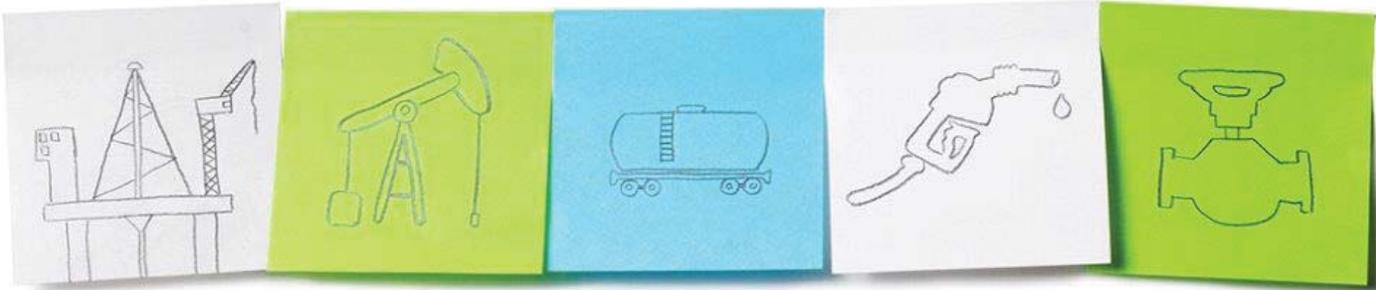


# Price forecast December 31, 2014





# Canadian domestic price forecast

## Forecast commentary

Andrew Botterill

Senior Manager, Resource Evaluation & Advisory

## What a difference a quarter makes

*"The measure of intelligence is the ability to change."  
- Albert Einstein*

The fourth quarter of 2014 will be discussed for some time. Reading our commentaries for the past year, our team spoke at length about the soft futures market, and our expectation that prices would slide on the oil side of the ledger. While our forecasting predicted a drop in the next two years, we did not foresee the reduction to be so rapid or dramatic. We could talk at length about weaker forecasts on international demand from China and India, or Saudi Arabia's positioning to compete against higher cost-per-barrel North American crude oil, but when we drill down to basics, this was all precipitated by massive tight oil drilling activity in North America. EIA rig counts have long shown a massive number oil rigs drilling in North America, resulting in a glut of oil that has caused a remarkable shift in the supply-demand cycle of North American and international benchmark crudes.

This may sound slightly familiar. Ralph Glass (a former author of the price forecast for AJM Petroleum Consultants and Deloitte) issued a warning following the dramatic natural gas price correction in 2008/2009. In April 2010, Ralph warned "of a similar fate for Canadian domestic crude oil prices if Canada does not begin actively pursuing international markets."

Our forecast for December 31, 2014, reflects the recent steep reduction in short term oil pricing, as well as a reduced long term real price of \$80/bbl as we have seen a discount in long term confidences. The escalation of price up to \$80/bbl is expected to be a slow march over a number of years. When reviewing recent data, we could not help but draw analogs to the shale gas bust of 2008/2009, and our new price forecast reflects what we foresee as a slow recovery as the industry attempts to reconcile the new market dynamics.

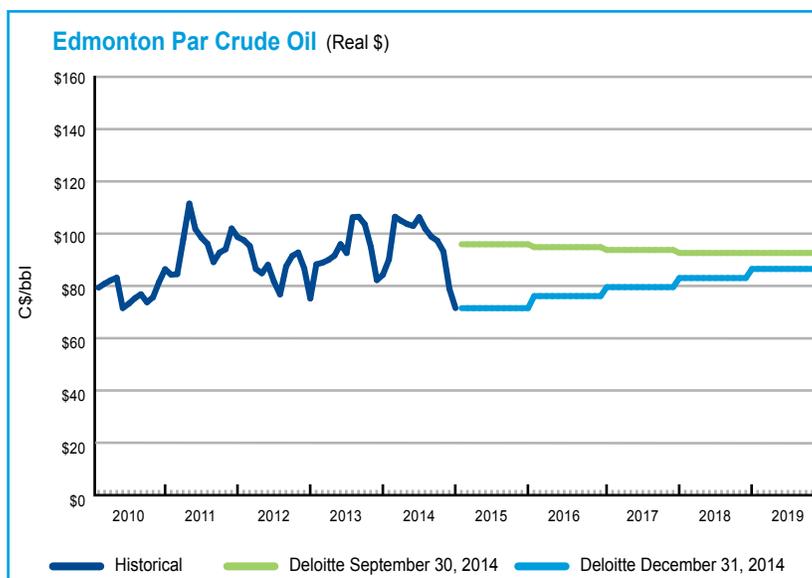
Natural gas was a positive story from 2014 with an overall price that averaged \$4.47/Mcf USD at Henry Hub, strong when compared to the last few years. Natural gas producers, after many years of tough battles on economics, are seeing the benefits of strong operating cost management. While gas prices softened in the fourth quarter of this year, our forecast for 2015 still supports reasonable economics on many of the key natural gas plays in North America. We expect this reasonably stable gas price will drive increased mergers and acquisitions activity in natural gas in coming years. Buyer and seller expectations have narrowed, so we expect more gas deals will successfully close, whereas the recent shift in oil prices will make oil deals tougher to complete.

As we have witnessed in the past year, a lower Canadian dollar has helped prop up Canadian producer cashflows. With the U.S. dollar strengthening further through the most recent volatility, the exchange rate continues to be good news for Canadian oil and gas sales.

## Crude oil price and market demand forecast

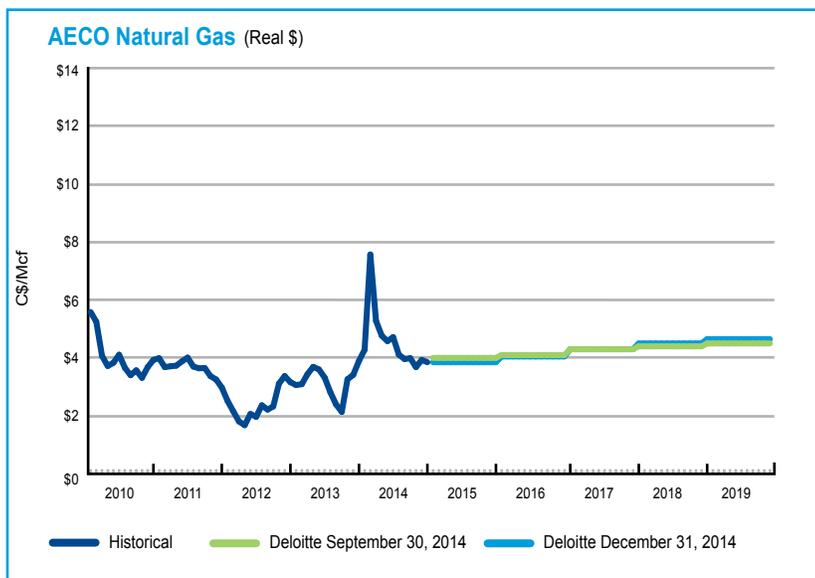
### ► Forecast comments

- On average, the differential between WTI and Edmonton Par has been around \$6/bbl in the first half of 2014, due to Canadian volumes of oil being backed out from the U.S. market. We have forecast this differential to be \$6/bbl in 2015, before gradually returning to the long term historical average of \$2/bbl by 2019, 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) | Bow River Oil Hardisty, AB (25 Deg. API) | Heavy Oil Hardisty, AB (12 Deg. API) | Cost inflation Rate | CAD to USD exchange Rate |
|-------------------|-------------------------------|-------------------------------|---|---|--|--------------------------------------|---------------------|--------------------------|
|                   | US\$/bbl Real                 | US\$/bbl Current              | C\$/bbl Real                            | C\$/bbl Current                         | C\$/bbl Current                          | C\$/bbl Current                      |                     |                          |
| <b>Historical</b> |                               |                               |   |   |  |                                      |                     |                          |
| 2011              | \$100.18                      | \$94.88                       | \$100.88                                | \$95.54                                 | \$78.42                                  | \$69.60                              | 0.029               | 1.012                    |
| 2012              | \$96.47                       | \$94.11                       | \$88.74                                 | \$86.57                                 | \$74.41                                  | \$64.07                              | 0.015               | 1.001                    |
| 2013              | \$98.84                       | \$97.91                       | \$94.25                                 | \$93.36                                 | \$76.29                                  | \$65.49                              | 0.009               | 0.972                    |
| <b>2014</b>       |                               |                               |   |   |  |                                      |                     |                          |
| 12 Months H       | \$93.90                       | \$93.90                       | \$95.95                                 | \$95.95                                 | \$81.99                                  | \$73.73                              | 0.020               | 0.907                    |
| 0 Months F        | \$0.00                        | \$0.00                        | \$0.00                                  | \$0.00                                  | \$0.00                                   | \$0.00                               | 0.000               | 0.000                    |
| Avg.              | \$93.90                       | \$93.90                       | \$95.95                                 | \$95.95                                 | \$81.99                                  | \$73.73                              | -                   | 0.907                    |
| <b>Forecast</b>   |                               |                               |   |   |  |                                      |                     |                          |
| 2015              | \$67.00                       | \$67.00                       | \$70.95                                 | \$70.95                                 | \$56.45                                  | \$46.95                              | 0.000               | 0.860                    |
| 2016              | \$70.00                       | \$71.40                       | \$75.60                                 | \$77.10                                 | \$62.30                                  | \$52.65                              | 0.020               | 0.860                    |
| 2017              | \$72.00                       | \$74.90                       | \$79.05                                 | \$82.25                                 | \$67.15                                  | \$57.25                              | 0.020               | 0.860                    |
| 2018              | \$74.00                       | \$78.55                       | \$82.55                                 | \$87.60                                 | \$72.20                                  | \$62.15                              | 0.020               | 0.860                    |
| 2019              | \$76.00                       | \$82.25                       | \$86.05                                 | \$93.15                                 | \$77.45                                  | \$67.15                              | 0.020               | 0.860                    |
| 2020              | \$78.00                       | \$86.10                       | \$88.35                                 | \$97.55                                 | \$81.55                                  | \$71.05                              | 0.020               | 0.860                    |
| 2021              | \$80.00                       | \$90.10                       | \$90.70                                 | \$102.15                                | \$85.80                                  | \$75.10                              | 0.020               | 0.860                    |
| 2022              | \$80.00                       | \$91.90                       | \$90.70                                 | \$104.20                                | \$87.55                                  | \$76.60                              | 0.020               | 0.860                    |
| 2023              | \$80.00                       | \$93.75                       | \$90.70                                 | \$106.25                                | \$89.30                                  | \$78.15                              | 0.020               | 0.860                    |

## 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 contrast to other forecasts in the industry, Deloitte's long-term views consider two more years of growth in terms of real dollars.

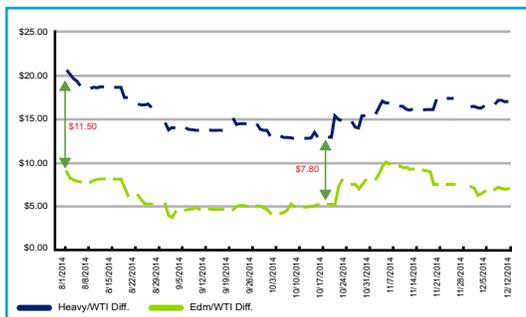
| Year              | AB Ref.<br>Avg. Price | AB AECO<br>Avg. Price | AB AECO<br>Avg. Price | BC Direct<br>Station 2<br>Sales | NYMEX<br>Henry Hub | NYMEX<br>Henry Hub |
|-------------------|-----------------------|-----------------------|-----------------------|---------------------------------|--------------------|--------------------|
|                   | C\$/Mcf               | C\$/Mcf               | C\$/Mcf               | C\$/Mcf                         | US\$/Mcf           | US\$/Mcf           |
|                   | Current               | Real                  | Current               | Current                         | Real               | Current            |
| <b>Historical</b> |                       |                       |                       |                                 |                    |                    |
| 2011              | \$3.46                | \$3.83                | \$3.63                | \$3.34                          | \$4.22             | \$4.00             |
| 2012              | \$2.25                | \$2.45                | \$2.39                | \$2.29                          | \$2.82             | \$2.75             |
| 2013              | \$2.98                | \$3.20                | \$3.17                | \$3.08                          | \$3.77             | \$3.73             |
| <b>2014</b>       |                       |                       |                       |                                 |                    |                    |
| 12 Months H       | \$4.26                | \$4.56                | \$4.56                | \$4.39                          | \$4.41             | \$4.41             |
| 0 Months F        | \$0.00                | \$0.00                | \$0.00                | \$0.00                          | \$0.00             | \$0.00             |
| Avg.              | \$4.26                | \$4.56                | \$4.56                | \$4.39                          | \$4.41             | \$4.41             |
| <b>Forecast</b>   |                       |                       |                       |                                 |                    |                    |
| 2015              | \$3.65                | \$3.85                | \$3.85                | \$3.75                          | \$3.70             | \$3.70             |
| 2016              | \$3.95                | \$4.05                | \$4.15                | \$4.05                          | \$3.90             | \$4.00             |
| 2017              | \$4.25                | \$4.30                | \$4.45                | \$4.35                          | \$4.10             | \$4.25             |
| 2018              | \$4.55                | \$4.50                | \$4.80                | \$4.65                          | \$4.25             | \$4.50             |
| 2019              | \$4.80                | \$4.65                | \$5.05                | \$4.95                          | \$4.40             | \$4.75             |
| 2020              | \$5.15                | \$4.85                | \$5.35                | \$5.25                          | \$4.55             | \$5.00             |
| 2021              | \$5.40                | \$5.00                | \$5.65                | \$5.50                          | \$4.70             | \$5.30             |
| 2022              | \$5.65                | \$5.10                | \$5.85                | \$5.75                          | \$4.80             | \$5.50             |
| 2023              | \$6.00                | \$5.30                | \$6.20                | \$6.10                          | \$4.95             | \$5.80             |

# Oil differentials

## What is the new normal?

Daily scrutiny of the oil futures market can result in great excitement or depression over the slightest movement in price. Recently, West Texas Intermediate (WTI) oil prices have not excited anyone except customers at the pump. The bright spot in the market was a positive short term trend in the heavy oil differential when compared to WTI. We saw a steady decrease in heavy oil differentials to \$13/bbl USD in late October from \$20/bbl USD in August. Over the same time period, the difference between that differential and the WTI to Edmonton differential narrowed to \$7.8/bbl from \$11.5/bbl, see chart below.

Figure 1: Oil futures differentials (USD)



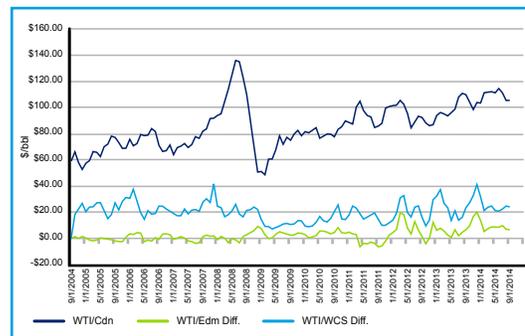
Source: First Energy, Front Month Futures

This trend favoured companies focusing on heavy oil production. Given that the increase in oil production in the North American market has been primarily from light crude – from plays such as the Bakken in North Dakota, Niobrara in the Midwest, and Eagle Ford in Texas – this does not come as a surprise. Heavy oil refineries have maintained their demand for lower quality crudes.

Our optimism faded between late October and November, however, as the heavy differentials increased again, surpassing the \$15/bbl USD mark, and in late November, the Edmonton to heavy differential widened to more than \$-10/bbl. It became obvious the decreases were a short term trend and not a long term one.

While short term trends have not materialized with great certainty in the past decade, we have identified some lingering longer term trends.

Figure 2: Oil Differentials, ten year trend



\*Historical data compiled for WTI, Edmonton Par, and Hardisty Heavy

- 1) Historically, the Edmonton to WTI differential was close to \$0/bbl and sometimes as high as \$5/bbl CAD, but since 2012 the differential has fluctuated between \$5/bbl and \$10/bbl CAD, rarely dipping near the \$0/bbl mark. This trend has lingered due to massive light oil production in the U.S. and Canada, and decreasing exports from Canada into the U.S. The fundamental disparity between Edmonton and WTI is not something we predict changing for some time.
- 2) The heavy crude Western Canadian Select benchmark (WCS), when compared to WTI, has historically seen significant fluctuations but these fluctuations do fall into longer term trends. Between 2004 and 2008 the heavy differential hovered between \$20/bbl and \$30/bbl CAD, decreasing to \$10/bbl in 2009. The decrease in this differential was attributed to increased demand and additional heavy oil refining capability in the U.S. However, since that time the differential has fluctuated greatly between \$10/bbl and \$30/bbl CAD. We expect this discount to heavy oil to continue due to market access and competitive pricing for higher value light crudes.

While we were encouraged to see a decrease on the futures market for the heavy to WTI differential, we should note that the trend is on a small scale. A hopeful interpretation of the trend is that a \$15/bbl CAD differential will be the new normal.

Sources: U.S. Energy Information Administration  
Alberta Treasury Board and Finance

# International price forecast

## Crude oil price and market demand forecast

| Year     | Average WTI Spot | Brent Spot (38.3° API with 0.37% sulphur content) | Gulf Coast ASCI | Average OPEC Basket | Nigerian Bonny Light (33.4° API FOB) | Mexico Maya (21.8° API FOB) | Russia Urals (31.7° API FOB) |
|----------|------------------|---|-----------------|---------------------|--------------------------------------|-----------------------------|------------------------------|
|          | US\$/bbl         | US\$/bbl  | US\$/bbl        | US\$/bbl            | US\$/bbl                             | US\$/bbl                    | US\$/bbl                     |
|          | Real             | Real  | Real            | Real                | Real                                 | Real                        | Real                         |
| Forecast |                  |   |                 |                     |                                      |                             |                              |
| 2015     | \$67.00          | \$72.00   | \$63.50         | \$68.50             | \$74.00                              | \$60.00                     | \$70.90                      |
| 2016     | \$70.00          | \$77.00   | \$65.00         | \$73.50             | \$79.00                              | \$65.00                     | \$75.90                      |
| 2017     | \$72.00          | \$82.00   | \$67.00         | \$78.50             | \$84.00                              | \$70.00                     | \$80.90                      |
| 2018     | \$74.00          | \$84.00   | \$69.00         | \$80.50             | \$86.00                              | \$72.00                     | \$82.90                      |
| 2019     | \$76.00          | \$86.00   | \$71.00         | \$82.50             | \$88.00                              | \$74.00                     | \$84.90                      |
| 2020     | \$78.00          | \$88.00   | \$73.00         | \$84.50             | \$90.00                              | \$76.00                     | \$86.90                      |
| 2021     | \$80.00          | \$90.00   | \$75.00         | \$86.50             | \$92.00                              | \$78.00                     | \$88.90                      |
| 2022     | \$80.00          | \$90.00   | \$75.00         | \$86.50             | \$92.00                              | \$78.00                     | \$88.90                      |

### ► Forecast comments

- International crude quality reference points for OPEC Basket, Venezuelan, Nigerian, UAE, Mexican, Chinese, Russian, and Indonesian crudes are now based on Brent in US\$. For the purposes of this forecast Brent is receiving a premium to WTI on the world markets.
- U.S. Gulf coast crudes are also receiving a premium to WTI for the first few years of the forecast then return to normal spreads.
- Current forecasts for other Crude Oil reference points are based on historical trends to the WTI price.
- Brent, United Kingdom crude is based on 38.3°API with 0.37 percent sulphur content. Brent blend is a light sweet North Sea crude oil that serves as an international benchmark grade.
- United States Gulf Coast Argus Sour Crude Index (ASCI) is a blend of offshore Gulf Coast oil from Mars, Poseidon, and Southern Green Canyon.
- OPEC Basket represents the current grouping of crude oil prices from the OPEC member countries.
- Russia Urals 31.7°API is the FOB delivered price to the Mediterranean destinations.

## Natural gas price and market demand forecast

| Year     | USD to GBP Exchange | USD to EUR Exchange | NYMEX Henry Hub | Permian Waha | San Juan Ignacio | Gulf Coast (Onshore) | Louisiana East Texas | Rocky Mtn. Opal | UK NBP   |
|----------|---------------------|---------------------|-----------------|--------------|------------------|----------------------|----------------------|-----------------|----------|
|          | Rate                | Rate                | US\$/Mcf        | US\$/Mcf     | US\$/Mcf         | US\$/Mcf             | US\$/Mcf             | US\$/Mcf        | US\$/Mcf |
|          |                     |                     | Real            | Real         | Real             | Real                 | Real                 | Real            | Real     |
| Forecast |                     |                     |                 |              |                  |                      |                      |                 |          |
| 2015     | 1.550               | 1.250               | \$3.70          | \$3.60       | \$3.55           | \$3.60               | \$3.55               | \$3.60          | \$9.50   |
| 2016     | 1.550               | 1.250               | \$3.90          | \$3.80       | \$3.75           | \$3.80               | \$3.75               | \$3.80          | \$9.90   |
| 2017     | 1.550               | 1.250               | \$4.10          | \$4.00       | \$3.95           | \$4.00               | \$3.95               | \$4.00          | \$10.10  |
| 2018     | 1.550               | 1.250               | \$4.25          | \$4.15       | \$4.10           | \$4.15               | \$4.10               | \$4.15          | \$10.25  |
| 2019     | 1.550               | 1.250               | \$4.40          | \$4.30       | \$4.25           | \$4.30               | \$4.25               | \$4.30          | \$10.40  |
| 2020     | 1.550               | 1.250               | \$4.55          | \$4.45       | \$4.40           | \$4.45               | \$4.40               | \$4.45          | \$10.55  |
| 2021     | 1.550               | 1.250               | \$4.70          | \$4.60       | \$4.55           | \$4.60               | \$4.55               | \$4.60          | \$10.70  |
| 2022     | 1.550               | 1.250               | \$4.80          | \$4.70       | \$4.65           | \$4.70               | \$4.65               | \$4.70          | \$10.80  |

### ► Forecast comments

- The NYMEX price is based on delivery at the Henry Hub in Louisiana, the nexus of 16 intra- and interstate natural gas pipeline systems that draw supplies from the region's prolific gas deposits.
- The NYMEX market trades natural gas futures to the year 2024.
- Expanded world activity has also given cause to provide an estimate for the United Kingdom NBP price.

# Will companies see cut to oil reserves, defer development?

With the recent and dramatic drop in oil prices, companies filing yearend corporate reserve reports should expect decreases in value and reserves. The obvious hits will be to marginal producers that would no longer be economic at the 2015 \$67/bbl forecast oil prices, but we also expect significant reductions in undeveloped reserves. Unconventional tight oil assets often have high development costs incurred to drill and complete wells, which can make them hypersensitive to decreases in oil price.

Many companies have started announcing reductions to their budgets in 2015 and may further adjust these projections with analysts predicting lower free cash flows. This issue isn't felt by just the junior producers looking to raise funds, but we expect it to affect even the largest of major oil producers. Several companies, including ConocoPhillips Canada (December 8), Vermilion Energy (December 8), Canadian Oil Sands (December 4), and Athabasca Oil Corporation (December 3) each announced reductions to their 2015 budgets.

Reuters recently published an article (December 4, 2014) stating \$150 billion in oil and gas projects globally will likely be put on hold next year as the price of oil plunges. Some companies may not have significant reserves booked to these plays to date, but \$80/bbl for light oil (~\$60/bbl for heavy oil) puts a number of projects and their attributed reserves into question. Oil Week Magazine published an article in May 2014 that analyzed major plays in North America and determined break-even prices for each. For existing oil sands projects in Alberta (mining and in-situ) the break-even price was between \$60-\$65/bbl. Recent price drops put averages in the break-even price zone.

While it may seem this phenomenon will mostly affect oil-weighted companies, the price of condensate moves closely with oil, and therefore it too has seen tough times. Other natural gas liquids, such as propane, butane, and ethane, have also all seen decreases in received prices over the last few months. Gas-weighted companies that rely on liquids to make their projects economic may see their undeveloped assets become marginal. Ultimately this affects the profitability of producing companies and their ability to keep their reserves portfolio on the books.

With the volatility over the last few weeks, the first few months of 2015 are shaping up to be very interesting. Deloitte will continue working closely clients to ensure that the impact of the changing markets on their specific asset base is understood and managed, maximizing future value by focusing on appropriate development plans.

Sources: Daily Oil Bulletin  
U.S. Energy Information Administration



# Global trends

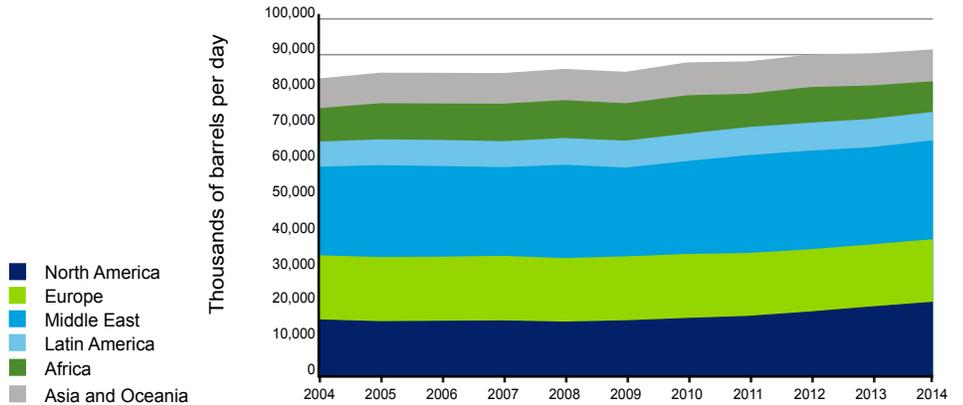
## Oil

Overall, world oil production has steadily inclined since 2011, with most of the growth in North America. This increase is mainly from the tight oil formations such as the Bakken in North Dakota, the Niobrara in the mid-western states, and the Eagle Ford in Texas. Other regions have seen steady production with the exception of a small decline from Africa production.

Central and South America have increased their oil reserves since 2010, but leveled in the past year. Central and South America still account for a small percentage of the world oil reserves, with the majority still in the Middle East.

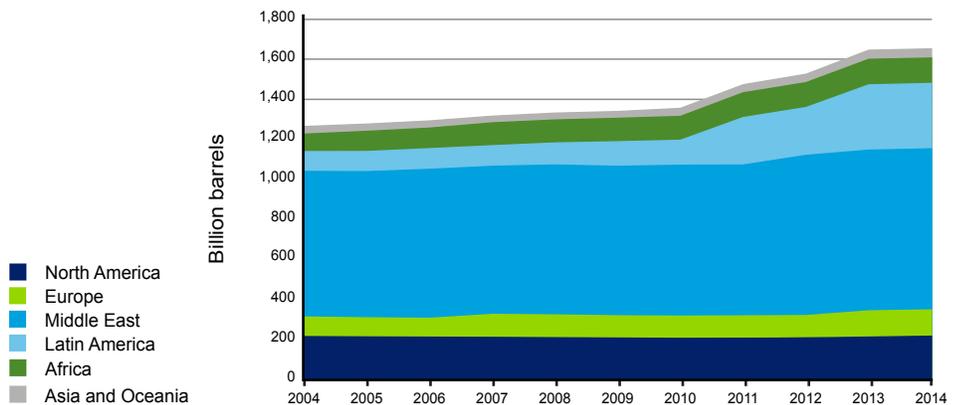
Only three regions produce more oil than they consume -- Middle East, Africa and, Central and South America -- while Europe, North America and, Asia and Oceania consume more than they produce. The major shift in the last few years has been North America moving closer to oil independence, with increased production, and Asia and Oceania consuming more oil, moving into a further oil trade deficit.

### World oil production



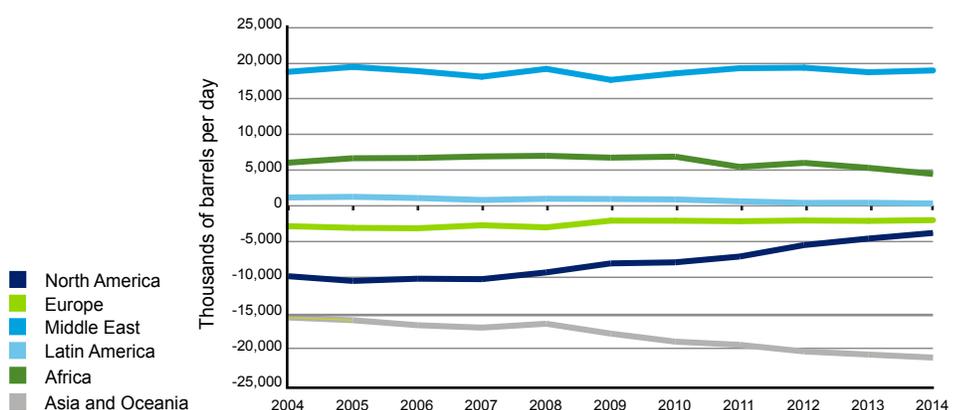
Source: U.S. Energy Information Administration, International Energy Statistics, Petroleum, Production

### World oil reserves



Source: U.S. Energy Information Administration, International Energy Statistics, Petroleum, Reserves

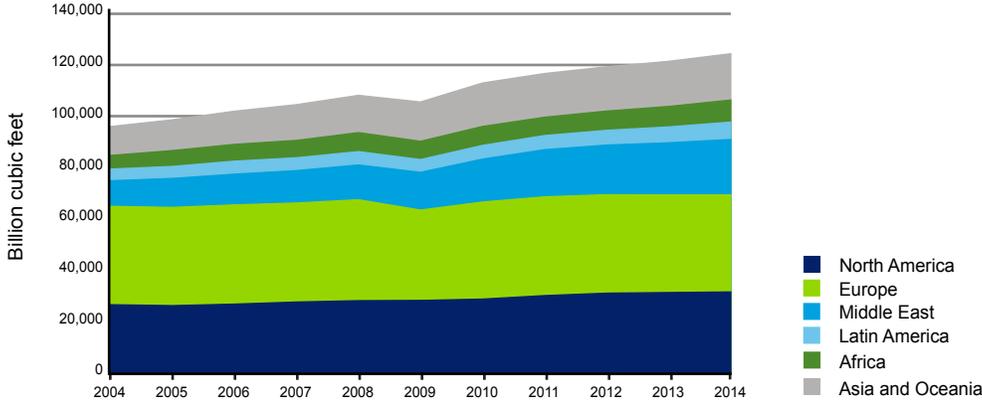
### World net oil (production minus consumption)



Source: U.S. Energy Information Administration, International Energy Statistics, Petroleum

# Gas

## World gas production



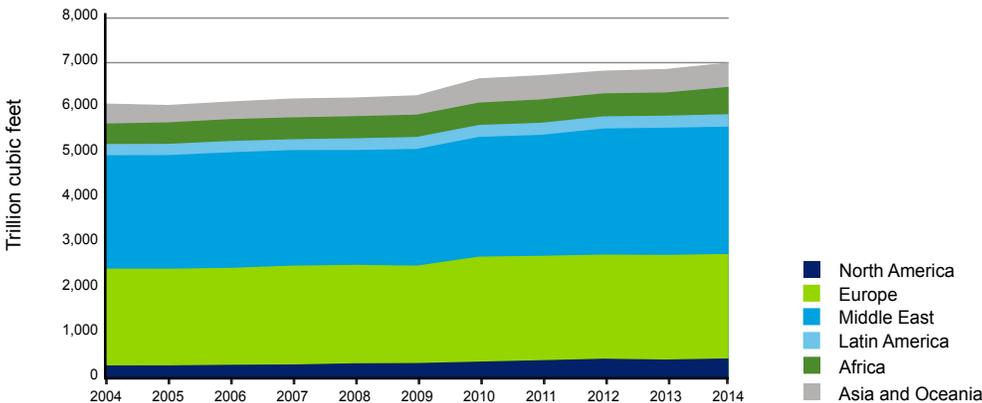
Source: U.S. Energy Information Administration, International Energy Statistics, Natural Gas, Production

World gas production has also increased year over year since 2009, with the largest production growth in the Middle East.

World gas reserves are almost entirely in the Middle East and Europe, with Middle East reserves increasing since 2009.

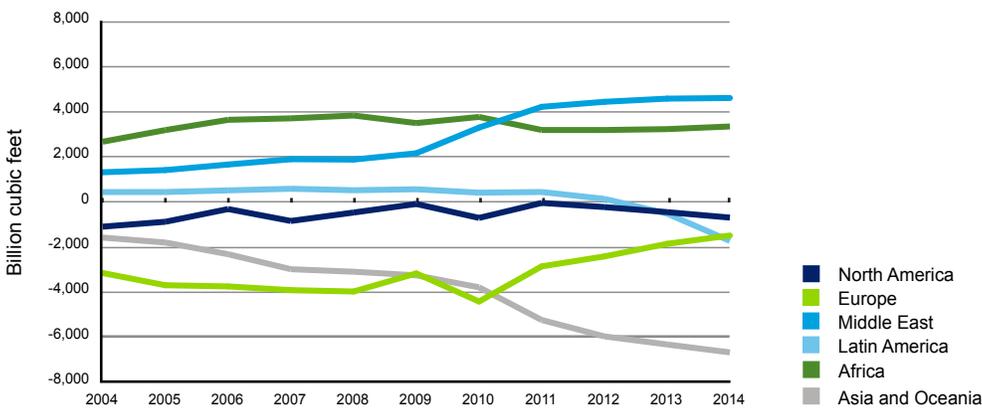
Natural gas consumption has shifted significantly in 2014. Central and South America moved from self-sufficiency in 2012 to now consuming nearly 2,000 billion cubic feet more than they produce. Asia and Oceania have also increased their consumption significantly, while Europe has increased production and the Middle East has decreased consumption.

## World gas reserves



Source: U.S. Energy Information Administration, International Energy Statistics, Natural Gas, Reserves

## World net gas (production minus consumption)



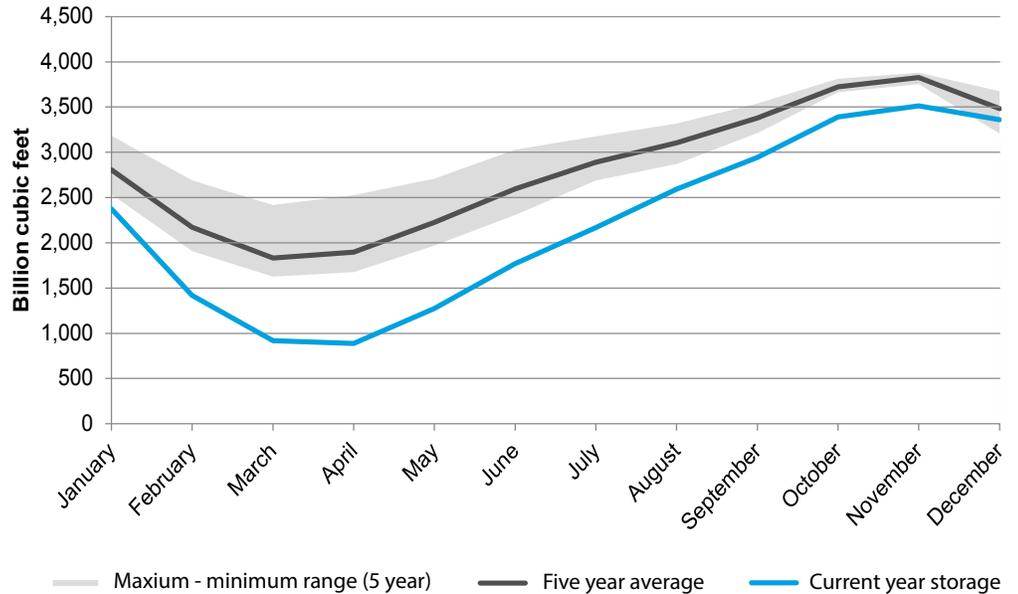
Source: U.S. Energy Information Administration, International Energy Statistics, Natural Gas

# Storage

## U.S. natural gas

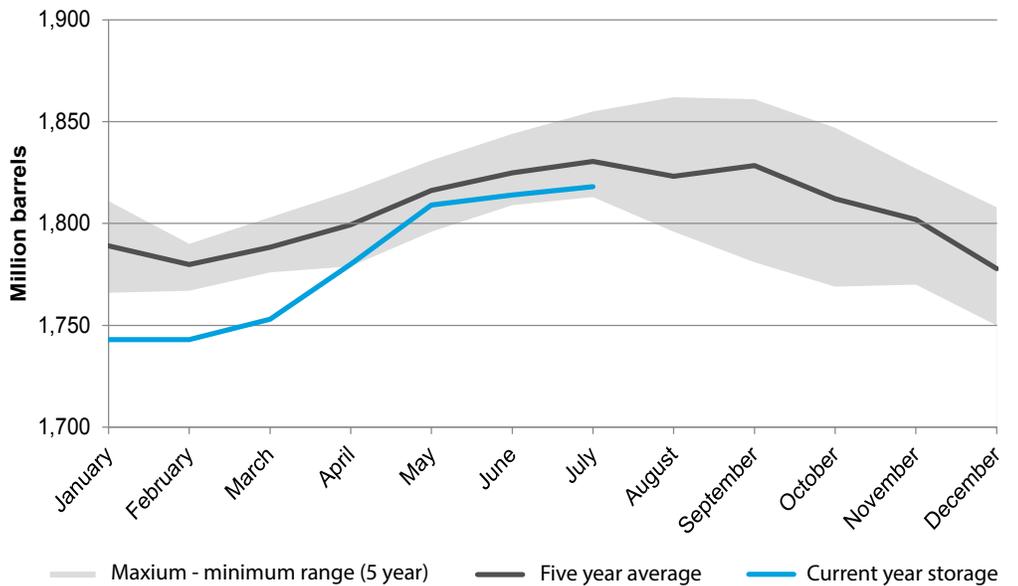
Current U.S. natural gas storage is well below its five-year average due to significant withdrawals during February, March and April 2014. However, this discrepancy is expected to decrease because of an abnormally warm winter, which has already been seen in the first few weeks of December.

U.S. oil storage is currently below its five-year average but is within the historical average. Oil storage does not have a significant impact on the price of oil and is not seen as a major consideration to pricing.



Source: U.S. Energy Information Administration, Weekly Natural Gas Storage Report

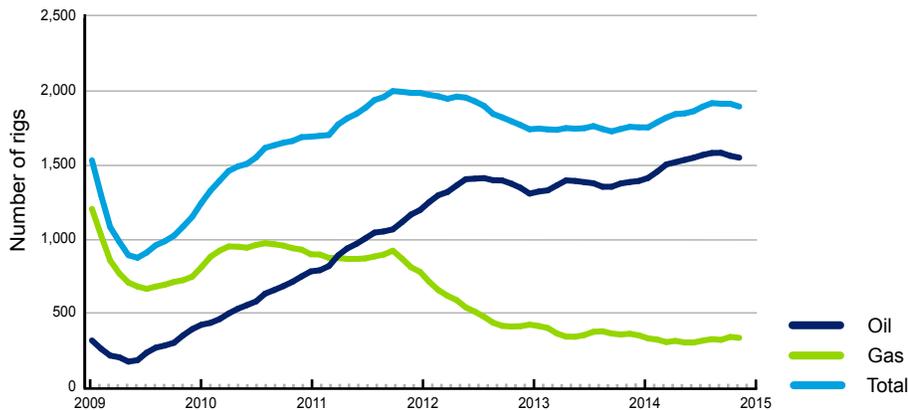
## U.S. oil



Source: U.S. Energy Information Administration, International Energy Statistics, Petroleum, Stocks

# Rig counts

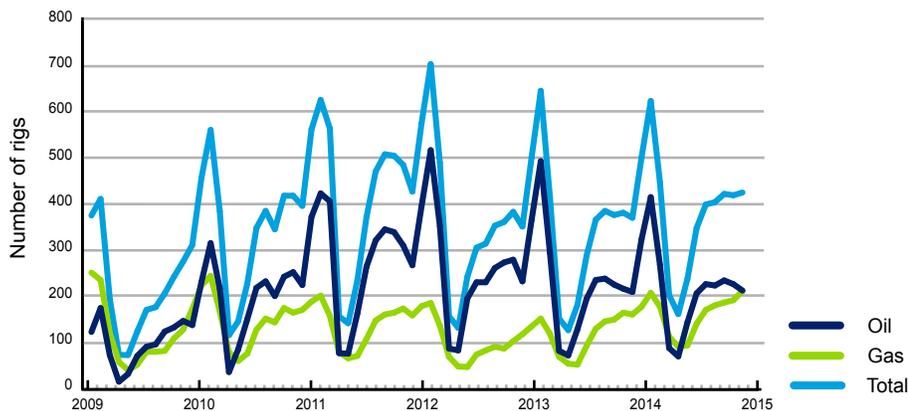
## United States



Source: Baker Hughes Incorporated, International Rig Count

While U.S. gas rig counts were fairly level over the past year, oil rig counts have been on a steady increase. It should be noted that the overall U.S. land well count has increased in 2014 from the previous year on a greater percentage than the number of rigs. This suggests that companies are moving more and more toward pad drilling. It is also worthwhile noting that the new well productivity associated with each rig has increased for the major producing formations in the U.S. The trend toward longer horizontal wells and more fracture stages is the most likely the reason for the increase.

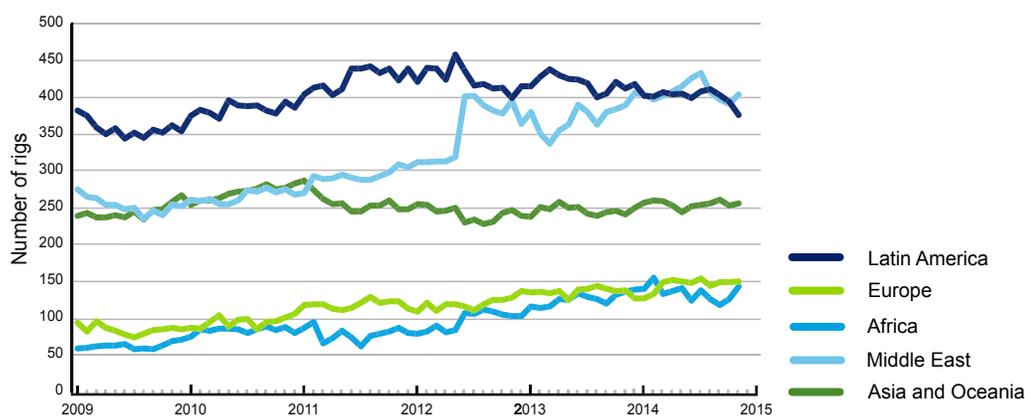
## Canada



Source: Baker Hughes Incorporated, International Rig Count

The Canadian gas rig count has experienced small upticks each year as producers get comfortable with the stable price environment. While the oil rig count has decreased for the last few years and appears to have leveled off in 2014, the sudden decrease in oil price will likely have an impact on the Q4 2014 and into 2015.

## International



Source: Baker Hughes Incorporated, International Rig Count

# Pricing philosophy

Price forecasting takes into account many variables that can influence future prices. Our experience tells us that we must continually review the forecasting tools we use to predict where oil and gas prices are heading. However, one constant influence on oil and gas pricing is the geo-political landscape. This impact is most accurately reflected in the financial industry's futures market for commodities, a main influence when Deloitte creates its price forecast. In other words, Deloitte looks to both the futures and the past when we create our forecasts.

This pricing philosophy challenges conventional thinking. The traditional view is based on the mean-reversion view of commodities presented by economists. Following this model, industry forecasts from 2000 to 2006 reflected a drop in prices over the long term from the current prices of the day – even though the futures market indicated otherwise. While the mean-reversion approach definitely has some merit, history has tended to reflect that the futures market is a more accurate barometer.

## ► Client focused

At Deloitte, we believe it is part of our role to help our clients in both the oil and gas sector and the investment community make better long-term business decisions by providing them with the most accurate and realistic information. We understand that sound analysis of changing trends can influence decisions on mergers, acquisitions, divestitures and investments. One way we ensure our price forecasts are as accurate as possible, given the continuing impact of near-term volatility, is to review our pricing assumptions on a quarterly basis.

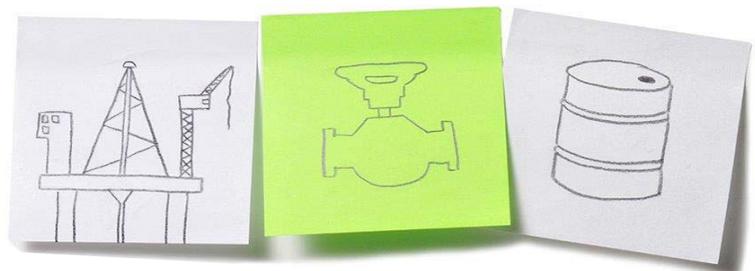
## ► Our process

In preparing the price forecast, Deloitte considers the current monthly trends, the actual price and trends for the year-to-date and the prior year actual prices. The base forecast for both oil and gas is based on New York Mercantile Exchange (NYMEX) futures in U.S. dollars.

Crude oil and natural gas forecasts are based on yearly variable factors, weighted to a higher percent for the current data and then reflect a higher percent 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 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 are also an integral part of the forecast.

These forecasts are Deloitte's best estimate of how the future will look, and while they 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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