

ONTARIO ENERGY REPORT Q4 2018

OCTOBER - DECEMBER 2018
OIL AND NATURAL GAS

Regular Gasoline and Diesel Provincial Average Retail Prices (\$/L)

Regular Gasoline	\$1.13
Diesel	\$1.25

Source: Ministry of Energy, Northern Development and Mines Fuel Prices

Natural Gas Prices with Storage and Transportation Costs (¢/m³)

Union Gas	15.88¢
Enbridge	17.43¢
NRG	16.05¢

Source: OEB Natural Gas Rates effective October 1, 2018

Average Natural Gas Spot Price (\$/GJ)

Dawn (ON)	\$4.75
Henry Hub (US)	\$4.76
AECO (AB)	\$1.50

Source: Dawn and AECO from Canadian Enerdata Ltd.;
Henry Hub from U.S. Energy Information Administration.

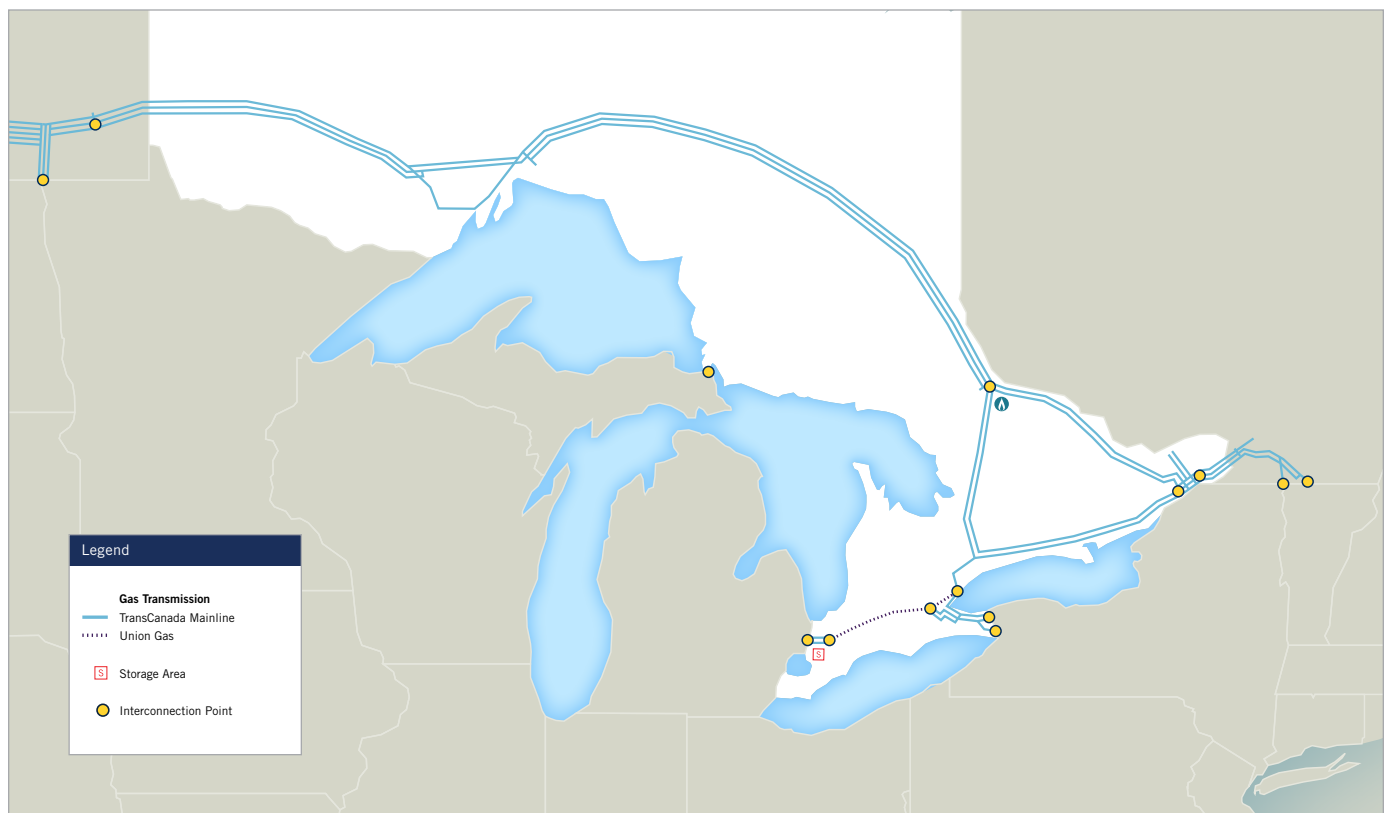
Eastern Canada Natural Gas Storage Balance (at quarter end)

227.3 Billion cubic feet (Bcf)

(for week ending December 21, 2018)

Source: Canadian Enerdata Ltd.
In Eastern Canada, natural gas is stored primarily at Dawn hub near Sarnia.

Natural Gas Transmission Infrastructure



Regular Gasoline Retail Prices

Q4 Ontario Average Regular Gasoline Retail Prices (\$/L)

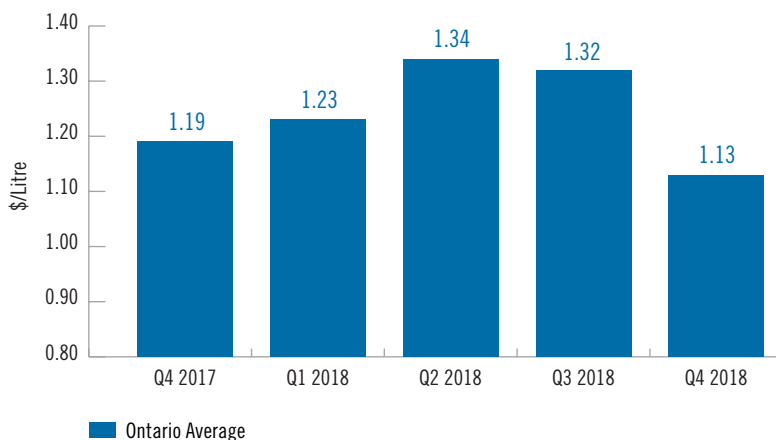
Year (Q4)	Ontario Average	Southern Ontario Average	Northern Ontario Average	Toronto Average	Ottawa	Sudbury	Thunder Bay
2009	0.96	0.95	0.99	0.95	0.93	0.96	0.99
2010	1.08	1.08	1.11	1.02	1.09	1.08	1.13
2011	1.21	1.21	1.27	1.28	1.20	1.26	1.26
2012	1.23	1.22	1.31	1.28	1.21	1.29	1.33
2013	1.26	1.25	1.32	1.30	1.24	1.32	1.31
2014	1.12	1.11	1.20	1.32	1.07	1.17	1.24
2015	1.00	0.99	1.08	1.01	0.96	1.04	1.15
2016	1.03	1.02	1.06	1.04	1.01	1.07	1.07
2017	1.19	1.18	1.22	1.19	1.18	1.19	1.26
2018	1.13	1.12	1.23	1.14	1.07	1.18	1.34

Source: Ministry of Energy Fuel Prices. All prices in Current Dollars per litre. Provincial, Southern and Northern Ontario averages are weighted by population. ontario.ca/data/fuels-price-survey-information

Toronto¹ regular unleaded gasoline retail prices in Q4 2018 were 5.9 cents per litre (¢/L) lower than in Q4 2017. This was the result of lower crude oil costs (-10.9 ¢/L), lower retail margins (-0.4 ¢/L) plus applicable taxes (-0.7 ¢/L), offset in part by higher wholesale margins (+6.1 ¢/L). Crude oil costs would have fallen by 1.2 ¢/L more than they did, had it not been for a 4% decline in the value of the Canadian dollar relative to the U.S. dollar from Q4 2017 to Q4 2018. Canadian crude oil and wholesale gasoline costs are affected by the CDN/US exchange rate because these commodities are traded on a North American and international basis.

Note: Retail gasoline prices are affected by crude oil prices, wholesale gasoline prices, and competition in the local retail gasoline market. Prices vary from city to city because of differences in market size and structure, costs, and the degree of local competition.

Ontario Average Regular Gasoline Price



1. Toronto was selected for the pump price analysis because it is the largest gasoline market in Ontario.

Retail Diesel Prices

Q4 Ontario Average Diesel Retail Prices (\$/L)

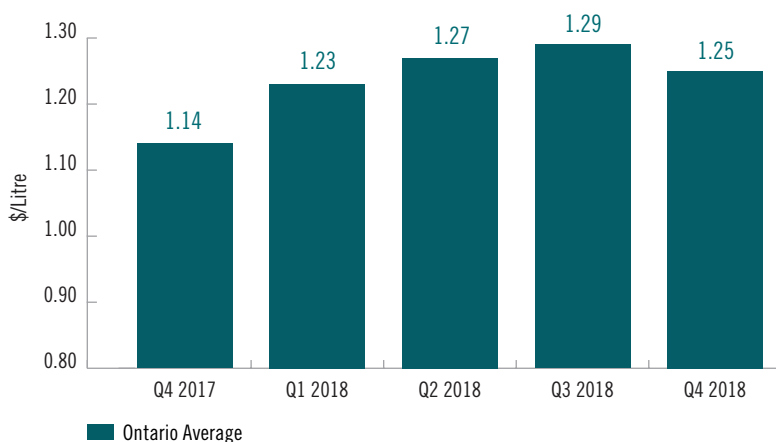
Year (Q4)	Ontario Average	Southern Ontario Average	Northern Ontario Average	Toronto Average	Ottawa	Sudbury	Thunder Bay
2009	0.93	0.92	0.95	0.92	0.93	0.95	0.96
2010	1.07	1.07	1.09	1.07	1.07	1.09	1.08
2011	1.27	1.27	1.30	1.27	1.29	1.29	1.33
2012	1.24	1.23	1.27	1.23	1.25	1.25	1.31
2013	1.30	1.29	1.34	1.29	1.31	1.33	1.38
2014	1.22	1.21	1.25	1.21	1.22	1.22	1.32
2015	1.02	1.01	1.05	1.02	1.01	1.03	1.10
2016	0.99	0.98	1.01	0.99	0.98	0.98	1.07
2017	1.14	1.14	1.19	1.14	1.14	1.15	1.26
2018	1.25	1.24	1.30	1.24	1.25	1.24	1.36

Source: Ministry of Energy Fuel Prices. All prices in Current Dollars per litre. Provincial, Southern and Northern Ontario averages are weighted by population. ontario.ca/data/fuels-price-survey-information

Toronto² retail diesel prices in Q4 2018 were 10.0 ¢/L higher than in Q4 2017. This was the result of higher wholesale margins (+16.2 ¢/L), higher retail margins (+3.6 ¢/L) plus applicable taxes (+1.1 ¢/L), offset in part by lower crude oil costs (-10.9 ¢/L). Crude oil costs would have fallen by 1.2 ¢/L more than they did, had it not been for a 4% decline in the value of the Canadian dollar relative to the U.S. dollar from Q4 2017 to Q4 2018. Canadian crude oil and wholesale diesel costs are affected by the CDN/US exchange rate because these commodities are traded on a North American and international basis

Note: Retail diesel prices are affected by crude oil prices, wholesale diesel prices, and competition in the local retail diesel market. Prices vary from city to city because of differences in market size and structure, costs, and the degree of local competition.

Ontario Average Retail Diesel Price



2. Toronto was selected for the pump price analysis because it is the largest diesel market in Ontario.

Natural Gas Price with Storage and Transportation Cost for Enbridge, Union Gas, and EPCOR

Q4 ¢/m ³	2014	2015	2016	2017	2018
Union Gas ³	23.24	15.33	15.80	17.90	15.88
Enbridge ⁴	24.68	21.67	18.42	17.87	17.43
EPCOR (formerly NRG) ⁵	26.23	20.01	16.69	17.77	16.05

Source: OEB Natural Gas Rates effective October 1, 2018

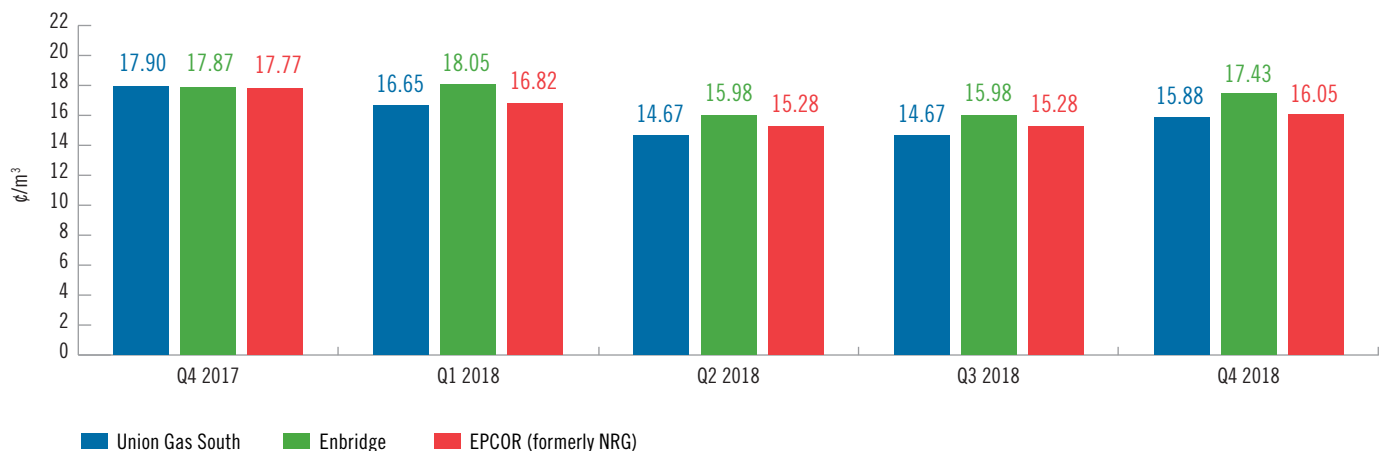
Each quarter, natural gas utilities adjust their gas supply charges based on a forecast of natural gas market prices over the next 12 months. Some components of these rates, such as the transportation charge, may change at the same time. Other components follow a different timeline, like delivery rates, which generally change once a year. Additionally, the “gas supply cost adjustment” is updated through the Ontario Energy Board’s (OEB’s) Quarterly Rate Adjustment Mechanism (QRAM),⁴ which captures any differences between forecast and actual commodity costs.

The OEB determined that the scheduled QRAM adjustment set to occur on July 1, 2018, would be postponed (i.e., Q3 2018 rates would remain unchanged from Q2 2018 rates) in anticipation of the end of Ontario’s cap-and-trade program. Union, Enbridge and EPCOR customers therefore saw no change in the commodity, storage, or transportation components of their bills between Q2 2018 and Q3 2018.

The OEB resumed quarterly rate adjustments for Q4 2018, in conjunction with the removal of cap-and-trade costs, effective October 1, 2018. The removal of cap-and-trade costs resulted in a reduction of about 3.3 ¢/m³ from the delivery charge component of natural gas bills.

Following approval from the OEB, effective January 1, 2017, the OEB approved price for the Southern Rate zone combined commodity and transportation costs into one gas supply charge going forward. For consistency of reporting, storage and transportation costs have been included in this section for all three utilities.⁶

Natural Gas Price, Including Storage and Transportation by Quarter (¢/m³)



Source: OEB, Enbridge

3. Union Gas’ rate class is residential Southern Rate Zone (M1).

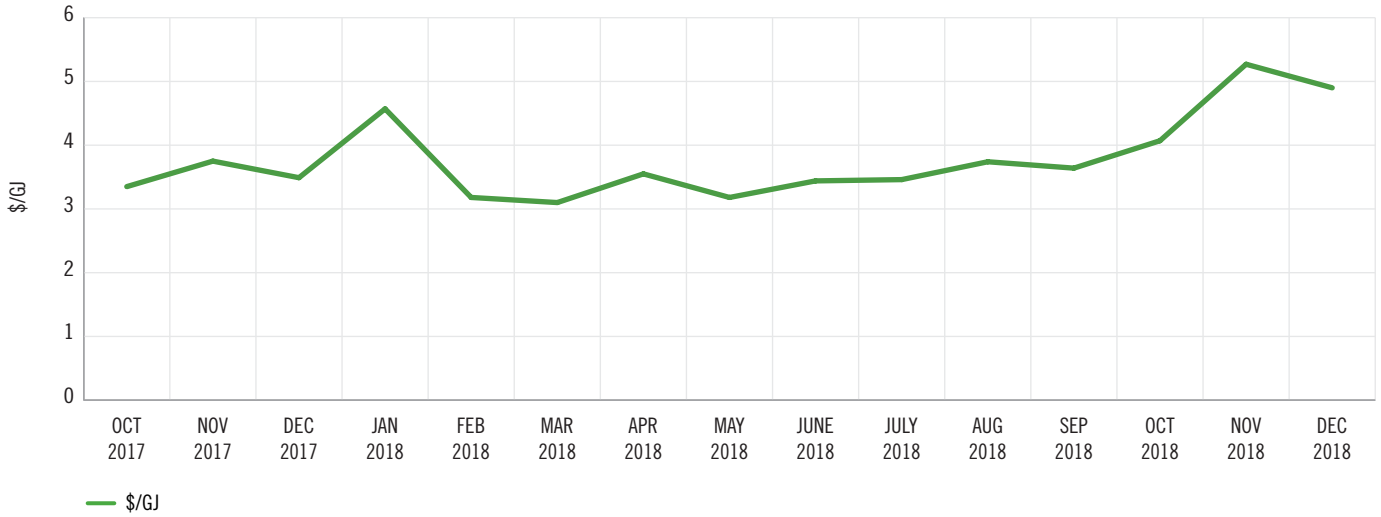
4. Enbridge’s rate class is residential Rate Number 1. The storage component is an estimate provided by Enbridge.

5. On August 3, 2017, the OEB released its decision approving the application by Natural Resource Gas Limited (NRG) to transfer its natural gas distribution system assets and OEB regulatory approvals to EPCOR. On November 1, 2017, the transaction was completed.

6. Enbridge pricing includes an estimated storage component.

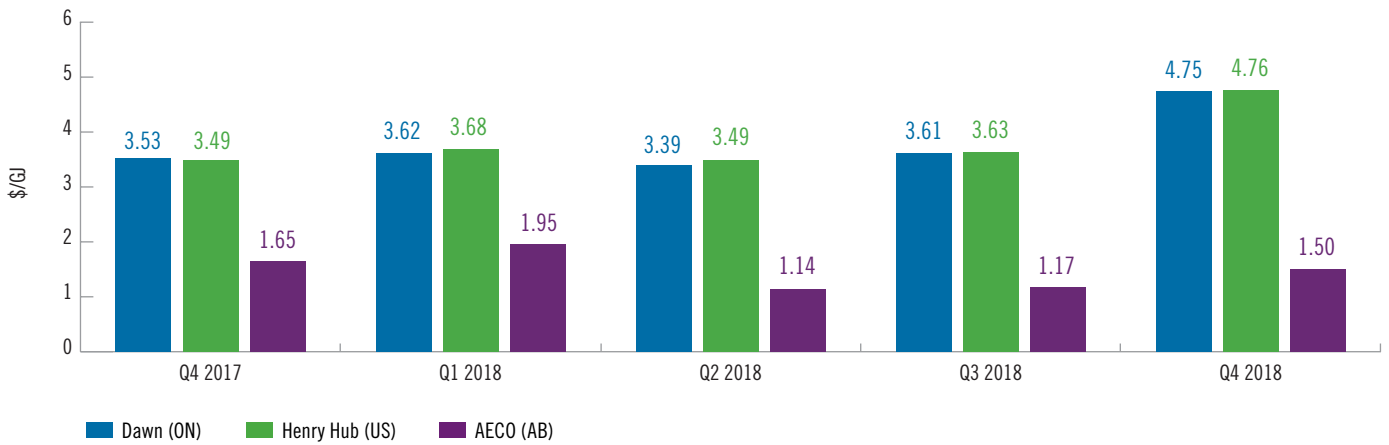
Average Natural Gas Spot Prices

Monthly Average Natural Gas Spot Prices at Dawn, ON (\$/GJ)



Source: Canadian Enerdata Ltd.

Quarterly Average Natural Gas Spot Prices at Select Trading Hubs (\$/GJ)



Source: Dawn and AECO prices from Canadian Enerdata Ltd.; Henry Hub prices from U.S. Energy Information Administration

Quarterly Average Natural Gas Spot Prices at Select Trading Hubs (\$/GJ)

Trading Hub	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018
Dawn (ON)	3.53	3.62	3.39	3.61	4.75
Henry Hub (US)	3.49	3.68	3.49	3.63	4.76
AECO (AB)	1.65	1.95	1.14	1.17	1.50

Source: Dawn and AECO from Canadian Enerdata Ltd.; Henry Hub from U.S. Energy Information Administration

Natural gas prices at the Dawn hub have increased by roughly 35% since Q4 2017.

Annual Average Natural Gas Spot Prices at Select Trading Hubs (\$/GJ)

Trading Hub	2017	2018
Dawn (ON)	3.74	3.84
Henry Hub (US)	3.67	3.89
AECO (AB)	2.05	1.44

Source: Dawn and AECO from Canadian Enerdata Ltd.; Henry Hub from U.S. Energy Information Administration

Natural Gas Price Forecasts for Select Trading Hubs, 2018–2019 (\$/GJ)

Trading Hub	2019	2020
Dawn (ON)	3.70	4.15
Henry Hub (US)	3.62	3.78
AECO (AB)	1.44	2.16

Source: Canadian Enerdata Ltd. as of January 2019

Eastern Canada Natural Gas Storage Balances

(as of quarter end)

Storage Survey Week	Storage Level (billion cubic feet)	Storage Level vs. Same Week the Year Before	Storage Level vs. Total Capacity
Q4 2017 - Dec 22, 2017	232.2	100.2%	82.4%
Q1 2018 - Mar 23, 2018	61.9	56.1%	22.0%
Q2 2018 - Jun 22, 2018	95.7	64.2%	34.0%
Q3 2018 - Sept 21, 2018	230.9	93.7%	82.0%
Q4 2018 - Dec 21, 2018	227.3	97.9%	80.7%

Note: Maximum Storage Capacity for Eastern Canada was raised from 279.0 bcf to 281.8 bcf starting in October 2016.

Source: Canadian Enerdata Ltd.

In Eastern Canada, natural gas is stored primarily at Dawn, ON with a small amount of storage in New Brunswick. The New Brunswick storage does not service the Ontario natural gas market.

According to seasonal patterns, storage levels normally peak in late October or early November as withdrawals for natural gas heating begin to outpace storage injections. Prices are also more likely to see a cyclical rise during the winter heating season. Utilities buy a certain amount of natural gas during the summer months when the price is cheaper. The supply is stored, and then delivered to customers during the colder months.