



# Canadian domestic price forecast December 31, 2013

## Forecast commentary

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### A Tale of Futures Past

*"The future you have, tomorrow, won't be the same future you had, yesterday."*— American author Chuck Palahniuk in Rant

Deloitte's December 31, 2013, domestic oil and gas price forecast continues to be influenced by the palpable caution being exhibited in long-term futures markets. Growing pessimism is not a new trend in futures markets. A look back at the futures forecasts of the recent past shows how this tale of gradual woe has unfolded – and provides a cautionary tale for those making long-term business decisions.

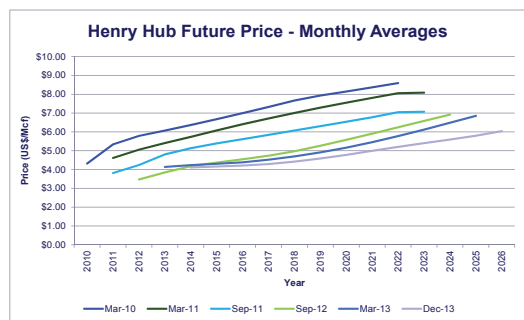
### Natural Gas – Henry Hub

Since 2010, the hopeful optimism that used to influence Henry Hub natural gas futures has been replaced with the more sobering view that North American over supply of natural gas will last into the foreseeable future.

In March 2010, the price starts out at \$4.32/Mcf and was projected to increase more than \$1.00/Mcf over the first year, then continue increasing annually to pass \$8.50/Mcf by 2022. Futures forecasts in March 2011 and September 2011 repeated this pattern almost exactly – except for some leveling off in 2021 and 2022 that put March 2011 futures at just over \$8.00/Mcf and September 2011 just over \$7.00/Mcf. In September 2012, futures prices followed the March 2010 trend more closely – the price started out at \$3.47/Mcf but with only a \$0.50/Mcf increase per year for the first two years and a maximum value of just under \$7.00/Mcf.

But futures for March and December 2013 start to tell a different story. Both start above \$4.00/Mcf, but March 2013 futures take five years to increase just \$0.50/Mcf, while December 2013 futures take more than six years to increase by that same margin. These trends suggest the long-term futures market is predicting continued over supply of gas in North America – with no relief on the horizon in the form of gas exports or increased consumption, resulting in almost constant prices for five years or more.

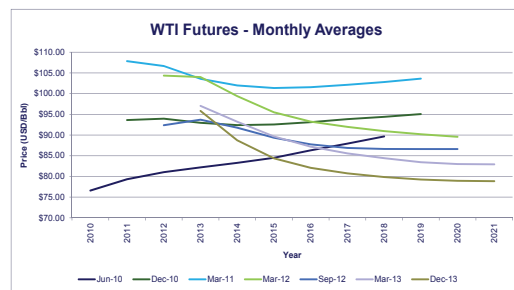
Another trend that should not be overlooked is the ever-decreasing value of natural gas during the last year of each dataset. The March 2013 futures price is listed at \$6.85/Mcf while the December 2013 futures is \$6.04/Mcf. This is a far cry from the more than \$8.50/Mcf futures price listed three years ago.



### Oil - WTI

The overwhelming story in WTI futures over the past few years is that the long-term trend has consistently been negative since the March 2011 futures forecast. As shown in the accompanying graphic, June 2010 WTI futures started at just over \$76.00/bbl and increased steadily to just under \$90.00/bbl by the end of the forecast period – a definite positive trend. However, even though the starting price increased to \$93.00/bbl for December 2010, and over \$107.00/bbl in March 2011, the long-term futures trend reversed from positive to negative. Certainly this decrease in value may be reflective of the higher starting price in 2011. And yes, there are a few months in between 2011 and the end of 2013 that show a positive slope on the futures trend.

But the key observation is that the long-term futures price for WTI oil has been decreasing, regardless of the starting price of oil, since March 2011. The 2019 futures price dropped from just under \$90/bbl in March 2012, to around \$86/bbl in September 2012, while the 2020 WTI futures price for March 2012 is under \$83.00/bbl and under \$79/bbl for December 2013.



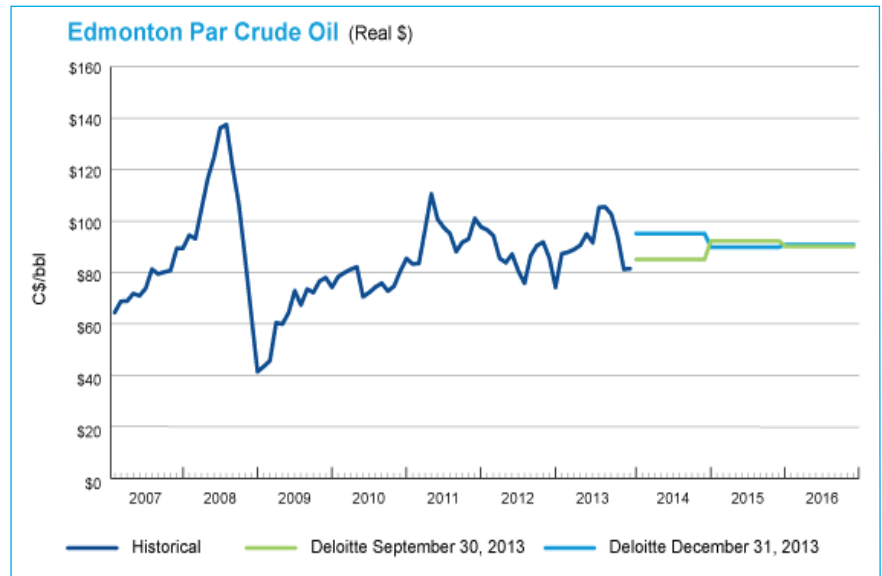
### The moral of the story?

The futures markets – the best barometer for forecasting oil and gas prices – appear to be speaking loud and clear: oil is on it's way down, most likely to due to the increase in U.S. oil production, and without increased consumption or export markets, price increases for gas will be small at best. So, plan with caution and buyer beware! What you see today you may not realize tomorrow.

## Crude oil price and market demand forecast

### Forecast comments

- The differential between WTI and Edmonton Par has been forecast to be \$5/bbl for 2013 and 2014.
- In 2015, Deloitte is forecasting a return to the historical WTI to Edmonton Par differential of \$2/bbl, when pipeline and infrastructure constraints are expected to ease with further rail transport, and major pipeline reconfigurations and optimizations.
- Edmonton Par price is used as the basis to arrive at the remaining crude reference points. Offsets are based on five-year historical statistics with recent data weighted more heavily in the determination.
- Adjustments for oil consider the most recent pipeline tariffs and exchange rates to arrive at a Canadian Edmonton Par equivalent price.

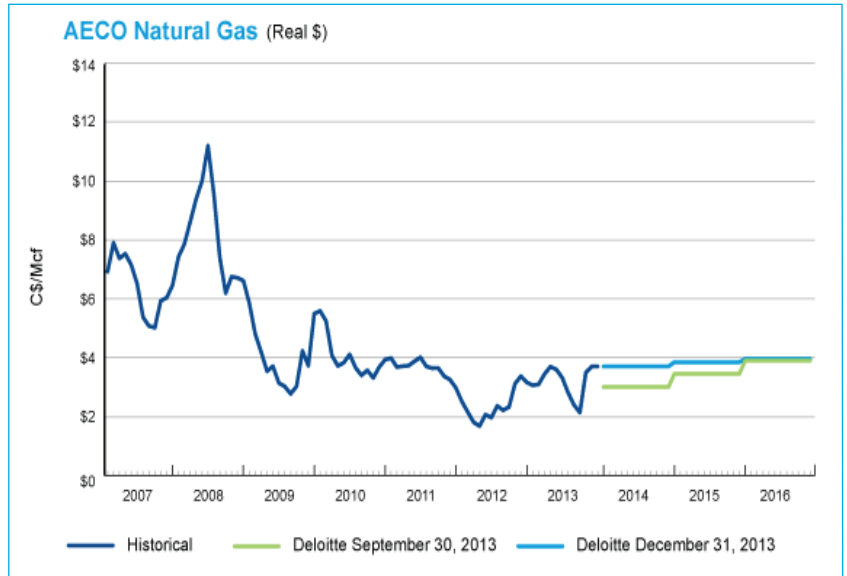


Year	WTI Cushing, OK (40 Deg. API)	WTI Cushing, OK (40 Deg. API)	Canadian Par Edmonton, AB (40 Deg. API)	Canadian Par Edmonton, AB (40 Deg. API)	SE SK Med. Oil Cromer, MB (29 Deg. API)	Bow River Oil Hardisty, AB (25 Deg. API)	Heavy Oil Hardisty, AB (12 Deg. API)	Cost inflation	CAD to USD exchange
	US\$/bbl	US\$/bbl	C\$/bbl	C\$/bbl	C\$/bbl	C\$/bbl	C\$/bbl	Rate	Rate
	Real	Current	Real	Current	Current	Current	Current		
<b>Historical</b>									
2010	\$84.55	\$79.42	\$82.82	\$77.79	\$73.48	\$68.16	\$60.59	0.0180	0.971
2011	\$99.27	\$94.91	\$99.96	\$95.58	\$88.21	\$78.50	\$69.56	0.0290	1.012
2012	\$95.52	\$94.07	\$87.84	\$86.51	\$80.83	\$74.34	\$63.99	0.0150	1.001
<b>2013</b>									
12 Months H	\$97.83	\$97.83	\$93.21	\$93.21	\$87.36	\$76.23	\$65.43	0.0110	0.971
0 Months F	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0.0000	0.000
Avg.	\$97.83	\$97.83	\$93.21	\$93.21	\$87.36	\$76.23	\$65.43	-	0.971
<b>Forecast</b>									
2014	\$95.00	\$95.00	\$95.75	\$95.75	\$88.75	\$80.00	\$68.75	0.0000	0.940
2015	\$90.00	\$91.80	\$90.45	\$92.30	\$84.85	\$76.30	\$66.30	0.0200	0.940
2016	\$88.00	\$91.55	\$91.45	\$95.20	\$86.80	\$77.35	\$68.20	0.0200	0.940
2017	\$86.00	\$91.25	\$89.35	\$94.80	\$86.00	\$76.80	\$68.80	0.0200	0.940
2018	\$85.00	\$92.00	\$88.30	\$95.60	\$85.80	\$75.65	\$68.60	0.0200	0.940
2019	\$85.00	\$93.85	\$88.30	\$97.50	\$87.00	\$76.50	\$70.50	0.0200	0.940
2020	\$85.00	\$95.70	\$88.30	\$99.45	\$88.25	\$78.45	\$72.45	0.0200	0.940
2021	\$85.00	\$97.65	\$88.30	\$101.45	\$87.95	\$79.45	\$73.45	0.0200	0.940
2022	\$85.00	\$99.60	\$88.30	\$103.45	\$88.45	\$81.45	\$75.45	0.0200	0.940

## Natural gas price and market demand forecast

### Forecast comments

- The NYMEX to Canadian AECO price historical differential is used to arrive at the AECO forecasted price.
- In Deloitte's most recent price forecast, we increased 2013 prices by \$0.15/Mcf.
- In contrast to other forecasts in the industry, Deloitte's long-term views consider two more years of growth in terms of real dollars.



Year	AB Ref. Avg. Price	AB AECO Avg. Price	AB AECO Avg. Price	BC Direct Station 2 Sales	SK Direct Plant Gate Sales	NYMEX	NYMEX
	C\$/Mcf	C\$/Mcf	C\$/Mcf	C\$/Mcf	C\$/Mcf	US\$/Mcf	US\$/Mcf
	Current	Real	Current	Current	Current	Real	Current
<b>Historical</b>							
2010	\$3.76	\$4.26	\$4.00	\$4.00	\$3.90	\$4.67	\$4.38
2011	\$3.46	\$3.80	\$3.63	\$3.34	\$3.33	\$4.17	\$3.99
2012	\$2.25	\$2.43	\$2.39	\$2.30	\$2.15	\$2.80	\$2.76
<b>2013</b>							
12 Months H	\$2.89	\$3.20	\$3.20	\$3.04	\$3.01	\$3.71	\$3.71
0 Months F	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Avg.	\$2.89	\$3.20	\$3.20	\$3.04	\$3.01	\$3.71	\$3.71
<b>Forecast</b>							
2014	\$3.45	\$3.70	\$3.70	\$3.40	\$3.65	\$4.10	\$4.10
2015	\$3.70	\$3.85	\$3.95	\$3.65	\$3.90	\$4.15	\$4.25
2016	\$3.85	\$3.95	\$4.10	\$3.80	\$4.05	\$4.25	\$4.40
2017	\$4.05	\$4.05	\$4.30	\$4.00	\$4.25	\$4.35	\$4.60
2018	\$4.30	\$4.20	\$4.55	\$4.25	\$4.50	\$4.50	\$4.85
2019	\$4.60	\$4.40	\$4.85	\$4.55	\$4.80	\$4.70	\$5.20
2020	\$5.00	\$4.65	\$5.25	\$4.95	\$5.20	\$4.95	\$5.55
2021	\$5.45	\$4.95	\$5.70	\$5.40	\$5.65	\$5.25	\$6.05
2022	\$5.85	\$5.20	\$6.10	\$5.80	\$6.05	\$5.50	\$6.45



## Pricing philosophy

Deloitte looks to both the futures and the past when we create our forecasts. Price forecasting takes into account many variables that can influence future prices. While experience tells us we must continually review the tools we use to predict future oil and gas prices, one constant is the impact that the geopolitical landscape has on pricing. This impact is most accurately reflected in the financial industry's futures market for commodities. That is why the futures market is the main influence in the creation of Deloitte's price forecast.

At Deloitte, we understand that sound analysis of changing trends can influence the decisions made about mergers, acquisitions, divestitures and investments. One of the ways we ensure our price forecasts are as accurate as possible is to review our pricing assumptions on a quarterly basis. Accurate and realistic information ensures better long-term decisions for our clients.

These forecasts are Deloitte's best estimate of how the future will look. In preparing the price forecast, Deloitte considers the current monthly trends, the actuals and trends for the year to date, and the prior year actuals in determining the forecast. The base forecast for both oil and gas is based on NYMEX futures in U.S. dollars. Crude oil and natural gas forecasts are based on yearly variable factors weighted to a higher percentage for the current data and then reflecting a higher percentage to prior year historical data for the later years. Gas prices have been determined independently from oil prices but still reflect the current competitive nature of the two fuels and reflect historical oil-to-gas ratios for the latter years of the gas forecast.

Deloitte prepares our price and market forecasts based on information we collect from numerous government agencies, industry publications, oil refineries, natural gas marketers and industry trends. Inflation forecasts and exchange rates have also been considered.

While these forecasts are considered reasonable, changing market conditions or additional information may require alteration from the indicated effective date.

## Glossary

Some of the words, phrases and acronyms we use frequently when talking about pricing are listed below:

AECO	Alberta Energy Company - historical name of a virtual trading hub on the NGX system
ANS	Alaska North Slope
ASCI	Argus Sour Crude Oil
AWB	Access Western Blend - Canadian condensate/bitumen mix
BR	Bow River Crude Oil
CBOT	Chicago Board Of Trade
CGA	Canadian Gas Association
DCQ	Daily Contract Quantity
EIA	Energy Information Administration
FERC	US Federal Energy Regulatory Commission
FOB	Free on Board (shipper term)
IEA	International Energy Administration
LLB	Lloydminster Blend Crude Oil
LNG	Liquefied Natural Gas
MESC	Middle East Sour Crude
MSO	Mixed Sour Crude Oil
MSW	Canadian Light Sweet
NEB	Canadian National Energy Board
NIT	Nova Inventory Transfer
NYMEX	New York Mercantile Exchange
OECD	Organization of Economic Cooperation and Development
OPEC	Organization of Petroleum Exporting Countries
PADD	Petroleum Administration Defense District
USGC	US Gulf Coast
USWC	US West Coast
WCS	Western Canada Select Crude Oil
WTI	West Texas Intermediate
WTS	West Texas Sour

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