

# Natural gas markets update

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By Federal Coordinator Larry Persily

My comments today are offered in the context of what is happening in natural gas markets worldwide that could influence the chances for an Alaska North Slope natural gas pipeline.

## North America

- Producers cut back drilling to bring supply/demand closer to balance
- Prices recovering a bit (near \$3 from below \$2 earlier in the year)
- Gas continues to take power-generation market share from coal
- Natural gas use for electrical generation in the first 8 months of this year is up 24% from 2011
- Coal had half the U.S. market for power generation in 2007
- That's moving close to one-third of the market by next year
- But price forecast still at the low end of supporting an Alaska gas line
- Most analysts talk about \$5 to \$6 as the new norm in the years ahead
- There's just too much shale gas available, especially at higher prices
- But environmental or regulatory restrictions on hydraulic fracturing, shale gas production and certainly drilling wastewater disposal could change the price forecasts.

## Asia

- Spot prices falling as increased supply comes online / demand weakens
- Recent spot sale at \$12.80/million Btu for October delivery
- That's down from a high of \$18 this spring
- China's economy still growing but not as much; single not double digits
- Japan still debating the future of nuclear power and conserving energy
- Japanese prime minister expected to announce long-term energy plan this week
- China and especially India are pushing back against high LNG prices
- Importers in both India and China reluctantly pay market prices for LNG, as government controls set the price for the end-user -- forcing a loss on imports (China testing lifting of price controls in 2 provinces)

- China domestic gas production covers 75% of its needs, plus it has pipeline options to LNG
- China imported an average 1.64 billion cubic feet a day of pipeline gas in the first six months of 2012, up 32% from a year ago
- China's pipeline imports about equal to LNG imports
- PetroChina's second west-to-east pipeline started deliveries of Central Asia gas (Turkmenistan) this summer
- Myanmar-to-China gas pipeline expected in service next year

### **New supplies coming online**

- New LNG export projects in Australia and Angola went online earlier this year, adding 1.3 bcf a day capacity
- Papua New Guinea LNG to start service 2014
- \$170 billion in LNG projects under development in Australia, totaling almost 8 bcf a day of capacity to open between 2014 and 2017
- Canada, Russia, Tanzania and Mozambique also looking to expand or enter the global LNG market; first deliveries possible 2018-2020
- U.S. Gulf of Mexico and East Coast LNG import operations want to get into the export business; 12 applications waiting for federal action totaling about 20 bcf/day capacity
- The applicants are awaiting U.S. Department of Energy decisions.
- The department awaiting a consultant's report on how exports might affect the U.S. economy
- No decisions are expected until after the November presidential election
- Producers and terminal owners want to export gas; it's good for their business
- Utilities and petrochemical industry would prefer the gas stay at home and help keep prices low by oversupplying the U.S. market
- The department approved one application before halting work. Cheniere Energy will be the first to start business, opening its LNG export terminal at Sabine Pass, La., in late 2015

### **Pricing**

- The unknown is whether U.S. gas exports will affect global LNG pricing
- Korea Gas, a Spain utility, a gas utility from India and British Gas all signed contracts for Cheniere's Sabine Pass LNG export facility based on U.S. Henry Hub prices for gas -- NOT oil-linked prices
- If Cheniere were operating today, the cost of LNG delivered to Japan under any of its contracts would be about \$9/million Btu
- Analysts disagree on what will become the new norm for pricing
- Global price, hybrid price, continued separate Asia/Europe/North America prices?
- Note: Asia LNG prices are gross, not net or profit to the producer (seller). Deduct from that price the cost of liquefying the gas and transporting it by tanker to its destination)
- For example, let's take today's spot LNG price in Asia of \$13 or so. In Alaska's case, the cost of conditioning (cleaning) North Slope gas (taking out the water and other impurities) and piping

it to tidewater, liquefying it and shipping it to Japan could run anywhere from \$8 to \$15 per million Btu (1,000 cubic feet), depending on the size of the project and its economies of scale

- In Alaska's case, pipeline and liquefaction would eat up a big piece of the sales price of the LNG

### **Project financing and ownership structures**

- At the start of the LNG trade, producers developed liquefaction facilities and shipping terminals to "unstrand" their own reserves
- That model is changing in the 21<sup>st</sup> century
- In the U.S., non-producers such as Cheniere are developing export projects for their underutilized import terminals. This is the tolling model, where the operator collects a toll for use of the facilities but owns no gas, produces no gas, takes no market price risk for the gas
- But an export terminal developer must have solid, long-term contracts to use the facility in order to secure financing – no one builds a multibillion-dollar export terminal on speculation
- An example of the financial market's caution with the uncertainty of U.S. LNG export terminals: Standard & Poor's credit rating services last month issued its rating for Cheniere's debt for its Louisiana export terminal. S&P's rating the debt BB+, which is one notch below investment grade. S&P's said the risks of cash-flow problems during construction, delays and construction reserves create enough uncertainty to warrant the lower rating.
- Meanwhile, we are starting to see Asian buyers wanting an equity stake in LNG projects
- India's national oil and gas company looking at U.S. Gulf Coast projects
- Korea Gas, Mitsubishi and PetroChina have signed up as partners with Shell's proposed LNG export terminal at Kitimat, B.C.
- Mitsubishi and Mitsui have signed up as partners with Sempra's proposed Hackberry, La., LNG terminal
- Chinese and Japanese companies (producers, buyers and traders) have taken small equity stakes in Australia export projects

### **Summary**

- North America is looking better, but there still is too much gas
- There is intense competition for LNG customers in Asia
- Asian LNG buyers want lower prices and price diversity in the portfolio
- But security of supply still counts in Asia

### **So what does all this mean for Alaskans?**

#### **Pipeline tariffs for Alaska**

- Assuming the cost of buying North Slope gas from a producer is the same regardless of the size of the pipeline that brings it to Fairbanks, the pipeline tariff will be the single biggest factor in determining the final cost for deliveries to consumers

- Federal and state laws say pipeline customers should pay for the proportionate share of the pipeline they use — this is called a mileage-based tariff
- For a large-volume pipeline — whether to North America or an LNG export terminal — it means those customers out of state will pay most of the cost of building and operating the pipeline project
- For example, the TransCanada/ExxonMobil project proposal estimated the tariff for moving treated North Slope gas to Fairbanks at under \$2.50
- The smaller line project at the state-funded Alaska Gasline Development Corp. shows an estimated pipeline tariff at the Fairbanks cut-off of three to four times that rate
- Everyone accepts the math that the cheapest way to get gas into homes and offices in Fairbanks is by tagging along on a big pipeline
- The question is, will there ever be a big pipeline?

### **My personal view**

Rather than counting the benefits of a North Slope gas line in tax dollars — always a contentious, acrimonious, never-ending debate — Alaskans should accept the reality and focus on the face that the **real** benefits will come from decades of increased oil and gas investment on the North Slope and from **decades of affordable energy for Alaskans.**

Truth is, we need to admit Alaskans need and want a gas pipeline more than any company out there.

Over the 40-, 50 or 60-year life of the pipeline, we'll enjoy lower energy costs, renewed oil and gas exploration and all the tax and royalty checks that go with that. And we'll make plenty in taxes. Maybe just not at the beginning.

If there is anyway possible, we need a big gas pipeline so that the customers at the end of the line pay most of the cost and Alaskans enjoy the benefits by drawing out what we need at a low tariff.