

Day 14 - September 26, 2012 - Edmonton

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- Link to the day's transcript
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Order of Appearances

Government of Alberta

Dr. Harold York

Mr. Christopher Holly [[E18-18-1 CV](#)]

- Examination by Mr. Robinson 18
- Examination by Ms. Chahley 246

Features for enhanced use:

- Links to reference documents provided throughout the notes
- Frequent paragraph numbers to the relevant text or discussion in the transcript

Examination by Barry Robinson for the Coalition 18

(ForestEthics Advocacy, the Living Oceans Society and the Raincoast Conservation Foundation)

Mr. Robinson asked Dr. York about the changes in his netback impact analysis report from the 2010 version ([E8-3-2](#)) to the 2012 addendum ([E8-6-4](#)). Dr. York explained that the substantial changes were related to oil supply and pipelines.

Mr. Robinson confirmed that Dr. York added Diluted Bitumen and Conventional Heavy to get is “total heavy” in his forecast. Thus the total heavy for 2018 is $2980 + 177 = 3157$ kpd. Then he turned to the CAPP 2012 forecast and adds 2304 of oil sands heavy and 307 conventional heavy to get 2611 total heavy supply for 2018. Then he turned to Muse Stancil 2012 which gives 2345 kpd for 2018. Dr. York suggested that the differences are “where they split the gravity”, or API, but that they are “heading in the same direction.”

Table 1A: Canadian Crude Oil Supply 2010-2025 (kbd)

	Diluted Bitumen	Conventional Heavy	SCO	Conventional Light and Medium	Tight Oil	Total
2010	1,031	241	692	319	89	2,372
2011	1,061	237	698	336	137	2,470
2012	1,079	228	712	345	230	2,594
2013	1,319	219	806	353	276	2,973
2014	1,583	210	821	356	318	3,289
2015	1,664	202	940	360	359	3,525
2016	2,086	193	935	359	380	3,953
2017	2,400	185	1,066	360	400	4,432
2018	2,980	177	1,080	349	420	5,006
2019	3,540	169	1,074	339	440	5,562
2020	3,776	162	1,066	331	450	5,785
2021	3,910	154	1,058	325	450	5,898
2022	3,997	147	1,049	319	447	5,960
2023	4,023	140	1,049	312	442	5,967
2024	4,025	133	1,049	305	435	5,948
2025	4,007	127	1,049	300	428	5,911

Mr. Robinson questioned Dr. York on his forecasts, testing his understanding of the relationship between the price differential and how it changes relative to the supply of crude oil with and without NGP, and with the Line 9 to Montreal and Keystone XL scenarios.

The Lower Athabasca Regional Plan prevails

Mr. Robinson asked Mr. Holly if he was familiar with the Lower Athabasca Regional Plan and with the Alberta Land Stewardship Act, and quoted from the Act, "... if there is a conflict or inconsistency between ... a regional plan and a regulatory instrument, the regional plan prevails." He quoted next from the Plan with respect to management frameworks and limits for certain substances, specifically the SO₂ limit of 20 µg/m³.

He then said to Dr. York that I'm suggesting that there's recent information that suggests that all approved and proposed projects, if they go ahead, would not be in regulatory compliance. But you did not analyze that information in preparing these forecasts." Mr. Kruhlak complained, Mr. Robinson said he was moving on, the Chairperson said the Panel is glad he is moving on. 221

Economic benefits the same whether NGP or TMX

Mr. Robinson asked if the economic benefits of a West Coast pipeline that Dr. York predicts would be obtained by either a Trans Mountain expansion or a Northern Gateway pipeline. Dr. York replied, "Subject to any differences in tariff rates and operating rates."

Examination by Leanne Chahley for the Alberta Federation of Labour

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Dr. York stated that the Alberta Department of Energy asked Wood Mackenzie in late 2010, to prepare a "report to estimate an order of magnitude impact on crude oil netbacks

received by Canadian producers, in Alberta, from increasing West Coast [crude] oil export capacity.” In early 2011 he decided to use the NGP as a proxy for the export capacity, because it was the only one that provided sufficient information.

Guidance from government and commercial viability

Ms. Chahley ascertained what, if any, specific instructions or guidance the government gave Wood Mackenzie in preparing the report. Dr. York replied that they told us that the government wanted to encourage value-added. “They said it's more than upgrading, but I don't recall us going into any specifics. ... Wood Mackenzie then ... said that we would do our analysis based on commercial viability.” The government agreed that was appropriate.

Ms. Chahley asked what is meant by “based on commercial viability.” Dr. York: maximizing the value of crude oil supply ... for the producers.

Ms. Chahley stepped through a number of detailed questions about maximizing the value for the public who own the resource, the impacts and costs to refineries, bitumen, dilbit and synbit.

\$8 netback difference with and without NGP

Dr. York reconfirmed that the difference between the “PADD¹ III coking configuration”, the netback price with the West Coast transportation option, at approximately \$65 per barrel to the “PADD II cracking configuration”, the netback price without the West Coast transportation option, at \$57 is \$8 and it “would persist as long as Canadian oil producers would be compelled to clear their barrels into a PADD II cracking refinery. It would persist until there was sufficient transportation capacity to another market that put a higher value on the heavy crude barrel.” 513

Challenged on where her questions are going, Ms. Chahley stated that the Muse Stancil analysis concluded that Northern Gateway would result in a \$2 to \$3 price uplift for all barrels produced in Western Canada. Wood Mackenzie on the other hand found that a west coast transportation alternative would prevent an \$8 price drop. 534

Coking, cracking and the \$8 spread

She asked Dr. York to explain why the cracking configuration is valued at so much less than the coking configuration. He said, the coking configuration converts the heaviest components in the crude oil into a gas oil which is further converted into gasoline or diesel. The cracking configuration is unable to convert the low ends to higher value products, so they are blended instead with low quality diesel or distillate to make a lower value fuel oil product. 561

¹ PADD = Petroleum Administration for Defence District.

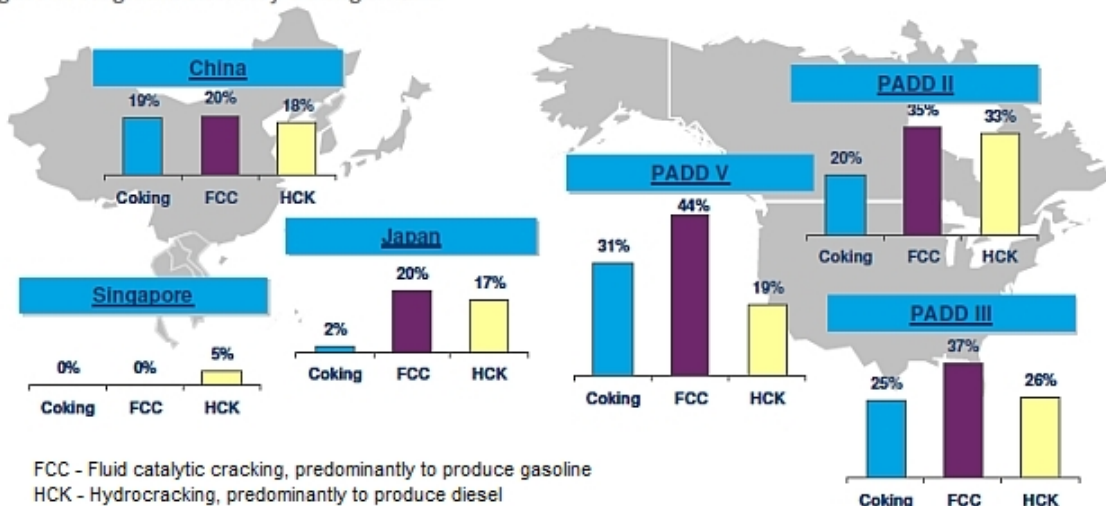
<http://www.eia.gov/todayinenergy/detail.cfm?id=4890>

The Wood Mackenzie report states that ““If this difference were limited to the heavy crude oil flowing in to cracking configurations [approximately] (~410 kbd) - this discount would represent a loss of nearly C\$1 billion per year.” “However, the incremental sales of heavy crude oil to the lower value cracking refineries reduce the value of all Canadian heavy oil” with an estimated value of \$8 to \$12 billion per year. 567

Ms. Chahley asked, “Why do the coking refineries get to pay less simply because the cracking refineries do too?” Dr. York answered that the coking refiner understands that when there is a heavy oil producer who’s going to be compelled to sell into the cracking configuration for the heavy oil market to clear, that the coking refiner can offer cracking value, and he knows that one of the producers will have to take that because their alternative to selling to him at the cracking value is to sell to a cracking refinery at the cracking value.”

She confirmed that “Whenever Alberta exports of the heavy crude oil ... the heavy bitumen products and the conventional oil ... exceed the volume that can go into the coking refineries all of the Western Canadian production of heavy oil will have its price dropped? Dr. York, “That's correct.” 572

Figure 9: Regional Refinery Configuration



She asked a number of questions about refineries in US PADDs and their coking and cracking capacities. They revealed the importance to oil sands producers of new markets where there is a relatively high coking capacity: PADD V, China and India.

She confirmed that it is the limited capacity to process heavy crude that exposes Western Canadian producers to the price drop. She asked Dr. York if upgrading to synthetic crude would avoid some of that risk.

New upgraders in Alberta not economic, despite the investment and jobs benefits

Ms. Chahley referred to a quote in AFL evidence [D4-2-02] that “in 2009, the Government of Alberta estimated that an investment of \$314 billion in value-added upgrading industrial cluster in Alberta (upgrading, refining and petrochemical production) over the course of 20 years would increase provincial, federal and municipal revenues by \$748 billion, add nearly 2 million jobs to the economy, [...] increase [...] GDP by more than \$5 trillion.” 703

Dr. York replied that, “We looked at the commercial feasibility of the upgraders that have been proposed and they were not economic at the discount.” 719

The Woods Mackenzie study concluded that in 2020, synthetic crude oil netbacks to Alberta producers would be \$90 per barrel, compared to synbit and dilbit netbacks of about \$64/b. Ms. Chahley asked why producers would not want to build upgraders to capture that differential. Dr. York said that upgraders are too expensive. The last time he looked was in 2009 and an upgrader then would cost \$15 million.

Crude disposition in base vs update: benefit of Gateway will be only two years.

Ms. Chahley conducted an exhaustive examination of the crude disposition and transportation options in the 2011 report and the 2012 addendum. Paragraphs 895 - 1027

Dr. York said they did not include rail because they could not identify projects. They also did not include Keystone XL in the original report, but did in the 2012 Addendum. 935

Ms. Chahley suggested that in its first year of operation or year and a half, Northern Gateway will take up additional supply, but it will fill up, and a market access shortfall will reappear. “Wouldn't those extra barrels end up in the cracking refinery then, and have the same impact of bringing all the barrels down by the same \$8, even if Northern Gateway was built?” Dr. York: “That's correct. Northern Gateway does not solve the problem forever. For about two years, it's between two and three years” 1012

“Dr. York, based on this ... does your report outline any other benefits to producers ... of Northern Gateway that would last longer than two or three years?” Dr. York appeared to agree, and said, “That's the extent of our analysis.” 1026

Ms. Chahley identified a significant discrepancy between Figures 2 & 3, and Table 3A in the base Wood Mackenzie report. Dr. York undertook to reconcile this by the next morning. Ms. Chahley said that this may forestall some of her questions, which may in turn require her to continue questioning the next morning. Discussion begins at 1028

Heavy crude ideal demand

Dr. York used the term “ideal demand” to mean, if refineries had full availability to heavy crude, how much would they take. He used actual values in his study to 2010, and “analytics” for the years after that. 1159

The highest demand for heavy crude is coming from China and India. Ms. Chahley asked why it is economic for those countries to build upgraders. Dr. York replied that they are not building upgraders, they are constructing “deep conversion complex refineries.” 1185

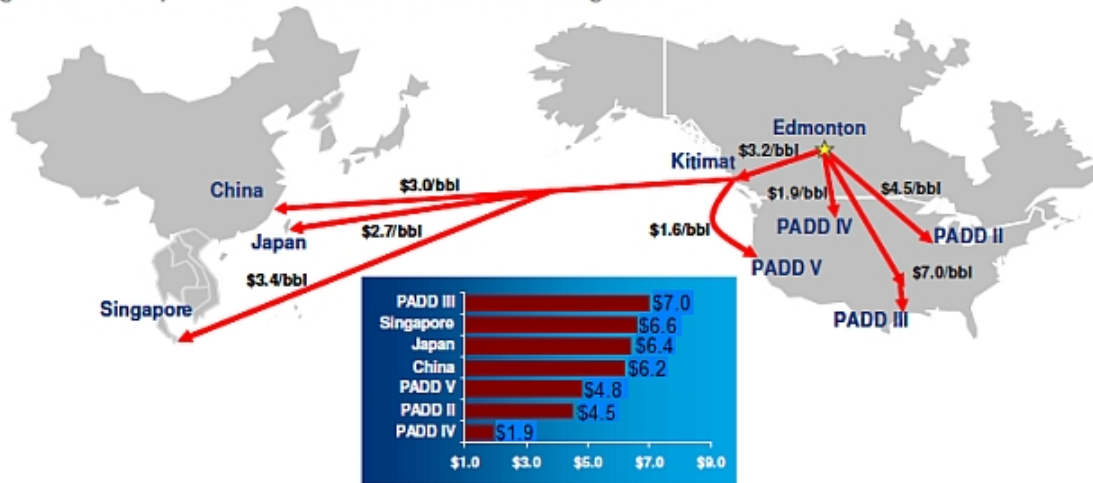
Ms. Chahley asked why the “crude that was looking for a market” – the heavy crude from the Alberta – couldn’t flow into the market that is the ideal location for it. Dr. York replied that we have insufficient pipeline capacity to the Gulf Coast or to the West Coast.

Ms. Chahley: If it could get to that market in North America, would it bring a higher price? Dr. York: “If you could put additional barrels into PADD III you would get that PADD III netback realization that we’ve been discussing, which is approximately \$65 a barrel.” “If you built an infinite amount of capacity -- pipeline capacity -- you could stay at the PADD III netback for the entire time horizon.” 1231

PADD III vs the Pacific Basin & transport costs

Discussing coking capacities in China’s refineries, Dr. York stated that China’s coking capacity is about 2 million bpd. India’s may be similar. PADD III is similar. When PADD III coking capacity is fully utilized, the crude oil price drops by \$8 to the cracking price. Dr. York stated that should this happen with China or India, the oil is on a ship which can redirect to the most advantageous price in the Pacific Basin.1286

Figure 10: Transportation Rates from Alberta to Refining Centres



Condensate

Dr. York explained that condensate production in Canada is declining, due to increasing volumes of gas coming from unconventional and dry gas sources. And the demand for diluent is rising with increased oil sands production. 1363

Oil sands bitumen is competing with alternative heavy crudes, say Arab heavy. If the price of condensate goes up, that has no effect on the price of the Arab heavy, but it does have an effect on the dilbit. The Alberta producer cannot pass that increase in costs through, because it then leaves him uncompetitive with the Arab heavy. 1369

Netback calculation

Ms. Chahley brought up Figure 12 from the Wood Mackenzie base report. It is entitled “Crude Oil Netback Calculation Example” and illustrates the factors that go into pricing oil sands dilbit. She asked Dr. York to explain that process. 1434

She explored other aspects of pricing, or “valuation” as Dr. York said he preferred. It is a moderately complex and detailed discussion which begins at paragraph 1490

337,000 barrels to trigger the price discount of \$8.00

Ms. Chahley asked Dr. York, “Your opinion is that level, 337,000 barrels, would be sufficient to trigger, in this example, the price discount of the \$8.00?”

Ms. Chahley: “If there were ... government policy to require the producers to pace their production a bit, that’s the level they would have to pace it, is just to reduce production by 300,000 barrels per day in Canada to prevent this -- in Western Canada to prevent this discount. Is that a fair conclusion, at least in the year 2018?” 1600

Dr. York: “The policy would have to know five to seven years in advance how much volume shouldn’t be in the market -- or I should say the policy would have to know how much volume shouldn’t be in the market five to seven years ahead of time in order to slow the development to stop that [oversupply] from happening.”