

**Kennedy, Jerome**

**From:** Kennedy, Jerome  
**Sent:** Monday, February 13, 2012 7:56 PM  
**To:** Kennedy, Jerome  
**Subject:** Fw: Follow up

-----Original Message-----

From: Vanessa Newhook  
 To: Jerome Kennedy  
 Cc: Charles Bown  
 Cc: Wes Foote  
 Subject: Follow up  
 Sent: Feb 13, 2012 5:39 PM

Minister,

In discussions with Nalcor on the royalty in kind piece, Jim advised they were working on assessing Cabot's document. Some of their thoughts on Cabot's position on LNG are contained below. The previously released answers Nalcor are the 3 first bullets re-written to make a little more understandable. The fourth bullet is new and comes from their recent PIRA discussions. They were not intending to "go out" on natural gas until they had their PIRA report at month end.

Q: Have you costed the possibility of bringing one LNG carrier to Come-By-Chance per year and drop of a parcel of LNG to supply our cold winter thermal energy needs that Bunker C currently provides at Holyrood. Holyrood and dirty oil should have been replaced 10 yrs. ago with a new thermal generating plant built at Come-By-Chance, powered with liquified natural gas. What would it cost today. Loaded LNG Carriers sail by our shores daily to US East Coast ports and Saint John, NB. Surely, you must have invested this possibility and costed it.

A:

\*Once LNG is placed in a vessel it can sail around the world to find the highest and best paying markets. Our domestic market is too small to justify a producer to give us a discount to the prevailing long term market prices for LNG. On the contrary, our potential dependence on LNG for base load supply and need for security in that supply would likely require a premium to the prevailing long term market price. There is also an element of market risk as LNG trades in inefficient markets and is volatile as global supply balances shift constantly.

\*Navigant concurs with Nalcor's assessment of LNG markets and the opportunities for LNG to beat Muskrat Falls. The prices for long term, firm supply of LNG are normally linked to crude oil prices. As such, any long term utility contract that would be necessary for deliveries to the re-gasification facility in Newfoundland would see LNG prices linked to oil prices. In Navigant's opinion, the delivered prices to a LNG re-gasification facility sited on the Island under a long term contract are expected to be at a modest discount to the price of fuel oil Nalcor is already purchasing therefore offering no clear economic advantage for LNG as a fuel source. Once onshore capital costs are factored in, the imported LNG scenario will be at effective parity with oil.

\*Our advisors tell us that long term LNG contracts for isolated island economies are typically agreed based on your alternative fuel costs. This means the LNG supplier will set a price at or just below the cost of our alternatives. There is no incentive for the market to do better as they know we could pay and we would pay more. Moreover, even if there were a willing supplier, there are many markets willing to pay high Asian oil indexed or UK based LNG prices. We would be competing at those market prices.

\*Nevertheless even if there were a possibility to have a negotiation with a new LNG supplier the delivered cost to us would be higher than the Muskrat Falls scenario. A build up of the supplied cost of LNG to Newfoundland would look like this. Assuming the source is the U.S. Gulf Coast capitalizing on low cost shale gas resources it is illustrative to use a recent and real world example. If we were to use the terms of the recent BG/Cheniere agreement as the basis for our calculation, it follows this formula - 115% of Henry Hub

plus \$2.25 per mmbtu plus transport costs. Now assuming a long term Henry Hub price of \$6-8 per mmbtu. (consistent with PIRA's forecasts) the breakeven delivery price for the gas would be in the area of \$9-11, which assumes no profit on the part of LNG marketer or cost to regassify and generate electricity. Assuming another \$1 to regasify in Newfoundland and considering any LNG marketer is going to want at least \$1 per mmbtu of profit and probably closer to \$3 for delivering gas on a seasonal basis, this takes us to a price range of \$11-\$15 per mmbtu. at best. This price assumes screening level estimates for onshore facilities and assume a standard LNG tanker. In Nalcor's case, a specialized ice-class tanker would need to be considered, which would escalate the transport costs by perhaps upwards of 10%. More importantly, because of market size, Nalcor cannot take advantage of savings from shipping optimization that portfolio sellers can offer with their spare shipping capacity.

\*By comparison, our analysis says that to beat Muskrat Falls natural gas delivered on the island should be less than \$5.75 mmbtu over the long term.

\*Assuming about \$1.3 billion (2016 \$) to build docking facilities, pipeline to storage, storage facilities and regas facilities and approximately \$900 million (2016\$) for 3\*170 MW CCGT plant (7,200 mmbtu per Gwh), natural gas would have to be delivered at the plant gas for \$5.75/mmbtu in 2017, assuming an escalation of 2% per annum thereafter.

\*Finally, while natural gas is preferred to crude oil it is still subject to price escalation and uncertainty unlike hydro power.

Department of Natural Resources  
Government of Newfoundland and Labrador

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