

Alaska LNG Project Update

January 5, 2023



Presented to:

Kenai Peninsula Economic Development District, Inc. (KPEDD)

Presented by:

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AGDC

- Independent, public corporation owned by the State of Alaska
- Created by the Alaska State Legislature

Mission

- 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

Current Owner and Developer of the Alaska LNG Project

- Transitioning project to private ownership under qualified developers

North Slope Gas Supply

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

Arctic Carbon Capture (ACC) Plant

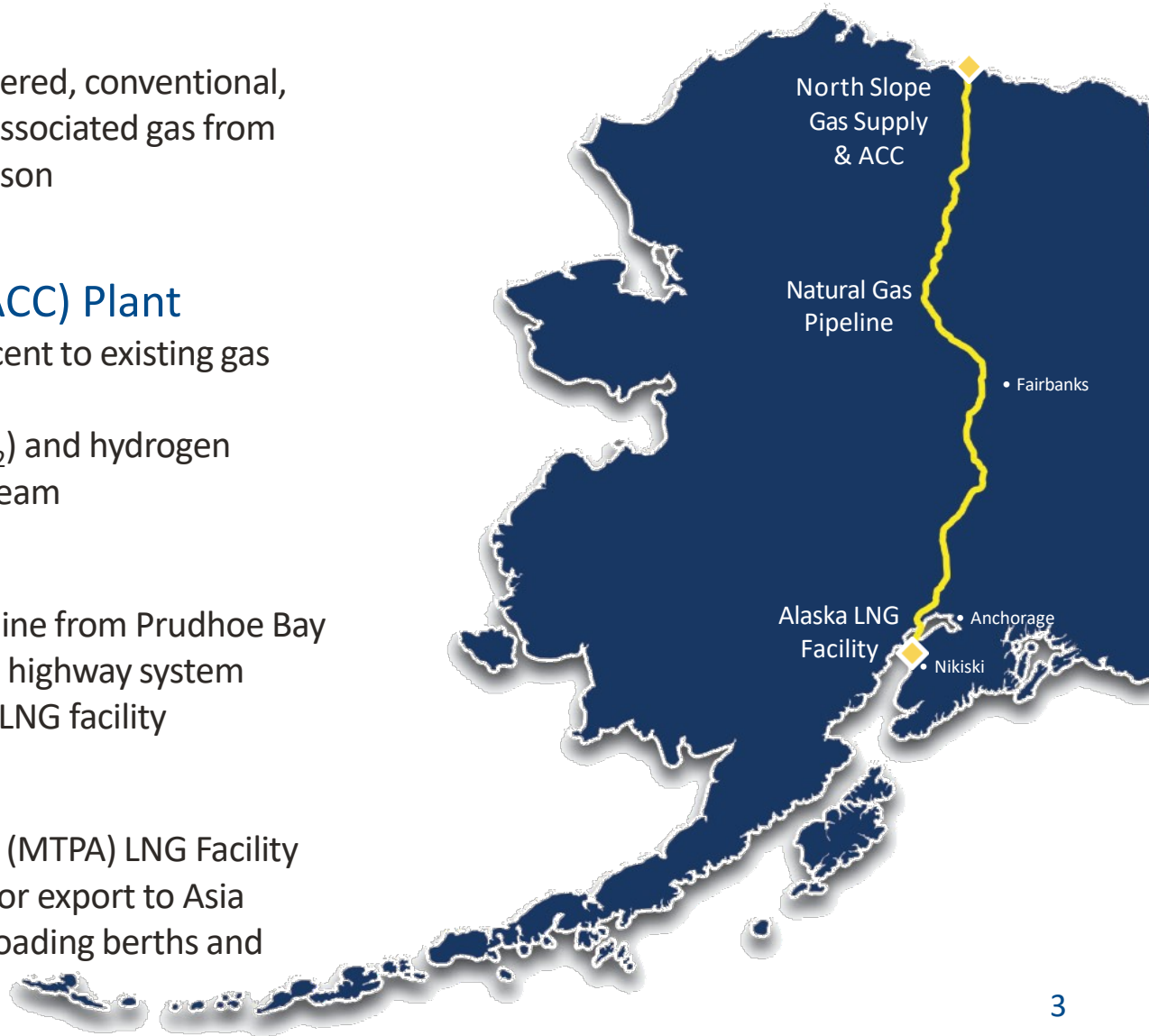
- Located in Prudhoe Bay adjacent to existing gas plants
- Removes carbon dioxide (CO₂) and hydrogen sulfide (H₂S) from raw gas stream

Natural Gas Pipeline

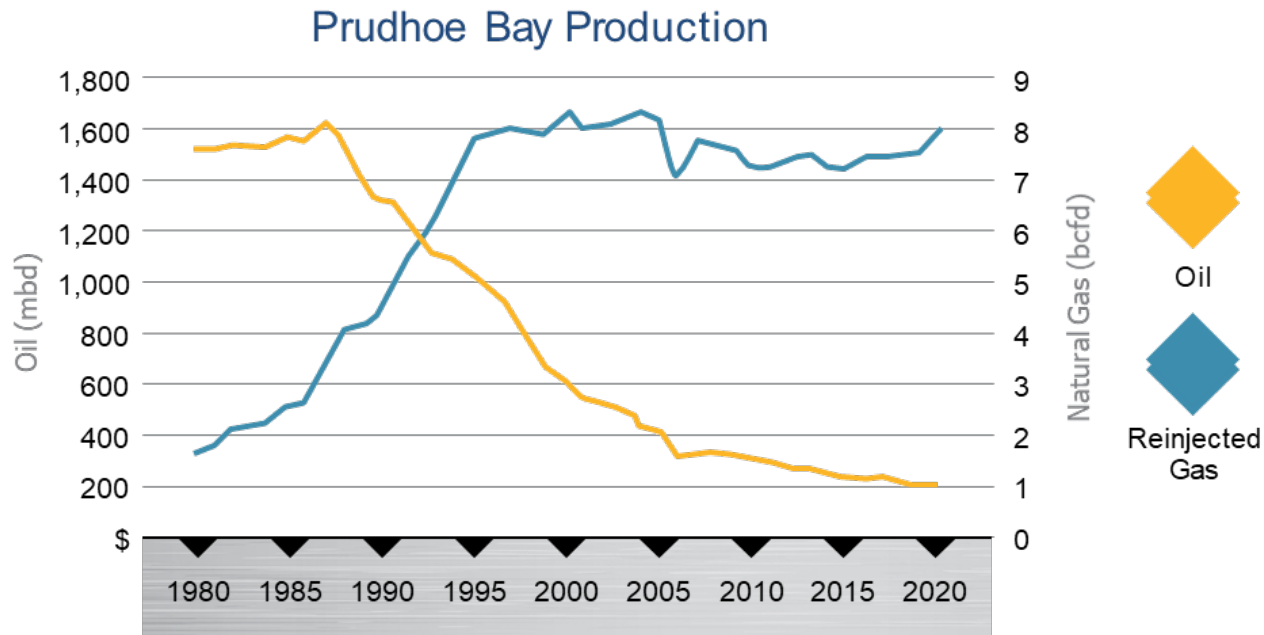
- 807-mi, 42-in diameter Mainline from Prudhoe Bay to Nikiski, following TAPS and highway system
- Provides gas to Alaskans and LNG facility

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 LNG tanks



Revenue from gas sales will offset declining oil revenues

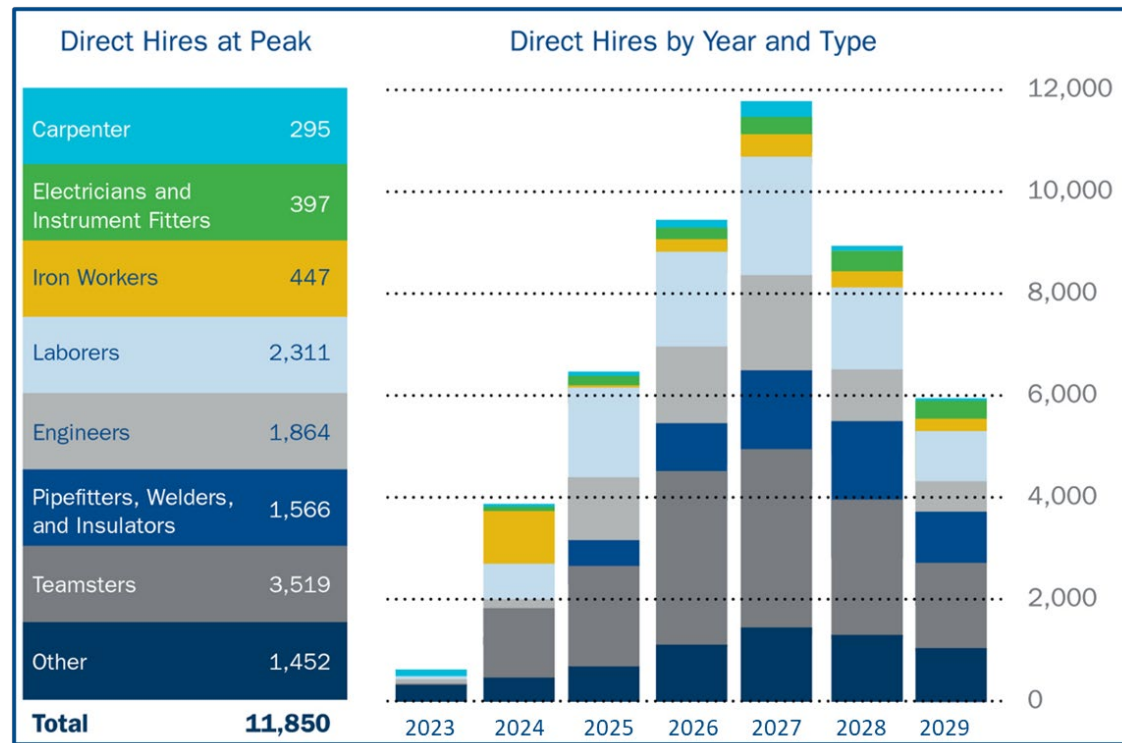


Project maximizes use of existing oil and gas infrastructure

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

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



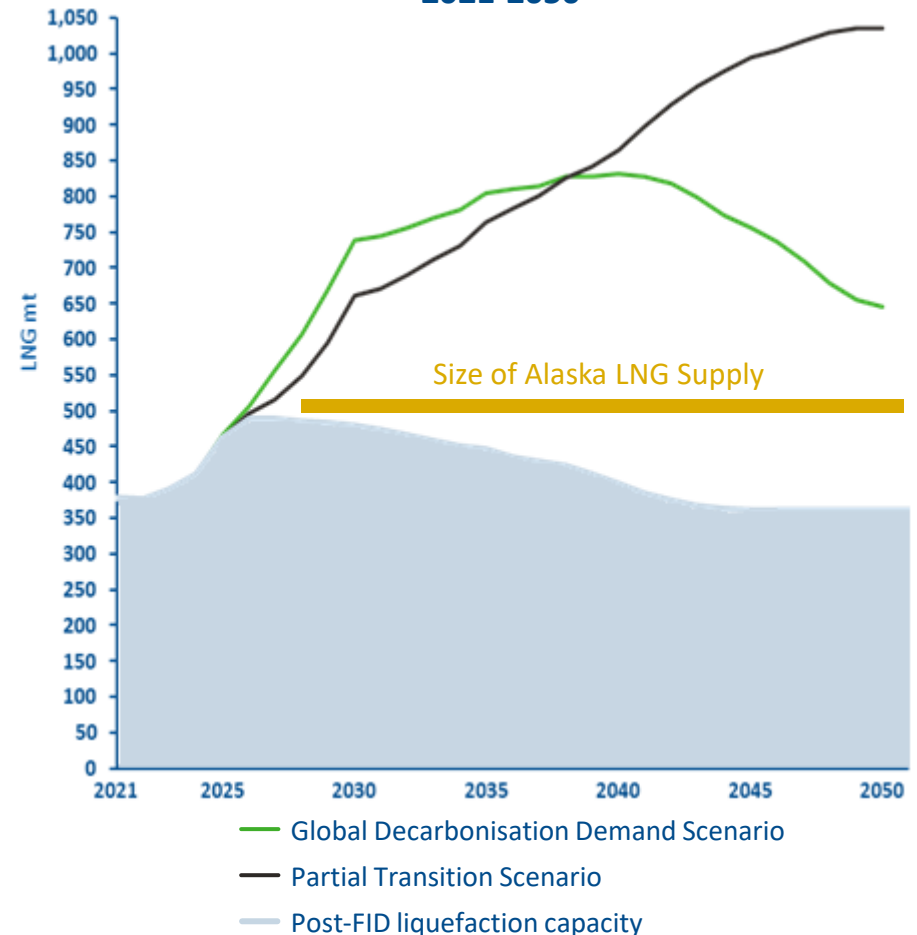
LNG Market is Still Growing

- 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

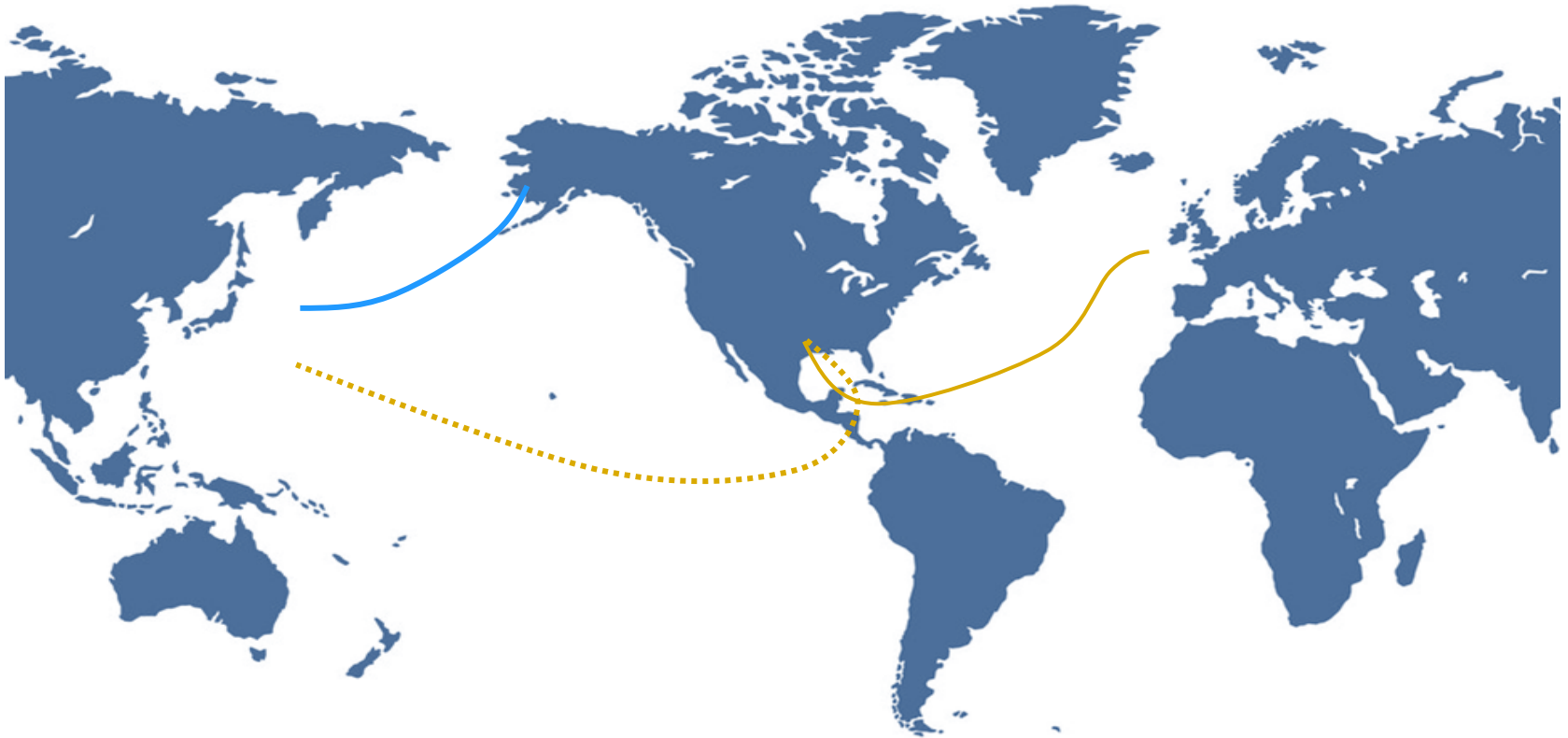
- Most new projects have some degree of energy transition planning
- Under both energy transition scenarios, LNG demand exceeds supply for the expected life of the Alaska LNG Project

Global LNG Supply/Demand Balance Forecast, 2021-2050



Source: Gas Strategies

Energy Security – Global



- As a result of the war in Ukraine, 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

- Cook Inlet gas supply is uncertain
- Potential for import of LNG is being evaluated by ENSTAR and Chugach Electric
- Railbelt Utilities Working Group
 - Includes all major railbelt utilities
 - Assessing future gas supply needs and energy security in Cook Inlet
- The Alaska LNG Project is the best option to replace Cook Inlet gas
 - Secure, low-cost supply for Alaskans

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.

Competitive Cost of Supply



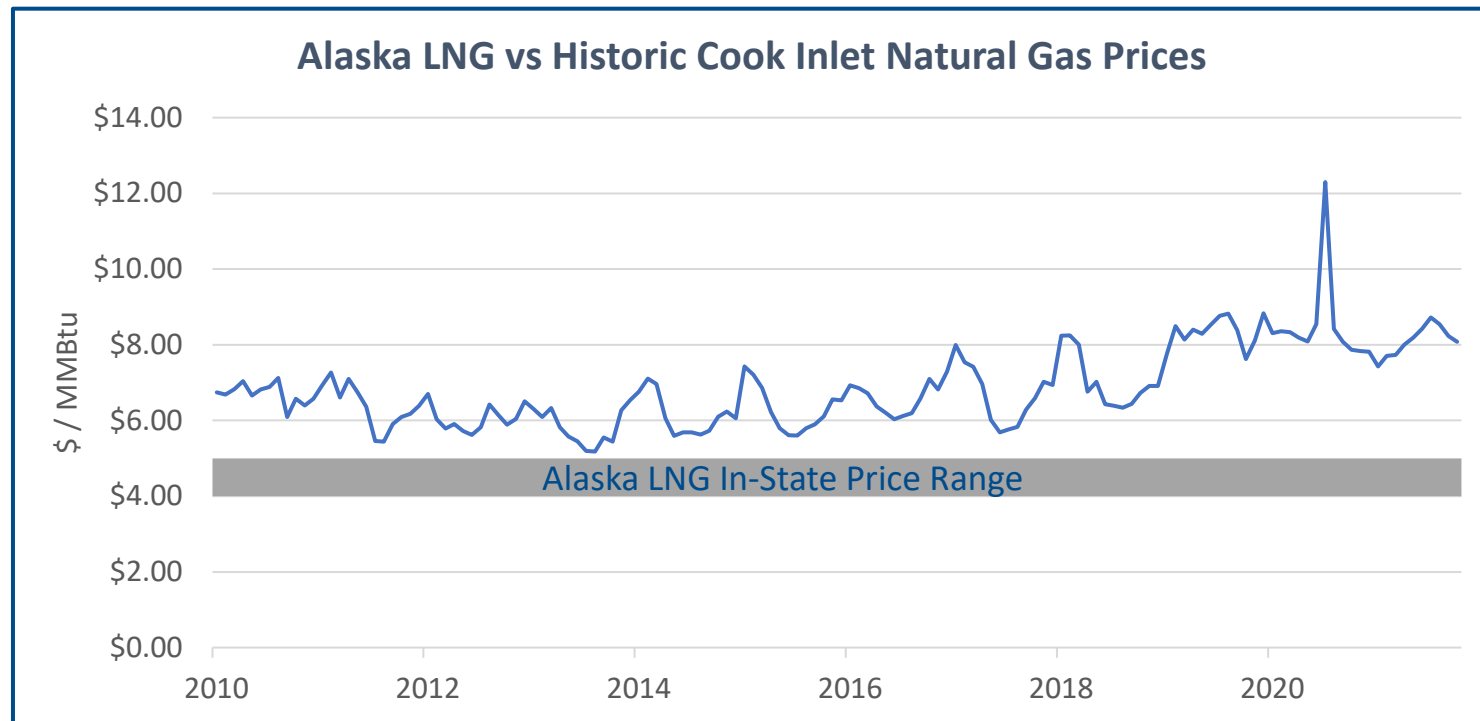
Lower Cost Energy for Alaskans

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

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

Major Permits and Approvals

Completed

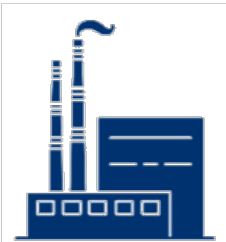
- Federal Energy Regulatory Commission (FERC) Environmental Impact Statement (EIS) and Order
- Major federal permits and authorizations
- Land rights-of-way (ROW): about 93% of Project area
- Approved Cultural Resources Management Plan
- Gas Treatment Plant Air Permit
- Liquefaction Facility Air Permit


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) ¹	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 ²	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	✓	

Greenhouse Gas Emissions

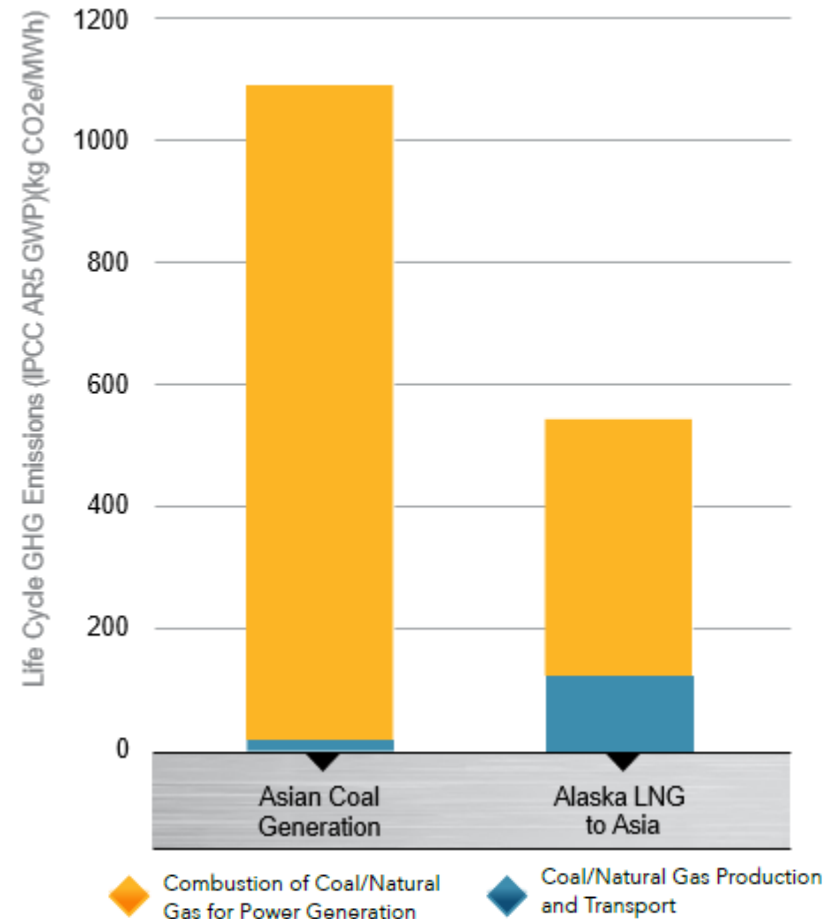
A lifecycle analysis of Alaska LNG shows it reduces greenhouse gas emissions for electric power generation by more than 77 million metric tons of CO₂e per year in comparison to Asian coal derived power

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

Japanese-Led Work Team



**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**

- **Direct Impacts**
 - Decreased household energy costs
 - Improved energy security
 - Increase in population (estimated 3%)
 - Construction jobs – estimated to peak at about 4,000
 - Operations jobs – estimated at about 300
 - Tax revenue
- **Indirect Impacts**
 - Indirect jobs
 - Low-cost energy for businesses
 - Ammonia/hydrogen market development
 - Clean energy contribution to U.S. allies
 - Improved air quality in Interior Alaska
 - Global carbon reduction by replacing Asian coal

- Alaska LNG is economic and needed to fill projected LNG demand
- Alaska LNG will contribute to significant reductions in world-wide GHG 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

AGDC.us

ALASKA
GASLINE
DEVELOPMENT CORP.

The logo for Alaska Gasline Development Corp. features the text "ALASKA GASLINE DEVELOPMENT CORP." in a blue, sans-serif font. To the right of the text is a stylized outline of the state of Alaska, composed of several blue stars of varying sizes arranged to form the state's shape. A single blue star is positioned above the main outline.