

# Alaska LNG Project Update

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Presented to: *Healy Community Meeting*

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- Alaska LNG Project Overview
- Regulatory Status
- LNG Market
- Project Economics
- Future Proofing: Hydrogen/Ammonia Production
- Moving Forward

# Alaska LNG: Gas for Alaskans and Export

ALASKA GASLINE  
DEVELOPMENT CORP.

## North Slope Gas Supply

- 40 Trillion cubic feet (tcf) of discovered, conventional, and developed North Slope associated gas from Prudhoe Bay and Point Thomson
- Gas is currently stranded

## Gas Treatment Plant

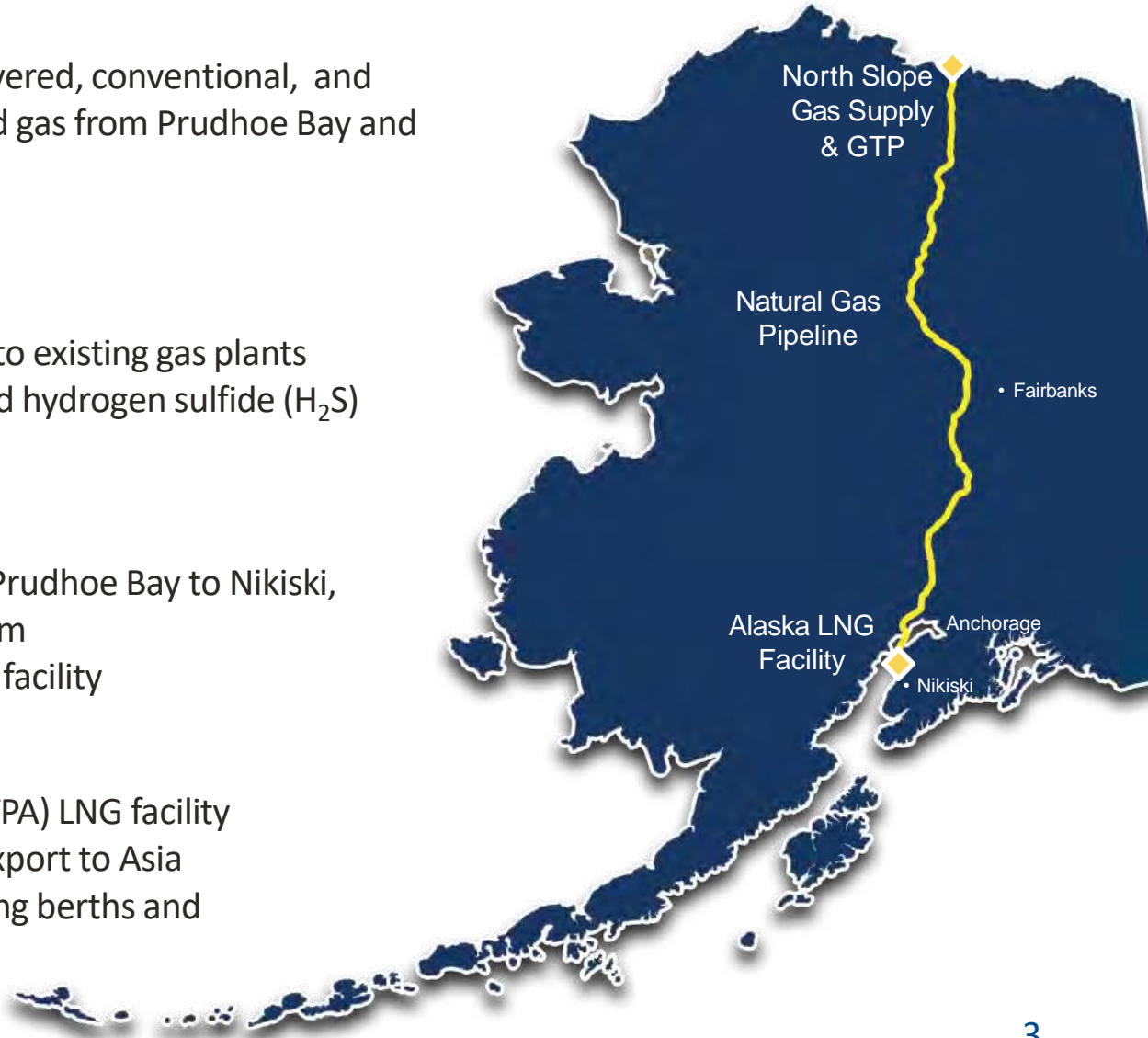
- Located in Prudhoe Bay adjacent to existing gas plants
- Removes carbon dioxide (CO<sub>2</sub>) and hydrogen sulfide (H<sub>2</sub>S) from raw gas stream

## Natural Gas Pipeline

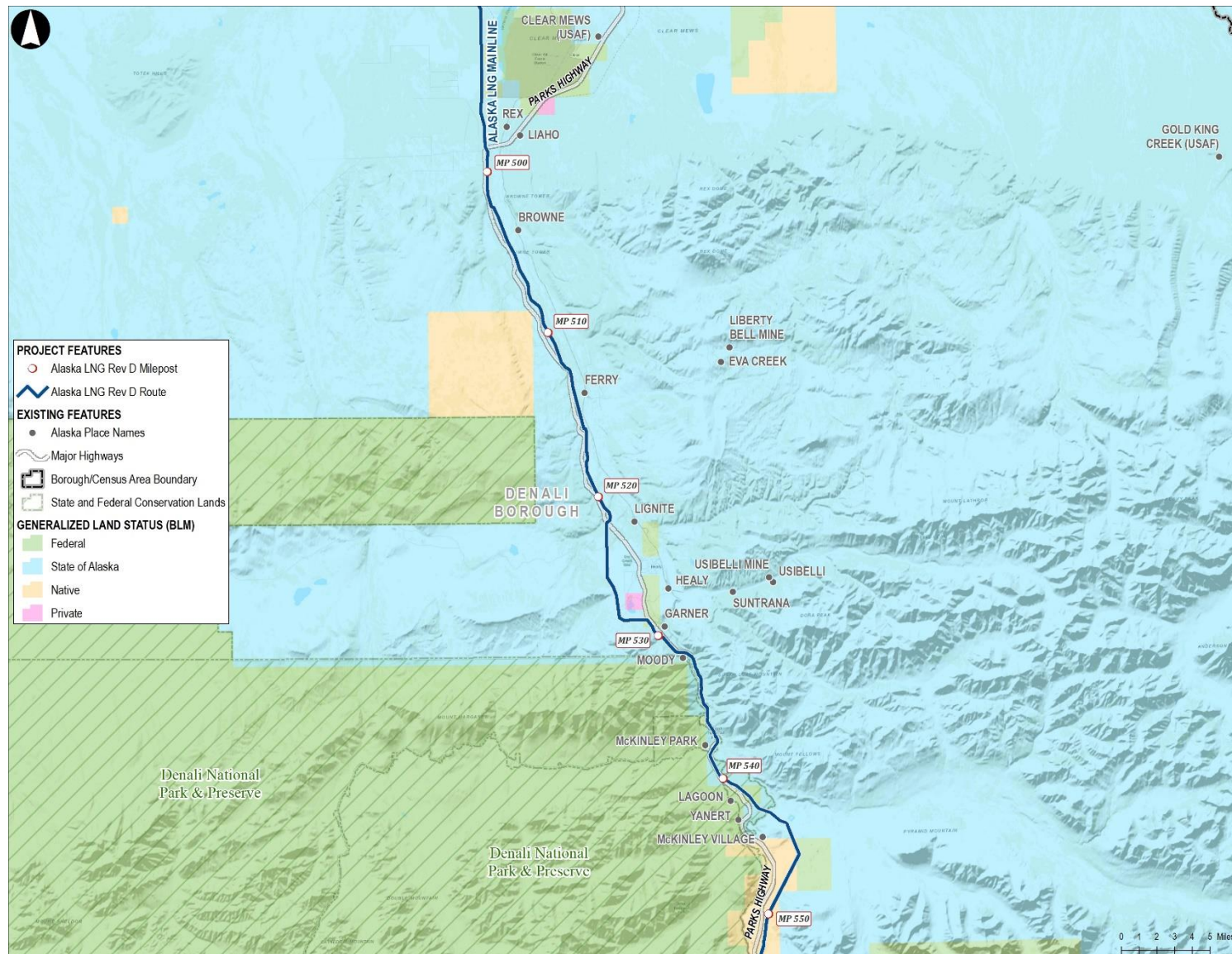
- 807-mile, 42" dia. mainline from Prudhoe Bay to Nikiski, following TAPS and highway system
- Provides gas to Alaskans and LNG facility

## 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<sup>3</sup> LNG tanks



# Healy Vicinity Perspective





# Major Permits and Approvals

## Completed

- Federal Energy Regulatory Commission (FERC) Environmental Impact Statement (EIS) and Order
- Major federal permits and authorizations
- Land Right-of-Ways: about 93% of Project area
- Approved Cultural Resources Management Plan
- Gas Treatment Plant Air Permit
- Liquefaction Facility Air Permit

## Underway

- DOE Supplemental EIS – to support the Non-Free Trade Agreement Nation Export License

ALASKA LNG			Permits and Authorizations	
Permit/Authorization	Date Obtained	Complete		
Presidential Finding Concerning Alaska Natural Gas – President Reagan	1/12/1988	✓		
Alaska Department of Environmental Conservation – Gas Treatment Plant Air Permit	8/13/2020	✓		
Alaska Department of Environmental Conservation – Liquefaction Facility Air Permit	7/7/2022	✓		
Alaska Department of Environmental Conservation – Section 401 Water Quality Certification	6/19/2020	✓		
Alaska Department of Natural Resources Leases	4/13/2021	✓		
BLM Right-of-Way – Grant Offer	1/1/2021	✓		
BLM Right-of-Way Record of Decision	7/23/2020	✓		
Cultural Resources Management Plan	6/24/2021	✓		
DOD Letter of Non-Objection	3/10/2020	✓		
DOE Natural Gas Export Order (Free Trade)	11/21/2014	✓		
DOE Natural Gas Export Order (Non-Free Trade) <sup>1</sup>	8/20/2020	✓		
EPA Section 401 Water Quality Certification	6/22/2020	✓		
FAA Determinations GTP	5/6/2021	✓		
FAA Determinations LNG	1/5/2021	✓		
FERC Final Environmental Impact Statement	3/6/2020	✓		
FERC Order Granting Authorization under Section 3 of the Natural Gas Act <sup>2</sup>	5/21/2020	✓		
FERC Programmatic Agreement - Cultural Resources	6/24/2020	✓		
NMFS Biological Opinion AKRO-2018-01319	6/3/2020	✓		
NMFS Cook Inlet Marine Mammals (whales/seals) Incidental Take Rule	8/17/2020	✓		
NMFS Cook Inlet Marine Mammals (whales/seals) Letter of Authorization	9/15/2020	✓		
NMFS Prudhoe Bay Incidental Harassment Authorization Marine Mammals (whales/seals)	2/16/2021	✓		
NPS Right-of-Way Permit	1/5/2021	✓		
NPS Right-of-Way Record of Decision, DNPP	7/23/2020	✓		
PHMSA Siting Letter of Determination and Analysis - Liquefaction Facility	2/4/2020	✓		
PHMSA Special Permit – Crack Arrestor Spacing	9/9/2019	✓		
PHMSA Special Permit – Mainline Block Valve Spacing	9/9/2019	✓		
PHMSA Special Permit – Pipe-in-Pipe	4/27/2020	✓		
PHMSA Special Permit – Strain-Based Design	9/9/2019	✓		
PHMSA Special Permit – Three-Layer Polyethylene Coating	9/9/2019	✓		
USACE Record of Decision Section 404 Wetlands Permit	6/24/2020	✓		
USCG Bridge Permit - Deshka River	9/11/2020	✓		
USCG Bridge Permit - East Fork Chulitna	9/11/2020	✓		
USCG Bridge Permit - Middle Fork Chulitna	9/11/2020	✓		
USCG Bridge Permit - Sag	9/11/2020	✓		
USCG Bridge Permit - Tolovana	9/11/2020	✓		
USCG Letter of Recommendation Regarding the Waterway Suitability Assessment	8/17/2016	✓		
USCG Waterway Suitability Assessment	3/18/2016	✓		
USFWS Biological Opinion	6/17/2020	✓		
USFWS Cook Inlet Incidental Take Rule Marine Mammals (sea otters)	8/1/2019	✓		
USFWS Eagle Take Permit	6/23/2020	✓		
USFWS Incidental Take Rule Marine Mammals (polar bear)	8/5/2021	✓		

# Stakeholder Engagement

## Public Outreach

- Started in 2014 with scoping and pre-filing meetings
  - Gathered information on topics of concern and interest to Alaska communities
- Over 130 public or open house meetings/events
- Presentations to organizations and groups at their invitation

## Board Meetings

- AGDC is a corporation established by the State of Alaska
- Board meetings are public
  - To date – more than 80 board meetings
  - Provide an opportunity for public input

## Environmental Impact Statements (EIS) and Permits

- Federal Energy Regulatory Commission (FERC)
  - Published comprehensive draft EIS in June of 2019
  - Comment period open until October of 2019
  - Utqiagvik, Trapper Creek, Anaktuvuk Pass, Kaktovik, Nuiqsut, Houston, Healy, Nikiski, Fairbanks, and Anchorage
- Department of Energy (DOE) Supplemental EIS
  - Published June 24, 2022
  - Comment period open until August 15
- Other permits and ROW approvals also had public comment opportunities

## Engagement Opportunities are Ongoing

# LNG Demand Forecast

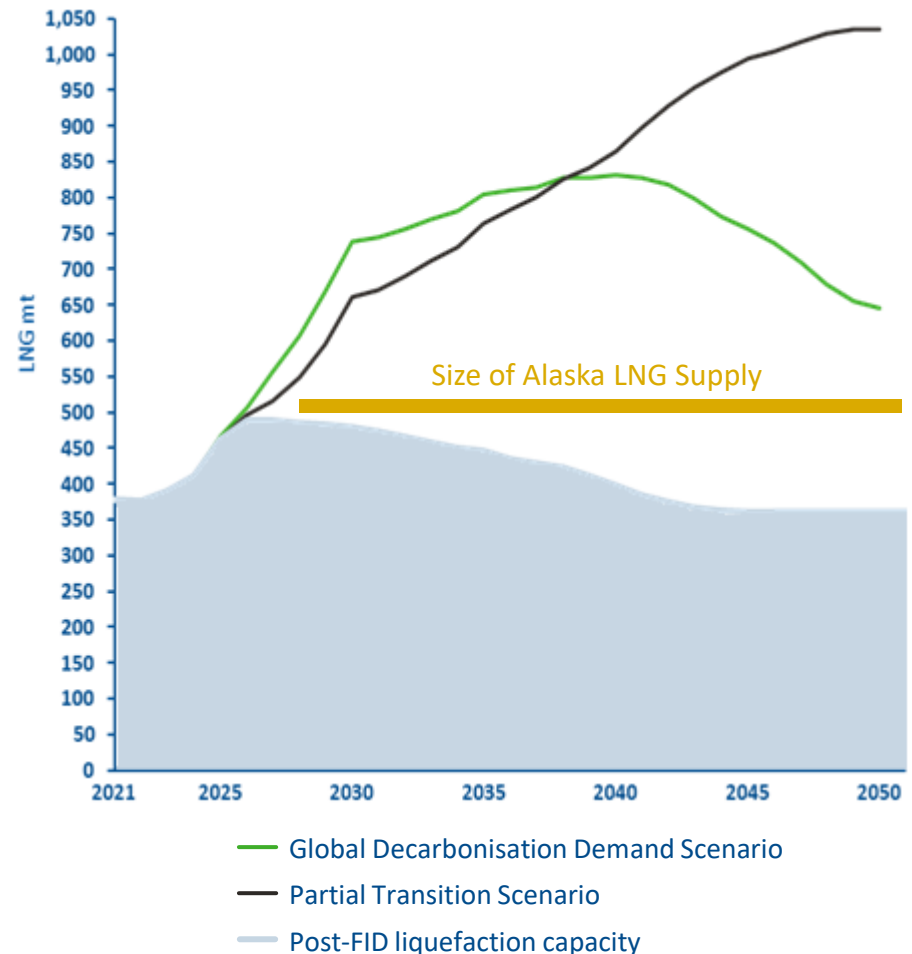
## LNG is in High Demand

- Two LNG demand scenarios based on different speeds of the energy transition
- Under both energy transition scenarios, LNG demand exceeds supply for the expected life of the Alaska LNG Project
- Demand growth will outpace current and planned LNG capacity
- Significant levels of LNG capacity will be needed as LNG demand doubles by 2040

## Key Component of Energy Transition

- Natural gas emits half the greenhouse gases as coal
- Most new projects have some degree of energy transition planning

Global LNG Supply/Demand Balance Forecast,  
2021-2050



Source: Gas Strategies

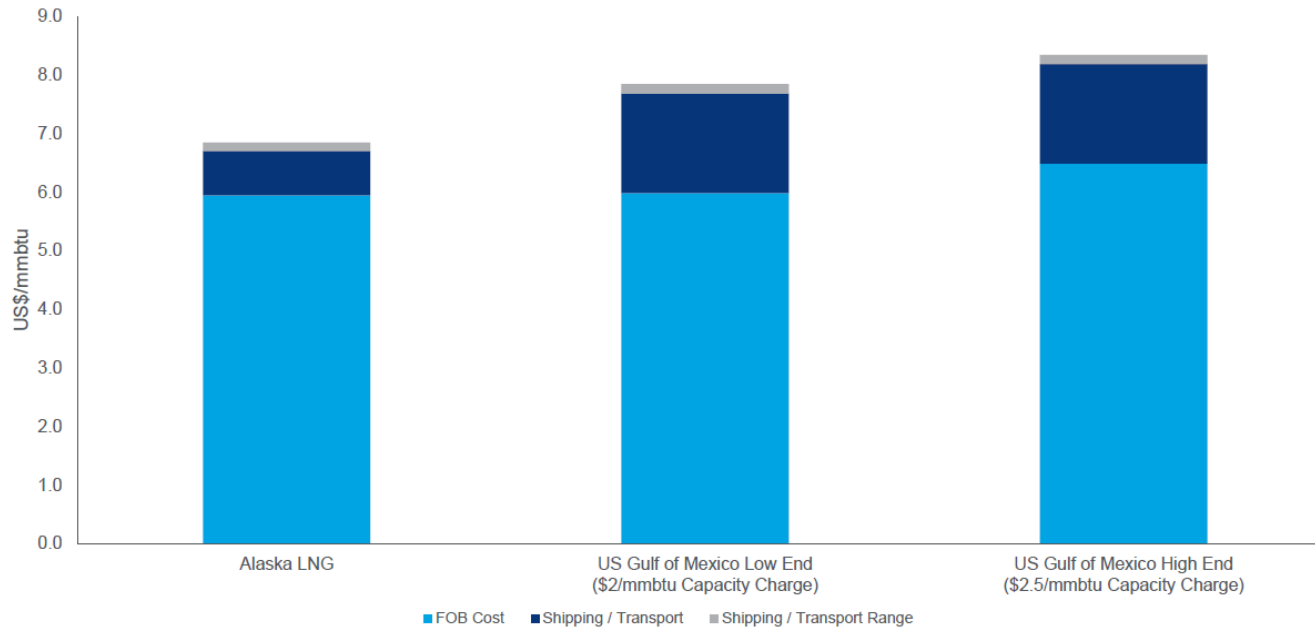
# Competitive Cost of Supply

**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

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*Slide from 2022  
Wood Mackenzie  
Alaska LNG  
Competitiveness  
Analysis*



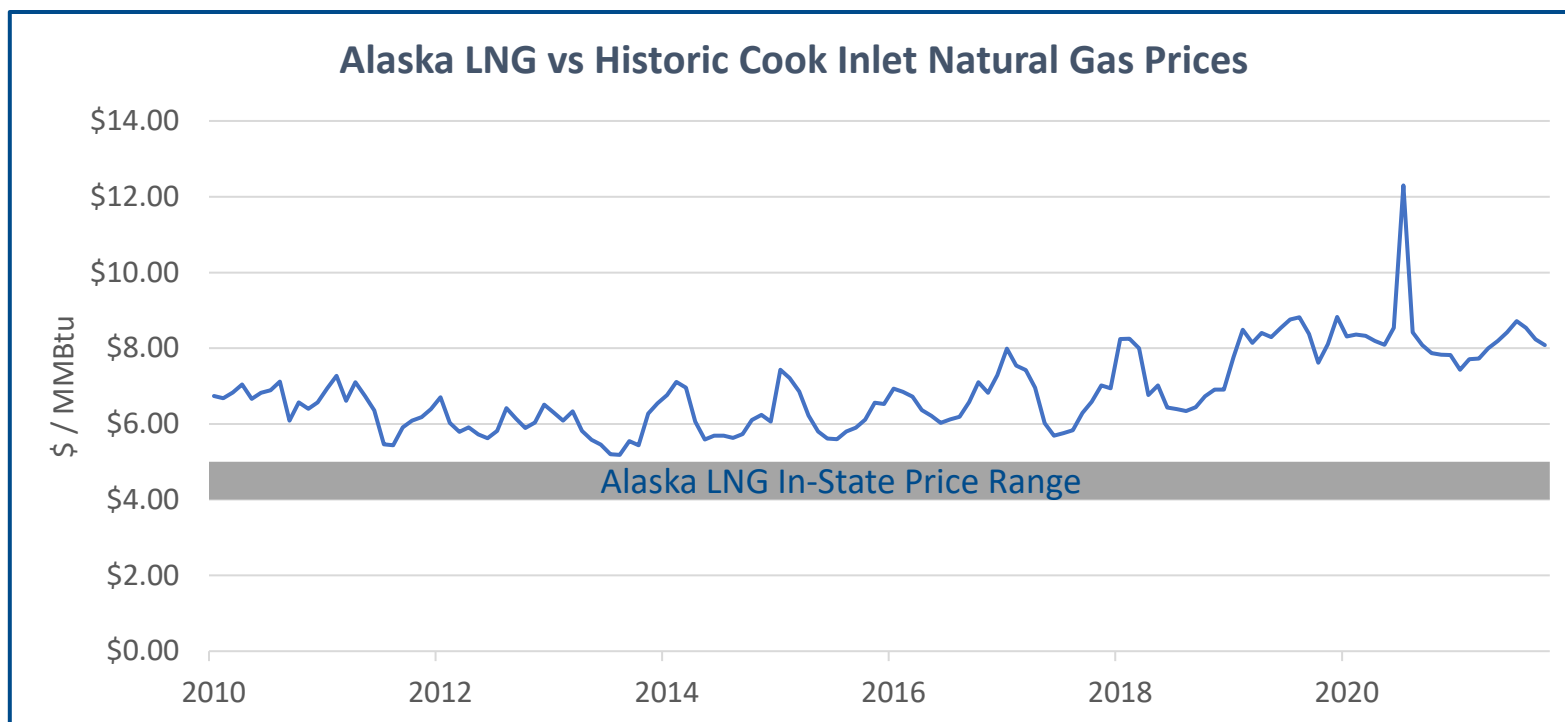
# Secure, Lower Cost Energy for Alaskans

## 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

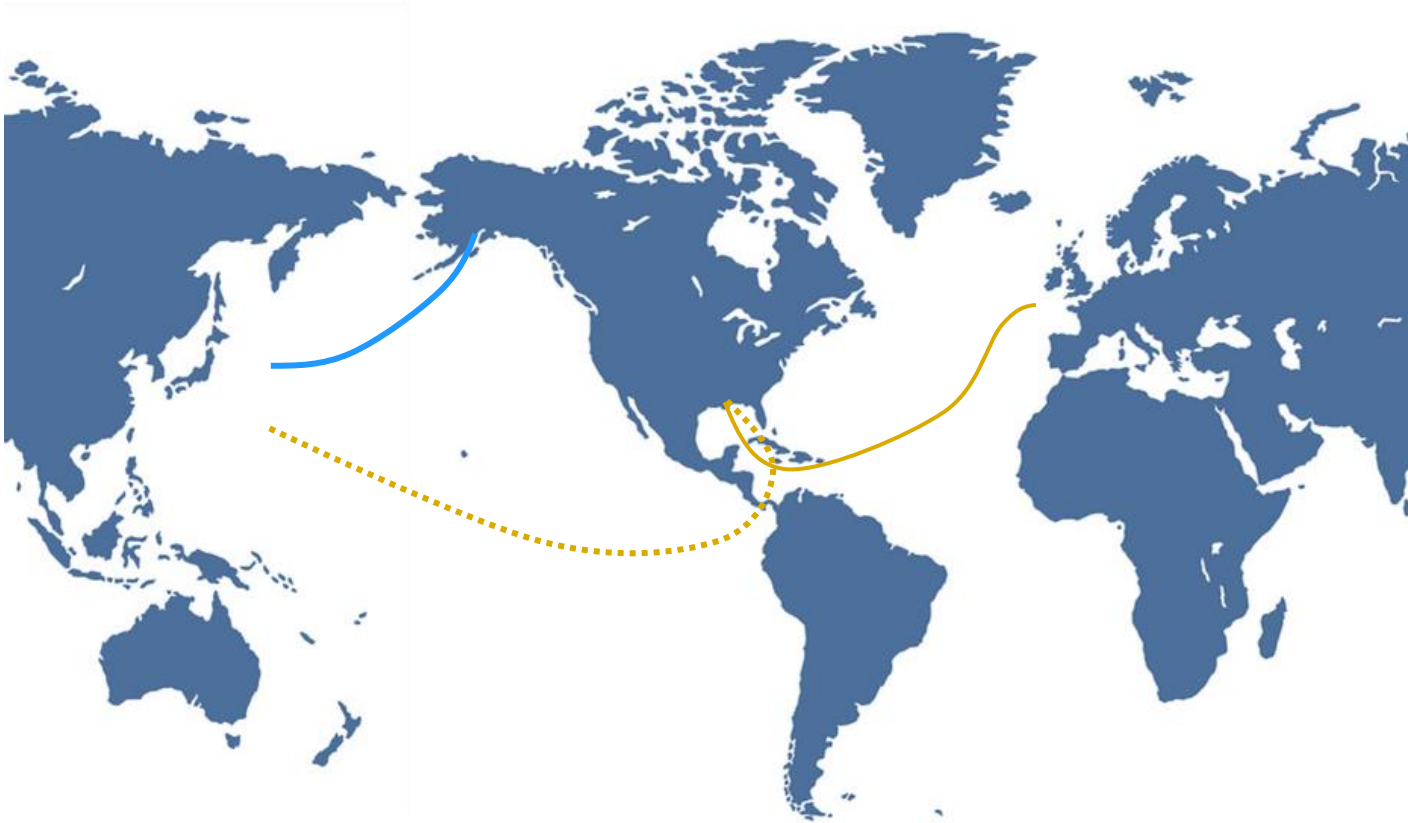
## Significant Quantities of Gas for Alaskans

- 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

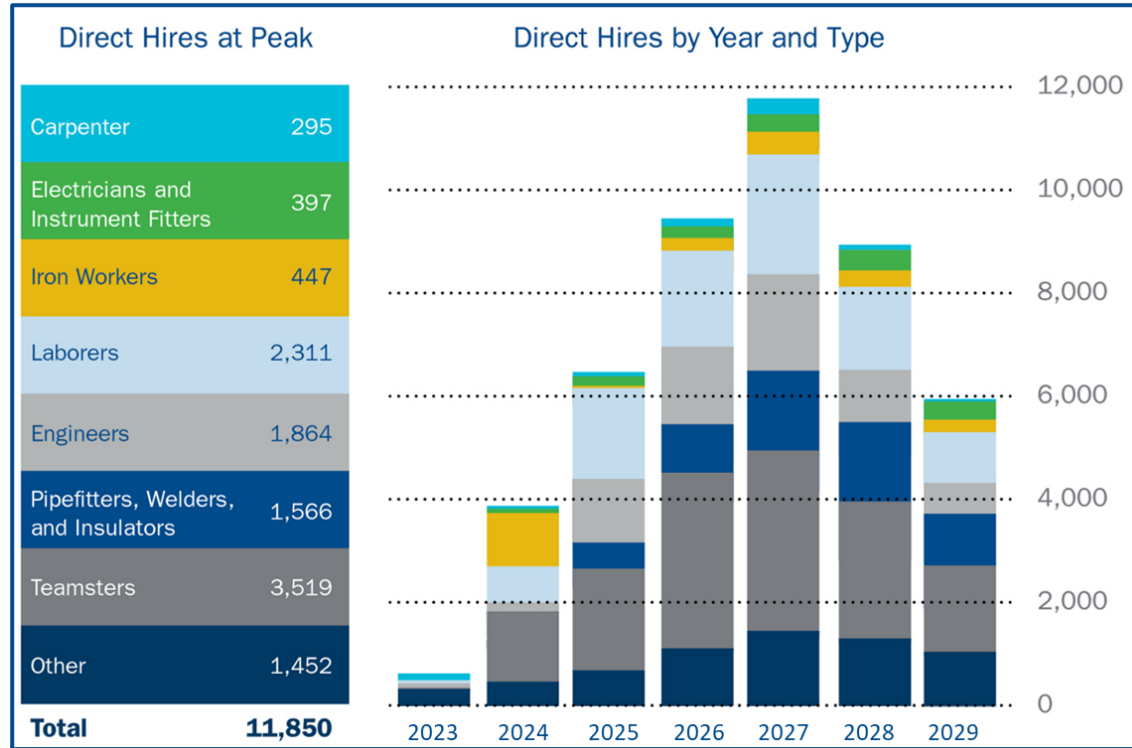
# Energy Security – Global



- As a result of the war in Ukraine, the U.S. LNG destined for Asia has been diverted to Europe
- This dynamic increases the need for U.S. supply from Alaska to meet the long-term energy security needs of Asia

## Alaska LNG Job Creation

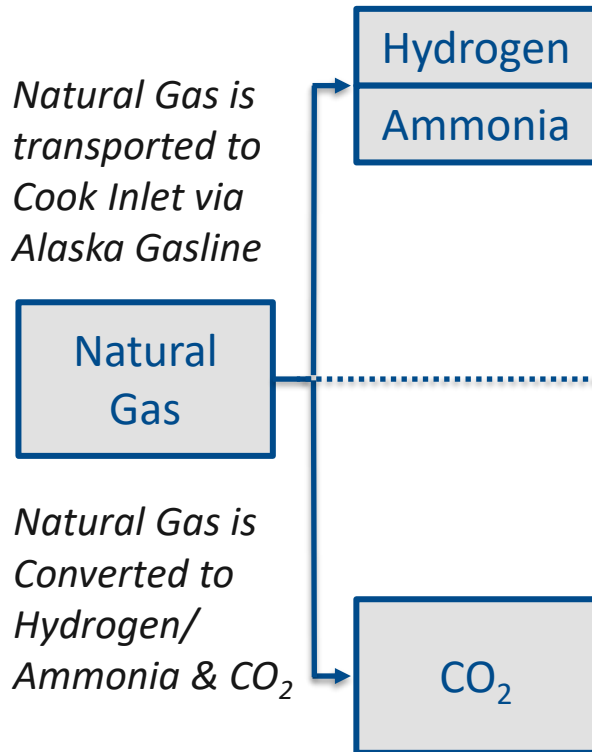
- Almost 12,000 direct jobs at peak of construction
- 1,000 long-term operations jobs
- Significant indirect jobs during construction and operations



## Recent DOE Draft SEIS Public Comments

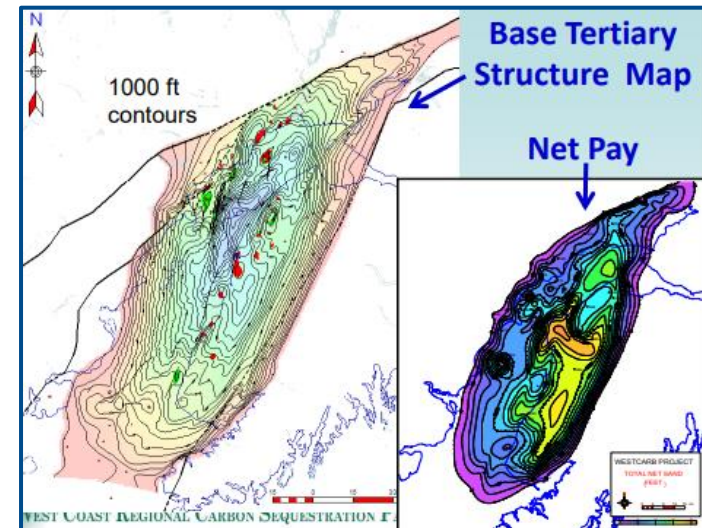
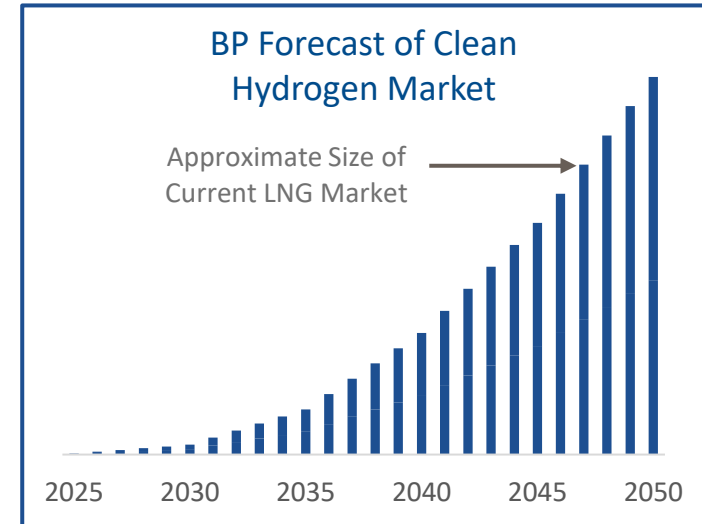
- 200 Total Comments
- 182 Supportive (91%)
  - Individuals, Alaska Native corporations and organizations, utilities, industry organizations, government organizations/representatives, Governor, Alaska Delegation, and others
- 3 Technical/Neutral (1.5%)
  - Agency comments: ADEC, EPA, DOI Alaska
- 15 Not Supportive (7.5%)
  - 11 individuals
  - New York University School of Law
  - 3 non-governmental organizations

# Hydrogen/Ammonia 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



# Transition to Private Developers

*2013 – 2016*

## Producer-Led

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

*2017 – 2023*

## State-Led

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

*2023 – onward*

## Developer-Led

Transition to world-class private parties for construction and operations

## A Window of Opportunity

- Alaska LNG will:
  - Decrease Alaskan energy costs and improve air quality
  - Provide energy security for Alaska and our country's allies
  - Provide jobs and increase state revenues
  - Help fill projected global LNG demand
  - Contribute to significant reductions in world-wide GHG emissions
  - Meet stringent environmental requirements
- 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



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