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Resource Evaluation & Advisory

Canadian domestic price forecast June 30, 2014

Forecast commentary

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How to build a forecast without seeing spots

"The secret of change is to focus all of your energy, not on fighting the old, but on building the new." - Socrates

In the business of price forecasting, we live with the constant pressure of changes in our industry, and trying to provide an independent and reasonable look forward. The task of looking forward is complex, taking into account a broad range of data and several reference points which, until recently, included Canadian and Alberta spot prices.

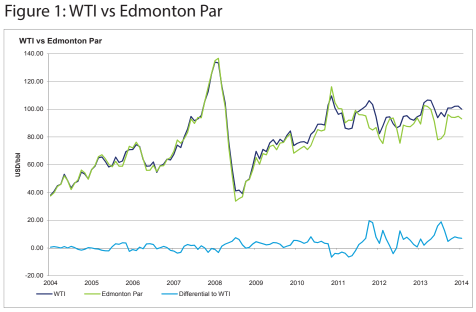
I joke with our clients that, by publishing our forecast and commentary, we risk being "wrong", in print, four times a year. This last quarter we split the difference. Our short-term price forecast proved overly cautious, but in our March 31, 2014, commentary entitled *"Of Polar Vortexes and Disappearing References"*, our prediction that the Edmonton Par price would disappear proved true.

Over the past few years, as companies have elect not to publish the oil and gas prices being paid at the refinery gate, traditionally steadfast Canadian benchmarks such as Cromer Medium, Shell Edmonton Par and others have become extinct. The Edmonton Par reference price is the latest to go. Traditionally comprised of prices published by Shell, Imperial and Suncor (formerly Petro Canada), we noted in March that Shell and Suncor had stopped providing prices and stated "we can't help but wonder if and/or when Imperial will follow suit." As if on cue, Imperial Oil ceased publishing this benchmark on May 1, 2014.

The importance of seeing spots

Our concern was, and still is, how Canada will continue to have a good understanding of daily markets. Canada has always relied heavily on exports to the United States. Therefore, it's very helpful to understand how Canadian oil and gas prices compare to their U.S. counterparts. The relationship between WTI and Edmonton oil prices can fluctuate greatly (see years 2011 through 2014 in Figure 1). Knowing when volumes are trading at a premium or discount to the U.S., and understanding what economic drivers are affecting this relationship, is vital for Canadian producers, investors and governments trying to make decisions that affect our industry and economy.

Figure 1: WTI vs Edmonton Par



At a time when Canada is looking to increase natural gas (through LNG) and oil export volumes to markets other than the U.S., the shift in reference pricing adds more complexity to how these volumes will be traded. As we expect to see alternative market stressors and commodity movements due to increased exports, it is unfortunate that we are losing some of the market barometers upon which we've come to rely.

A spot-free alternative

Our pricing team has been working to resolve the issue of disappearing Canadian benchmarks and how to provide the same level of transparency and accountability going forward. Having daily Edmonton Par and WTI spot prices provided a great reference for all or our industry to utilize. We had hoped that the Government of Alberta, when publishing "Alberta Par" reference prices, would continue to provide data to support this cause. Unfortunately, the Alberta Government recently released this statement:

> "Effective August 2014 production month, the oil par price calculation will replace benchmark prices based on postings with benchmark prices based on Alberta market prices available through other sources such as online trading platforms."

To paraphrase, even the province has had to rethink its royalty calculation processes. This statement implies they have come to a conclusion that is similar to ours. There is daily information available that compares WTI and Edmonton (via a differential) for futures volumes traded for the coming month. Instead of relying on daily spot relationships, our new Edmonton Par forecast now considers the near-term futures market, and how it reflects the differentials between these reference points in the next month. This is not ideal, but it should provide industry with a Canada-U.S. pricing relationship that can be trusted.

This method does present a challenge for our clients who are SEC filers. SEC regulations ask that all reserves be forecast on flat pricing that is based on the first day of the twelve previous months. Since there will be no daily Edmonton Par spot price to reference, we will be forced to use a futures-based differential to calculate this Canadian reference price.

Other forecast considerations

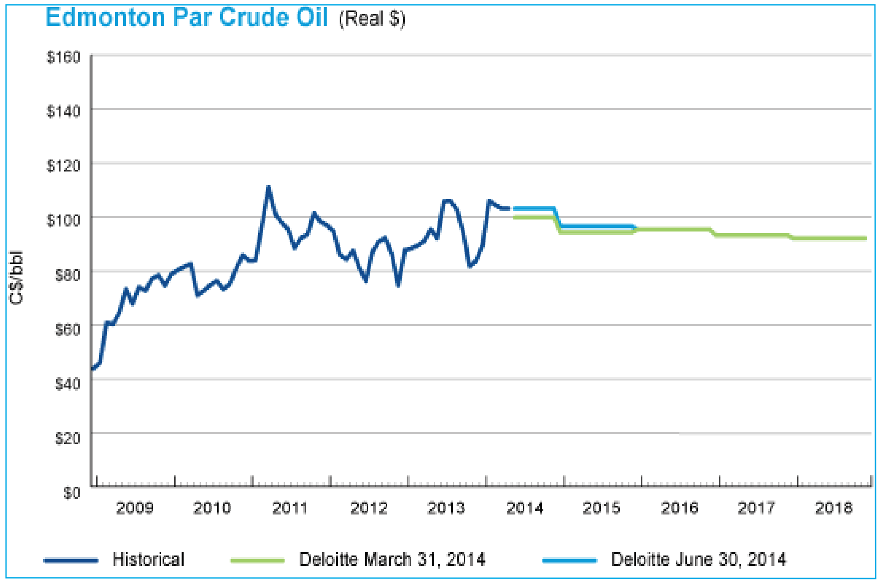
Disappearing benchmarks aside, spring 2014 has seen better than expected natural gas and oil pricing. Last quarter, we forecast a slight easing in prices as we expected commodities to continue to fall off winter highs; instead, April through June saw strengthening prices as the U.S. works to refill their massive storage volumes and strong demand.

This has given Deloitte increased confidence in a stronger second half of 2014 on both natural gas and oil, and is reflected in this most recent price forecast. While the Canadian exchange rate has eased to as high as $0.93 USD, futures for Canadian currency still sit at lower levels. For this reason, we have not changed our forecast up from $0.90 USD.

Crude oil price and market demand forecast

Forecast comments

- On average, the differential between WTI and Edmonton Par has been around $7/bbl in the first quarter of 2014, due to Canadian volumes of oil being backed out from the U.S. market. We have forecast this differential to be $7/bbl for 2014 and $6/bbl in 2015.
- In 2016, 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.

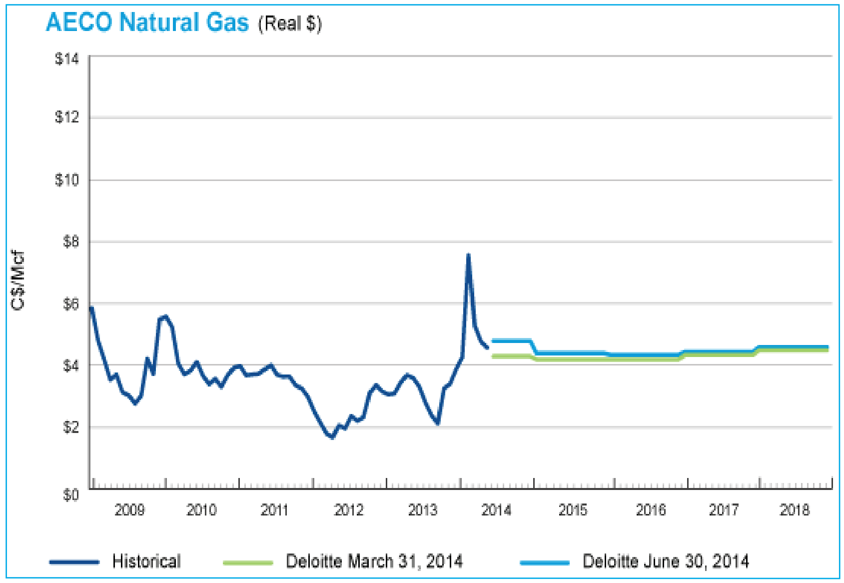


Year	WTI Cushing, OK (40 Deg. API)	WTI Cushing, OK (40 Deg. API)	Canadian Par Edmonton, AB (40 Deg. API)	Canadian Par Edmonton, AB (40 Deg. API)	Bow River Oil Hardisty, AB (25 Deg. API)	Heavy Oil Hardisty, AB (12 Deg. API)	Cost inflation	CAD to USD exchange
	US$/bbl	US$/bbl	C$/bbl	C$/bbl	C$/bbl	C$/bbl		
	Real	Current	Real	Current	Current	Current	Rate	Rate
Historical								
2011	$100.18	$94.88	$100.87	$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	$94.24	$93.36	$76.29	$65.49	0.009	0.972
2014								
6 Months H	$100.08	$100.08	$101.76	$101.76	$86.92	$77.52	0.017	0.908
6 Months F	$100.00	$100.00	$103.35	$103.35	$88.35	$78.35	0.000	0.900
Avg.	$100.04	$100.04	$102.56	$102.56	$87.63	$77.93	-	0.904
Forecast								
2014	$100.00	$100.00	$103.35	$103.35	$88.35	$78.35	0.000	0.900
2015	$93.00	$94.85	$96.65	$98.60	$83.30	$73.10	0.020	0.900
2016	$88.00	$91.55	$95.55	$99.40	$83.80	$73.40	0.020	0.900
2017	$86.00	$91.25	$93.35	$99.05	$83.15	$72.55	0.020	0.900
2018	$85.00	$92.00	$92.20	$99.80	$83.55	$72.75	0.020	0.900
2019	$85.00	$93.85	$92.20	$101.80	$85.25	$74.20	0.020	0.900
2020	$85.00	$95.70	$92.20	$103.85	$86.95	$75.70	0.020	0.900
2021	$85.00	$97.65	$92.20	$105.90	$88.70	$77.20	0.020	0.900
2022	$85.00	$99.60	$92.20	$108.05	$90.45	$78.75	0.020	0.900

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 2014 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	NYMEX	NYMEX
	C$/Mcf	C$/Mcf	C$/Mcf	C$/Mcf	US$/Mcf	US$/Mcf
	Current	Real	Current	Current	Real	Current
Historical						
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	$3.76	$3.73
2014						
6 Months H	$4.65	$5.21	$5.21	$5.02	$4.91	$4.91
6 Months F	$4.50	$4.80	$4.80	$4.65	$4.60	$4.60
Avg.	$4.57	$5.01	$5.01	$4.83	$4.76	$4.76
Forecast						
2014	$4.50	$4.80	$4.80	$4.65	$4.60	$4.60
2015	$4.20	$4.40	$4.50	$4.35	$4.35	$4.45
2016	$4.20	$4.35	$4.55	$4.35	$4.30	$4.45
2017	$4.40	$4.45	$4.70	$4.55	$4.40	$4.65
2018	$4.65	$4.60	$5.00	$4.80	$4.55	$4.95
2019	$5.00	$4.85	$5.35	$5.20	$4.75	$5.25
2020	$5.35	$5.05	$5.70	$5.50	$4.95	$5.55
2021	$5.65	$5.20	$5.95	$5.80	$5.10	$5.85
2022	$6.05	$5.45	$6.40	$6.20	$5.30	$6.20

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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