TO: Chair and Members  
Audit and Administration Committee  
WARD(S) AFFECTED: CITY WIDE

COMMITTEE DATE: June 2, 2010

SUBJECT/REPORT NO:  
2009 Annual Report on Energy Commodity Price Hedging (FCS10041) (City Wide)

SUBMITTED BY:  
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General Manager  
Finance and Corporate Services

PREPARED BY:  
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Council Direction:
The City of Hamilton’s Energy Commodity Policy (hereafter, referred to as the 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 commodity price hedging agreements.

As defined in the 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 and the fuelling of City fleets, as determined by the Manager of Energy Initiatives.

Information:
The annual report deals exclusively with the City’s energy commodity price hedging, rate savings, master agreements and energy transactions for natural gas, electricity and fuel.
Energy Commodity and Rate Saving Results

The table below outlines the combined energy commodity and utility rate savings for 2009 calendar year and the accumulated total, from June 2006 to December 31, 2009.

<table>
<thead>
<tr>
<th></th>
<th>2009 Savings:</th>
<th>$2.4 million (67% Levy, 33% Rate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accumulated Savings</td>
<td>Accumulated Savings (2006 to 2009):</td>
<td>$8.6 million (63% Levy, 37% Rate)</td>
</tr>
</tbody>
</table>

Policy Statement

The City of Hamilton (“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.

Electricity – Commodity and Rate Savings Results

The accumulated electricity commodity and rate savings results from November 2006 through to year end 2009 exceed $5.27 million. These savings were achieved through rates changes to the City’s interval metered electricity accounts and the City’s largest street lighting account. The rate changes involved shifting these accounts from the Regulated Price Plan (RPP) to an hourly spot market rate. The City of Hamilton was recognized by the IESO (Independent Electricity System Operator) in one of its publications - The Bottom Line on Managing Your Electricity Costs: A Guide for Municipalities for its leadership in this area (www.ieso.ca).
Combined Electricity Commodity and Utility Rate Savings

<table>
<thead>
<tr>
<th></th>
<th>2009 Savings</th>
<th>Accumulated Savings (2006 to 2009)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Levy (Tax) Supported Budget</td>
<td>$ 726,863</td>
<td>$ 2,400,965</td>
</tr>
<tr>
<td>Rate Supported Budget</td>
<td>$ 655,992</td>
<td>$ 2,873,163</td>
</tr>
<tr>
<td>Total Rate Savings:</td>
<td>$1,382,855</td>
<td>$ 5,274,128</td>
</tr>
</tbody>
</table>

Interval Meter Rate Change Savings

This initiative that has favourably reduced electricity cost to the City was to switch all of the City’s interval meter accounts from the Regulated Price Plan (RPP) rate and transfer these accounts to an hourly spot market rate (Hourly Ontario Energy Price).

This process was initiated in November 2006 with all the City’s existing interval metered accounts. Since then the City has switched all of the City’s largest electricity accounts from a standard non-interval meter to interval meters so that further savings could be achieved. The savings results shown in the table below are for the 2009 savings and accumulated savings as of July 31, 2009. As of August 1st 2009 the RPP rate was removed by the Ontario Energy Board for all interval metered electricity accounts which consume over 250,000 kWh’s (kilowatt-hours) annually, therefore as of August 1st, 2009, interval savings can no longer be claimed as a cost savings.

<table>
<thead>
<tr>
<th>Interval Meter Rate Savings</th>
<th>2009 Savings</th>
<th>Accumulated Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Levy (Tax) Supported Budget</td>
<td>$ 395,863</td>
<td>$ 1,404,304</td>
</tr>
<tr>
<td>Rate Supported Budget</td>
<td>$ 655,992</td>
<td>$ 2,873,163</td>
</tr>
<tr>
<td>Total Savings</td>
<td>$ 1,051,855</td>
<td>$ 4,277,467</td>
</tr>
</tbody>
</table>

The following graph illustrates these savings (which include the cost of the Global Adjustment) versus what the City would have paid by staying status quo under the Regulated Price Plan (RPP) rate. The City’s interval metered accounts represent about 70-75% of the City’s electricity consumption.
Street Lighting Savings

The City currently has no financial hedges for electricity supply or Master Electricity Supply Agreements in place. The City’s last Master Electricity Supply Agreement was with Constellation New Energy Canada Inc. (Constellation). This agreement was originally executed in August 2007 and including a one-year renewal, expired in September 2009. The contract with Constellation was originally needed to enable the City to remove its largest street lighting account from the Regulated Price Plan (RPP) to more favourable spot market rates also known as HOEP or Hourly Ontario Energy Pricing. The contract was not renewed in September because new Ontario Energy Board (OEB) regulations allowed the City to stay on spot market pricing, without having to have a retail contract. Prior to this regulatory change municipalities could only switch their street lighting accounts from RPP rates to spot pricing through a retail contract. The City of Hamilton was one of the first municipalities to do this.

The accumulated electricity savings for street lighting for 2009 was **$331,000** and accumulated savings from October 2007 to the end of August 2009 where **$966,661**.

Electricity – Forward View

Preliminary forecasts on future electricity rates suggest an increase in the 8 to 10% range for 2011. These increases are beyond consumer control due to the hybrid pricing that exists within the current market structure. Furthermore, the Green Energy Act has come into effect resulting in higher costs to deliver green energy projects. Finally, the Ontario Power Generation and Bruce Power generators will get higher returns on their supply to market, which will impact the Global Adjustment.

Vision: To be the best place in Canada to raise a child, promote innovation, engage citizens and provide diverse economic opportunities.
Values: Honesty, Accountability, Innovation, Leadership, Respect, Excellence, Teamwork
As part of consumer electricity bills there is a separate commodity line item cost called the Global Adjustment. The Global Adjustment (GA) is the difference between all actual costs associated with the Province’s electricity supply and the market rates for electricity. Additional costs included in this line item are the costs to implement the Ontario Power Authority (OPA) energy programs such as its CDM measures (incentive programs), as well as the extra costs incurred by power supply contracts to renewable energy ventures (solar, wind, biogas, etc.) contracted through the Green Energy Act. These contracts guarantee payments to the owners of these renewable energy projects at up to forty times higher than the present market rates. These extra costs above are NOT reflected in the open market rates, but are absorbed into the Global Adjustment which is an additional line item in electricity bills. So essentially there is NOT a true market for electricity as we still pay the Global Adjustment on top of the electricity commodity pricing. There is currently no mechanism to hedge against the GA.

From April 1, 2009 to December 31, 2009, the cost of the Global Adjustment was approximately 132% higher than our actual spot market rate cost. Whether the City hedged a portion of our electricity at favourable rates or not, the City still has to pay the GA on top of our electricity commodity price or hedge. However, the irony is that the higher the market rate goes, the lower the Global Adjustment will be.

There have also been changes with the provincial RPP rate. As of November 1, 2009, Municipalities had a choice to remove all electricity accounts from the RPP rate to spot market or HOEP rates for all accounts that are in the “Over 50 kW” class, which covers over 90% of our electricity usage. This allowed the City to remove all of these electricity accounts from the RPP without having to do so under a retail contract. Staff will continue to monitor and determine if an appropriate course of action is needed.

At this time staff is not recommending execution of a financial hedge for electricity because market conditions are not favourable or conducive to hedging electricity. The hybrid Ontario market structure today has very little liquidity and therefore little opportunity to trade. In fact, many larger commercial suppliers have merged or closed up retail operations in Ontario due to no large commercial demand to hedge within this false “spot” market.

The one fact that is unanimous amongst Energy staff and Industry experts is that electricity rates will continue to rise over the next number of years. This is due to Global Adjustment charges mentioned above, and there is very little that consumers can do to protect ourselves against future increases, other than to conserve energy and reduce consumption.

**Natural Gas - Commodity and Rate Savings Results**

For comparative purpose the City benchmarks its results for natural gas procurement versus the alternative AMO/LAS Natural Gas Program for municipalities. Note: the City’s new natural gas procurement strategy was initiated in June 2006.
The City’s natural gas strategies savings compared to the AMO/LAS program for the calendar year 2009 and accumulated from June 2006 to December 31, 2009 is as follows:

<table>
<thead>
<tr>
<th>Combined Natural Gas Commodity and Utility Rate Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009 Savings</td>
</tr>
<tr>
<td>Levy (Tax) Supported Budget $654,117</td>
</tr>
<tr>
<td>Rate Supported Budget $152,394</td>
</tr>
<tr>
<td>Total Natural Gas Savings: $806,511</td>
</tr>
<tr>
<td>Accumulated Savings (2006 to 2009)</td>
</tr>
<tr>
<td>$2,146,441</td>
</tr>
<tr>
<td>$340,859</td>
</tr>
<tr>
<td>$2,487,299</td>
</tr>
</tbody>
</table>

The City’s new natural gas hedging strategies have been successful since their inception in June 2006. In fact, in 2009 the price per unit the City paid for natural gas was 19% lower than what was paid in 2005, and the 2010 gas price will be 32% lower than the 2005 gas price. In general the City buys about 70% to 85% of its natural gas supply needs on a forward basis when market conditions appear favourable. Sometimes smaller percentages are purchased as much as 2-years in advance to protect against potential market volatility. The remaining gas volumes are balanced or purchased monthly to adhere to the contract terms established with Union Gas Limited. The City’s natural gas price per unit (commodity cost) was significantly reduced for 2010 with a 15% drop in price over 2009, and 2011 prices are forecasted to remain frozen from 2010 through to November 2011, for a zero budget increase over 2010.

Natural Gas – Master Agreements
The City currently has two original Master Agreements for Natural Gas Supply in place. The first supplier is BP Canada Energy Company (contract execution date - September 12, 2007). The second was with Integrys Energy Services of Canada Corporation (contract execution date - May 29, 2007). Shell Energy North America Inc. has since purchased Integrys Ontario business portfolio. An amendment agreement was executed with Shell on September 15, 2009.

Transportation, Storage and Delivery Agreements
The City has several contracts in place that are required for the transportation, delivery and storage of the City’s natural gas supply. Pipelines and suppliers include:
- Client’s gas supplier(s)
- TransCanada Pipelines
- 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 territory. The agreements are:

- SA9367 for 390 GJ’s/day – this is for Transits natural gas bus fleet.
- SA9369 for 59 GJ’s/day – this is for 17 new accounts added to the City’s portfolio.
- SA7020 for 1245 GJ’s/day – this has 218 City natural gas accounts.

Natural Gas Expected and Actual Results

Actual natural gas purchases between 2006 and 2007 were better than projected as there was an actual natural gas commodity price reduction of 6.7% versus an expected decrease of 5%. The 2008 price reflected a further 5% reduction versus the 2007 price. 85% of the City’s natural gas has been purchased through to November 1st, 2009. The 2009 price forecast is 1.5% lower than 2008, but the 2010 forecast calls for a further 13% price reduction over 2009 on the natural gas commodity.

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual GJ’s</th>
<th>Total Cost</th>
<th>$/GJ</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>723,863</td>
<td>$7,399,073</td>
<td>$10.22</td>
</tr>
<tr>
<td>2006</td>
<td>627,290</td>
<td>$6,018,534</td>
<td>$9.59</td>
</tr>
<tr>
<td>2007</td>
<td>624,415</td>
<td>$5,673,064</td>
<td>$9.09</td>
</tr>
<tr>
<td>2008</td>
<td>631,394</td>
<td>$5,367,430</td>
<td>$8.50</td>
</tr>
<tr>
<td>2009</td>
<td>652,391</td>
<td>$5,411,613</td>
<td>$8.30</td>
</tr>
<tr>
<td>2010 (forecast)</td>
<td>627,702</td>
<td>$4,407,568</td>
<td>$7.02</td>
</tr>
</tbody>
</table>

The following chart illustrates the City’s natural gas cost per unit from 2005 to 2010. The 2009 and 2010 are forecasted results. Earlier in 2009 the City purchased about 70% of its supply needs for 2010 at very favourable rates. This is reflected in the forecast below.
Natural Gas – Forward View

The existing natural gas purchasing strategy has mitigated the volatility and hedges the City’s prices out until October 2011. Over the course of the year staff will continue to assess forward buying opportunities that extend this strategy into 2012, should that opportunity arise. At this time the supply and price are fixed and very minimal market impacts will be felt with the strategy in place.

The market overall has significant storage, currently 18% over the five year average which exceeded the market expectation for this time. This bodes well for forward months and near term prices. Weather and economic data remain issues to watch closely going forward, along with the value of the Canadian dollar.

Fuel Supply Commodity and Rate Savings Results

In an effort to mitigate future price exposure to market volatility, Council recently approved the City’s “New” Energy Commodity Policy in December 2008. This policy allows the City to negotiate new Master Supply contracts with key suppliers that enable the City to fix pricing for specific terms and quantities on a forward basis. Currently fuel is purchasing based on the daily rack price. In this scenario the City has no way to mitigate of risk exposure to market volatility. In 2009, the City successfully negotiated new Master Fuel Supply Agreements with its two current suppliers Shell and Suncor. Under these new agreements the City and under favourable market conditions the City will have the option entering into physical hedge contracts with one or both suppliers for diesel to reduce the City’s risk exposure to market volatility and provide better predictability for budgeting purposes. This option is not available for gasoline.
It should be noted that buying fuel on the forward market is still relatively new. This means standards in contracting are still very new and evolving. It should also be noted that hedging will come at a premium. Hedging for fuel is not necessarily about securing the best price. There is no way to predict pricing, given the speculative nature of the market. Hedging is about limiting the City's exposure to potential market volatility. Even with hedging there will be some fuel supply that will remain on the daily rack rate.

Although Master Fuel Supply Agreements were completed in 2009, there was no hedging activity in 2009. Market conditions have not been favourable for hedging versus budget pricing. Currently fuel is still purchased off the daily rack price. Staff will continue to monitor the market and if it appears favourable to hedge some future gas supply, then staff will pursue the appropriate channels to do so.

The City is currently working with three other municipalities and AMO/LAS on pilot project to investigate the viability of financial hedging of fuel. This project review is still underway.

**Contract Agents**

The City requires the use of outside consultants (Contract Agents) from time to time in order to help City staff 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 responding to market changes. These services are highly specialized and nuanced - therefore 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.

**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 absent the agreements. Rate changes with electricity have also been favourable.
- The actions taken through the authority of the “New” Energy Commodity Policy have reduced uncertainty about energy costs enhances the City’s financial position. It has also enable 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’ added flexibility to potentially mitigate or manage potential price fluctuations

**Contingent Payments**

The City’s natural gas supply contracts contain provisions allowing either party to terminate an existing agreement if that party has reasonable grounds regarding the other party’s ability to meet its financial obligations under the agreement, and the other party is unwilling or unable to provide reasonable financial security.

The agreements also provide for the early termination of the agreements if one party fails to pay an amount due, and the failure to pay is not remedied upon notice and within a specified cure period.

In the event of the early termination of a gas transaction, the difference between the value of the transaction over its remaining term and the market value of the same gas over the same term is determined. If the market value is higher than the value of the transaction, then the supplier will pay the difference to the City. If the transaction value is higher than the market value, then the City will pay the difference to the supplier.

**Policy Reporting Requirements**

The General Manager, Finance and Corporate Services and Treasurer, 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:

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 Treasurer indicating whether, in his or her 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 Treasurer indicating whether, in his or her 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 Cooperative Energy Purchasing initiatives and/or agreements and a statement by the Treasurer indicating whether, in his or her opinion, all of these agreements are consistent with this Energy Commodity Policy with respect to the use of Cooperative Energy Purchasing;
5. Such other information as Council may require; and

6. Such other information as the Treasurer considers appropriate to include in the report.