Heavy Oil Differentials and Implications for Canadian Issuers

Crude oil is widely quoted off of benchmarks, such as "Brent" or "West Texas Intermediate" (hereafter "WTI"). These benchmarks are essentially groupings of crude oils with similar characteristics, mainly quality and location. Brent is related to the North Sea region of the U.K. and Norway and provides a reliable reference for global oil prices. WTI has become a widely-quoted, global benchmark because it represents the most heavily traded oil futures contract in the world.

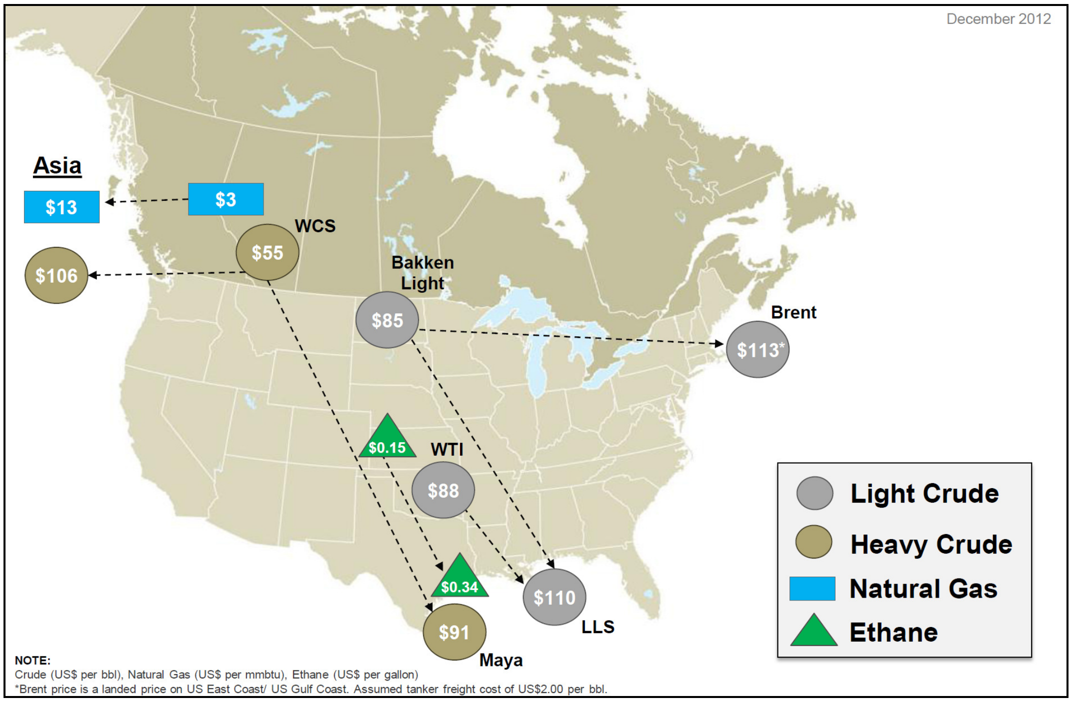
Despite this unique position in the financial markets, WTI is perhaps not the best benchmark for global oil prices because of its landlocked location. WTI has traded at significant discounts to Brent over the past two years as a result of limited pipeline capacity to the coast and rising onshore production volumes in the U.S (refer to Shale: An End to High Oil Prices?)

An In-Depth Look at the Shale Oil Revolution in North America can be found in the **Global Insight - 2013 Outlook**. This gap to Brent is expected to narrow as new pipeline capacity comes on-stream.

RBC Wealth Management

In Canada, the key benchmarks include: Edmonton Par, Western Canada Select, and Bow River. Edmonton Par is a light crude benchmark, while Western Canada Select and Bow River are heavy oil benchmarks.

ENERGY PRICES BY GEOGRAPHY

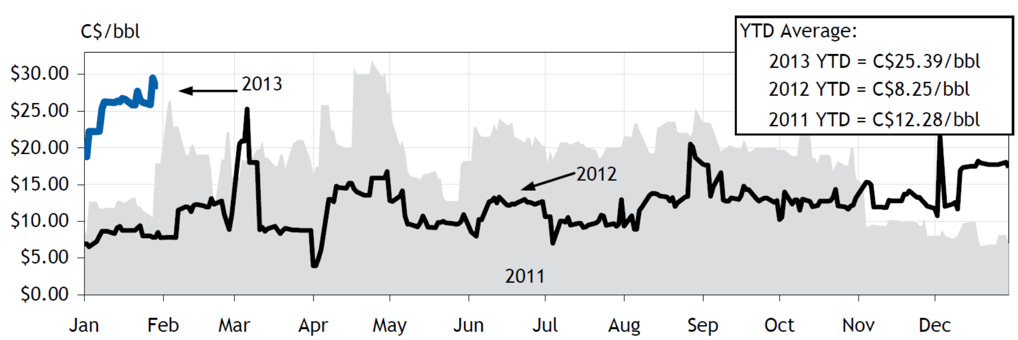


Source: Enbridge Investment Community Presentation (January 2013)

CANADIAN HEAVY OIL DIFFERENTIALS

In late 2012 and early 2013, a number of factors contributed to low heavy oil prices (or wide heavy oil differentials to WTI). Two large heavy oil refineries (BP Whiting and Marathon Detroit) were offline for upgrades. Pipeline capacity to the U.S. has been constrained. Finally, Imperial Oil has been ramping up its 110,000 bpd Kearl oil sands project. These influences had caused heavy oil prices to weaken as illustrated in the chart below (the chart shows the discount at which heavy oil trades to regular Canadian light oil).

EDMONTON PAR CANADIAN LIGHT OIL - BOW RIVER HEAVY OIL

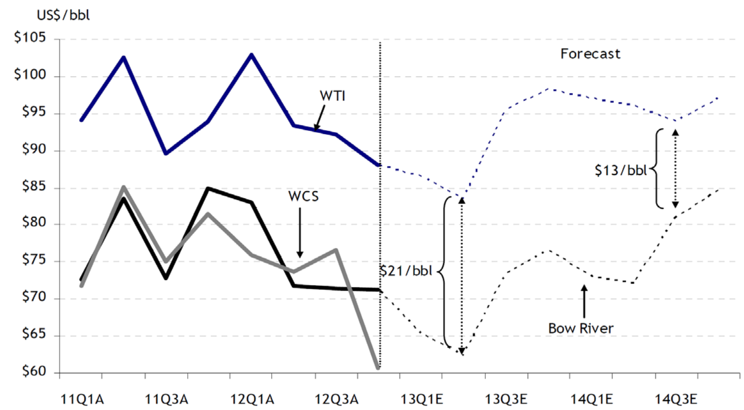


Source: Bloomberg, Bow River Heavy Oil (24.9 API gravity, 2.48% sulpur)

RBC CM believes Canadian heavy oil pricing conditions are likely to remain sloppy during the first-half of 2013, but a line of sight toward improved Bow River and WCS realizations is emerging as we move into the summer timeframe.

This thesis is predicated upon an improving heavy oil supply-demand balance in the mid-continent which is catalyzed by the Whiting refinery expansion and reinforced by the Flanagan South pipeline in 2014. Flanagan and Seaway should enable Canadian heavy crude streams to increasingly penetrate the Gulf Coast – and capture Maya-linked pricing.

CANADIAN HEAVY OIL DIFFERENTIALS: BOW RIVER AND WCS



Bow River Heavy Oil (24.9° API gravity, 2.48% sulphur)
Western Canadian Select (20.5° API gravity, 3.5% sulphur)
Source: Bloomberg; RBC Capital Markets estimates

Companies that have a significant amount of production weighted towards heavy oil are negatively impacted by wide heavy oil differentials. With their product selling for lower prices, cash flows are reduced, which in turn can lead to less spending on growth capex or financings to bridge the temporary lull in prices. With cash flows constrained and uncertainty as to when heavy oil differentials may normalize, heavy oil-weighted stocks have experienced valuation compression in recent months. Several high-quality names have suffered this fate including: Canadian Natural Resources (CNQ), MEG Energy (MEG), and Baytex Energy (BTE).

Pipeline Capacity Relief by Mid-2014 should help WTI-Brent differentials. Bottlenecks in the mid-continent region of the United States have driven a structural wedge between WTI and Brent prices, but Canadian pipeline restrictions have added an entirely new dimension to the mix, particularly in the wake of the Keystone XL delay. Impacted by pipeline bottlenecks in Chicago, Canadian light oil prices are likely to trade at a progressively steeper discount to WTI until mid-2014, when the Flanagan South pipeline is expected to start up.

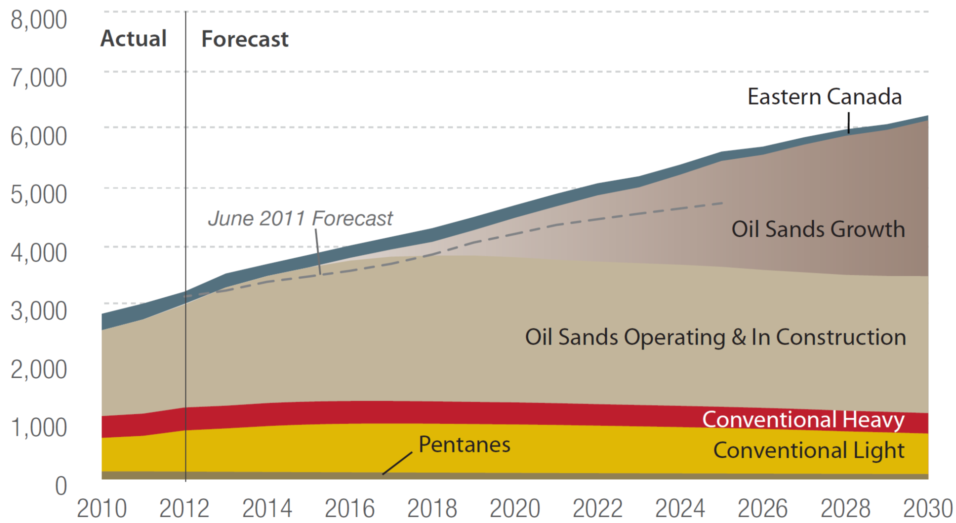
There are a number of projects that should either clear or divert crude away from the Chicago market:

- Early 2013: Enbridge Line 5 Expansion. In early 2013, Enbridge expects to place a 50,000 bbl/d expansion of Line 5 into service.
- Early 2014: Enbridge Line 6B Expansion. The Line 6B (Chicago Sarnia) replacement project would increase capacity by 260,000 bbl/d in early 2014.
- Mid-2014: Enbridge Flanagan South. Enbridge is moving forward with Flanagan South, moving crude from Chicago to Cushing. Initial capacity of the pipeline is 585,000 bbl/d with the ability to expand to 800,000 bbl/d.
- Late 2014-Early 2015: TransCanada Keystone XL. Assuming it receives a Presidential Permit during the first half of 2013, TransCanada will move forward with its 830,000 bbl/d pipeline to transport Alberta and Bakken crude to the Gulf Coast via Cushing.

Growing Canadian production. The Canadian Association of Petroleum Producers forecasts strong oil production growth over the next 30 years. The majority of the oil production growth is expected to be generated from existing and new oil sands projects (see chart on right hand side).

RBC CM believes that over the next five years, Canada's oil sands production could increase by two-thirds to nearly 3.0 – 3.2 million bbl/d.

Canadian Oil Sands and Conventional Production (thousand barrels per day)



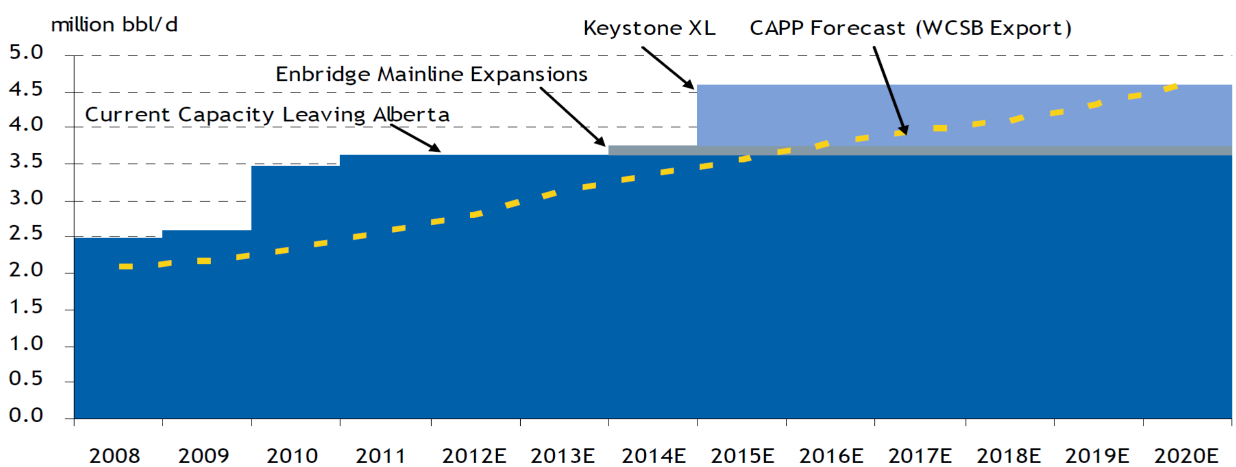
Source: CAPP

By mid-2013, bitumen production of 1.0 million bbl/d is expected to surpass synthetic oil production. A likely scenario for Canada, is that incremental oil sands growth is heavily weighted toward bitumen, or heavy oil once diluted. This crude stream is well suited for the Gulf Coast's extensive thermal coking capacity of some 1.4 million bbl/d and heavy oil imports of 2.0 million bbl/d. As such, pipelines, including Keystone XL, constitute an important linkage leading to improved Canadian heavy oil realizations.

The four major pipeline systems used to export oil outside of Alberta have a combined capacity of ~ 3.7 million barrels per day (see chart below and pipeline details below) and appear insufficient to meet future export requirements without the approval of Keystone XL.

Provided that the Keystone XL pipeline secures a U.S. presidential permit, Canada and the U.S. are poised to become increasingly integrated amid the rising flow of oil sands production into the Gulf Coast. U.S. government approval of Keystone XL would certainly be a positive outcome, but does not constitute a long-term solution for Canadian oil sands producers, according to RBC CM. Indeed, Keystone XL's 830,000 bbl/d of take-away capacity would afford a solution for about three years given the supply profile associated with oil sands growth. RBC CM places a 75% probability that Keystone XL will receive U.S. presidential approval, likely during the first-half of 2013. Under this timeline, Keystone XL could be in place by late 2014 or early 2015. Nonetheless, U.S. approval of Keystone XL is no slam dunk, and should it not be approved, it would likely cause Canadian oil sands producers to rethink expansion plans, timelines and pipeline routes.

Western Canadian Export Pipeline Capacity vs. Production Outlook



Source: Company Reports: RBC Capital Markets

Canada needs pipelines to export oil outside of North America. RBC CM believes if Keystone XL were not approved, the growth envisioned in Canada's oil sands would likely be constrained or deferred. Accordingly, the diversification of export markets beyond the U.S. has moved onto the front burner for Canadian oil producers and policymakers alike. Various pipeline solutions include Northern Gateway and the Trans Mountain Expansion, which are west coast solutions, while the reversal of Line 9 and partial conversion of TransCanada's Mainline are east coast solutions.

Canadian and U.S. Oil Pipelines

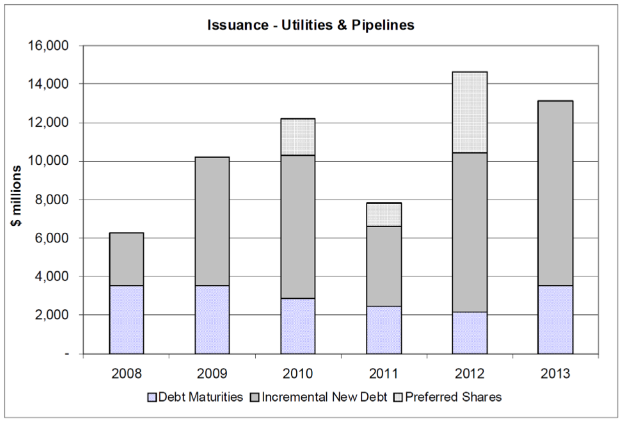
Source: CAPP

- Northern Gateway: 525,000 bbl/d. A decade ago, Enbridge announced the Northern Gateway pipeline project to ship crude oil to the west coast of British Columbia. Northern Gateway is currently in the regulatory hearings phase with an expected decision from the Joint Review Panel (National Energy Board and the Canada Environmental Assessment Agency) by the end of 2013. At the earliest, Gateway could be in-service by 2017.
- Trans Mountain Expansion: 450,000 bbl/d. Kinder Morgan has proposed a 450,000 bbl/d expansion to its existing 300,000 bbl/d Trans Mountain Pipeline which runs from Alberta to British Columbia and Washington. Although the Trans Mountain expansion had been less visible with most of the media attention and opposition directed towards Northern Gateway, with momentum behind the Kinder Morgan project, opposition has become more vocal from environmental groups, First Nations and local politicians.
- Line 9 Reversal: Enbridge's 240,000 bbl/d Line 9 pipeline currently runs from Montreal to Sarnia. In response to the growth in Bakken and western Canadian crude streams, Line 9 is about to be reversed again with an upsized capacity of 300,000 bbl/d.
- Pipeline Growth Should Bring Issuers to Market. Extensive capital spending schedules will drive companies within the utility and pipeline sector to come to market with new issue fixed senior unsecured and preferred share debt. Increased tight oil and shale gas production in North America has prompted pipeline companies to aggressively ramp up infrastructure development to bring the oil and gas products to market.
  - TransCanada – Adding $10 billion in new projects over the next three years.
  - Enbridge – Over $20 billion in potential projects over the next five years.

UTILITIES Company Name	Debt Issued (2012)	Debt Maturities (2013)	Incremental New Debt Estimate (2013)	Total Issuance Expected (2013)
Algonquin Power & Utilities Corp.	150	-	150	**150**
AltaGas Ltd.	550	-	200	**200**
AltaLink L.P.	550	325	700	**1,025**
AltaLink Investments L.P.	200	-	150	**150**
BRP Finance ULC	400	-	300	**300**
Capital Power L.P.	250	-	300	**300**
CU Inc.	900	-	900	**900**
Enbridge Gas Distribution Inc.	-	-	300	**300**
Emera Inc.	-	-	400	**400**
Enersource	-	-	-	**-**
EPCOR Utilities Inc.	300	-	-	**-**
Fortis Inc.	-	-	200	**200**
FortisAlberta Inc.	125	-	100	**100**
FortisBC Inc.	-	-	-	**-**
FortisBC Energy Inc.	-	-	-	**-**
Gaz Metro Inc.	-	150	150	**300**
Hydro One Inc.	1,085	600	800	**1,400**
Newfoundland Power	-	-	-	**-**
Nova Scotia Power Inc.	250	300	100	**400**
Powerstream	200	-	-	**-**
Toronto Hydro Corp.	-	470	300	**770**
TransAlta Corp.	400	300	-	**300**
Union Gas Ltd.	-	-	-	**-**
Westcoast Energy Inc.	250	100	450	**550**
Total Utilities	**5,610**	**2,245**	**5,500**	**7,745**

PIPELINES Company Name	Debt Issued (2012)	Debt Maturities (2013)	Incremental New Debt Estimate (2013)	Total Issuance Expected (2013)
Enbridge Inc.	750	450	450	**900**
Enbridge Income Fund	1,200	-	-	**-**
Enbridge Pipelines Inc.	250	-	400	**400**
Inter Pipeline Fund	400	-	400	**400**
Pembina Pipeline Corp.	450	-	-	**-**
TransCanada Pipelines Ltd.	1,500	850	2,500	**3,350**
Veresen Inc.	350	-	350	**350**
Sub-total: Pipelines	**4,900**	**1,300**	**4,100**	**5,400**
Total: Pipelines & Utilities	**10,510**	**3,545**	**9,600**	**13,145**

Note. Includes C$ and US$ debt.



Source: Company Reports, RBC Capital Markets estimates

Required Disclosures

Explanation of RBC Capital Markets Rating System

An analyst's "sector" is the universe of companies for which the analyst provides research coverage. Accordingly, the rating assigned to a particular stock represents solely the analyst's view of how that stock will perform over the next 12 months relative to the analyst's sector.

Ratings:

Top Pick (TP): Represents best in Outperform category; analyst's best ideas; expected to significantly outperform the sector over 12 months; provides best risk-reward ratio; approximately 10% of analyst's recommendations.

Outperform (O): Expected to materially outperform sector average over 12 months.

Sector Perform (SP): Returns expected to be in line with sector average over 12 months.

Underperform (U): Returns expected to be materially below sector average over 12 months.

Risk Qualifiers (any of the following criteria may be present):

Average Risk (Avg): Volatility and risk expected to be comparable to sector; average revenue and earnings predictability; no significant cash flow/financing concerns over coming 12-24 months; fairly liquid.

Above Average Risk (AA): Volatility and risk expected to be above sector; below average revenue and earnings predictability; may not be suitable for a significant class of individual equity investors; may have negative cash flow; low market cap or float.

Speculative (Spec): Risk consistent with venture capital; low public float; potential balance sheet concerns; risk of being delisted.

Distribution of Ratings, Firmwide

For purposes of disclosing ratings distributions, regulatory rules require member firms to assign all rated stocks to one of three rating categories Buy, Hold/Neutral, or Sell regardless of a firm's own rating categories. Although RBC Capital Markets' stock ratings of Top Pick/Outperform, Sector Perform and Underperform most closely correspond to Buy, Hold/Neutral and Sell, respectively, the meanings are not the same because our ratings are determined on a relative basis (as described above).

Distribution of Ratings

			Investment Banking Serv./Past 12 Mos.	
Rating	Count	Percent	Count	Percent
BUY [TP/O]	788	50.48	285	36.17
HOLD [SP]	701	44.91	181	25.82
SELL [U]	72	4.61	9	12.50

In the event that this is a compendium report (covers six or more subject companies), RBC Dominion Securities may choose to provide specific disclosures for the subject companies by reference. To access current disclosures, clients should send a request to RBC Dominion Securities, Attention: Manager, Portfolio Advisory Group, 155 Wellington Street West, 17th Floor, Toronto, ON M5V 3K7.

Dissemination of Research

RBC Capital Markets endeavours to make all reasonable efforts to provide research simultaneously to all eligible clients. RBC Capital Markets' equity research is posted to our proprietary websites to ensure eligible clients receive coverage initiations and changes in rating, targets and opinions in a timely manner. Additional distribution may be done by the sales personnel via email, fax or regular mail. Clients may also receive our research via third party vendors. Please contact your investment advisor or institutional salesperson for more information regarding RBC Capital Markets research.

The Global Industry Classification Standard ("GICS") was developed by and is the exclusive property and a service mark of MSCI Inc. ("MSCI") and Standard & Poor's Financial Services LLC ("S&P") and is licensed for use by RBC. Neither MSCI, S&P, nor any other party involved in making or compiling the GICS or any GICS classifications makes any express or implied warranties or representations with respect to such standard or classification (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability and fitness for a particular purpose with respect to any of such standard or classification. Without limiting any of the foregoing, in no event shall MSCI, S&P, any of their affiliates or any third party involved in making or compiling the GICS or any GICS classifications have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.

Important Disclosures

Baytex Energy Corp.

Royal Bank of Canada, together with its affiliates, beneficially owns 1 percent or more of a class of common equity securities of Baytex Energy Corporation.

A member company of RBC Capital Markets or one of its affiliates received compensation for investment banking services from Baytex Energy Corporation in the past 12 months.

RBC Capital Markets, LLC makes a market in the securities of Baytex Energy Corporation and may act as principal with regard to sales or purchases of this security.

RBC Dominion Securities Inc. makes a market in the securities of Baytex Energy Corporation and may act as principal with regard to sales or purchases of this security.

RBC Capital Markets has provided Baytex Energy Corporation with investment banking services in the past 12 months.

RBC Capital Markets has provided Baytex Energy Corporation with non-securities services in the past 12 months.

A member company of RBC Capital Markets or one of its affiliates received compensation for products or services other than investment banking services from Baytex Energy Corporation during the past 12 months. During this time, a member company of RBC Capital Markets or one of its affiliates provided non-securities services to Baytex Energy Corporation.

Canadian Natural Resources

A member company of RBC Capital Markets or one of its affiliates received compensation for investment banking services from Canadian Natural Resources Limited in the past 12 months.

RBC Capital Markets, LLC makes a market in the securities of

Canadian Natural Resources Limited and may act as principal with regard to sales or purchases of this security.

RBC Dominion Securities Inc. makes a market in the securities of Canadian Natural Resources Limited and may act as principal with regard to sales or purchases of this security.

RBC Capital Markets is currently providing Canadian Natural Resources Limited with non-securities services.

RBC Capital Markets has provided Canadian Natural Resources Limited with investment banking services in the past 12 months.

RBC Capital Markets has provided Canadian Natural Resources Limited with non-securities services in the past 12 months.

A member company of RBC Capital Markets or one of its affiliates received compensation for products or services other than investment banking services from Canadian Natural Resources Limited during the past 12 months. During this time, a member company of RBC Capital Markets or one of its affiliates provided non-securities services to Canadian Natural Resources Limited.

MEG Energy

A member company of RBC Capital Markets or one of its affiliates received compensation for investment banking services from MEG Energy Corp. in the past 12 months.

A member company of RBC Capital Markets or one of its affiliates expects to receive or intends to seek compensation for investment banking services from MEG Energy Corp. in the next three months.

A member company of RBC Capital Markets or one of its affiliates managed or co-managed a public offering of securities for MEG Energy Corp. in the past 12 months.

RBC Capital Markets is currently providing MEG Energy Corp. with investment banking services.

RBC Capital Markets is currently providing MEG Energy Corp. with non-securities services.

RBC Capital Markets has provided MEG Energy Corp. with investment banking services in the past 12 months.

RBC Capital Markets has provided MEG Energy Corp. with non-securities services in the past 12 months.

A member company of RBC Capital Markets or one of its affiliates received compensation for products or services other than investment banking services from MEG Energy Corp. during the past 12 months. During this time, a member company of RBC Capital Markets or one of its affiliates provided non-securities services to MEG Energy Corp..

RBC Capital Markets Conflicts Disclosures

RBC Capital Markets Policy for Managing Conflicts of Interest in Relation to Investment Research is available from us on request. To access our current policy, clients should refer to https://www.rbccm.com/global/file-414164.pdf or send a request to RBC CM Research Publishing, P.O. Box 50, 200 Bay Street, Royal Bank Plaza, 29th floor, South Tower, Toronto, Ontario M5J 2W7. We reserve the right to amend or supplement this policy at any time.

The author(s) of this report are employed by RBC Dominion Securities Inc., a securities broker-dealer with principal offices located in Toronto, Canada.

The information contained in this report has been compiled by RBC Dominion Securities Inc. ("RBCDS-Canada") from sources believed by it to be reliable, but no representations or warranty, express or implied, is made by RBCDS-Canada or any other person as to it accuracy, completeness or correctness. All opinions and estimates contained in this report constitute RBCDS-Canada's judgment as of the date of this report, are subject to change without notice and are provided in good faith but without legal responsibility. This report is not an offer to sell or a solicitation of an offer to buy any securities. RBCDS-Canada and its affiliates may have an investment banking or other relationship with some of all of the issuers mentioned herein and may trade in any of the securities mentioned herein either for their own account or the accounts of their customers. RBCDS-Canada and its affiliates also may issue options on securities mentioned herein and may trade in options issued by others. Accordingly, RBC-DS Canada or its affiliates may at any time have a long or short position in any such security or option thereon. The securities discussed in this report may not be eligible for sale in some states or in some countries. Neither RBCDS-Canada or any of its affiliates, nor any other person, accepts any liability whatsoever for any direct or consequential loss arising from any use of this report or the information contained herein. Any U.S. recipient of this report that is not a registered broker-dealer or a bank acting in a broker or dealer capacity and that wishes further information regarding, or to effect any transaction in, any of the securities discussed in this report, should contact and place orders with RBC Capital Markets Corporation, a U. S. registered broker-dealer affiliate of RBC-DS Canada, at (212) 361-2619, which without in any way limiting the foregoing, accepts responsibility (within the meaning, and for the purposes, of Rule 15a-6, under the U. S. Securities Exchange Act of 1934), for this report and its dissemination in the United States. This report may not be reproduced, distributed or published by any recipient hereof for any purpose.