

It's not our fault
there is no gas line

Commonwealth North – April 12, 2019

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No matter where we turned ...

- Markets well supplied 1970s, 1980s and 1990s, while higher value to North Slope gas pushing out more oil
- North America looked possible in 2000s, until shale
- Asia looked possible in 2010s, until every supplier in the world saw the same LNG market opportunities

Alaska: The \$43 billion question

- **Competition:** Too many other less risky, lower-cost and ready-to-go projects are lined up before Alaska
- **Demand:** Growth is starting to slow down in China
- **Missing pieces:** Project lacks far too many essential parts to reach investment decision for several years

The competition

- Qatar: World leader plans 43% expansion by 2024
- Australia: Now with 10 LNG plants, totaling 25% of global capacity after \$200 billion investment boom
- Russia: Decision this year on second Arctic LNG plant
- Mozambique: Total output could exceed Alaska LNG

And the list goes on

- Papua New Guinea: Decision anticipated this year on \$13 billion project to more than double capacity
- Shell-led LNG Canada project under construction; partners from China, Malaysia, Japan, South Korea
- U.S. will have six LNG export terminals by late 2019

More coming from Gulf Coast

- ExxonMobil and Qatar Petroleum have decided to build \$10 billion Golden Pass LNG project in Texas
- Work has started on 3rd export terminal in Louisiana
- Sempra Energy has its final EIS for Port Arthur, Texas
- Cheniere likely to expand Sabine Pass to serve China

U.S. Gulf/East Coast advantages

- Of the six export projects that will be operating by the end of 2019, five were unused LNG import terminals
- ‘Brownfield’ developments with storage tanks, berths are less costly than ‘greenfield’ LNG export terminals
- Gulf Coast access to world’s most traded gas supply

Construction costs worldwide

- Average capital cost for new liquefaction capacity
2008-2017: \$1,501/tonne for 'greenfield' projects
and \$458/tonne for expansions, 'brownfield' projects
- Middle East (Qatar): Under \$400/tonne 2008-2017
- Alaska: \$2,150/tonne (\$43 billion, 20 million tonnes)

Global demand projections

- Annual demand to grow 125 million tonnes from 2020 to 2030; average of 12 independent forecasts
- Final investment decisions approved or anticipated 2018-2020 for 130 million tonnes of new capacity in Qatar, Mozambique, PNG, Russia, Canada, U.S. Gulf
- **Strong demand growth would require even more LNG**

China's LNG demand growth slows

- China's gas demand is forecast to grow 11% in 2019, down from 15% growth in 2017 as economy weakens
- China pushing for increased domestic gas production
- Power of Siberia gas line on track for December 2019; could fill 15% of China's gas import demand by 2023

Buyers watch the price of LNG

- Major Chinese importers lose money on LNG buys
- India a big growth market, but most price sensitive
- Low price builds demand, but limits new investment
- Citizens support drive to clean up the air but cannot afford too much more for cleaner gas over dirty coal

More uncertainties

- Japan restarting more nuclear plants; LNG imports flat at best and likely to decrease in the years ahead
- Egypt stops LNG imports; back in the export business
- Russia looks to build in the Arctic, Far East and Baltic
- Will politics and trade fights weaken world economy?

Global LNG financing

- It's not unusual for two dozen banks to take slices of long-term financing for a new LNG export project
- Train 5 at Sabine Pass: 25 banks loaned \$2.85 billion
- Average bank loan on LNG projects: \$256 million, \$300 million, \$381 million in 2014, 2015 and 2016

China's growing finance role

- China's \$6 billion 2016 bank financing for Yamal LNG in the Russian Arctic was the largest project loan ever
- Plus \$6 billion from Export-Import Bank of China
- U.S. sanctions pushed Yamal to look toward China
- In 2015, Chinese banks loaned just \$750 million

State overly focused on China

- China playing the world market for the best deals
- “They come, they do their due diligence, they kick the tires.” — *Louisiana LNG developer on Chinese buyers*
- “I think China will continue to grow, but China has a lot of choices in terms of energy.” — *JERA chairman*

Alaska LNG risks are substantial

- Producers willing to sell gas at inlet to gas plant, but what about the sales, market and price risks?
- Who takes those risks? And the construction risks?
- And what about the risk and price for new supplies after Prudhoe Bay and Point Thomson start decline before end of the long-term loan or supply contract

Alaskans cannot will it to success

- No one outside Alaska cares that we want the project
- The Alaska LNG project will not solve our political fights over Permanent Fund dividend, budget or taxes
- Payments in lieu of municipal taxes far from settled
- Mega-projects avoid risk — and Alaska excels at risk

Alaska's options are not very good

- Alaska Stand-Alone Pipeline less economic than LNG
- Building LNG plant on the North Slope would not save all that much money, air quality permits would be a challenge, it's miles out to deep water for LNG berths, and no guarantee of year-round ice-free operations
- Best option: Finish the EIS and work with producers

Alaska's finances don't help

- Government role in LNG mega-project would be first in the world outside of national oil companies
- Where would Alaska come up with its equity dollars?
- Will oil and gas taxes change during the mortgage?
- Would you loan billions of dollars on Alaska project?

For more information

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