



REPORT TO

## CORPORATE SERVICES, STRATEGIC PLANNING AND PROPERTY COMMITTEE

### TCDSB GAS PURCHASING STRATEGY 2016-2018

*"I can do all this through Him who gives me strength."  
Philippians 4:13 (NIV)*

Created, Draft	First Tabling	Review
April 14, 2016	May 12, 2016	
K. Elgharbawy, Senior Coordinator, Maintenance and Energy Management M. Farrell, Coordinator, Materials Management P. de Cock, Comptroller, Business Services M. Puccetti, Superintendent, Facilities Services		
<b>RECOMMENDATION REPORT</b>		

**Vision:**

*At Toronto Catholic we transform the world through witness, faith, innovation and action.*

**Mission:**

*The Toronto Catholic District School Board is an inclusive learning community rooted in the love of Christ. We educate students to grow in grace and knowledge and to lead lives of faith, hope and charity.*



G. Poole  
Associate Director of Academic Affairs

A. Sangiorgio  
Associate Director of Planning and Facilities

C. Jackson  
Executive Superintendent of Business Services and Chief Financial Officer

Angela Gauthier  
Director of Education

## **A. EXECUTIVE SUMMARY**

This report provides information on future gas purchases and gas market trends for 2016/18.

This report further recommends locking in 2/3 (66.67%) of the Board's natural gas requirement for the period of September 1, 2016 to August 31, 2017 at a price of \$2.90 CDN/GJ or lower at AECO (Alberta) and that the remaining 33.33% Gas Commodity remain on index with a predicted target price of \$2.70/GJ or lower.

This report also recommends locking in 2/3 (66.67%) of the Board's natural gas requirement for the period of September 1, 2017 to August 31, 2018 at a price of \$3.00 CDN/GJ or lower at AECO (Alberta) and that the remaining 33.33% Gas Commodity remain on index with a predicted target price of \$2.90/GJ or lower.

This report also recommends locking in 100% of the Board's gas transportation requirement for the period September 1, 2016 to August 31, 2017 at an average price not to exceed \$1.75/GJ, and for the period of September 1, 2017 to August 31, 2018 at an average price not to exceed \$2.10/GJ.

The report further recommends setting the Gas budget for fiscal year 2016-2017 in the amount of \$3,976,782, and the Gas budget for fiscal year 2017-2018 in the amount of \$4,200,921

## **B. PURPOSE**

To provide recommendations on the gas purchase strategy for fiscal year 2016 - 2018.

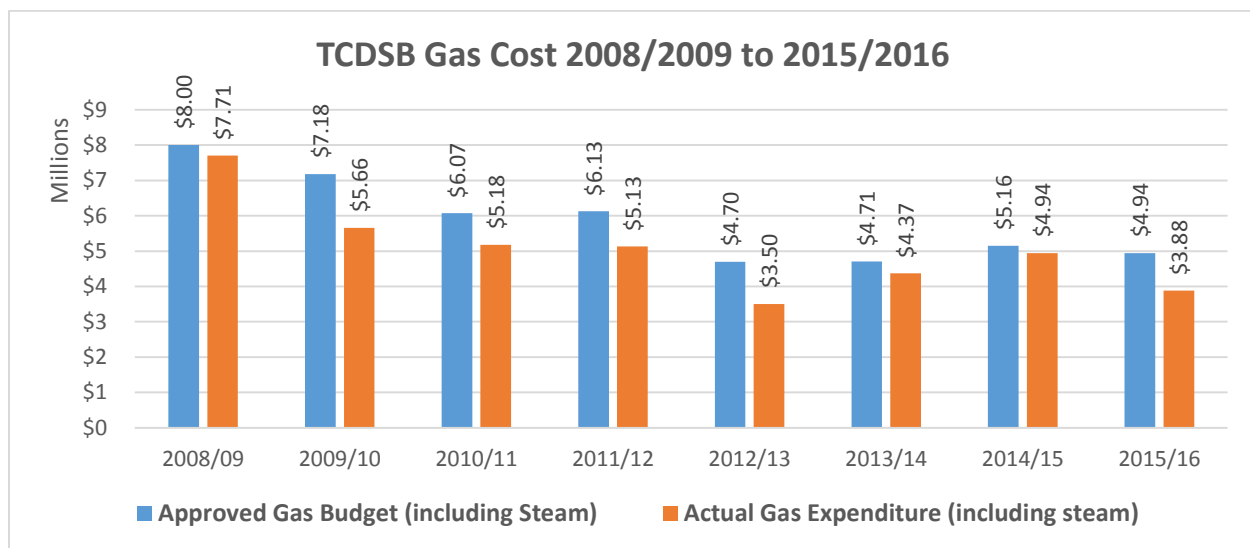
## **BACKGROUND**

1. The Board's current gas purchase agreements expire on August 31, 2016.
2. Currently, the Board has not locked in natural gas or gas transportation requirements for the 2016/2017 school year.

3. Previous Gas Budgets for the last eight (8) years for gas commodity and transportation are as follows:

<u>Year</u>	Approved Gas Budget (including Steam)	Actual Gas Expenditure (including steam)	Under Budget
2008/09	\$8,000,000	\$7,706,422	\$293,578
2009/10	\$7,179,188	\$5,655,759	\$1,523,429
2010/11	\$6,071,172	\$5,177,123	\$894,049
2011/12	\$6,128,603	\$5,128,529	\$1,000,074
2012/13	\$4,696,794	\$3,501,009	\$1,195,785
2013/14	\$4,705,794	\$4,372,369	\$333,425
2014/15	\$5,155,049	\$4,941,000	\$214,049
2015/16	\$4,941,254	\$ 4,487,107	\$454,147

Note: the Board has no remaining central steam plants.



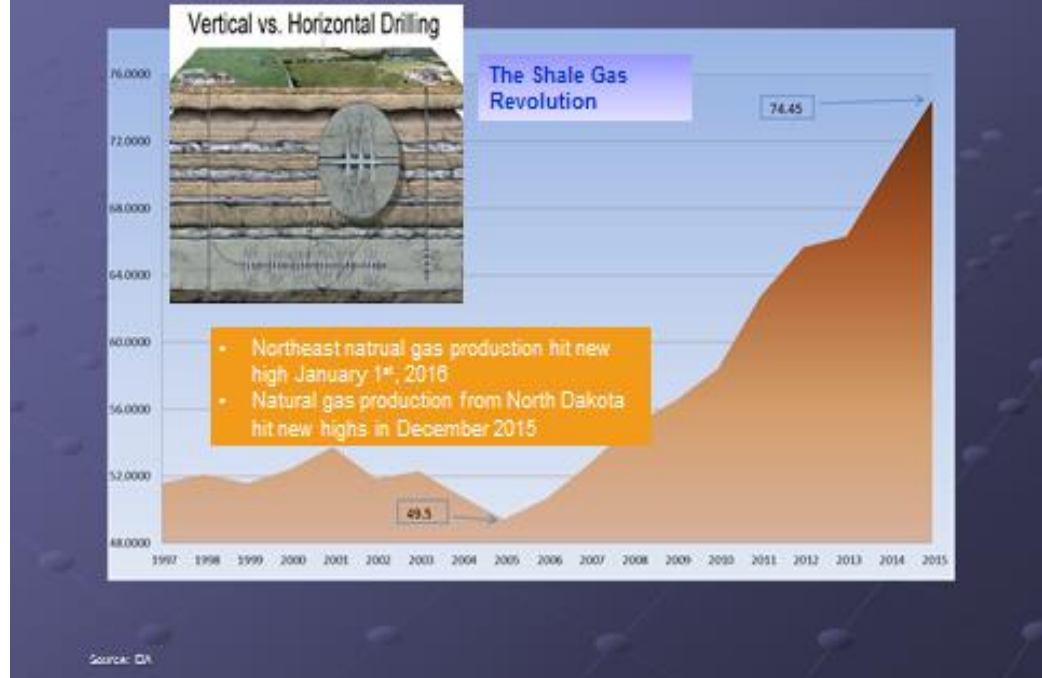
4. The Board currently purchases commodity gas directly from a natural gas supplier for the following reasons:
  - a. capability to fix gas prices if the gas market starts to move up or down;
  - b. ability to ensure budget stability
5. If the Board is to return to System Gas with Enbridge Gas, the disadvantages to the Board would include:

- a. the inability to fix natural gas prices if the gas market starts to move up or down (thus, not having the capability to ensure budgets are met);
- b. paying higher gas prices than the current marketplace as the Enbridge Gas utility price for natural gas is higher than the current market price;

In addition, to either go back to the utility for natural gas purchases or leave the utility in order to take advantage of purchasing natural gas from a supplier takes about 60-90 days lead time.

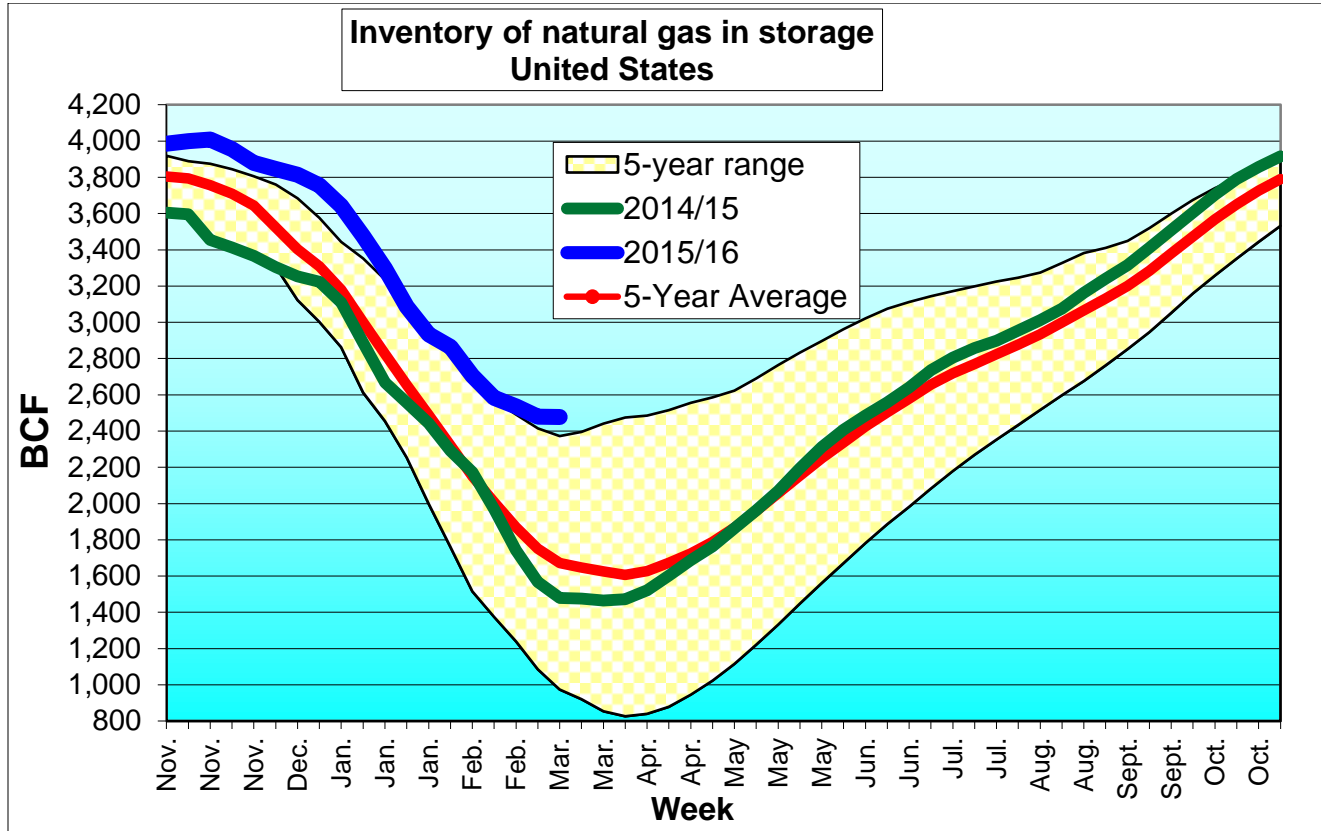
6. Gas pricing is monitored daily by staff in consultation with Navicomm Energy Group Inc. Board staff is prepared to notify the Board's Consultant to fix the gas commodity prices at favourable rates, as the market opportunity arises, in order to provide price protection and price stability to the Board.
7. The natural gas market price has fallen substantially from the prices that were experienced over the last few years. Reasons for the significant drop in natural gas prices include:
  - Continued growth in gas production: the strong supply due to the shale gas exploration continues – even with the weakening commodity price. Below is a graph depicting the growth in natural gas production from 1997 through to October, 2015. Notice the sharp increase in shale production, which commenced in the mid 2000's and continues today.

## Supply Picture: US Natural Gas Dry Production 1997 through Oct 2015 - Bcf/Day



- The extremely warm winter that we have had and continue to experience: the *El Nino* weather pattern was strong throughout this winter and is expected to continue into the spring of 2016. Although *El Nino* originates in the eastern Pacific Ocean, it has global weather impact on temperatures and precipitation patterns across the planet. The warm winter experienced due to *El Nino* has led to a significant drop in gas demand from the residential and commercial sectors for winter heating load.
8. With natural gas production (supply) at all-time highs, and demand dropping due to one of the warmest fall and winter seasons in North America in over 122 years of recorded temperatures, natural gas storage levels are very healthy for this time of year.

The graph below shows the current storage levels (highlighted in blue), compared to last year's storage levels (shown in green) and the five-year average storage level (highlighted in red).



### C. NATURAL GAS COMMODITY AND TRANSPORTATION INFORMATION:

1. The Board currently delivers approximately 1500 GJ/day to Enbridge Gas in the current gas year (September 1, 2015 to August 31, 2016).
2. Aggressive steps have been taken to control the Gas consumption of our buildings including, but not limited to, installing high efficiency equipment and building automation systems (BAS) to control the space temperatures, and operation schedules. As a result, the Board manages to keep the daily consumption with the allowable range of  $\pm 5\%$  from the predicted target of 1500 GJ/d.

## **D. OPTIONS / SCENARIOS**

There are alternative strategies to purchasing gas, however there are risks associated with these alternatives as summarized by Navicomm Energy Group Inc.:

1. Conservative Approach
  - a. Fix 100% at a price equal to current market value or below.
  - b. The Board will have budgetary peace of mind. If prices were to go up in the future, the Board will be 100% secure in knowing they are locked in.
2. Aggressive Approach
  - a. Remain 100% on daily index.
  - b. This approach will not ensure budget certainty. Month-to-month volatility in prices will occur as the daily market price for gas goes up and down. The Board will be susceptible to market fluctuations that occur from Traders and Geopolitical Risks in the market. A customer may save if the prices continue to weaken. However, compared to the long-term daily average spot price, current prices are very favourable. We expect the shoulder period of April and May (where it is neither too cold nor hot) to lead to some very attractive fixed price opportunities for the longer term.
3. Balanced/Cautious Approach
  - a. Purchase a Fixed Price natural gas contract for 2/3 (66.67%) of the Board's natural gas requirement for the period of September 1, 2016 to August 31, 2017 at a price of \$2.90 CDN/GJ or lower at AECO (Alberta) and that the remaining 33.33% Gas Commodity remain on index with a predicted target price of \$2.70/GJ or lower,
  - b. Purchase a Fixed Price natural gas contract for 2/3 (66.67%) of the Board's natural gas requirement for the period of September 1, 2017 to August 31, 2018 at a price of \$3.00 CDN/GJ or lower at AECO (Alberta) and that the remaining 33.33% Gas Commodity remain on index with a predicted target price of \$2.90/GJ or lower.
  - c. This balanced approach will allow the Board to have some measure of price stability in the portfolio and yet be able to take advantage of any price decreases that may occur in the marketplace over the next few months.
4. Natural Gas Transportation Information:

- a. The Board's consultant has recommended that the Board lock in 100% of the Board's gas transportation requirement for the period September 1, 2016 to August 31, 2017 at an average price not to exceed \$1.75/GJ, and for the period of September 1, 2017 to August 31, 2018 at an average price not to exceed \$2.10/GJ.

The tables below show current and anticipated gas commodity and gas transportation rates for September 1, 2016 – August 31, 2017.

<b>Gas Commodity</b>		
<b>\$ Required for 1500 GJ/day September 1, 2016 to August 31, 2017</b>	2016/17 TCDSB Budget @ \$3.00 CDN/GJ	Navicomm Energy Recommendation to lock in 66.67% @ Market of \$2.90 and 33.23% @ \$2.70 CDN/GJ when the Market Allows*
	\$1,647,000	\$1,555,500

<b>Gas Transportation</b>		
<b>\$ Required for 1500 GJ/day September 1, 2015 to August 31, 2016</b>	2016/17 TCDSB Budget @ \$2.00 CDN/GJ	Navicomm Energy Recommendation to lock in 100% @ \$1.75 CDN/GJ or lower
	\$1,098,200	\$960,750

The tables below show current and anticipated gas commodity and gas transportation rates for September 1, 2017 – August 31, 2018.

<b>Gas Commodity</b>		
<b>\$ Required for 1500 GJ/day September 1, 2016 to August 31, 2017</b>	2016/17 TCDSB Budget @ \$3.20 CDN/GJ	Navicomm Energy Recommendation to lock in 66.67% @ Market of \$3.00 and 33.23% @ \$2.90 CDN/GJ when the Market Allows*
	\$1,756,800	\$1,628,700



<b>Gas Transportation</b>		
<b>\$ Required for 1500 GJ/day September 1, 2015 to August 31, 2016</b>	2017/18 TCDSB Budget @ \$2.20 CDN/GJ	Navicomm Energy Recommendation to lock in 100% @ \$2.10 CDN/GJ or lower
	\$1,207,800	\$1,152,900

5. Natural Gas Recommended Budget for 2016/17:

The recommended gas budget for 2016/17 is as follows:

Gas Commodity	\$1,647,000.00
Gas Transportation	\$1,098,200.00
Gas transportation from local hub to schools	\$1,147,500.00
HST	\$84,082.32
<b>Total Recommended Budget</b>	<b>\$3,976,782.32</b>

- a. A total Natural Gas Recommended Budget for 2016/17 in the amount of \$3,976,782 including net HST.

6. Natural Gas Recommended Budget for 2017/18:

Gas Commodity	\$1,756,800.00
Gas Transportation	\$1,207,800.00
Gas transportation from local hub to schools	\$1,147,500.00
HST	\$88,821.36
<b>Total Recommended Budget</b>	<b>\$4,200,921.36</b>

- a. A total Natural Gas Recommended Budget for 2017/18 in the amount of \$4,200,921 including net HST.
- b. The Board will continue to take the necessary steps to control the overall energy consumption including, but not limited to, installing high efficiency equipment and building automation systems (BAS) to control

the space temperatures, operation schedules, free cooling and adopting any new technology that can help reduce energy consumptions.

- c. Based on the foregoing, Staff anticipates annual gas costs being in line with the projected PAG budget.

## **E. STAFF RECOMMENDATION**

That the Director of Education implements the following Natural Gas Procurement Strategy:

- a. This report recommends locking in 2/3 (66.67%) of the Board's natural gas requirement for the period of September 1, 2016 to August 31, 2017 at a price of \$2.90 CDN/GJ or lower at AECO (Alberta) and that the remaining 33.33% Gas Commodity remain on index with a predicted target price of \$2.70/GJ or lower.
- b. This report also recommends locking in 2/3 (66.67%) of the Board's natural gas requirement for the period of September 1, 2017 to August 31, 2018 at a price of \$3.00 CDN/GJ or lower at AECO (Alberta) and that the remaining 33.33% Gas Commodity remain on index with a predicted target price of \$2.90/GJ or lower.
- c. This report also recommends locking in 100% of the Board's gas transportation requirement for the period September 1, 2016 to August 31, 2017 at an average price not to exceed \$1.75/GJ, and for the period of September 1, 2017 to August 31, 2018 at an average price not to exceed \$2.10/GJ.
- d. The report further recommends setting the Gas budget for fiscal year 2016-2017 in the amount of \$3,976,782, and the Gas budget for fiscal year 2017-2018 in the amount of \$4,200,921.