Clause 11 in Report No. 9 of Committee of the Whole was adopted, without amendment, by the Council of The Regional Municipality of York at its meeting held on May 25, 2017.

# 11
# Natural Gas Procurement Update

Committee of the Whole recommends adoption of the following recommendation contained in the report dated April 19, 2017 from the Commissioner of Environmental Services:

1. Staff report to Council on natural gas procurement once every three years to achieve reporting efficiencies through multi-year analysis of market conditions and financial performance.

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Report dated April 19, 2017 from the Commissioner of Environmental Services now follows:

## 1. Recommendation

It is recommended that:

1. Staff report to Council on natural gas procurement once every three years to achieve reporting efficiencies through multi-year analysis of market conditions and financial performance.

## 2. Purpose

This report informs Council about the Region’s 2016 financial performance for the purchase of natural gas. This report also recommends changing the frequency of reporting on natural gas procurement from annually to once every three years.

## 3. Background and Previous Council Direction

### Region renewed participation in the Natural Gas Buying Group on November 1, 2015

In 2007, the Region started procuring a small portion of its natural gas through the Association of Municipalities of Ontario's Natural Gas Buying Group (Buying Group). Each year, procurement of natural gas through the Buying Group has increased. In June 2015, Council adopted the Amending Agreement for Natural Gas Procurement (Agreement) reaffirming the Region's commitment to Buying Group procurement. In November 2015, the Region moved all of its qualified natural gas accounts into the Buying Group and purchase fixed price contracts to manage a portion of the Region's future natural gas costs. Staff committed to provide Council with an annual report about the Region's financial performance while participating in this program. Staff are recommending the reporting frequency be changed to once every three years to achieve reporting efficiencies given the relatively small expenditures involved (five per cent of total energy purchases) and that only half of the Region's natural gas purchases are completed through the Buying Group.

### Buying Group participation has both advantages and drawbacks for the Region that must be considered when developing procurement strategies

The Buying Group leverages volume to achieve competitive pricing for its members that individually they could not achieve on their own. The Buying Group also offers administrative support and market data to help its members develop effective procurement strategies. Participation in the Buying Group supports the Region's multi-year budget process for natural gas costs. The drawback of fixing future costs is the risk that the Region could have paid less for its natural gas by staying on the spot market if the price drops below the contract price.

### Region develops its own natural gas strategy within the Buying Group

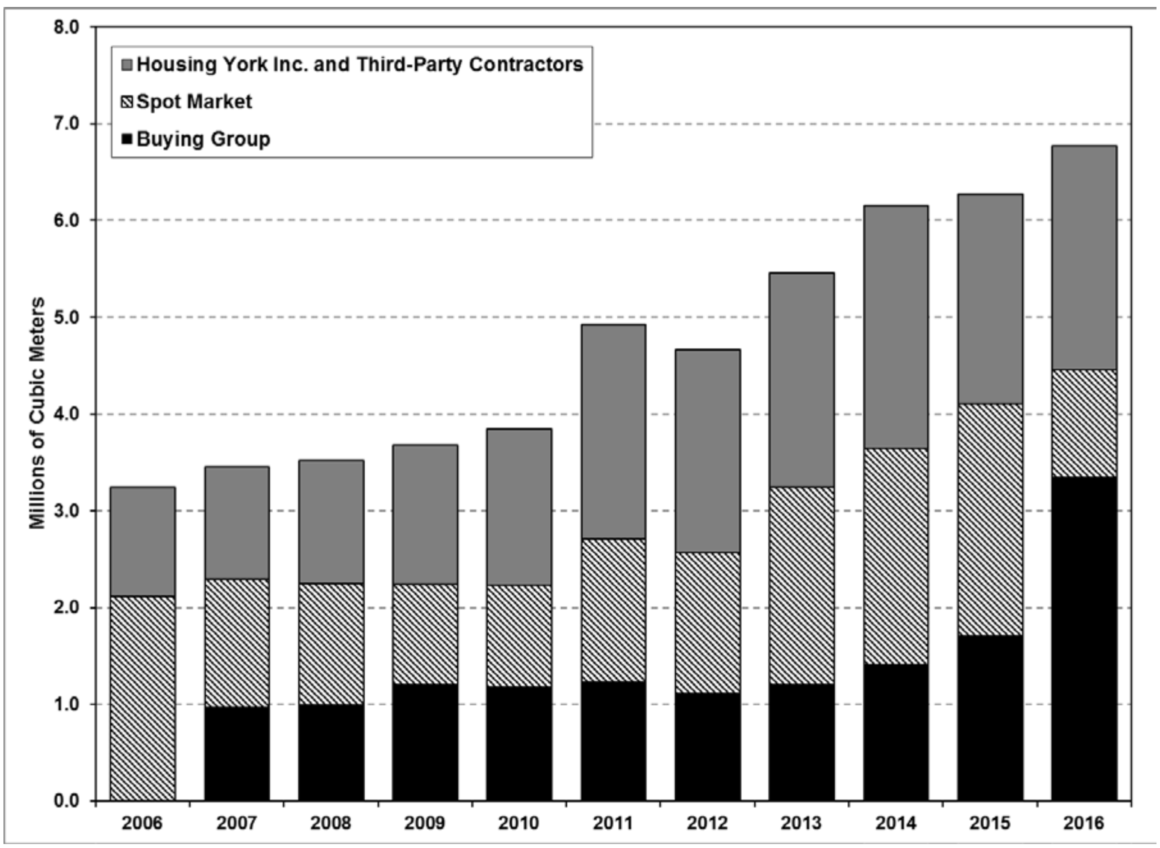
The Buying Group executes the strategy that the Region develops for itself. The Region has many levers that it can use to ensure that the natural gas strategy aligns with its long-term objectives and market forecasts. These levers include the setting of target prices for future contracts, the proportion of Regional consumption that will be fixed within a contract, and the duration of the contract. Staff are continuously evaluating each of these levers to ensure that the value of achieving price certainty does not limit the Region's ability to take advantage of market opportunities as they arise throughout the year.

## Natural gas represents five per cent of the Region's total energy purchases

The Region consumes natural gas primarily to heat buildings and domestic hot water. Growth in natural gas consumption has increased significantly since 2011 with the addition of a number of large facilities. Planned Regional facilities are anticipated to continue this trend.

The purchase of fleet fuels (including transit buses) and electricity continue to be the greatest proportion of Regional energy expenditures; natural gas remains a very small proportion at five per cent. Since 2006, Regional natural gas consumption has grown at an annual rate of eight per cent, which is illustrated in Figure 1. Even with this growth, the total cost of all Regional natural gas purchases in 2016 was $2.2 million.

**Figure 1**
**Summary of Natural Gas Procurement 2006 - 2016**




In 2016, the Region purchased approximately 50 per cent of its natural gas through the Buying Group and the remainder through the spot market and other methods.

### Region manages its financial risk with conservation and fixed price contracts

The Region is continuously evaluating opportunities to conserve energy. On-going building audits and sustainable building practices are helping to conserve the Region’s consumption of natural gas. A conservation first approach has proven to be the most cost-effective method of avoiding the impacts of market fluctuations.

### Fixed-priced contracts are an effective strategy to achieve cost certainty and predictability

The Agreement permits the purchase of up to 80 per cent of the Region’s anticipated natural gas consumption through multi-year fixed price contracts that extend up to 48 months into the future. These contracts are for the physical commodity to be delivered at a fixed price and at an agreed point in time. Settlement of these contracts occurs in conjunction with delivery of the commodity. Annual targets for the price, term, and volume of future contracts are based upon an analysis of underlying market factors and are approved by the Commissioner of Environmental Services or a delegate.

Fulfillment of the Region’s approved strategy is the responsibility of the Association of Municipalities of Ontario’s Buying Group through a competitive bidding process. All of the market risks that are inherent with this program remain with the Buying Group and do not impact the Region or the supply of natural gas to its facilities.

### Region participates in the Buying Group with 69 accounts

In 2016, the Region had a total of 108 natural gas accounts, of which 69 accounts were qualified to participate in the Buying Group. The remaining 39 accounts use alternative procurement methods.

### Natural gas consumed by Housing York Inc., third-party contracted operations, and in some leased facilities are not included in the Buying Group

The 39 natural gas accounts that do not qualify for the Buying Group are owned by Housing York Incorporated (HYI) and third-party contractors. HYI uses the Housing Services Corporation and the Ontario Non-Profit Housing Association Buying Groups, which are specifically mandated for social housing portfolios. Commodity rates for these two programs in 2017 are $0.167 per cubic meter and $0.137 per cubic meter respectively. In addition, a portion of HYI’s natural gas is purchased at spot market rates to take advantage of hedging opportunities as they present themselves throughout the year.

The Buying Group also excludes those facilities where the Region does not have control over payment of the utility invoice. Examples include leased facilities where natural gas consumption is included in the monthly rent payment, or third-party operated facilities such as 100 Garfield Wright Boulevard or 8300 Keele Street where the facility operator pays the site utilities. The 2016 Energy Conservation and Demand Management Plan encourages the Region to seek future opportunities to influence how energy is used in these facilities and find ways in which they can operate more efficiently.

## 4. Analysis and Implications

### Participating in the Buying Group resulted in a stable natural gas commodity rate in 2016 that varied by less than one per cent of the budget forecast

The Region was able to forecast its 2016 natural gas commodity cost with a high degree of certainty. The difference of $2,341 on the forecasted $424,887 commodity cost represents a variance of less than one per cent, exclusive of the 39 Housing York Incorporated and third-party contractor's accounts. Fixed charges are also not included in this total because they are outside of the Region's control. Fixed charges are set by the Ontario Energy Board and include transportation, distribution, billing services, and HST.

The forecasted commodity price for 2016 was $0.127 per cubic meter. The actual 2016 commodity price result was $0.1263. The advantage of Buying Group strategies are that the Region can forecast with a high degree of certainty its future natural gas commodity price, which in turn supports its multi-year budgeting process. However, if the Region had not fixed its natural gas price with a contract, it would have paid $43,856 less using the spot market. Table 1 compares the forecast and spot market costs to the Region's actual cost.

**Table 1**
**Comparison of Net Buying Group Commodity Costs**

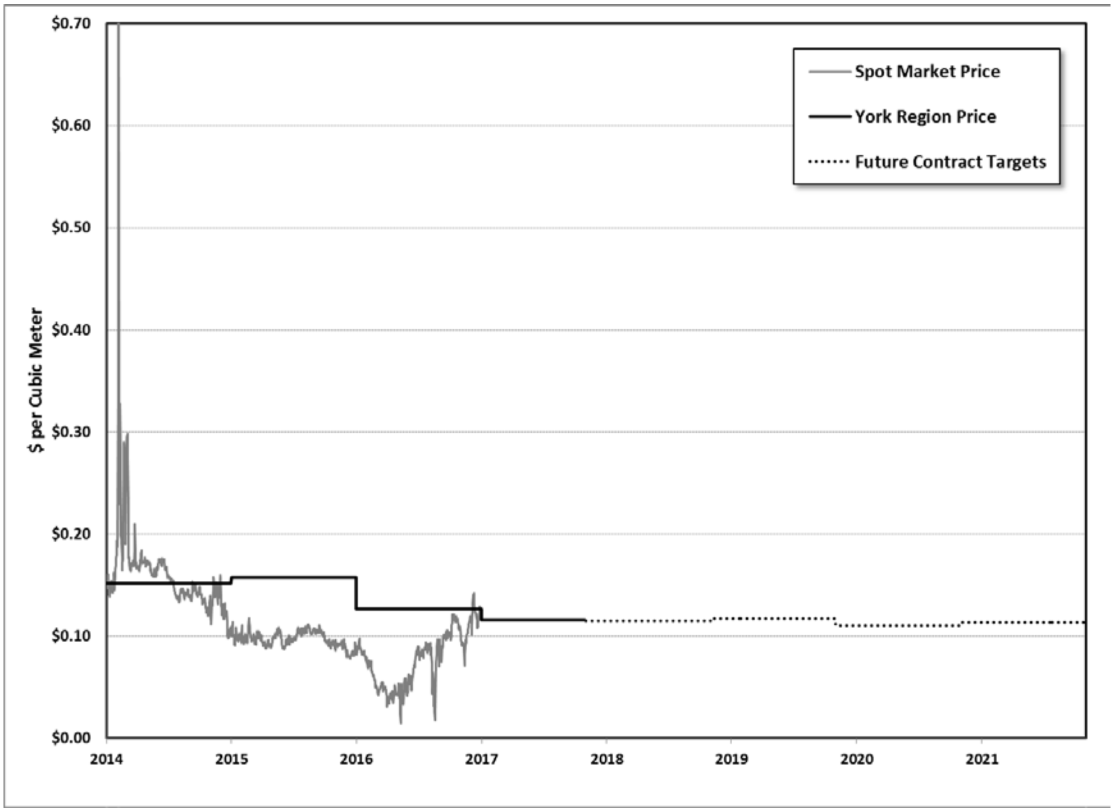
| 2016 Strategy | Commodity Cost | Difference $ | Difference % |
|---|---|---|---|
| Actual (Buying Group) | $422,546 | -- | -- |
| Forecast | $424,887 | ($2,341) | -0.6% |
| Spot Market | $378,690 | $43,856 | 10.4% |

## 5. Financial Considerations

### Region's 2016 contract price was $43,856 or 10.4 per cent higher than the spot market due in large part to older contracts that expired on November 1, 2016

The Region's 2016 strategy included older contracts that represented a fair value at the time of purchase, but resulted in a cost that was $43,856 higher than the spot market cost. These older contracts expired on November 1, 2016 and were replaced with newer contracts at a lower fixed-rate. Figure 2 illustrates the stable Buying Group rate as compared to the volatile spot market rate and the target future contract prices.

**Figure 2**
**2016 Net Buying Group Rate Versus Spot Market Rate**




## Natural gas prices are volatile and subject to external market forces beyond the Region’s control

Market forces that influence the price of natural gas include temperature, weather patterns, supply and storage capacity, and demand. Natural gas is traded on a North American market and is therefore also influenced by events that occur beyond the borders of York Region and even Canada.

The 2015-2016 El Nino event, which occurred along the Pacific coast of North America, resulted in a milder winter, which reduced demand for North American natural gas. When combined with the excess supply created by shale gas production, natural gas spot market prices fell more than predicted during the first half of 2016. Natural gas spot market prices rebounded during a hot summer that required natural gas electricity generation to meet the demand for air conditioning. These events create volatility and risk to the Region that Buying Group participation seeks to mitigate. Success of the Buying Group strategy is based upon its ability to deliver budget certainty with consideration for the premium that it will generally cost to achieve.

### The 2017 forecast natural gas commodity price is $0.115 per cubic meter

The Region's 2017 natural gas price was set using the 2016 strategy and is expected to be $0.115 per cubic meter. Strategic purchases throughout 2016 for 80 per cent of the forecasted 2017 consumption has resulted in a projected nine per cent decrease in natural gas commodity price as compared to 2016. The Region's Commodity Price Hedging Policy limits purchase to a maximum of 80 per cent of its natural gas through a fixed-price contract; the remaining 20 per cent is purchased from the spot market. Any variance between the forecast 2017 price and the actual price will result from the 20 per cent that is subject to spot market price fluctuations.

### Region will achieve near-term financial benefits by using the spot market for a greater proportion of its natural gas procurement

Staff are continuously evaluating the Region's procurement strategy to ensure that it aligns with future market forecasts. Market analysis indicates that climate change related events and increased production have greatly depressed the price of natural gas and future natural gas contracts. Staff believe that the Region will achieve near-term financial benefits by purchasing a greater proportion of its natural gas from the spot market as opposed to fixing future prices with contracts. The buying strategy will continue to be adjusted annually, as required, and based on market analysis and prices for natural gas.

### Cap and Trade legislation is expected to cost the Region's Buying Group accounts an additional $147,000 in 2017

Cap and Trade legislation puts a cost on carbon emissions, which influence climate change. Since January 1, 2017 Cap and Trade has added $0.033 per cubic meter of natural gas. Based on the Region's Buying Group volume, the expected cost will total $147,000 in 2017. Cap and Trade will have an additional impact on the 39 accounts not included in the Buying Group, which are not factored into this analysis. The Cap and Trade charge is fixed and charged to the Region separate from the commodity cost which is managed through the Buying Group. The forecasted rate for the natural gas commodity will not change as a result of Cap and Trade.

## 6. Local Municipal Impact

The City of Vaughan, Towns of Aurora, Georgina, Richmond Hill, and Whitchurch-Stouffville are also members of the Buying Group.

## 7. Conclusion

### 2017 natural gas commodity price is forecasted to be nine per cent lower than 2016 rate due to strategic purchases

In 2016, the Region participated in the Association of Municipalities of Ontario Buying Group under the Amended Agreement for Natural Gas Procurement. The strategy developed for the Region at the beginning of 2016 enabled it to achieve a high degree of price certainty, which supported the long-term budgeting process. The 2017 natural gas commodity price is forecasted to be nine per cent lower than the Region's 2016 rate due to strategic purchases that were made throughout the year. Staff are currently evaluating the natural gas market and will adjust the Buying Group strategy to reflect potential opportunities and risks.

Participation in the Buying Group has proven in 2016 to be an effective strategy to manage spot market risk with the procurement of the Region's natural gas commodity. Going forward, staff recommend providing updates to Council on the performance of Buying Group natural gas procurement every three years to achieve reporting efficiencies.

For more information on this report, please contact David Szeptycki, Director of Strategy and Innovation at 1-877-464-9675 ext.75723

The Senior Management Group has reviewed this report.

April 19, 2017

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Accessible formats or communication supports are available upon request