

Alaska LNG Project Update

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Alaska Unocal Retirees Association (Aura)
May 5, 2022

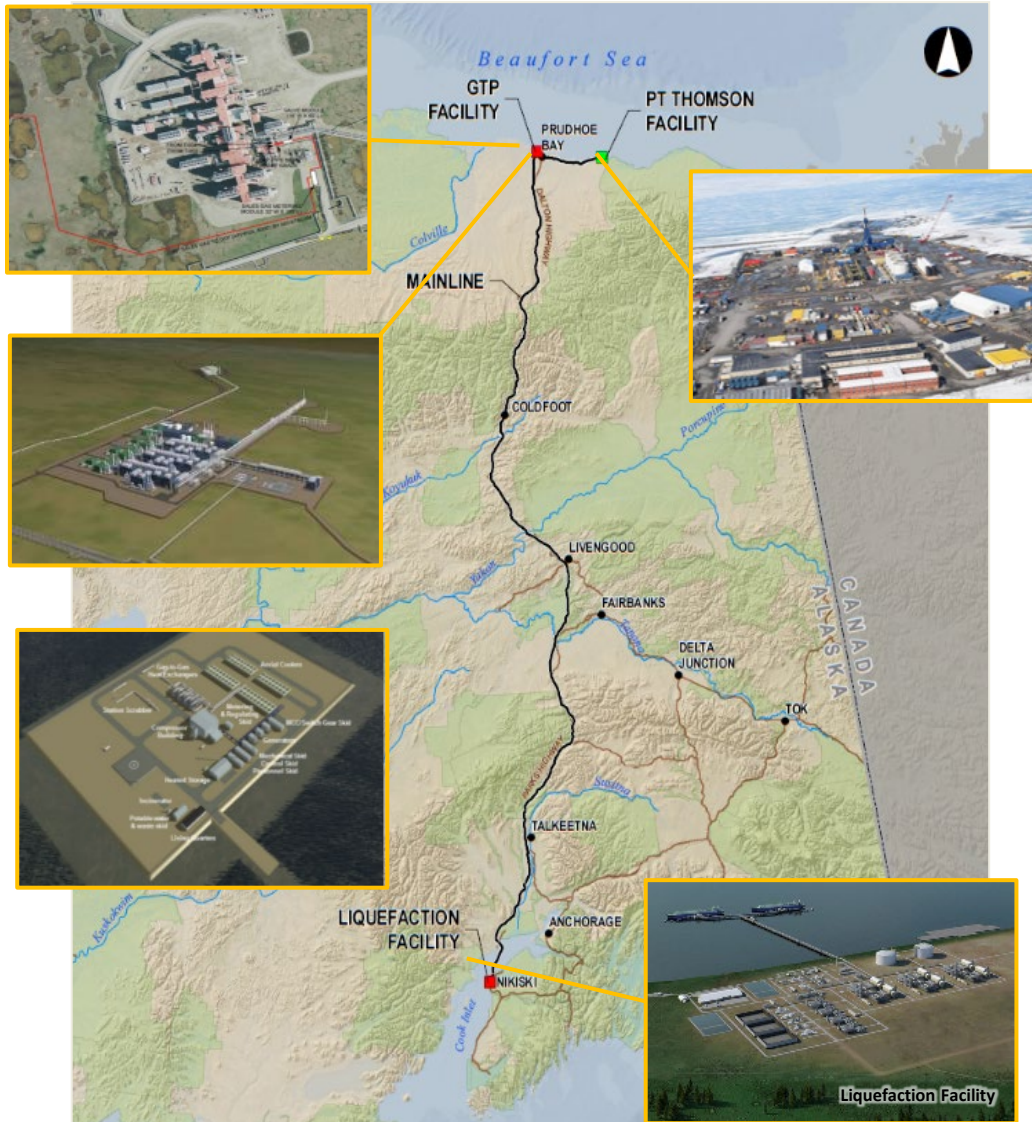


The Alaska Gasline Development Corporation (AGDC):

- Independent, public corporation owned by the State of Alaska
- Created by the Alaska State Legislature
- Currently lead party for developing the Alaska LNG Project

Goal: Maximize the benefit of Alaska's vast North Slope natural gas resources through the development of infrastructure necessary to move the gas to local and international markets.

Project Overview



Producing Fields

- Supply from Prudhoe Bay Unit and Point Thomson Unit
- More gas is already produced (8 bcfd) than the project will use (4 bcfd peak), and is 'stranded'
- Peak Workforce: 500-1,500 people

Gas Treatment Plant

- Located at North Slope
- 3 trains (1.3 BSCF/day/train), footprint: 150-250 acres
- Remove CO₂ / H₂S; use for re-injection
- Peak Workforce: 500-2,000 people

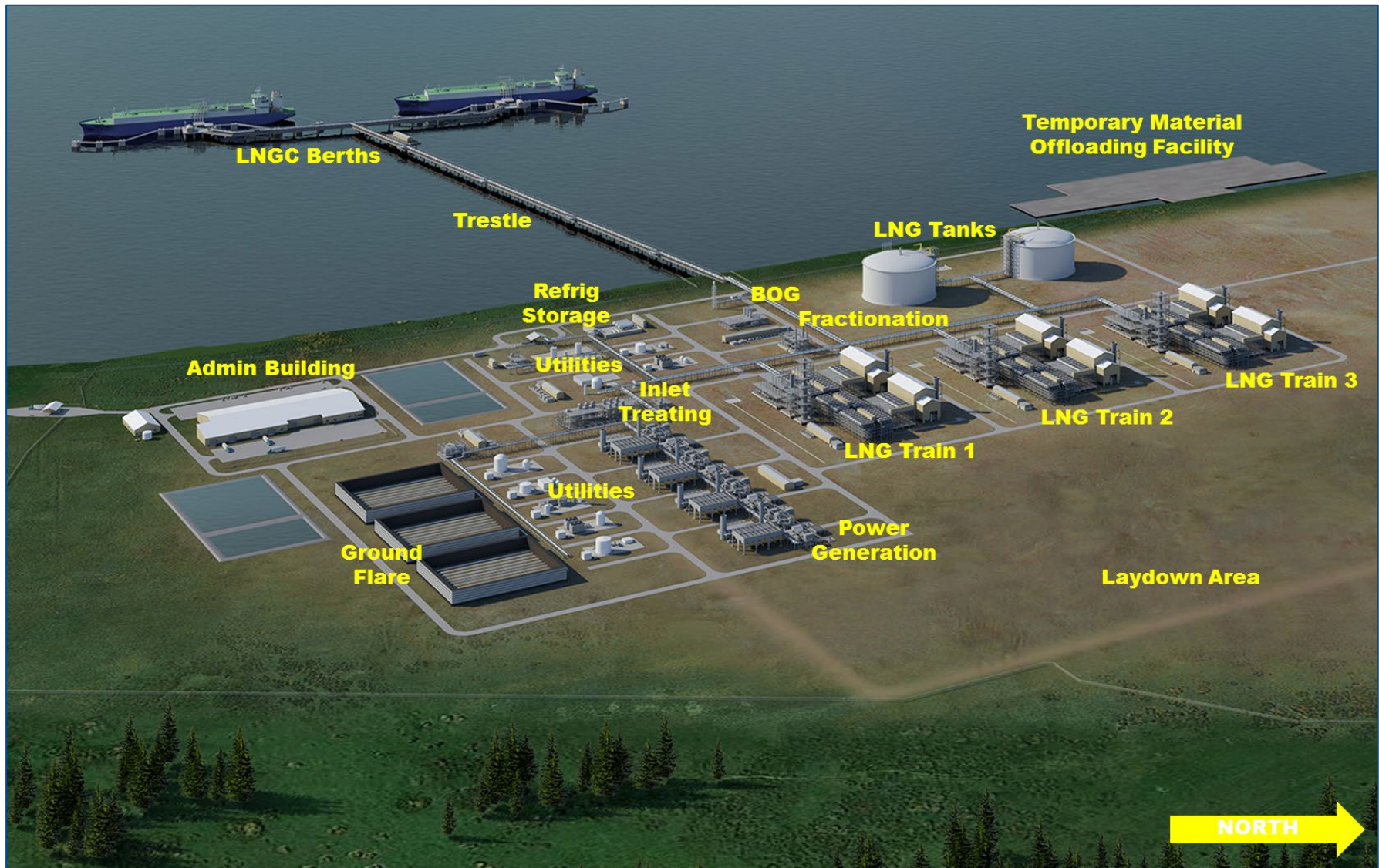
Mainline Pipeline

- Large diameter: 42", Capacity: 3.3 bcfd
- ~800 miles
- Pipeline is onshore (other than Cook Inlet crossing)
- Land portion: 99.7% fully buried and 69.54% within existing corridors
- 8 compressor stations and 1 heater station

Liquefaction Plant and Terminal

- Located in Nikiski, Alaska, capacity up to 20 MTA
- 3 trains (6.67 MTA/train), footprint: 640-1,000 acres
- Terminal: 2 x 240,000 m³ LNG Storage Tanks
- 1 loading jetty with 2 berths; 15-20 tankers per month

LNG Site Overview



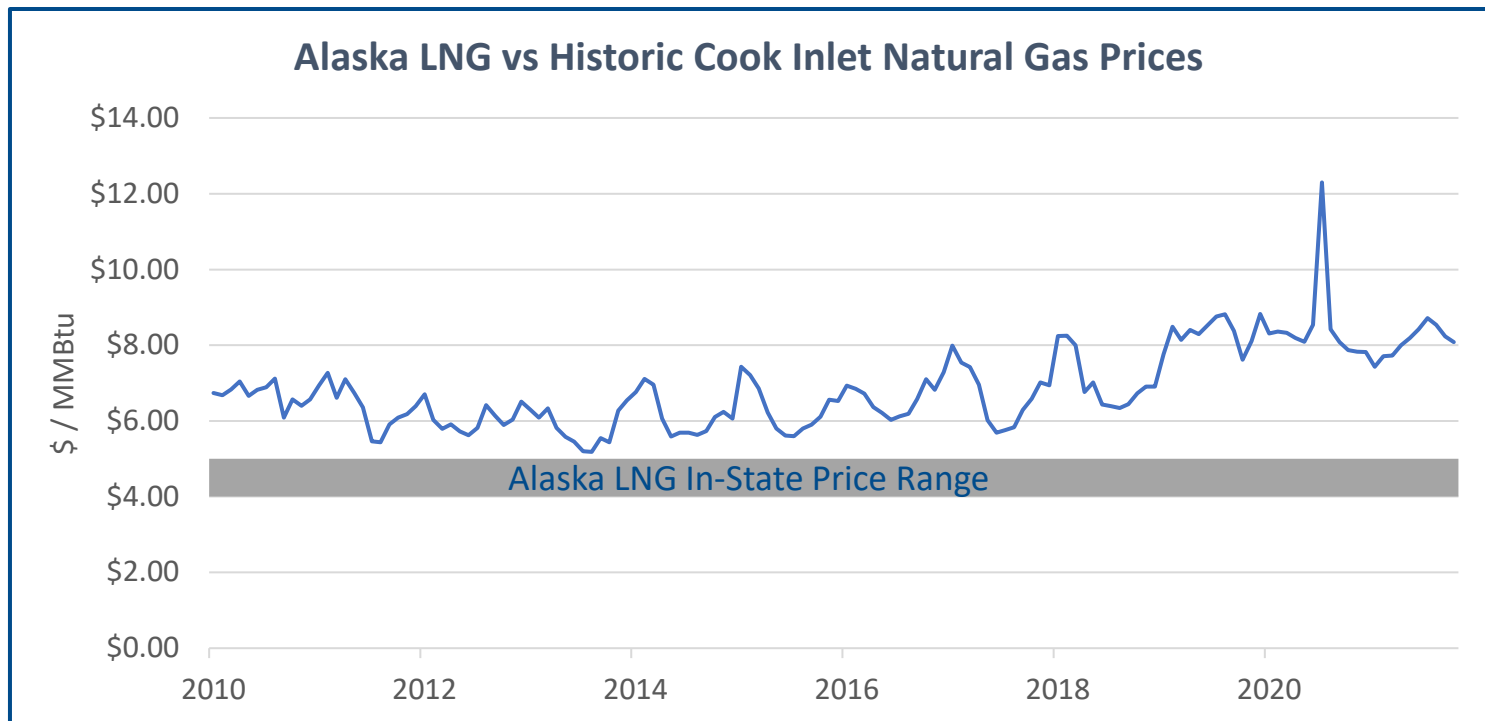
Purpose: In-State Gas & Export

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

North Slope Production

Stranded

- Alaska LNG is the only permitted opportunity to monetize
- No commodity price exposure or risk
- Supply price will reflect stranded gas assets

Proven

- Approximately 40 tcf of proven reserves
- 8.5 bcf is reinjected into fields daily
- Unit owners are ExxonMobil, ConocoPhillips, Hilcorp (formerly BP)

Conventional

- No enhanced recovery or "fracking" required
- Existing gas on State of Alaska lands
- Limited new drilling required

ExxonMobil

Hilcorp

ConocoPhillips

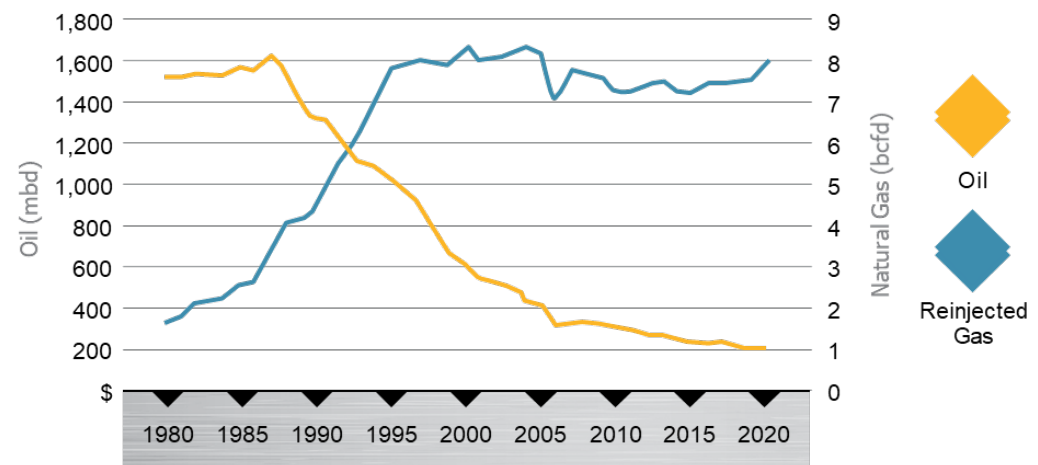
Alaska's Oil & Gas Company

Upstream infrastructure and large-scale production facilities are already in place on the North Slope.

At the request of the producers, Alaska authorities approved natural gas sales to Alaska LNG.

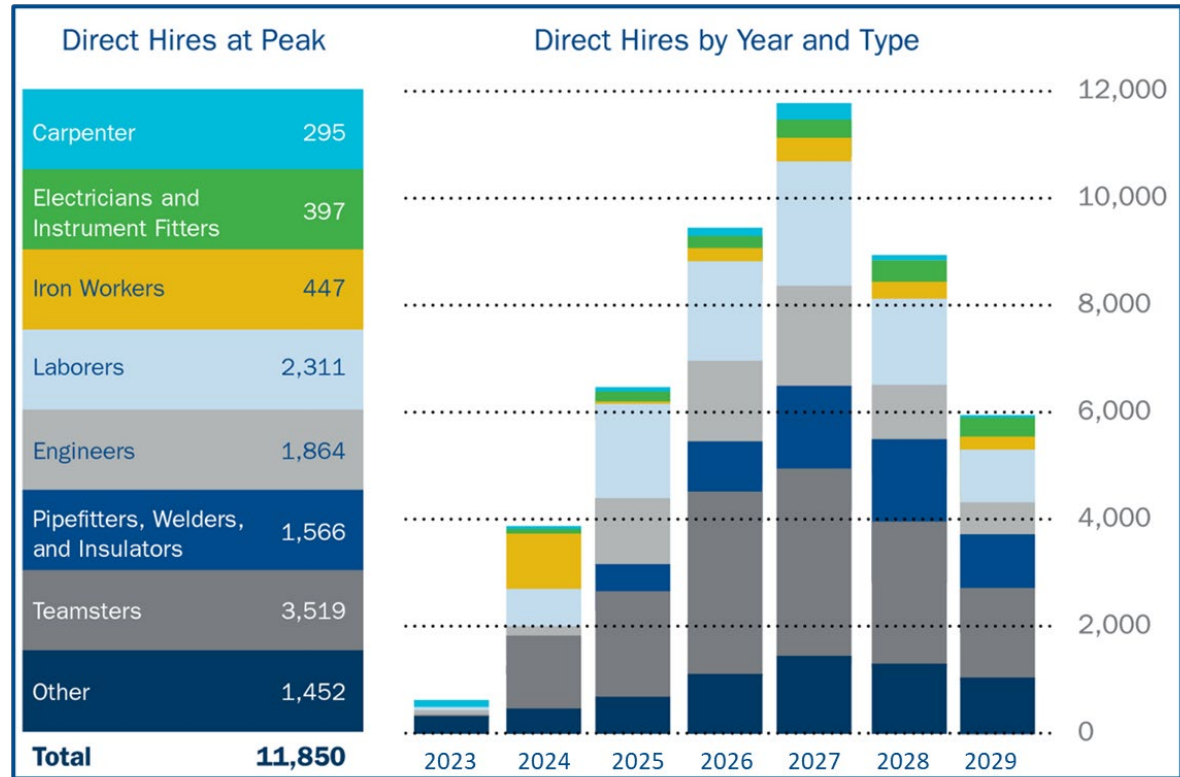
Revenue from gas sales will offset declining oil revenues.

Prudhoe Bay Production



Alaska LNG Job Creation

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



Alaska LNG Status

Strong Economics

- Alaska LNG has lower costs than its key competitors
- Cost of supply independently verified

Fully Permitted

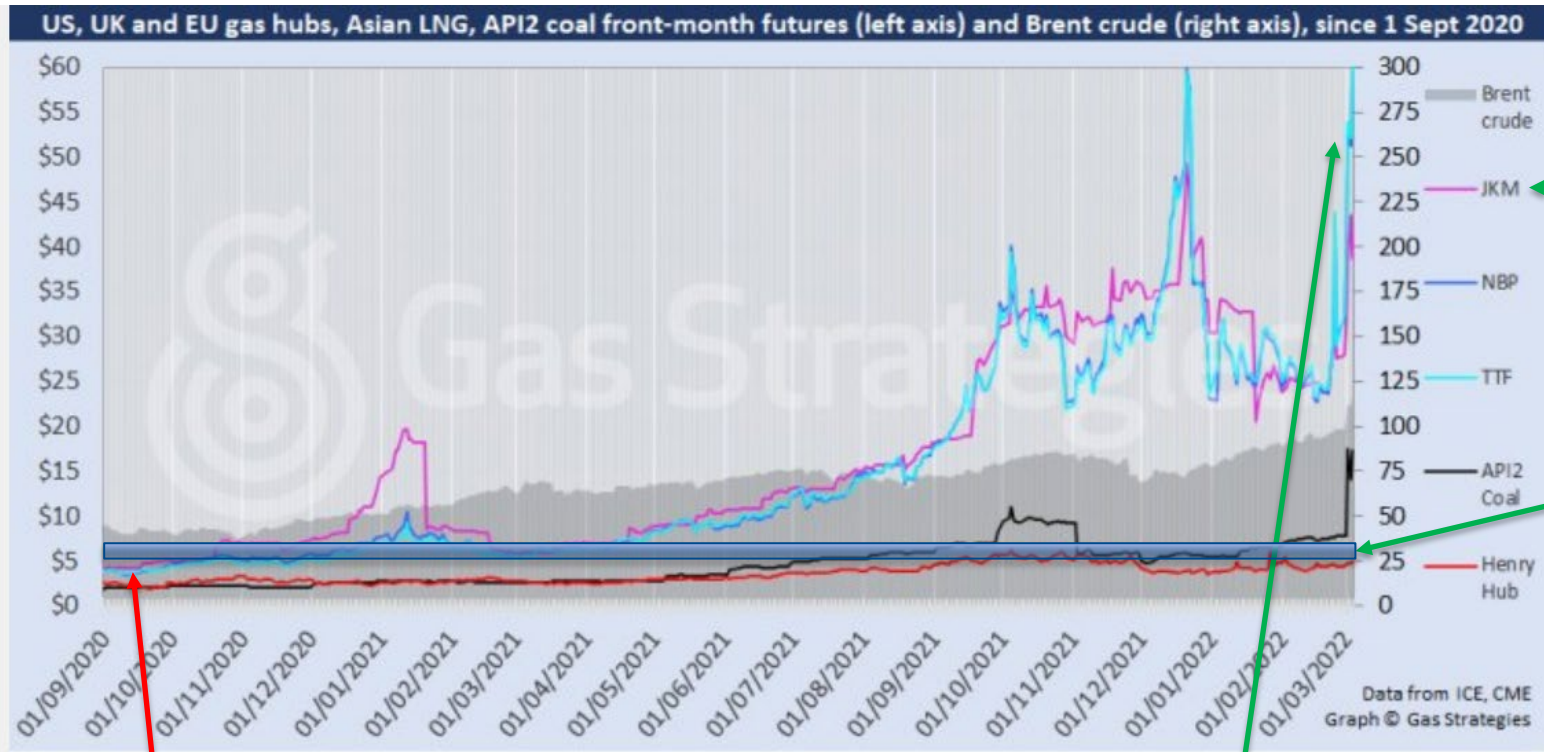
- Federal government has approved construction of Alaska LNG
- Acquiring permits took significant effort and they are valuable

Environmental Benefits

- Alaska LNG will reduce global greenhouse gas emissions
- LNG will continue to be an important energy source through energy transition



LNG Market Update



Japan, Korea
Market
(spot price)

Alaska LNG
Target Range

Fall 2020
LNG: \$3.00

Spring 2022
LNG: \$52.11

LNG Demand Forecast

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 emits half the greenhouse gases as coal

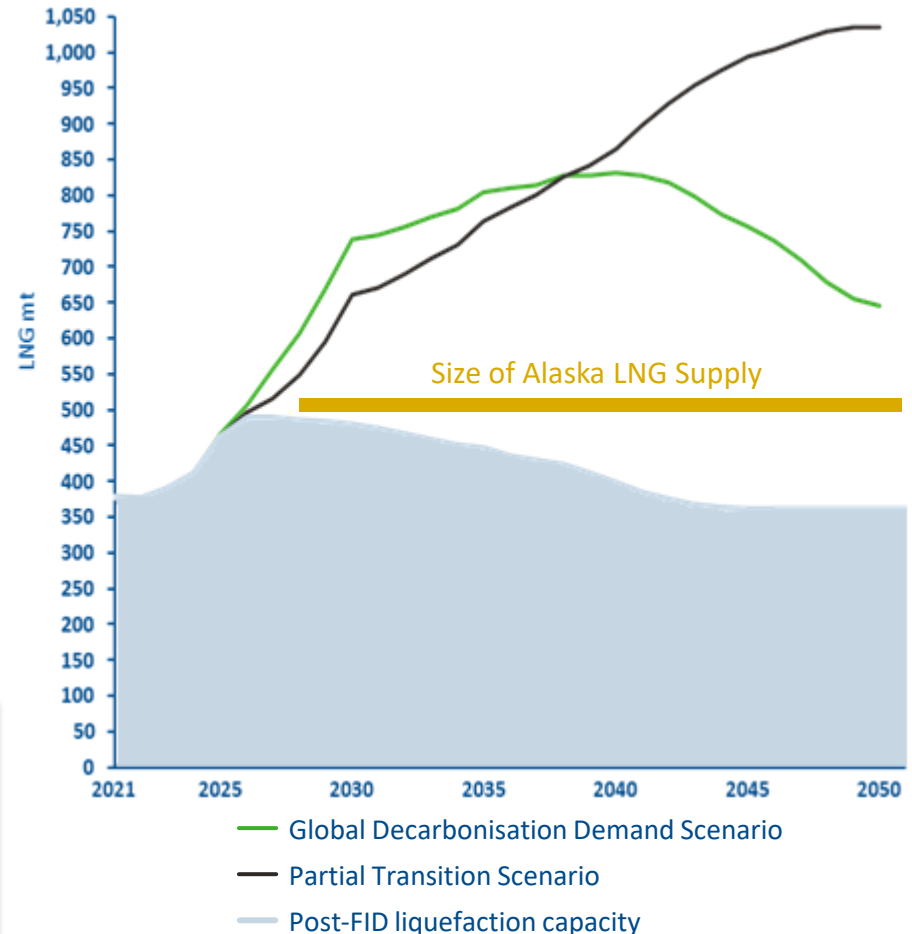
Investors and Buyers want LNG

- New LNG projects expected to be sanctioned in 2022
- Most new projects have some degree of energy transition planning
- Under both energy transition scenarios, LNG demand exceeds supply for the expected life of the Alaska LNG Project

“...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)

Global LNG Supply/Demand Balance Forecast,
2021-2050



Source: Gas Strategies

Wood Mackenzie Cost of Supply

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's 2022 Report Verified 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 U.S. LNG industry

2016 Report



2022 Update



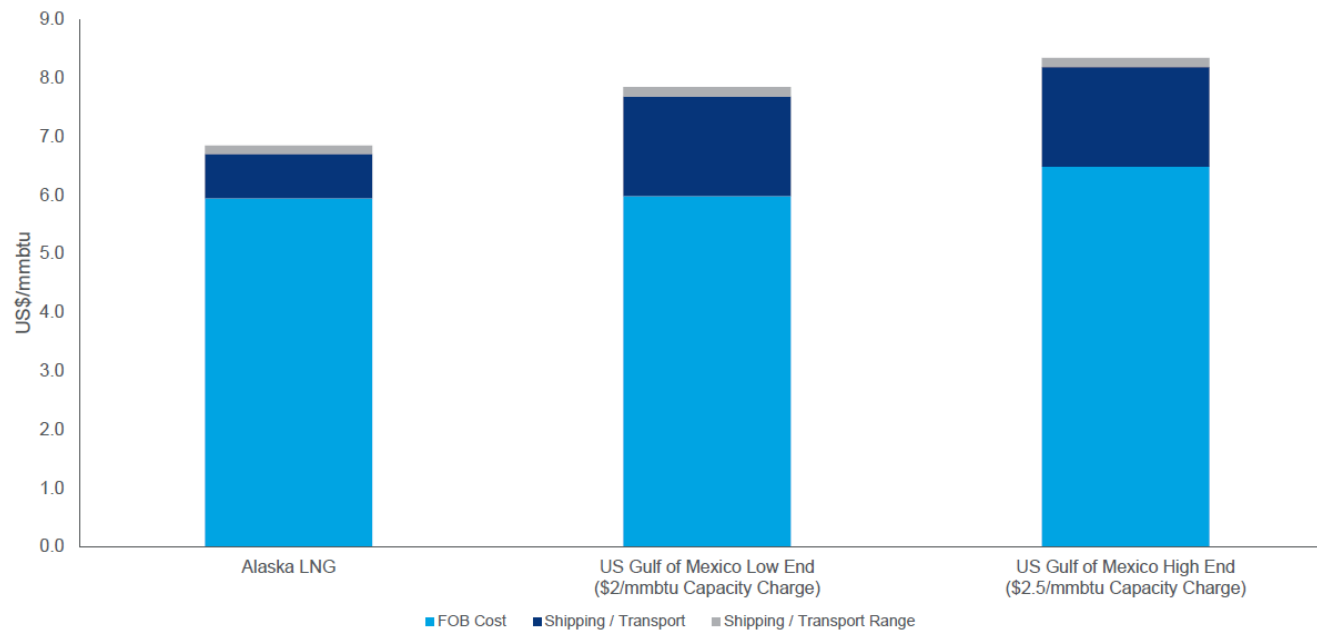
Wood Mackenzie Cost of Supply

With the cost optimization and new debt structure, Alaska LNG is competitive against US Gulf Coast LNG Projects

woodmac.com



Comparison of Breakeven cost of supply for delivery into North Asia



Source: Wood Mackenzie

10

*Slide from 2022
Wood Mackenzie
Alaska LNG
Competitiveness
Analysis*

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

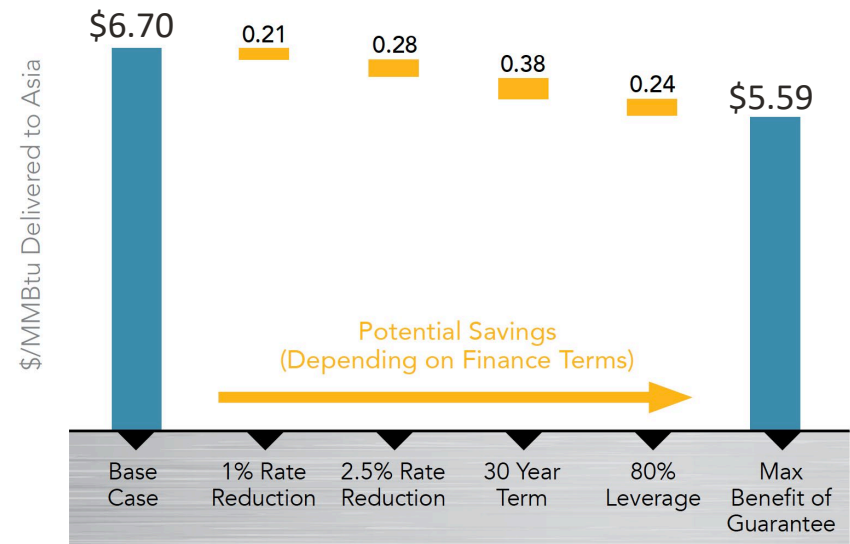
- Principle amount of debt guaranteed up to \$26.3 billion (adjusted for inflation)
- Up to 80% of the capital cost
- Term of up to 30 years
- Loan guarantee will be subject to credit terms and requirements of the loan program

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

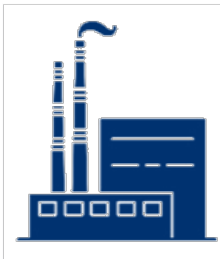


Greenhouse Gas Emissions

A lifecycle analysis of Alaska LNG shows it reduces greenhouse gas emissions for electric power generation by more than 77 million metric tons of CO₂e per year in comparison to Asian coal derived power

Alaska LNG will have the same GHG impact as:

Eliminating



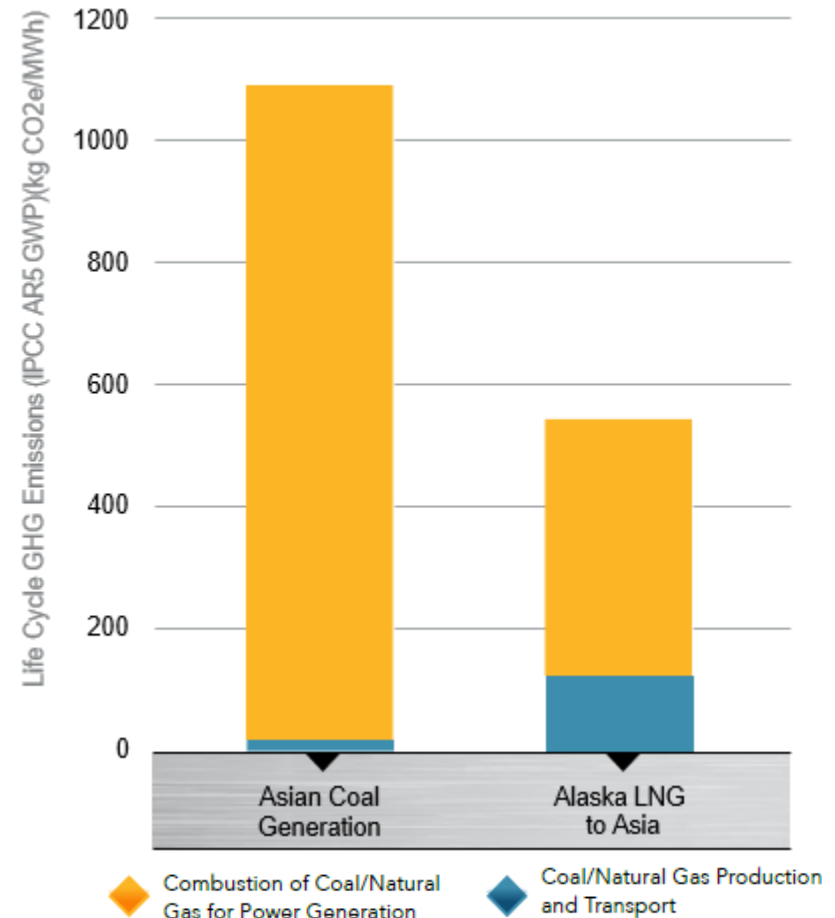
19 coal
power
plants

Constructing



16,000
Wind
Turbines

Lifecycle GHG Emissions for Natural Gas vs. Coal Power



Source: Greenhouse Gas Lifecycle Assessment: Alaska LNG Project

Transition to Private Developers

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

2013 - 2016

Producer Led

Producers provided initial scoping and engagement – important demonstration of producer support

2017 - 2022

State Led

State-led initial design, permitting and authorization – important demonstration of state support

2022 - onward

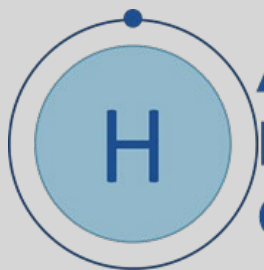
Developer Led

Handoff to infrastructure developers who require lower profits and lower risk – reduces the cost of the project and improves economics

Alignment of Strategic Parties

- Advancing the structure and leadership of the project with Strategic Parties consisting of:
 - North Slope producers
 - A major pipeline developer
 - LNG buyers
 - Banks and financial corporations
- These parties have the technical and financial capacity to bring this project to completion
- Strategic parties have a combined market capitalization of \$1.25 trillion
- Focus is an LNG Facility Strategic Party with significant market capitalization and an LNG development track record

Alaska Hydrogen Opportunity



Alaska Hydrogen Opportunity

50 years ago, the modern LNG industry was created in Alaska. For many of the same reasons, the clean hydrogen industry can also be created here in Alaska.

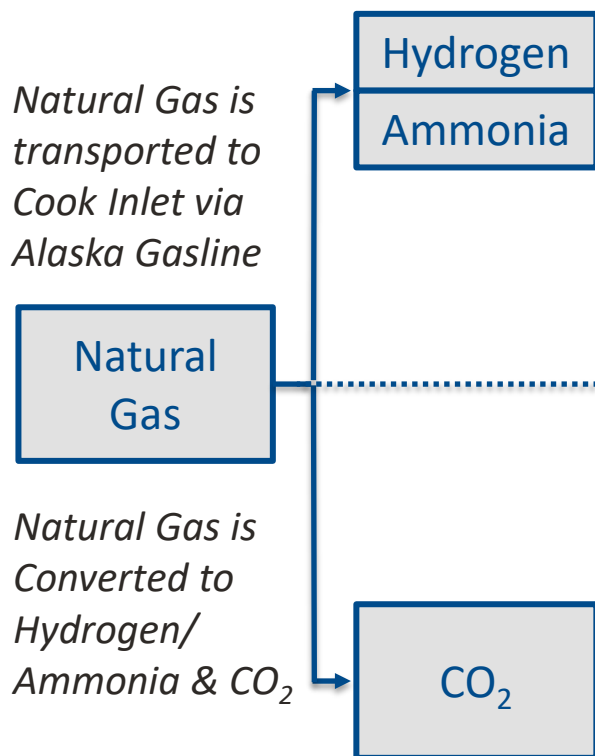
**Carbon Storage and
Sequestration at the Project Site
on Tidewater**

**Short Distance to Growing Clean
Hydrogen Markets in Asia**

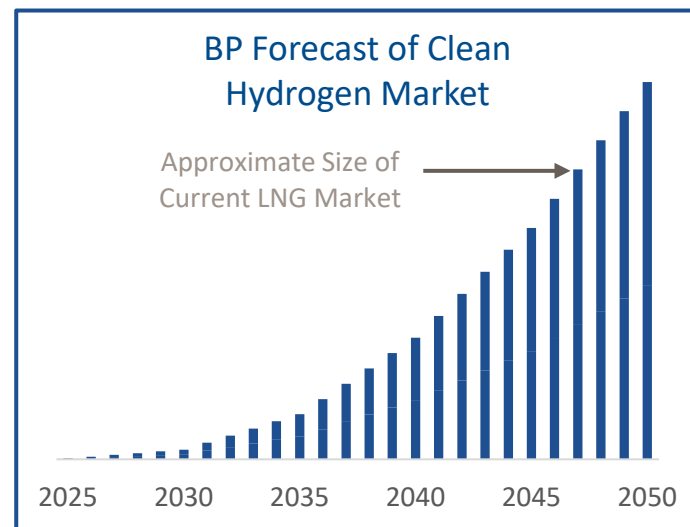
**Low-GHG Natural Gas from
Conventional Supply**

**Existing Ammonia Plant well
Positioned to be First Mover in
Market**

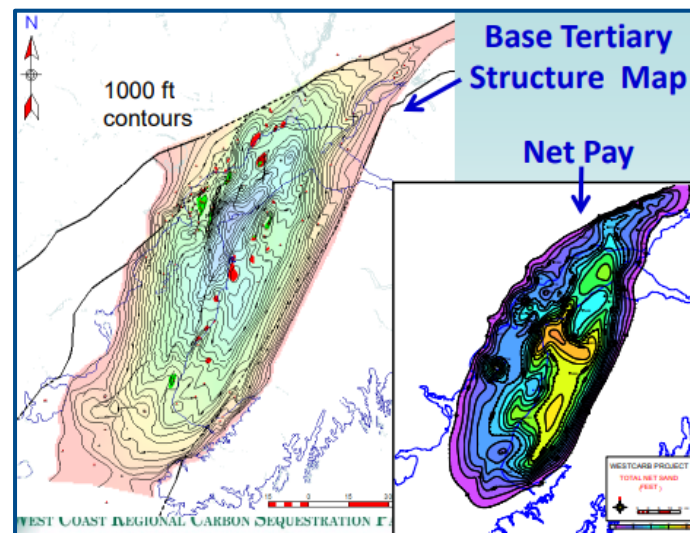
Alaska Hydrogen Opportunity



- Hydrogen/ammonia are clean energy sources
- Key Asian markets forecast rapid demand growth
- Infrastructure funding available for investment in Alaska



- Cook Inlet has the best carbon sequestration potential on the Pacific Coast of North America
- Allows for “future-proofing” Alaska LNG with transition to net-zero hydrogen/ammonia production

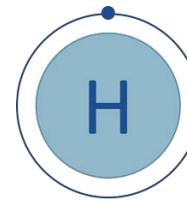


Source: West Coast Regional Carbon Sequestration Partnership

Alaska LNG and Blue Ammonia

Alaska LNG and Cook Inlet Blue Ammonia are Complementary

ALASKA LNG



Cook Inlet
Blue Ammonia

The size of the current LNG market can support construction of a 20-MTPA Alaska LNG facility. This facility is large enough to support construction of the Alaska Natural Gas Pipeline

Cook Inlet Blue Ammonia demonstrates the opportunity for expanded clean energy supply from Alaska. This future proves Alaska LNG investment and provides a path to net-zero energy from Alaska

America's national security solution, energy

BY MICHAEL J. DUNLEAVY, OPINION CONTRIBUTOR — 03/03/22 03:30 PM EST
THE VIEWS EXPRESSED BY CONTRIBUTORS ARE THEIR OWN AND NOT THE VIEW OF THE HILL

2 SHARES



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Alaska is the answer to a number of critical national security questions in our nation's history. For example, during World War II, the 1,800-mile Alaska highway was built in just eight months to pry open military access to the North Pacific theater. In 1973, the OPEC oil embargo drove up the price of gasoline more than 40 percent; [Congress quickly authorized the Trans-Alaska Pipeline](#) and Alaska went on to start producing 20 percent of the nation's oil.

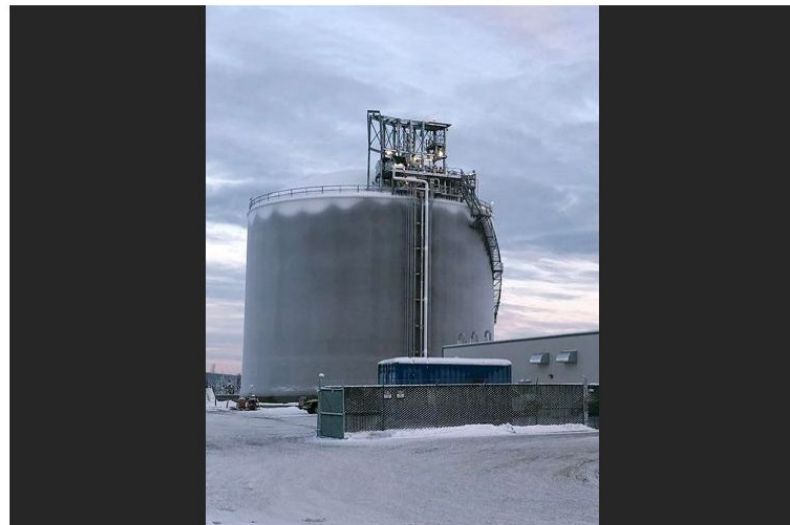
Energy security equals national security and now Russia's invasion of Ukraine threatens the world's energy supply. [Europe draws 40 percent of its natural gas from Russia](#), perhaps why Russia chose to invade in the dead of winter.

And although the U.S. recently became the world's largest exporter of liquefied natural gas (LNG), serving allies across both the Atlantic and Pacific, our supply is still stretched thin. Today we have limited ability to meet additional European energy needs if the Russian spigot closes. A recent Wall Street Journal report [notes](#) "Given that U.S. LNG cargoes have Asian customers, where supply is also tight, there isn't infinite wiggle room."

150 CO

As Russian energy falls out of favor, a push for an Alaska gas pipeline

Amanda Bohman Mar 6, 2022 Updated 1 hr ago



A \$60 million public works project — a huge tank for storing natural gas — was completed in 2020 near Fairbanks.

Amanda Bohman/News-Miner

At the "world's premier energy event" CERAweek, starting Monday in Houston, Texas, Gov. Mike Dunleavy will be promoting the Alaska natural gas pipeline project with new hope.

World leaders are talking about sanctioning energy exports from Russia, a major global liquefied natural

- Alaska LNG is economic and needed to fill projected LNG demand
- Alaska LNG will contribute to significant reductions in world-wide greenhouse gas emissions
- Alaska LNG will provide energy security for Alaska and our country's allies
- Working with world-class private-sector Strategic Parties to provide investment and lead the Alaska LNG Project forward
- Encouraging Alaskans to rally behind the project



ALASKA
GASLINE
DEVELOPMENT CORP.

