226 GJ's/day - 203 City natural gas accounts which runs from November 1 to October 31 each year

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Each DPA has specific delivery requirements, at different points along a variety of pipelines within North America.

Natural Gas Expected and Actual Results

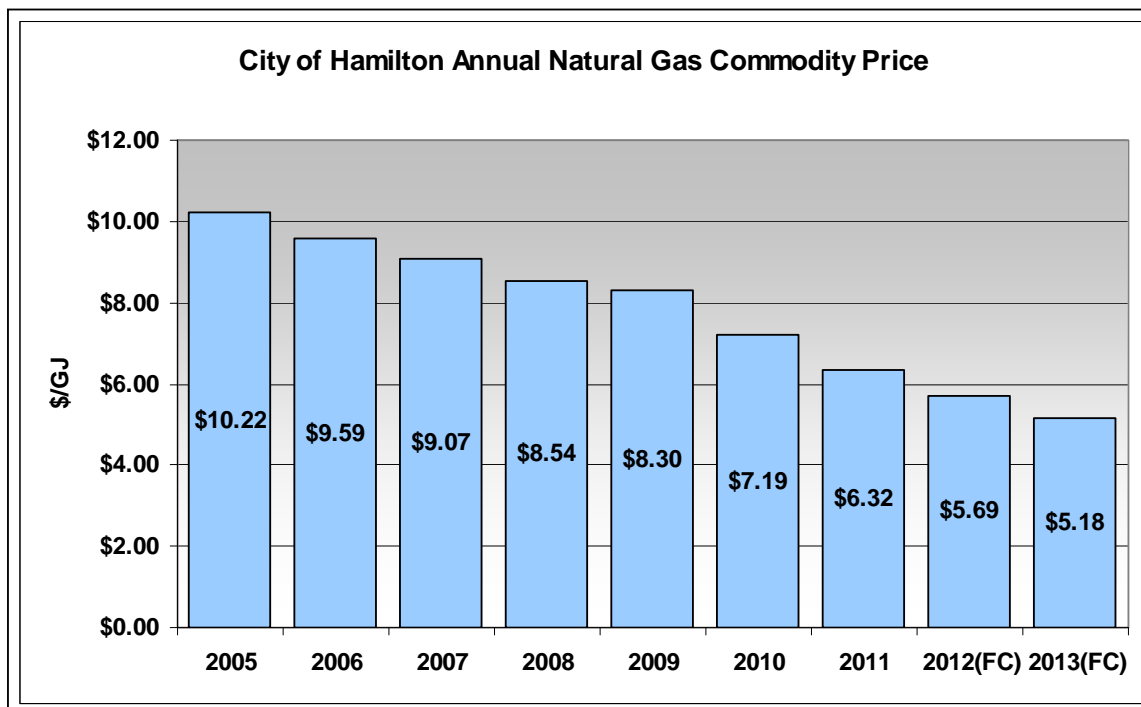
As a result of the procurement strategy executed in previous years, the downward trend for natural gas pricing continued through 2011. The average commodity price decreased by 12% from \$7.19/GJ to \$6.32/GJ and is also set to continue that way for 2012.

The commodity price forecast for 2012 continues downward from 2011 and, taking into consideration current market conditions, and outlook for future years, it is anticipated the 2013 forecast price will observe even further price reductions. The following table outlines total commodity and transportation costs, but does not include regulated delivery and storage costs from Union Gas.

Reductions in natural gas consumption have been primarily achieved through conservation efforts, equipment renewal, the relatively mild winters in 2010 and 2011, and due to a reduced number of natural gas buses.

Year	Annual GJs	Total Cost	\$/GJ
2005	723,863	\$7,399,073	\$10.22
2006	627,290	\$6,018,104	\$9.59
2007	624,415	\$5,663,439	\$9.07
2008	631,394	\$5,391,145	\$8.54
2009	652,391	\$5,411,613	\$8.30
2010	531,895	\$3,824,180	\$7.19
2011	615,312	\$3,891,625	\$6.32
2012 (Budget)	580,138	\$3,300,985	\$5.69

The following Chart illustrates the City's natural gas price, per unit, from 2005 to 2011 with a forecasted price for 2012 and 2013. A large portion of the City's natural gas supply up until the end of October 2013 has also been hedged, and the Office of Energy Initiatives is currently looking at fixed price opportunities for the 2013 - 2014 periods.

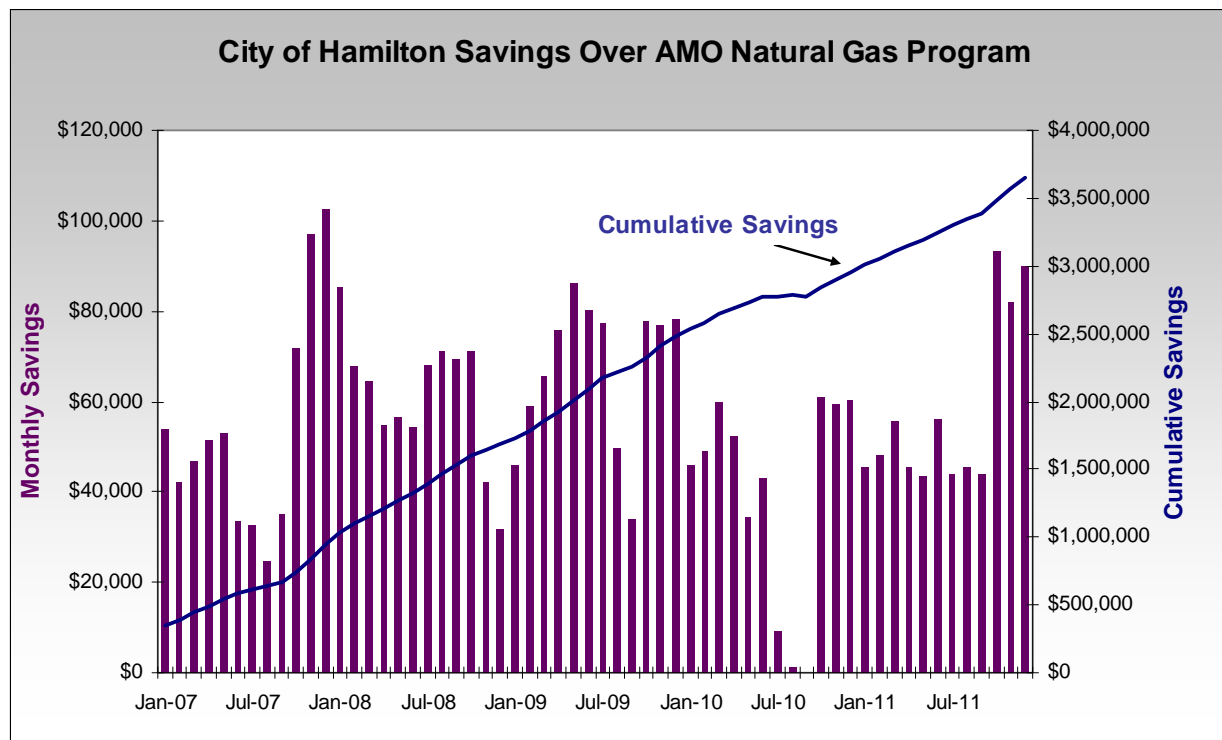


Note: GJ = gigajoule

As a result of a mild winter, prices in the natural gas markets have continued to soften in conjunction with abundant storage and an economic recovery that has been slower than anticipated, particularly reducing demand in the industrial sector. Production has been steady over the past few years due to an increase in the drilling of “unconventional” natural gas, in the form of shale gas. As conventional natural gas stores have dwindled, large shale plays have been developing all over North America and advancements in drilling technology has made it economical to drill for shale gas. However, in recent weeks, there have been announcements from producers that many are pulling back drilling activity by Q2 and Q3 of 2012, which could lead to some increase in price volatility, though it will take time for those impacts to reflect in market pricing. Therefore, the City continues to monitor natural gas markets for any opportunities to take advantage of favourable market conditions for upcoming years.

The City monitors the procurement program managed by the AMO/LAS Natural Gas Program for Municipalities to compare the results of the City’s own natural gas hedging strategies to those price offerings. The comparison is outlined below:

Natural Gas Savings*	2011 Savings*	Accumulated Savings*
Levy (Tax) Supported Budget	\$ 610,946	\$ 3,454,476
Rate Supported Budget	\$ 130,036	\$ 570,352
Total Savings:	\$ 740,982	\$ 4,024,828
* Performance relative to AMO natural gas hedging program		



Note: Cumulative savings commenced in June 2006. The AMO program is an excellent tool for smaller municipalities. Hamilton has the ability to manage its own requirements as the City's volume allows direct procurement from wholesale markets and suppliers.

Biogas - Renewable Natural Gas

The City has entered into an agreement with Union Gas Ltd. where methane gas produced at the Woodward Waste Water facilities anaerobic digesters is cleaned and delivered to Union Gas. The quality and volume of gas delivered to Union will be in accordance with specifications as outlined in the City's agreement with Union Gas. This renewable natural gas will be sold at spot market rates in the near term. In the long term, the OEB is assessing a renewable natural gas premium rate which may deliver higher revenues to the City.

FUEL SUPPLY

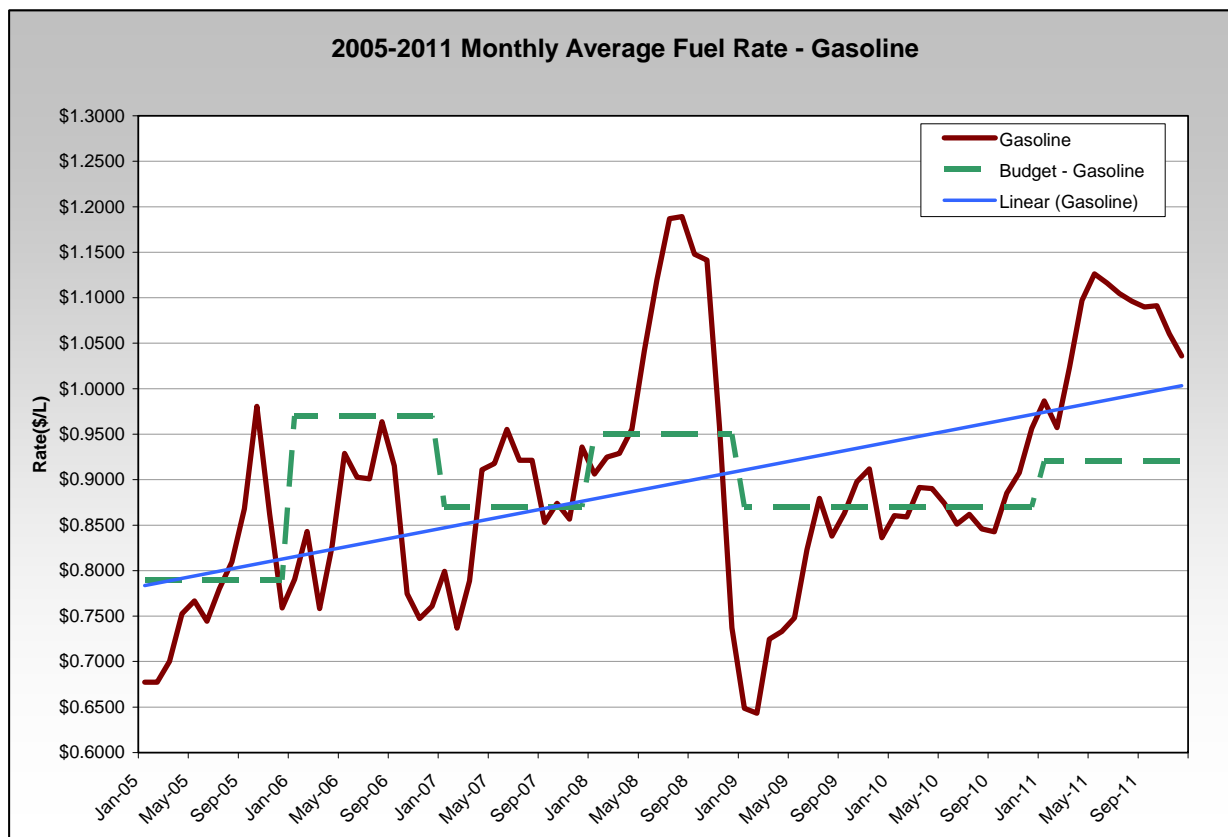
The fuel purchased by the City is used by all internal departments with City owned/leased fleet vehicles, as well as some outside groups including GO Transit, Horizon Utilities and DARTS.

Currently, the City procures fuel at a wholesale level from agreements with two suppliers: Suncor Energy Products Partnership, and Shell Canada Products, with the total volumes and dollars for 2011 split approximately 43% - 57% respectively. The pricing arrangement with both suppliers is based on the daily "Rack" price of each required fuel type, gasoline and diesel, from a designated source terminal, with negotiated discounts, delivery charges and taxes.

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Paying daily rack pricing for fuel assures customers are getting the lowest available price on the market for that day.

Fuel prices for gasoline and diesel, including delivery and taxes, rose by 21% and 23% respectively from 2010 to 2011. The 2011 average rates rose higher than the previous 5 year trend would have suggested pressuring fuel rates to rise above the City's budgeted rates. The graph below shows how actual costs have risen over budgeted costs in 2010 and 2011. In fact, the actual gasoline and diesel total combined costs were 12% higher than overall costs budgeted for fuel in 2011.



Fuel Reserve Fund - "Commodity Stabilization Fund"

A Commodity Stabilization Fund was established in 2011 as a fund to prepare for excessive over-budget costs for commodities, with specific focus on rising fuel costs. The Fund's purpose is to compensate for operational cost deficits related to commodity expenditures, when no other surplus is available. During the 2011 budget cycle Council allocated to this fund \$1.5 million. Although 2011 fuel costs were \$1.576 million above budgeted costs, surplus from other budget areas compensated the increased cost without the need to engage the Commodity Stabilization Fund.

Future Risk Management

One method to manage volatility is to hedge volumes for a forward term. The City continues to look at many available options for cost and risk mitigation. There are

various hedging options, from Fixed Price contracts, to ceiling/floor-based Collar products. However, as daily rack pricing continues to rise, so too do forward fixed price indications, currently averaging a premium of 15-20 cents per litre higher for fixed price contracts than the daily price forecast for the next 6-12 months. Fuel hedging is typically for terms of 6 to 12 months. The higher prices for forward term contracts have not made it possible for the City to hedge at or below its budget values. Price expectations aside, the Office of Energy Initiatives has taken steps to prepare should hedging options be cost effective in the future.

CONTRACT AGENTS

The City uses outside consultants (Contract Agents) from time-to-time, in order to assist staff to negotiate the unstable and complicated Energy Commodity terrain. The use of these Contract Agents is imperative in that these entities are immersed daily in the Energy Commodity markets and have specialized expertise with respect to monitoring and responding to market changes. The use of a competitive process whereby the “best price” is the deciding criteria is not suited for finding the appropriate Energy Commodity consultant for the City. With Council approval, the City has executed a Professional Services Agreement with Aegent Energy Advisor’s to assist with the day-to-day management of the City’s natural gas portfolio which extends to December 2013.

Consistency with City Energy Commodity Hedging Policy and Goals

The agreements entered into 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. Rate changes with electricity have also been favourable.
- The actions taken through the authority of the Energy Commodity Policy have reduced uncertainty about energy costs, which has 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 natural gas 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.

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:

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1. 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;
2. A statement by the General Manager, Finance & Corporate Services indicating whether, in his opinion, all of 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 & 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 & Corporate Services indicating whether, in his opinion, all of 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 Such other information as the General Manager, Finance and Corporate Services considers appropriate to include in the report.