Alaska LNG Project Update

Brad Chastain, CPG, Alaska LNG Project Manager
Presented to Kenai/Soldotna Joint Chamber Luncheon
July 6, 2022

ALASKA GASLINE DEVELOPMENT CORP.

Who is AGDC?

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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.

Alaska LNG System

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North Slope Gas Supply

- 40 Trillion cubic feet (tcf) of discovered, conventional, and developed North Slope associated gas from Prudhoe Bay and Point Thomson
- This gas is stranded and can be produced at a low incremental cost

Gas Treatment Plant

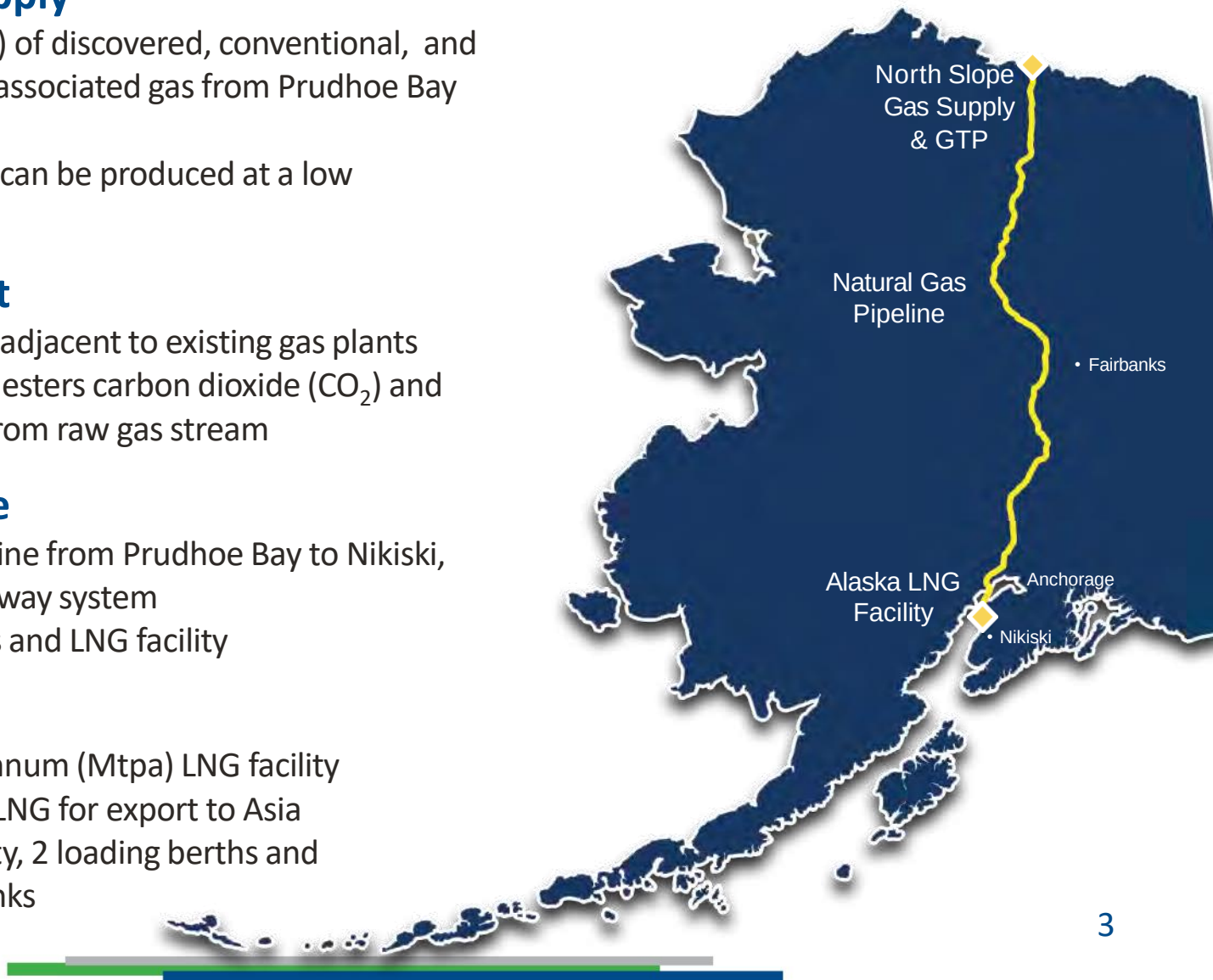
- Located in Prudhoe Bay adjacent to existing gas plants
- Removes and uses/sequesters carbon dioxide (CO_2) and hydrogen sulfide (H_2S) from raw gas stream

Natural Gas Pipeline

- 807-mile, 42” dia. mainline from Prudhoe Bay to Nikiski, following TAPS and highway system
- Provides gas to Alaskans and LNG facility

Alaska LNG Facility

- 20 Million tonnes per annum (Mtpa) LNG facility
- Converts natural gas to LNG for export to Asia
- 3 liquefaction trains, jetty, 2 loading berths and 2 x 240,000 m^3 LNG tanks



Alaska LNG Status

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Strong Economics

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

Federal Permits

- 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 Demand Forecast

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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

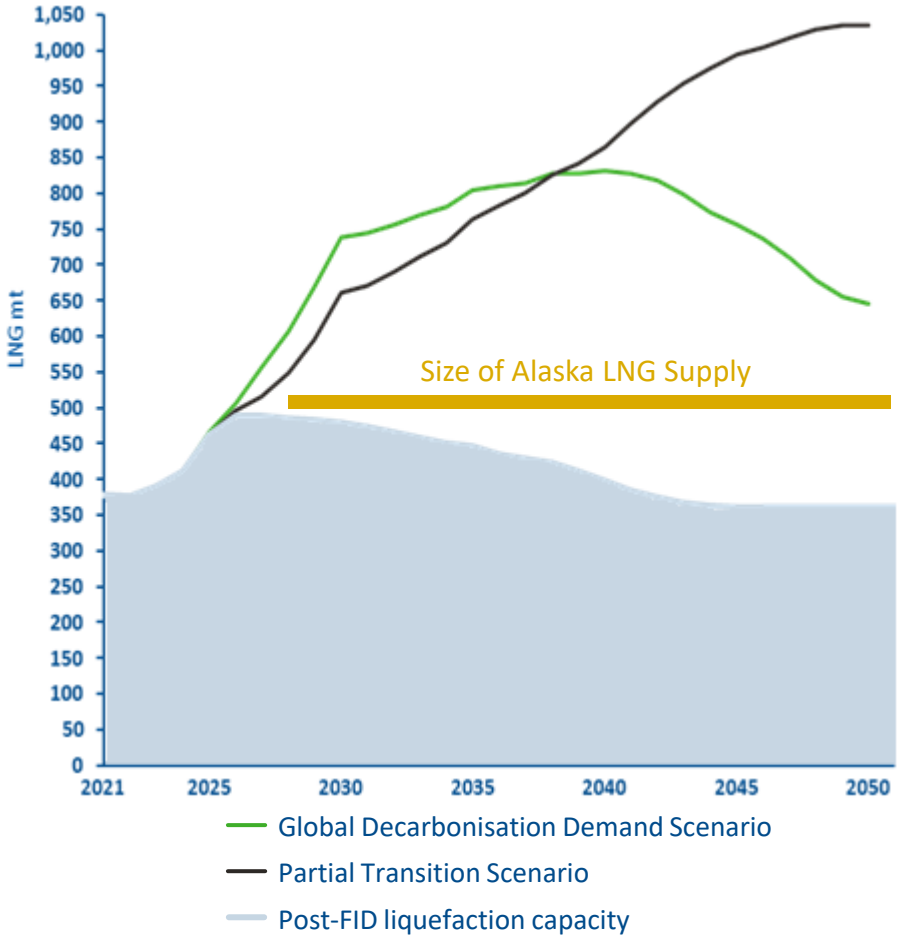
Investors and Buyers want LNG

- 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

The LNG Market Update

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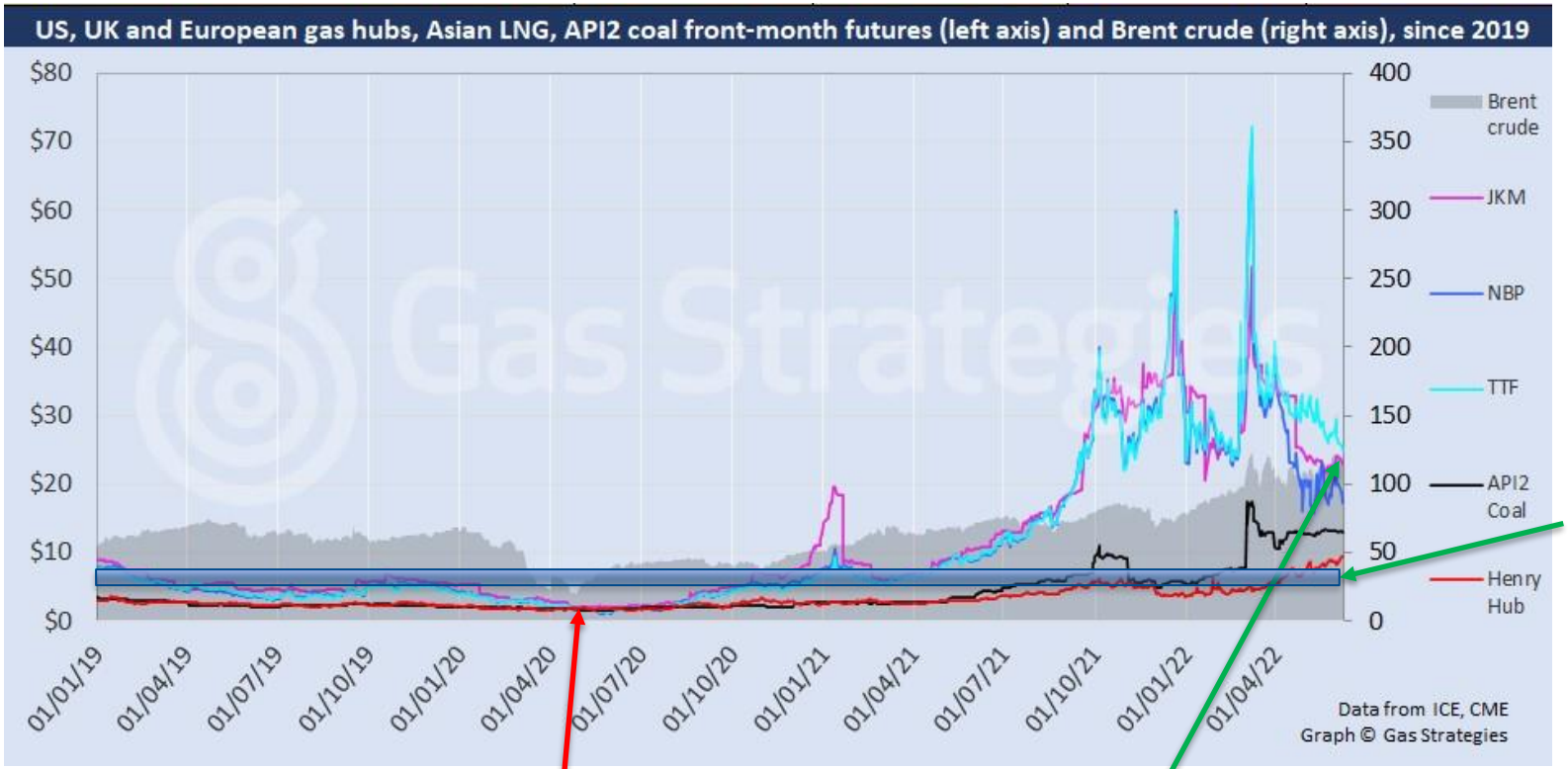
LNG and natural gas spot prices remain high and are expected to stay high for the foreseeable future. This creates an opportune environment for development of Alaska LNG.



Alaska LNG
Target Range

Summer 2020
LNG: $2.00
Henry Hub: $2.00

June 6, 2022
LNG: $23.36
Henry Hub: $9.32

Japan, Korea Market (spot price)

Wood Mackenzie Cost of Supply

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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

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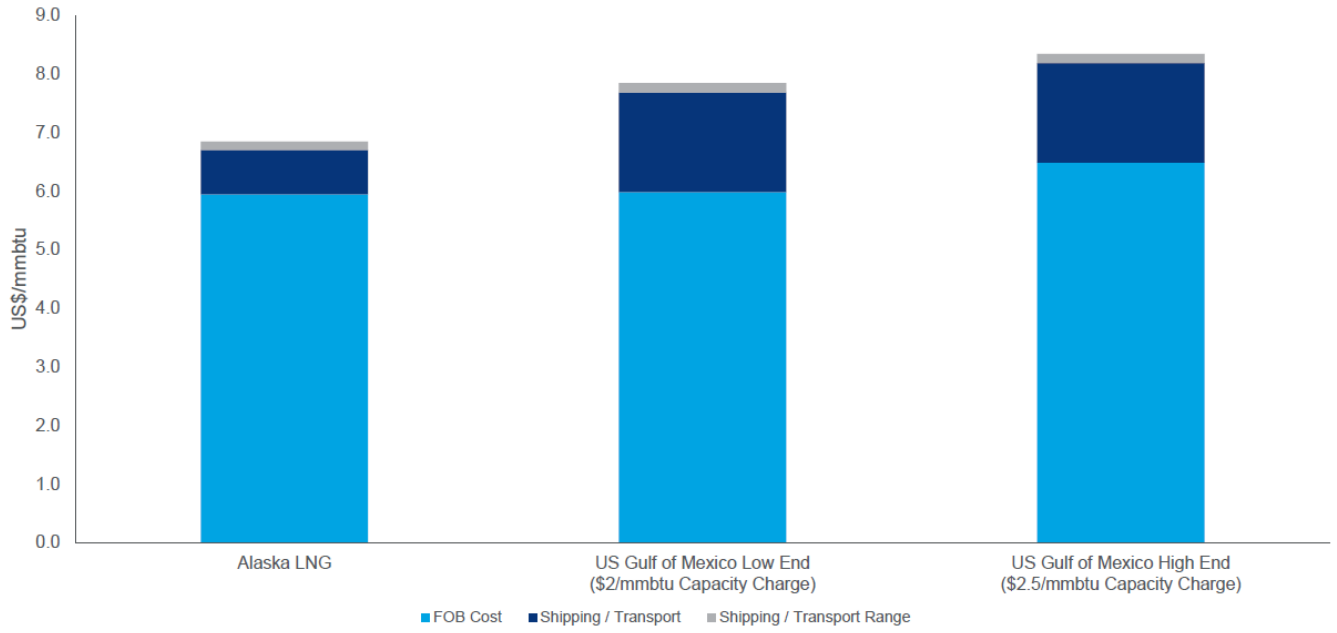
woodmac.com

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

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Slide from 2022 Wood Mackenzie Alaska LNG Competitiveness Analysis

Federal Loan Guarantee

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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

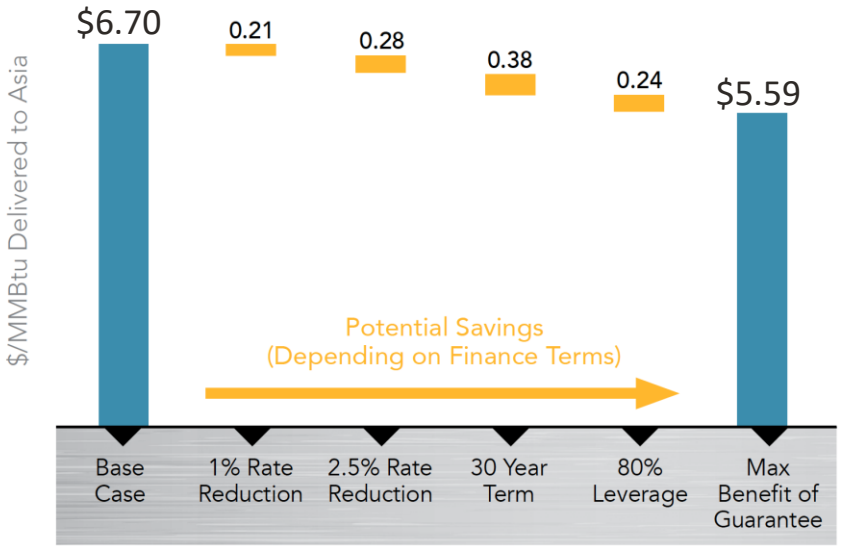
- Principle amount of debt guaranteed up to $26.3 billion (adjusted for inflation)
- Up to 80% of the capital cost
- Term of up to 30 years
- Loan guarantee will be subject to credit terms and requirements of the loan program

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



Purpose: In-State Gas & Export

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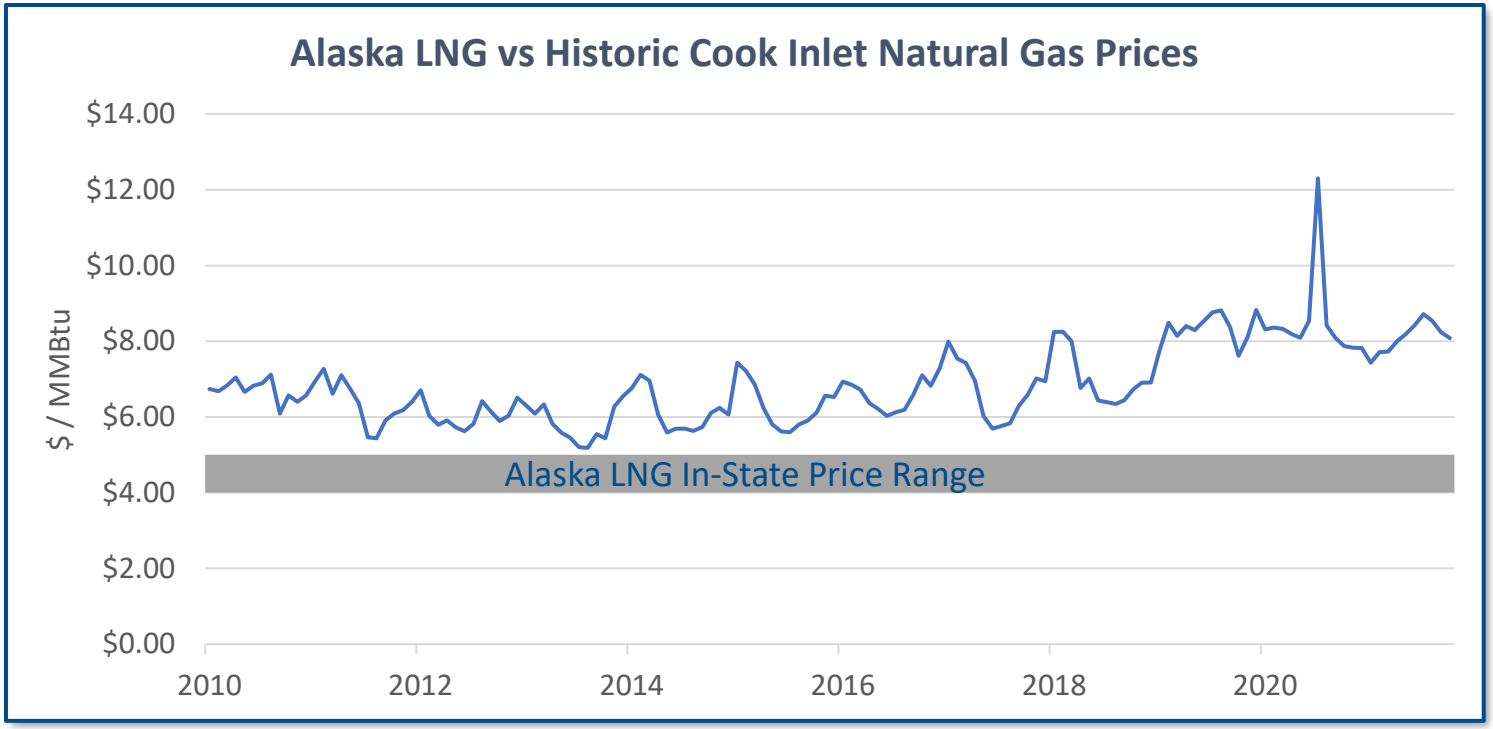
Low-Cost Gas for Alaskans

- 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

Cook Inlet Gas Supply

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- Railbelt Utilities Announced Working Group:
  - Includes all major railbelt utilities
  - Assessing future gas supply needs and energy security in Cook Inlet
- AGDC met with utility group:
  - Provided project update
  - Offered to provide detailed cost and economic information
- The Alaska LNG Project and the pipeline are the best option to replace Cook Inlet gas:
  - Secure, low-cost supply for Alaskans
  - If not constructed, Alaska may need to import LNG to replace Cook Inlet gas

ANCHORAGE DAILY NEWS

Energy

Hilcorp warns Alaska utilities about uncertain Cook Inlet natural gas supplies

By Alex DeMarban
Updated: May 17, 2022
Published: May 17, 2022

Exhaust from the Southcentral Power Project in Anchorage is lit by the setting sun on Friday, Jan. 11, 2019. (Loren Holmes / ADN)

Officials with several Alaska utilities say they've been informed by Hilcorp that the company does not currently have enough natural gas reserves in Cook Inlet to provide for new gas contracts. Those contracts face renewal in the next two to 11 years.

Greenhouse Gas Emissions

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A lifecycle analysis of Alaska LNG shows it reduces greenhouse gas emissions for electric power generation by more than 77 million metric tons of CO_2e per year in comparison to Asian coal derived power

Alaska LNG will have the same GHG impact as:

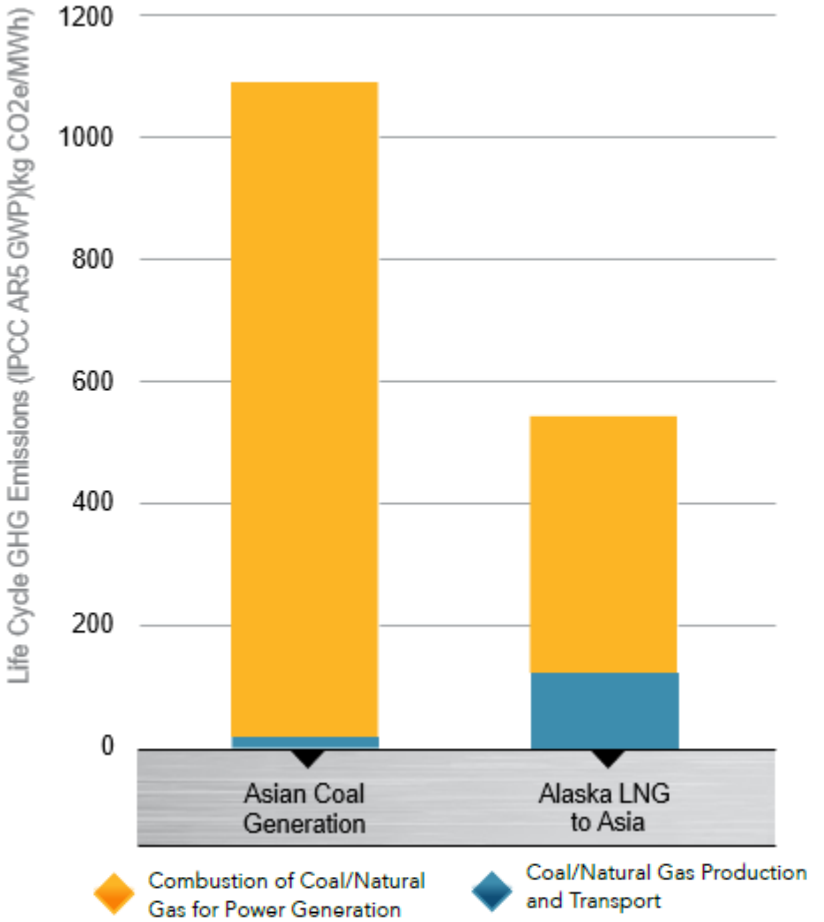
Eliminating

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

Jobs for Alaskans

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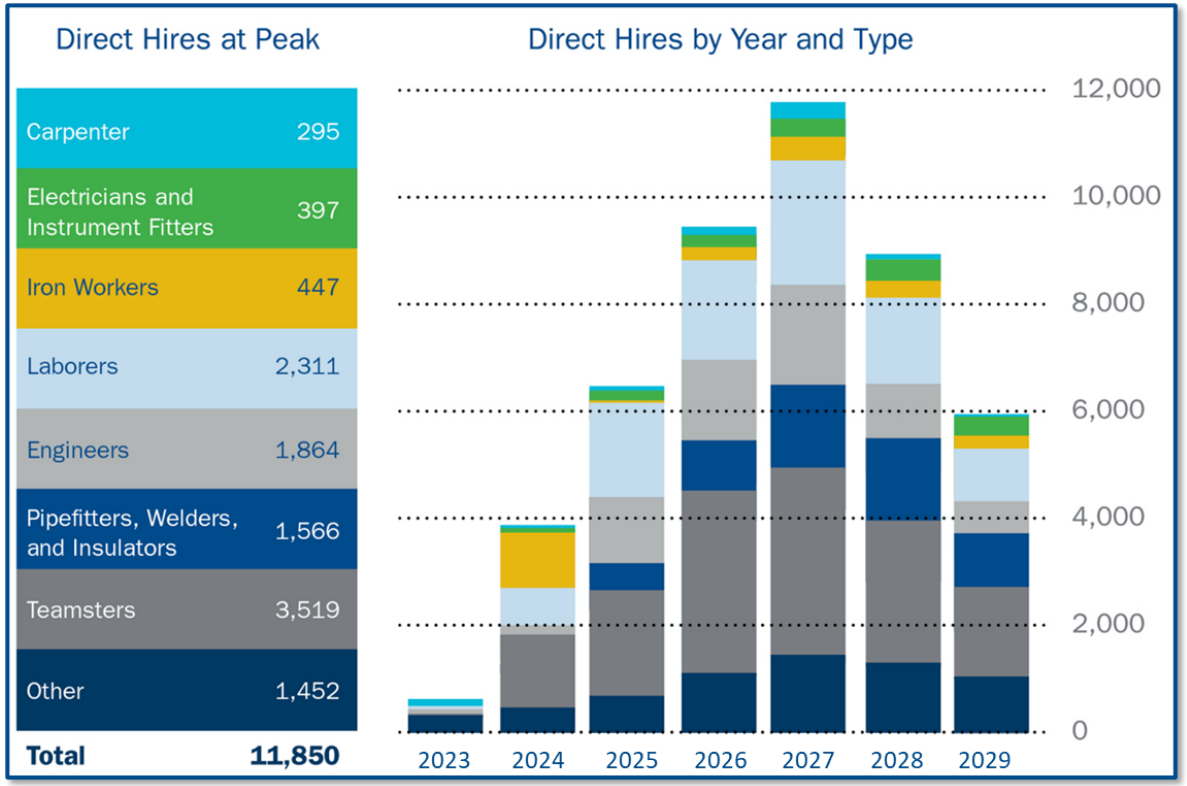
Alaska LNG Job Creation

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



Transition to Private Developers

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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

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- Advancing the structure and leadership of the project with Strategic Parties consisting of:
  - North Slope producers
  - A major pipeline developer (Enbridge)
  - 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

Japan Trade Mission

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- Japan Trade Mission with Governor Dunleavey:
  - Purpose of trip was to invite Japanese companies to join a consortium to advance Alaska LNG and invite support from government entities for Japanese investment in the Alaska LNG Project
  - AGDC President and Venture Development team accompanied
  - Presented Alaska LNG Project and Alaska's ability to supply LNG and ammonia to meet Japan's energy transformation goals
  - Opportunity for executive follow-up on past commercial discussions
  - Attended meetings with government entities that can provide financial support to a Japanese consortium's investment in Alaska

Meetings held with:

- JERA
- Tokyo Gas
- INPEX
- Mitsubishi
- METI
- JOGMEC
- JBIC
- U.S. Ambassador
- TOYO Engineering
- Chiyoda
- MOL

Alaska Hydrogen Opportunity

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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

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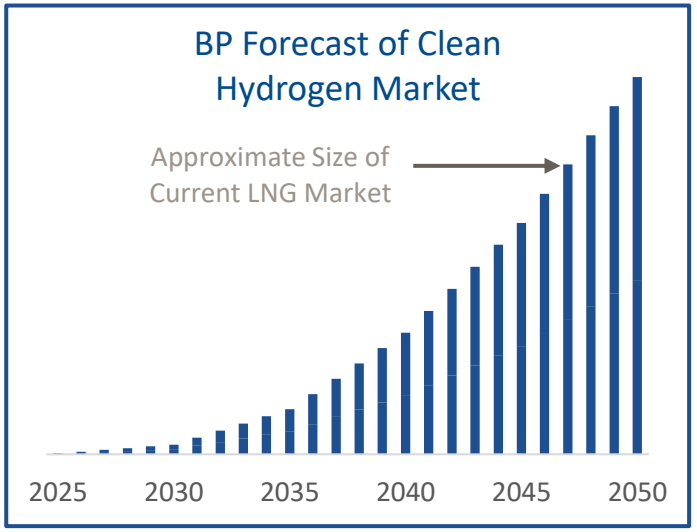
Natural Gas is transported to Cook Inlet via Alaska Gasline

Natural Gas

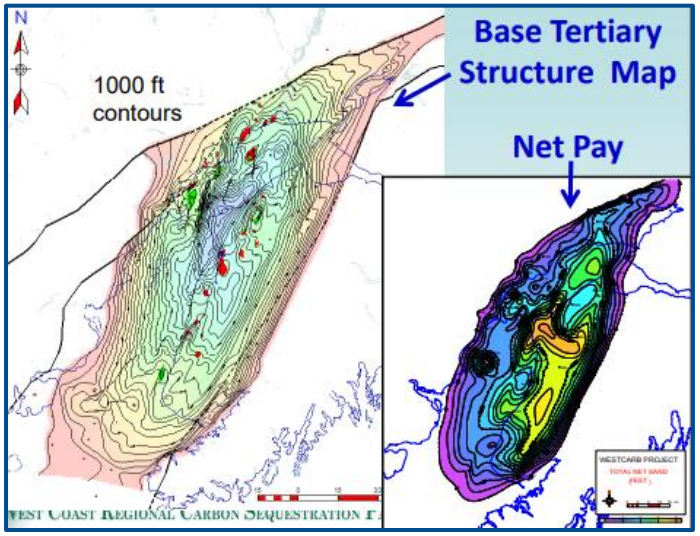
Natural Gas is Converted to Hydrogen/ Ammonia & CO_2

- Hydrogen
- Ammonia
- CO_2

- 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 H2Hub Proposal

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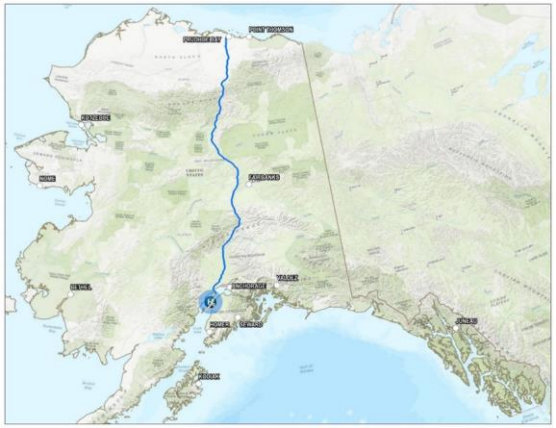
- $1B-$2B Department of Energy grant opportunity
- AGDC will lead the proposal with private companies forming the backbone of the proposal
- DOE Notice of Intent (NOI) issued June 6, 2022
- Next milestone will be Funding Opportunity Announcement (FOA) – Fall 2022



DOE Draft Supplemental EIS

Department of Energy (DOE) DRAFT Supplemental Environmental Impact Statement (SEIS) issued June 24, 2022

Positive findings:

- The Prudhoe Bay Unit (PBU) and Point Thomson Unit (PTU) have sufficient gas to supply the project for the 30-year term of the export license
- None of the impacts considered across the 19 resource categories were ranked Significant or Adverse – which is strikingly positive for an EIS
- Exporting LNG from the North Slope of Alaska would not increase GHG emissions in comparison to the 'business as usual' production on the North Slope
- GHG advantages of Alaska LNG over Gulf Coast LNG were noted

Comment period is from July 1 - August 15, 2022

Comments can be submitted at https://alaska-lng.com/seis-commenting/

Moving Forward

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- Alaska LNG is economic and needed to supply projected LNG demand
- Alaska LNG is the only fully permitted LNG project on the U.S. West Coast
- 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
- World-class private-sector parties will provide the investment and lead the Alaska LNG Project forward
- Encouraging Alaskans to rally behind this generational project

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Backup Slides

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Alaska H2Hub Proposal Schedule

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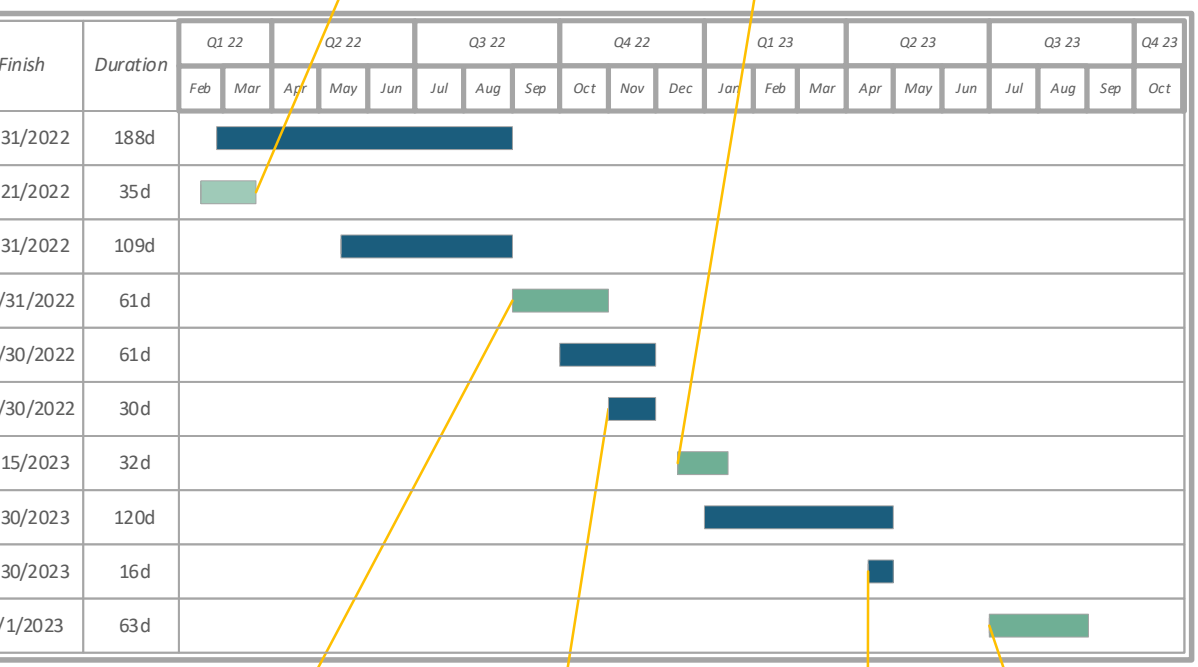
ID	Task Name	Start	Finish	Duration
1	Capture Strategy & AGDC Ramp-up	2/25/2022	8/31/2022	188d
2	DOE RFI Period	2/15/2022	3/21/2022	35d
3	Draft FOA Period – Team Development	5/15/2022	8/31/2022	109d
4	DOE FOA Release	9/1/2022	10/31/2022	61d
5	Concept Papers Decelopment	10/1/2022	11/30/2022	61d
6	Concept Papers Submission to DOE	11/1/2022	11/30/2022	30d
7	DOE Full Application Request	12/15/2022	1/15/2023	32d
8	Full Application Development	1/1/2023	4/30/2023	120d
9	Full Application Submittal	4/15/2023	4/30/2023	16d
10	DOE Phase 1 Award	7/1/2023	9/1/2023	63d



AGDC RFI Response
March 21, 2022

"...followed by DOE notification encouraging or discouraging submittal of full applications approximately four weeks later."

"OCED anticipates issuing the FOA in the September/October 2022 timeframe..."

"The FOA will likely request that concept papers be submitted 6-8 weeks after the FOA is released..."

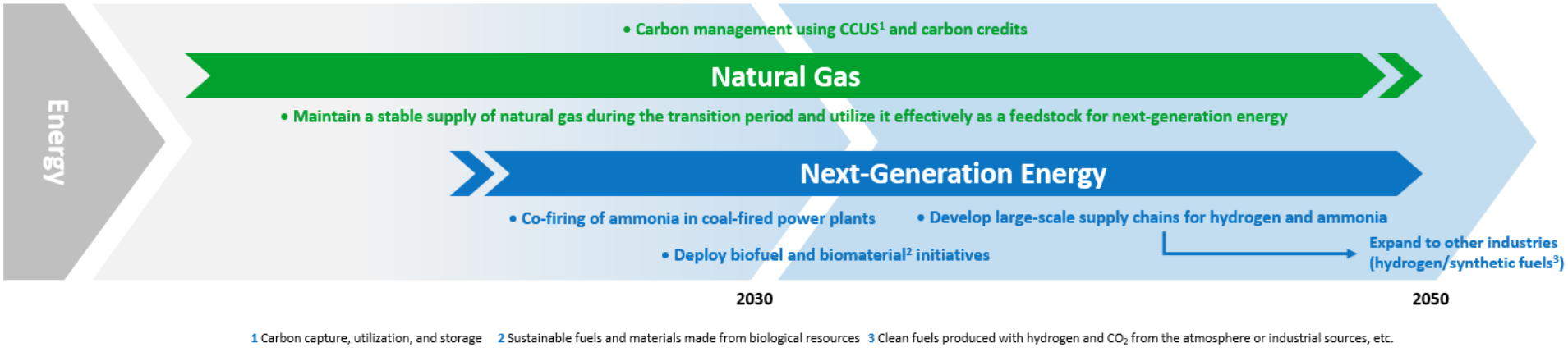
"Full applications will likely be requested approximately four months following such notification."

"DOE may require several months to review applications and select awardees."

Phase 1 – Detailed Plan
Up to $10M DOE Funding
Non-Federal Share ≥50%
12–18 Months Duration
6-10 Awards

Subsequent Phases/Awards
Phase 2 – Develop, Permit, Finance
Phase 3 – Install, Integrate, Construct
Phase 4 – Ramp-Up & Operate

Japanese Approach to Energy Transformation



Alaska can provide what Japan needs for energy transformation:

- Stable long-term supply of LNG
- Transition to supply of clean supply of ammonia
- Carbon capture and sequestration

Alaska Delegation Support

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- Working with Senator Murkowski on federal options to support Alaska LNG Project
- Senator Sullivan's message on Alaska LNG during congressional visit to Japan and Korea:
  - U.S. has shared values and provides geopolitical stable source of energy
  - Energy supply from strategic partner
  - Strengthens trade relationships
  - Alaska LNG is fully permitted project
  - Alaska has best carbon sequestration potential on Pacific coast of North America

North Slope Production

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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.