Alaska LNG Project Update

Frank Richards, President
Presented to Fairbanks Economic Development Energy Task Force
February 1, 2022
Summary:

Alaska LNG is an economic project.

“Alaska LNG is now competitive against the US Gulf Coast LNG projects, which are expected to act as the long-term marginal supply.”

-Wood Mackenzie, January 2022
Wood Mackenzie Updated their 2016 Alaska LNG Competitiveness Analysis

- Wood Mac independently calculated Alaska LNG cost of supply
- AGDC took on the recommendations from the 2016 Report to reduce the Cost of Supply

Wood Mackenzie Report verifies that Alaska LNG Cost of Supply is now Competitive

- Transition from 100% equity funding to non-recourse project finance with a tolling model largest driver of cost reduction
- Since 2016 report, this sort of commercial model has been used to finance the growth of the US LNG industry
With the cost optimization and new debt structure, Alaska LNG is competitive against US Gulf Coast LNG Projects

Comparison of Breakeven cost of supply for delivery into North Asia

Source: Wood Mackenzie
The new optimized CoS is estimated to be ~US$6.7/mmbtu

Assumptions

- The following capital costs in our base case use data provided by AGDC
  - LNG Facility – US$16.8 billion
  - Pipeline – US$12.7 billion
  - GTP – US$9.2 billion
- The capex for the LNG facility, Pipeline and GTP have been financed with a 70:30 debt to equity ratio. Debt has an 18-year term at a 5% interest
- Raw gas purchased from Prudhoe Bay and Point Thomson for US$1.0/mmbtu* with no commodity price link. Assumed to escalate at 2% per year. Including fuel usage this is US$1.15/mmbtu
- Shipping Costs from Alaska to East Asia assumed at US$0.76/mmbtu, which is the average shipping costs of potential destinations in Japan, China, and Thailand
- Volumes of 3 bcf/d with ~13% used as fuel
- Domestic Market allocation: 300 mmcf/day

Note: Capital costs are in 2019 real terms; Refer to Appendix for shipping costs; *Raw gas prices provided by AGDC and are subject to negotiation
Wood Mackenzie Cost of Supply

CoS is now 43% lower vs. 2016 due to lower CAPEX and feedgas price, and the use of a non-recourse debt funded 3rd party tolling structure

Understanding the difference

- **Project Finance** - introduction of a non-recourse 70% debt-funded third-party tolling structure for the GTP, LNG Facility and Pipeline
- **Total Capital costs** have been reduced from US$45 billion to US$38.7 billion
  - GTP/Pipeline costs have been reduced from US$25 billion to US$21.8 billion
  - LNG Facility costs have been reduced from US$20 billion to US$16.8 billion
- **Feed gas prices** have been reduced from US$2.09/mmbtu to US$1.15/mmbtu
- **Shipping Costs** have increased from US$0.60/mmbtu to US$0.76/mmbtu

Slide from 2022
Wood Mackenzie
Alaska LNG
Competitiveness Analysis
Cost of Supply: $6.70

- Alaska LNG’s delivered cost of supply is lower than most global competitors and contract pricing
- The cost of supply is stable and increases at about 1% per year, providing buyers a predictable cost energy source.
Federal Loan Guarantee

The full faith and credit of the United States will be pledged to pay the principal and interest on $26.3 billion of Alaska LNG debt in the event of a default.

The Infrastructure Bill includes a loan guarantee for Alaska LNG

- Principle amount of debt guaranteed up to $26.3 billion (adjusted for inflation)
- Up to 80% of the capital cost
- Term of up to 30 years
- Loan guarantee will be subject to credit terms and requirements of the loan program

Benefits of the loan guarantee

- Reduced cost of supply
- Completion risk mitigation
- Federal government support and “skin in the game”

Reduced Cost of Supply

- Interest rate reduction of between 1 and 2.5%
- Potential for longer term debt
- Potential for higher debt/equity ratio

\[
\begin{array}{c|c|c|c|c|c|c}
\text{Base Case} & 1\% \text{ Rate Reduction} & 2.5\% \text{ Rate Reduction} & 30 \text{ Year Term} & 80\% \text{ Leverage} & \text{Max Benefit of Guarantee} \\
\hline
6.70 & 0.21 & 0.28 & 0.38 & 0.24 & 5.59 \\
\end{array}
\]

Potential Savings (Depending on Finance Terms)
Most of Alaska LNG is subject to 20 mill property tax

- Equates to almost $800 million per year – over 10x higher than other projects
- Challenges project economics
- The LNG plant may be subject to lower property tax rate but higher municipal taxes

Property Tax Changes

- As contemplated in SB 138, changes to property taxes are expected prior to project sanction
- Current cost-of-supply assumes a property tax in-line with competitors
- 20 mill property tax equates to a 9% cost of supply increase
Strong LNG Market

LNG Market is Still Growing

• Demand growth will outpace current and planned LNG capacity
• LNG growth expected as part of energy transition as natural gas is emits half the greenhouse gasses as coal

Investors and Buyers want LNG

• New LNG projects expected to be sanctioned in 2022
• Most new projects have some degree of energy transition planning

“...raising capital for these very capital-intensive [LNG] projects has not really been that much of a challenge to the industry. I think that sends a strong signal of confidence that this [LNG] is going to be around for a while.”

-Dan Brouillette, President of Sempra Infrastructure on NPR’s Marketplace (Jan 3, 2022)
Summary:

Transition from Producers to the State to Infrastructure Developers unlocks Alaska LNG
Transition to Private Developers

Replacing the Producers with Infrastructure Developers is critical to improving project economics and moving Alaska LNG forward.

**2013-2016**
Producer Led
Challenged because the producers do not like investing in large pipelines – they needed higher profits and accept more risk

**2017-2019**
State Led
Challenged because AGDC does not have the expertise to construct and operate Alaska LNG

**2020 - onward**
Developer Led
Promising because infrastructure developers require lower profits and lower risk – this reduces the cost of the project and improves economics
Non-recourse project financing under a tolling model was not widely-used for LNG prior to 2016. Since, it has been used for almost all US LNG capacity.

**Prior to 2016**
- Virtually all LNG projects developed by oil and gas companies without true project financing
- No tolling/capacity charge included in LNG price, LNG sold indexed to oil
- No US LNG exports

**After 2016**
- The US LNG industry grows to nearly the largest LNG export in the world
- All LNG plants built by developers with project finance model, not oil and gas companies*
- LNG prices include tolling/capacity charge

*Golden Pass LNG is owned by Qatar Energy an ExxonMobil, currently under construction in Texas*
The Alaska LNG commercial structure places qualified developers and operators in the specific roles they are best suited for.

**Key Benefits**

- Does not require North Slope producers to make large infrastructure investments
- Infrastructure developers operate large-scale assets with financing secured by credit worthy LNG buyers
- Low-cost LNG with stable pricing available from a source in the North Pacific is appealing to Asian Buyers
Alaska LNG Lead Parties

Criteria
• Demonstrated track record of building and operating applicable infrastructure (pipeline and LNG plant)
• Access to adequate financing
• Investors seek infrastructure rates-of-returns

Process
• Partnered with Pipeline Lead Party to advance early gas option, long-term interest in Alaska LNG
• Created LNG Lead Party Confidential Information Memorandum (CIM) and went on a “Road Show” to meet with LNG Developers

Progress
• Pipeline Lead Party under agreement
• Potential LNG Lead Parties identified, working to select and contractually secure
Alaska LNG is large and complicated. It will take time to develop as participants work to find alignment. Doing it right is more important than doing it fast.

Timeline:

**Q1 2022**
- Secure Lead Parties

**Q2 2022**
- Negotiate Project Development Agreements

**Q3 2022**
- FEED in 2023

**Q4 2022**
- MOUs in 2022

**Q1 2023**
- Target: FID in 2024

**Q2 2023**
- Target: First LNG in 2030

**2022**
- Target: MOUs in 2022

**2023**
- Target: FEED in 2023

**2024**
- Construction

**2025**
- Construction

**2026**
- Construction

**2027**
- Construction

**2028**
- Construction

**2029**
- Construction

**2030**
- Target: Completion in 2031

**2031**
- Target: Completion in 2031
Summary:

Alaska LNG will create jobs, lower the cost of energy in Alaska, and generate needed State revenue.
Jobs for Alaskans

Alaska LNG Job Creation

- Almost 12,000 direct jobs at peak of construction
- 1,000 long-term operations jobs
- Expect 6,000 indirect jobs during construction and 500 during operations

<table>
<thead>
<tr>
<th>Direct Hires at Peak</th>
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<tbody>
<tr>
<td>Carpenter</td>
<td>295</td>
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<tr>
<td>Electricians and Instrument Fitters</td>
<td>397</td>
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<tr>
<td>Iron Workers</td>
<td>447</td>
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<tr>
<td>Laborers</td>
<td>2,311</td>
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<tr>
<td>Engineers</td>
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<tr>
<td>Pipefitters, Welders, and Insulators</td>
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<td>Teamsters</td>
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<td>Other</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>11,850</strong></td>
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</tbody>
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Direct Hires by Year and Type

- **2023**
  - Carpenter: 10
  - Electricians and Instrument Fitters: 42
  - Iron Workers: 33
  - Laborers: 850
  - Engineers: 571
  - Pipefitters, Welders, and Insulators: 81
  - Teamsters: 332
  - Other: 11
  - Total: 1,067

- **2024**
  - Carpenter: 13
  - Electricians and Instrument Fitters: 24
  - Iron Workers: 27
  - Laborers: 836
  - Engineers: 566
  - Pipefitters, Welders, and Insulators: 80
  - Teamsters: 331
  - Other: 19
  - Total: 1,055

- **2025**
  - Carpenter: 12
  - Electricians and Instrument Fitters: 23
  - Iron Workers: 27
  - Laborers: 834
  - Engineers: 566
  - Pipefitters, Welders, and Insulators: 80
  - Teamsters: 331
  - Other: 18
  - Total: 1,055

- **2026**
  - Carpenter: 10
  - Electricians and Instrument Fitters: 22
  - Iron Workers: 27
  - Laborers: 832
  - Engineers: 566
  - Pipefitters, Welders, and Insulators: 80
  - Teamsters: 331
  - Other: 16
  - Total: 1,050

- **2027**
  - Carpenter: 11
  - Electricians and Instrument Fitters: 22
  - Iron Workers: 27
  - Laborers: 832
  - Engineers: 566
  - Pipefitters, Welders, and Insulators: 80
  - Teamsters: 331
  - Other: 15
  - Total: 1,050

- **2028**
  - Carpenter: 10
  - Electricians and Instrument Fitters: 22
  - Iron Workers: 27
  - Laborers: 832
  - Engineers: 566
  - Pipefitters, Welders, and Insulators: 80
  - Teamsters: 331
  - Other: 15
  - Total: 1,050

- **2029**
  - Carpenter: 10
  - Electricians and Instrument Fitters: 22
  - Iron Workers: 27
  - Laborers: 832
  - Engineers: 566
  - Pipefitters, Welders, and Insulators: 80
  - Teamsters: 331
  - Other: 15
  - Total: 1,050

GASLINE WORKFORCE PLAN

By The Alaska Department of Labor and Workforce Development

April 2018
Gas For Alaskans

Low-Cost Gas for Alaskans
• The Alaska LNG in-state price is estimated to be between $4 - $5 per MMBtu
• Significant reduction from current prices, saving Alaskans hundreds of dollars per year

Enough Gas Supply for Alaskans
• The pipeline is designed to supply more natural gas than the LNG plant needs
• Enough capacity for in-state demand to more than double

Source: EIA
The State’s Alaska LNG revenue will be dependent on its investment and risk exposure.