

# House Resources Committee

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February 26, 2024



# Who is AGDC?

## Alaska Gasline Development Corporation (AGDC)

- Public corporation owned by the State of Alaska
- Empowered to expedite, finance, and build natural gas infrastructure

## Purpose of AGDC

- Develop natural gas pipeline and Liquefied Natural Gas (LNG) project
- Deliver gas in-state for maximum benefit of Alaskans
- Develop state resources for the benefit of Alaskans



# Alaska LNG Overview

## North Slope Gas Supply

- 40 Trillion Cubic Feet (TCF) of discovered, conventional, and developed North Slope associated gas
- Stranded gas can be produced at low cost

## Arctic Carbon Capture (ACC)

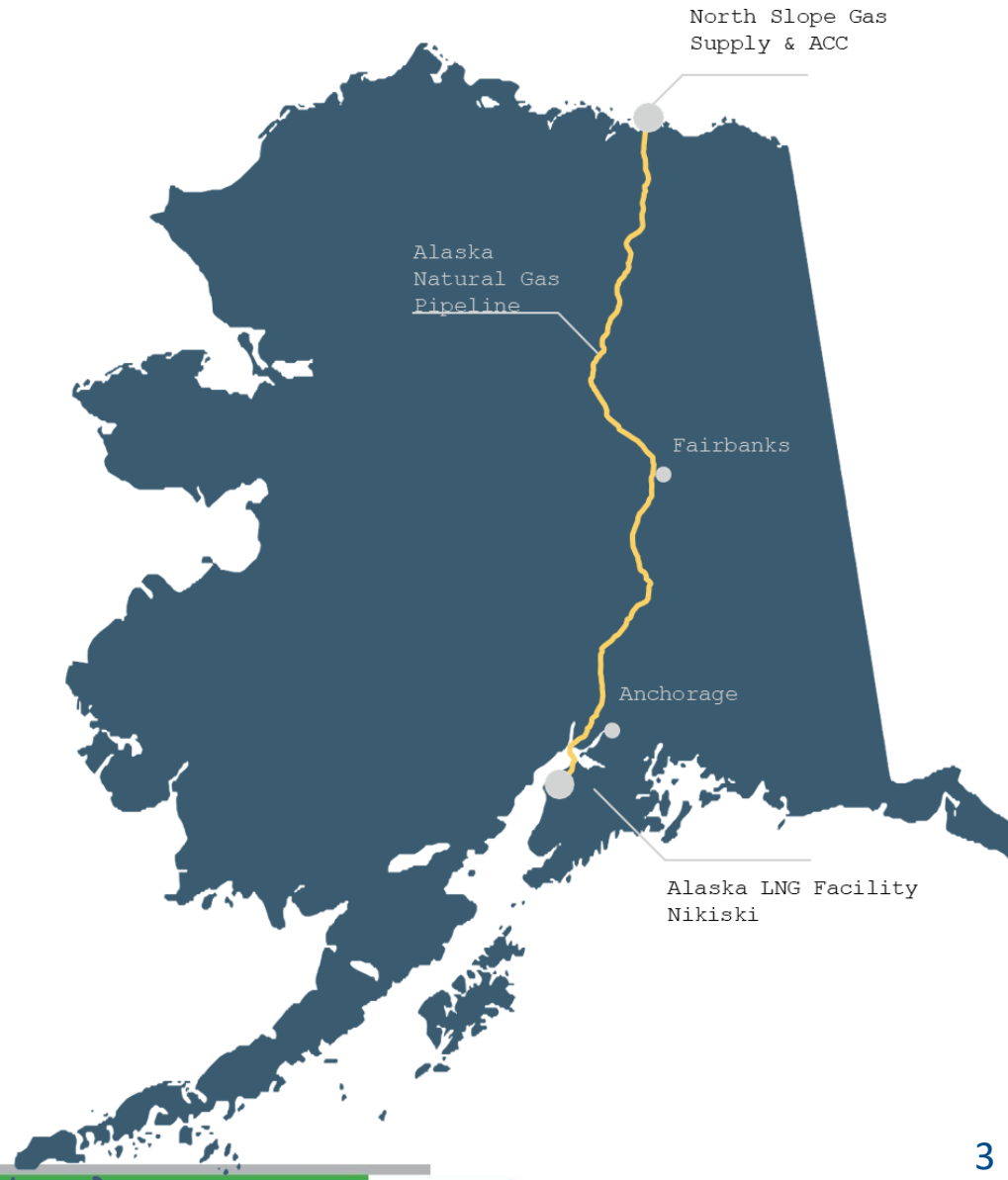
- Located adjacent to existing gas plants, which will remove and sequester CO<sub>2</sub> from raw gas stream and condition gas to LNG specifications

## Natural Gas Pipeline

- 800-mile pipeline from Prudhoe Bay to Nikiski, which follows existing oil pipeline and highway system, with gas delivered to Alaska communities and the LNG plant

## Alaska LNG Facility

- 20 Million Tonnes Per Annum (MTPA) LNG facility located in Nikiski near the legacy Kenai LNG plant



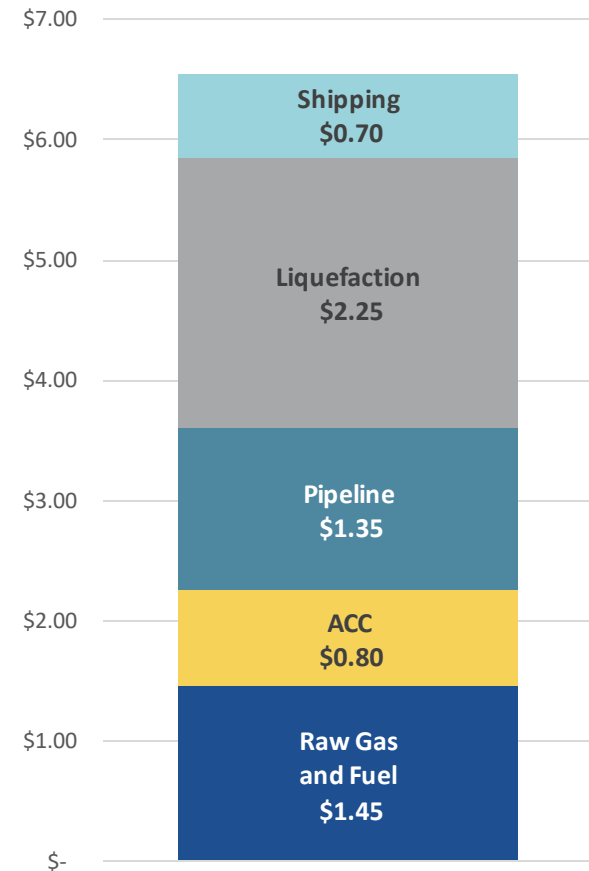
## Alaska LNG's Cost of Supply is Well Below Market Prices

- \$6.55 cost of supply delivered to Asia is lower than prevailing contract prices
  - Brent Linked: \$9.10 ( $\$70 \text{ Brent}^* \times 13 \text{ percent}$ )
  - U.S. Gulf Coast: \$9.00 ( $\$3.00 \text{ Henry Hub}^{**} + \$6.00$ )
  - JKM: \$9.00 (*approx. current spot price*)
- Verified by Wood Mackenzie
- 2023 update to account for recent construction inflation, 45Q tax credits, and financial return expectation – remains largely unchanged

\* Based on forward curve for Brent ~\$70/bbl

\*\* Forward curve for Henry Hub averages closer to \$3.50/MMBtu

## \$6.55: Delivered Cost of Supply



# Major Permits and Authorizations

## Completed

- Federal Energy Regulatory Commission (FERC) Environmental Impact Statement (EIS) and Order
- Department of Energy (DOE) Supplemental EIS and Export Orders
- Land Rights-of-Way (ROW): about 93 percent of Project Area
- Approved Cultural Resources Management Plan
- Major Facility Air Permits

ALASKA LNG		Federal Permits and Authorizations	
Permit/Authorization	Date Obtained	Complete	
Presidential Finding Concerning Alaska Natural Gas - President Reagan	1/12/1988	✓	
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) Order No. 3554	11/21/2014	✓	
DOE Natural Gas Export Order (Non-Free Trade) Conditional Order. 3643	5/28/2015	✓	
DOE Natural Gas Export Order (Non-Free Trade) Order No. 3643-A	8/20/2020	✓	
DOE Order on Rehearing (Non-Free Trade) Order No. 3643-B	4/15/2021	✓	
DOE Natural Gas Export Order (Non-Free Trade) Order No. 3643-C	4/13/2023	✓	
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>1</sup>	5/21/2020	✓	
FERC Programmatic Agreement - Cultural Resources	6/24/2020	✓	
NMFS Biological Opinion AKR0-2018-01319	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	✓	

# Positive Climate Impact

Alaska LNG can reduce GHG emissions by more than 77 million tonnes of CO<sub>2</sub> per year.

Alaska LNG can have one of the greatest GHG benefits of any project in the world.

Alaska LNG will have the same GHG impact as:

Eliminating



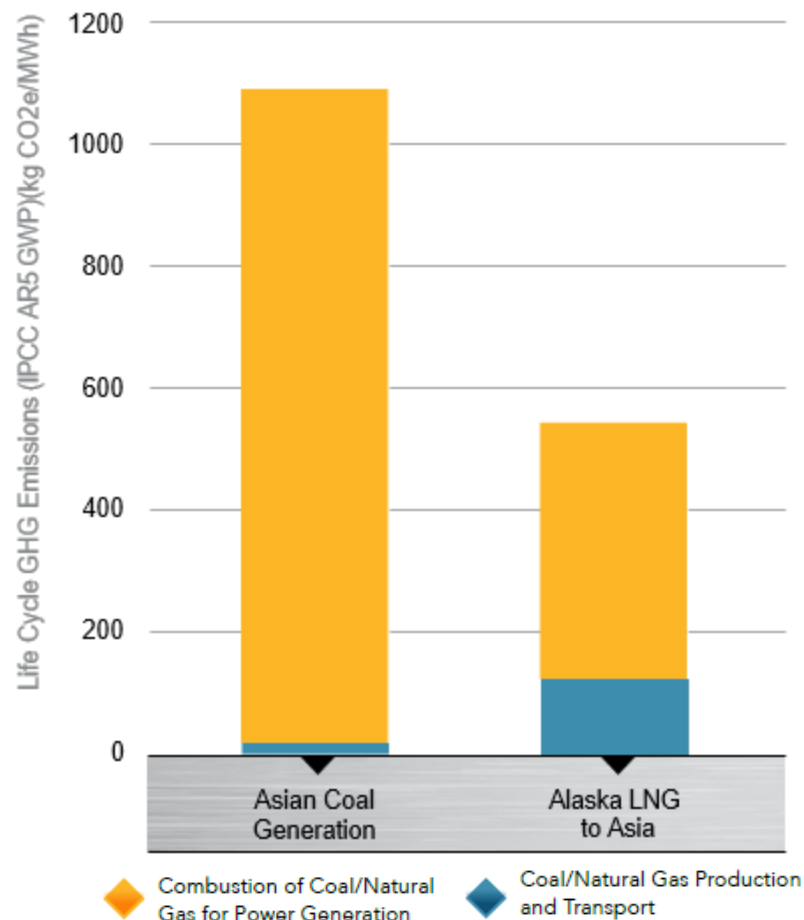
19 Coal  
Power Plants

Constructing



16,000  
Wind Turbines

## Lifecycle GHG Emissions for Natural Gas vs. Coal Power



Source: Greenhouse Gas Lifecycle Assessment: Alaska LNG Project



# Alaska LNG Phase 1 for Alaska

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- Cook Inlet gas supply is uncertain
- Utilities are evaluating potential alternative natural gas supplies
- AGDC has been working with the Alaska utilities on delivery options
- Alaska LNG Phase 1 is a potential long-term energy 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.



- Phase 1 is designed to:
  - Provide lower cost gas to Alaskans than imported LNG
  - Deliver first gas by 2029
  - Allow for future LNG exports
- AGDC can provide a credible, long-term, option for Alaska energy supply by phasing Alaska LNG
- Alaska LNG has all major permits, and the pipeline portion of the project can move into construction quickly under a phased approach
- Phase 1 of Alaska LNG is building the natural gas pipeline first
- Phase 2 will continue forward for LNG export

## 42" pipeline from the North Slope to Southcentral Alaska

- Fully permitted under Alaska LNG, well-defined cost estimate, and ability to quickly start construction
- AGDC is working with a credible North America pipeline company to lead final design (FEED), construction and operation

## North Slope natural gas resources for Alaskans

- Contracts with one or more producer at prices low enough to support economics
- Multiple North Slope fields could supply gas

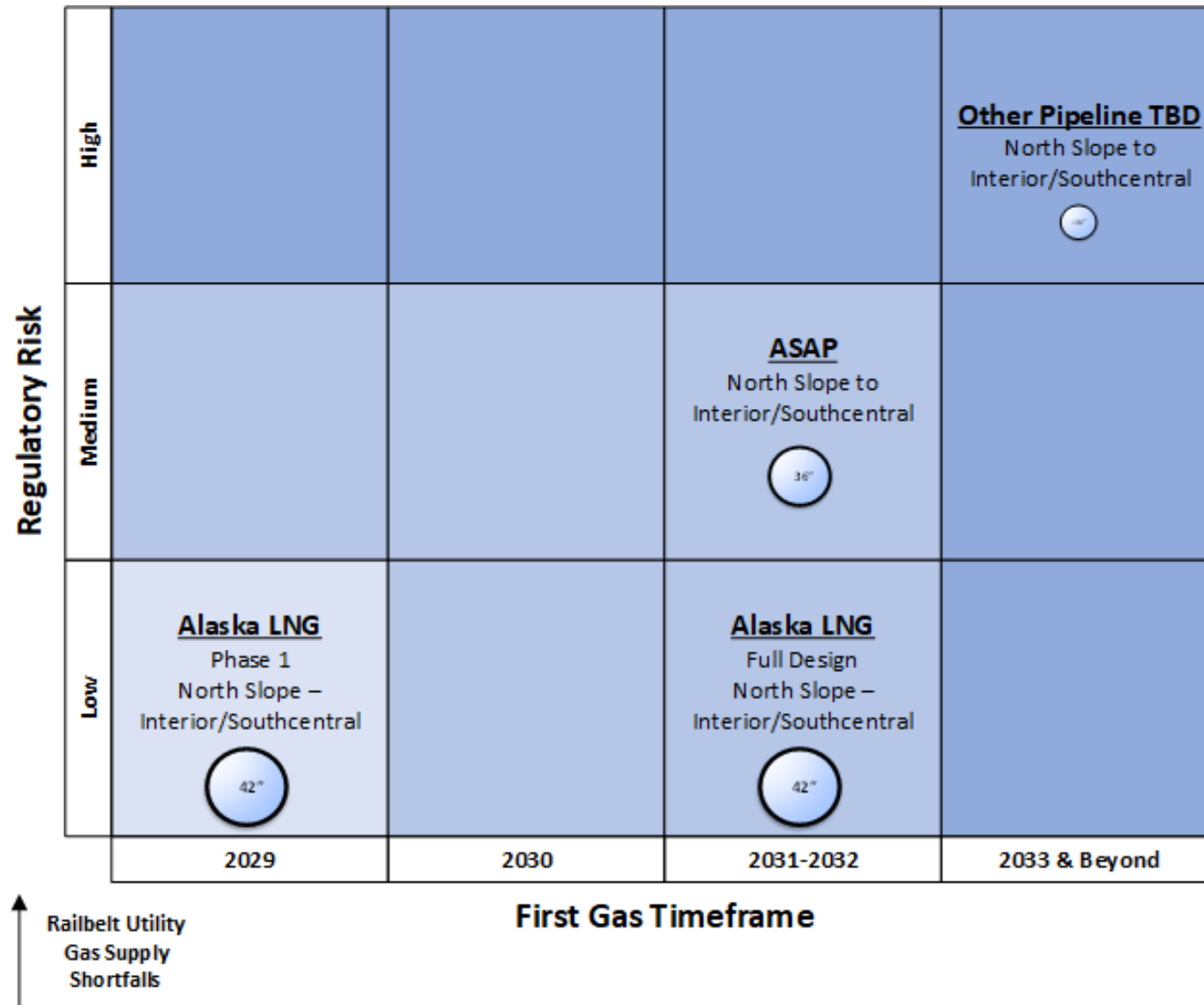
## Underpinned by contracts with Alaska users

- Nutrien plant in Nikiski restarts
- Alaska utilities commit to source their long-term gas needs

# Phase 1 Pipeline Route



# Pipeline Regulatory Options



# Phase 1 Cost and Schedule

The Phase 1 Pipeline has a cost estimate of \$10.7 billion

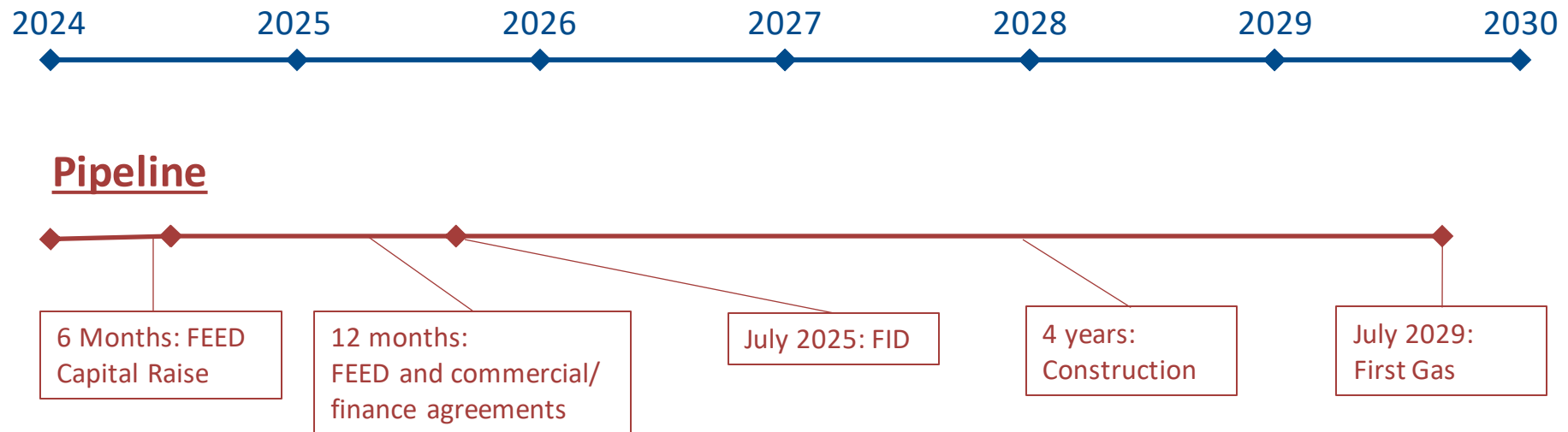
- Scope: 42"dia. pipeline from North Slope to Cook Inlet pipeline system
- No compressors or Cook Inlet crossing
- Class 4+ cost estimate completed (engineering, design, and field work)

Front-End Engineering and Design (FEED) to be completed prior to construction

- FEED will cost approximately \$50 million and will take 12 months
- Provides engineering, design, and cost estimates necessary for Final Investment Decision (FID)

Target FID and construction start in 2025 with first gas in 2029

# Alaska LNG Phase 1 Timeline



## Timeline Notes

- Achieving this timeline requires FEED entrance in 2024
- Final decision on construction funding (FID) and utilities' commitment to purchase gas is not needed until 2025
- Limited exposure to regulatory risk on timeline (have major permits)



# Phase 1 Economic Case

- The Phase 1 pipeline will only be built if it provides lower cost gas than imported LNG (\$12 - \$15 per MMBtu)
- Revenue from sales to industrial customers, such as Nutrien, directly reduces the in-state cost
- Long-term agreements allow for lower cost financing
- AGDC and its partners will continue to pursue the full Alaska LNG scope with LNG exports
  - Building the pipeline reduces project risk and increases the outlook for LNG export investment
  - More gas moving through the pipeline due to LNG exports will reduce the costs Alaskans pay

## Alaska Utilities

- AGDC is working with the utilities to advance the Phase 1 option for long-term energy security
- Utility support is needed now, but they will not need to commit to volumes until FID (2025)

## Major Pipeline Company

- Supportive of Phase 1 and the full Alaska LNG Project
- Lead Phase 1 engineering, construction, and operations

## Nutrien

- Performing the work necessary to restart
- Includes permit renewals, plant engineering and financial modeling

North Slope gas must be made available at low cost to underpin Phase 1 and unlock future LNG exports

# Phase 1 Key Benefits

- Long-term energy security for Alaskans
- North Slope gas to Alaskans does not have the commodity price volatility and risk that importing LNG has
- Restart of the Nutrien plant provides economic lift to Nikiski
- Piped gas to Fairbanks lowers Interior energy costs and helps resolve air quality attainment issues
- Further offtake/Alaska LNG phasing will drive in-state costs down towards \$4 over time

# Alaska LNG Project Investment Status

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AGDC continues to engage potential developers and investors to fund FEED and commercial/legal contracts to move to FID

- Continues to be ongoing interest from investors in Alaska LNG
- Primary challenge is to build a coalition of investors that combined have the capital and capability to move the entire project forward
- While the relative size and complexity of the project limits the universe of potential investors, the economic case remains strong

AGDC continues to work with Goldman Sachs to identify qualified investors and secure capital

- As part of this process, Goldman Sachs screens possible investors to ensure they have access to capital and the necessary technical capability

Publicly reported that two possible Alaska LNG investors have passed on the opportunity

- Due to confidentiality, AGDC cannot comment on specifics
- Multiple investors have evaluated investment with some passing and several still interested and engaged

Pre-building the pipeline under the proposed Phase 1 project greatly benefits the overall Alaska LNG capital raise

- Pipeline construction is no longer a major risk factor for investors
- Phasing construction of the LNG plant becomes a viable option allowing for more flexibility in financing and construction
- Allows for building the LNG plant in phases, reducing the initial capital for investors



AGDC's strategy has been to seek lead investors before pursuing binding LNG Sales Agreement

- The theory being that project investors would prefer to negotiate their own terms for LNG sales

AGDC is revisiting this strategy and may pursue binding LNG agreements with key anchor buyers in 2024

- Feedback from investors is that some level of secured LNG sales would demonstrate market interest
- AGDC is optimistic that these LNG deals can be successfully advanced this year due to the competitive advantages of Alaska LNG over competing project

- Securing North Slope Gas Sales Agreements remains a critical path item for both the Phase 1 Pipeline and the full Alaska LNG Project
- Negotiations of individual gas supply agreements have had varying degree of progress by producer
  - Not all producers have offered AGDC a price to sell gas from each of their fields
  - Difficult to raise private investment without price offers from the producers of Alaska's stranded natural gas resource

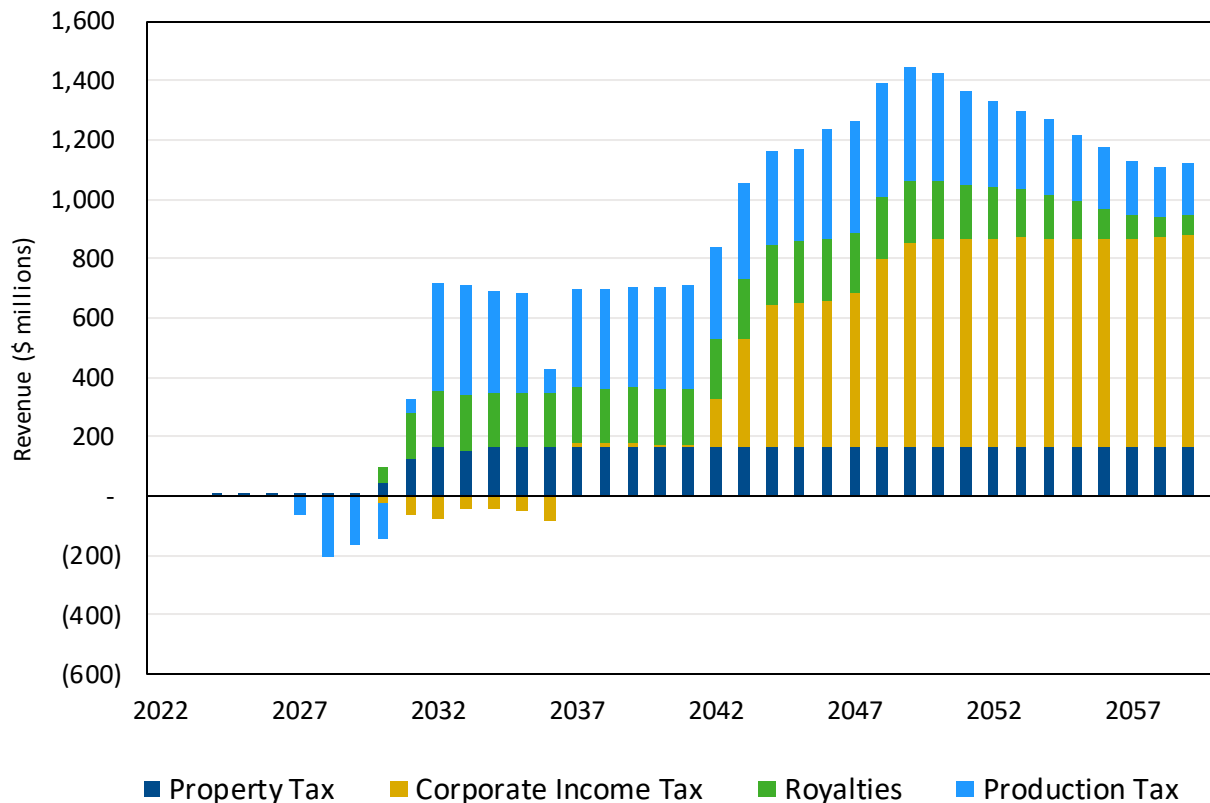
## Recent federal actions have supported the Alaska LNG Project

- Federal Loan Guarantees – \$31 billion
- Ambassador Emanuel Tokyo Summit
- U.S. Export Import Bank – Letter of Intent
- Department of Energy Supplemental Environmental Impact Statement
- FFY23 Appropriation – \$4 million
- 45Q Tax Credits – \$600 million/year; \$6+ billion total
- Engaged and supportive Congressional delegation

# Dept. of Revenue (DOR) Analysis

## DOR (2023) performed analysis on expected State of Alaska Revenue from Alaska LNG

Annual State Revenues (\$ Nominal)

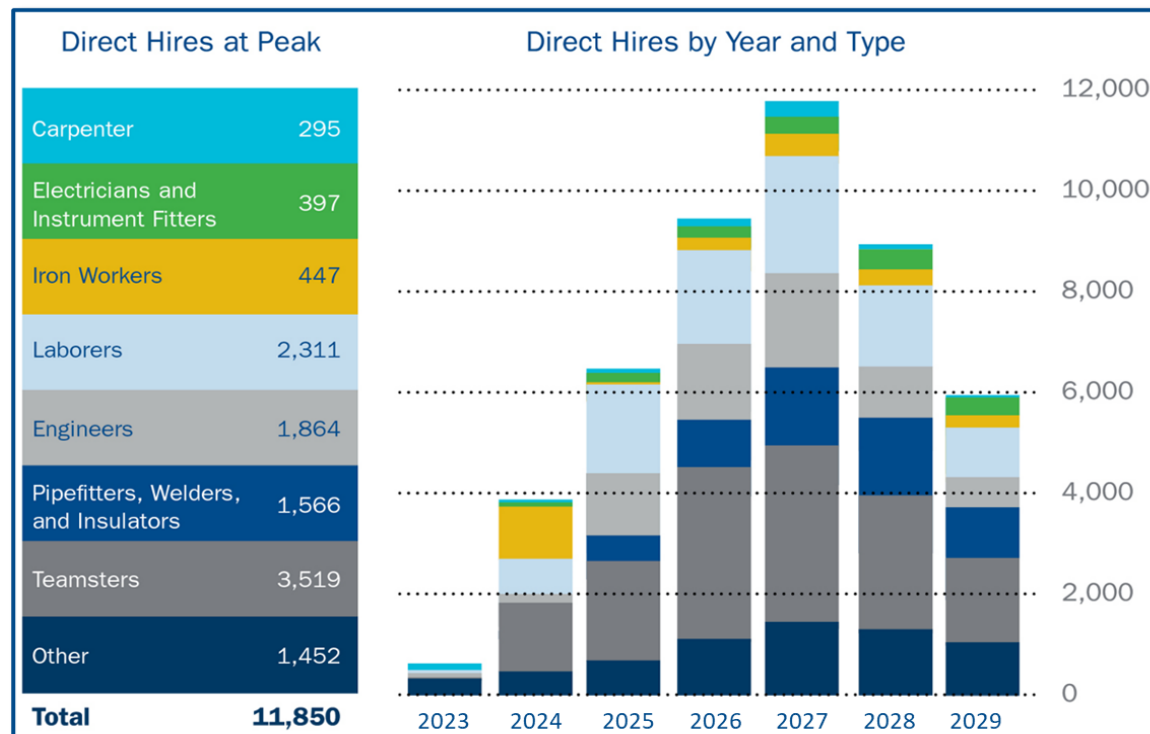


### Key Assumptions

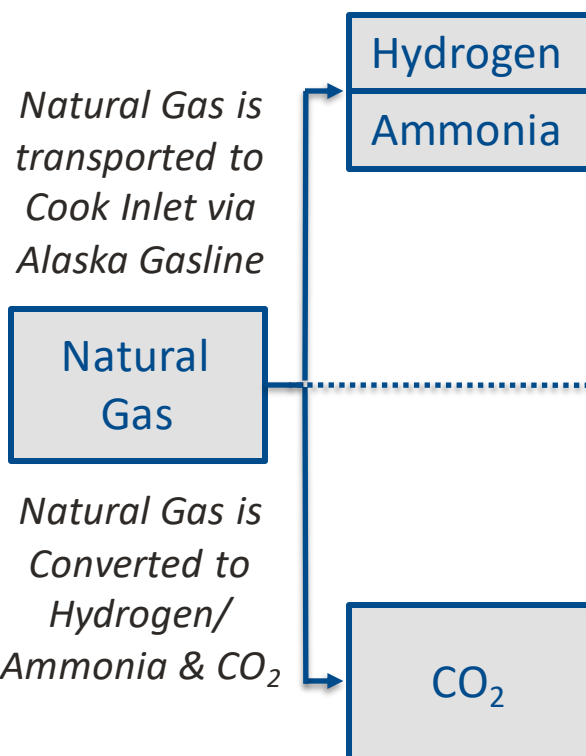
- Does not include AGDC revenue from return on investment-to-date or future State investments
- \$1.00 gas price
- Assumes full property tax but does not show the share going to boroughs
- Assumes no liquids losses at Prudhoe Bay

## The Alaska LNG Project Creates Jobs

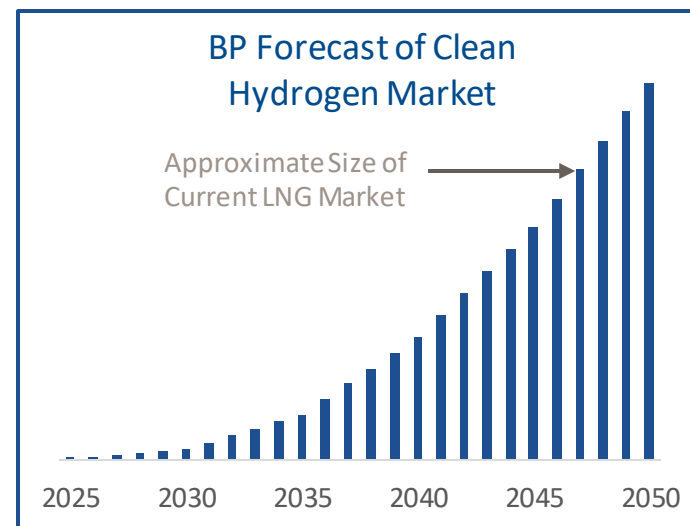
- Almost 12,000 direct jobs at peak of construction
- 1,000 long-term operations jobs
- Significant indirect jobs during construction and operations



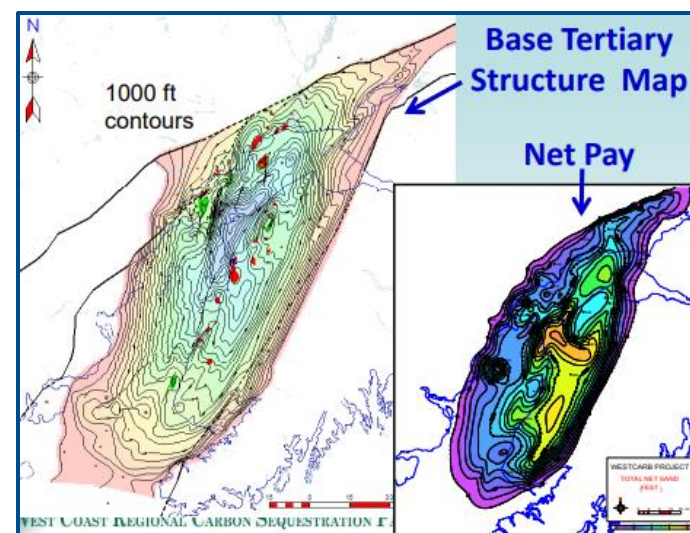
# Alaska Hydrogen Opportunity



- 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



# Contact Us

## AGDC

<http://www.agdc.us/>

<https://agdc.us/contact-agdc/>

## Alaska LNG

<https://alaska-lng.com/>

<https://alaska-lng.com/contact-us/>

## Social Media

Twitter <https://twitter.com/alaskalng>

Facebook <https://www.facebook.com/AKGaslineDevelopmentCorp>

LinkedIn [www.linkedin.com/in/alaska-gasline-development-corporation-607418245](http://www.linkedin.com/in/alaska-gasline-development-corporation-607418245)

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ALASKA  
GASLINE  
DEVELOPMENT CORP.

The logo for Alaska Gasline Development Corp. features the company name in a 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.

# Acronyms

ACC	Arctic Carbon Capture	Gt	Gigatonne
AFN	Alaska Federation of Natives	GTP	Gas Treatment Plant
AGDC	Alaska Gasline Development Corporation	HH	Henry Hub
ANCSA	Alaska Native Claims Settlement Act	HOA	Heads of Agreement
ANVCA	Alaska Native Village Corporation Association	IOC	International Oil Company
AOGCC	Alaska Oil and Gas Conservation Commission	IPT	Integrated Project Team
AP-X	Air Products Liquefaction Technology	IRR	Internal Rate of Return
Bbl	Barrel	JKM	Japan Korea Marker
Bblsd	Barrels per Day	Kbblsd	Thousand Barrels per Day
Bcf	Billion Cubic Feet	LNG	Liquefied Natural Gas
Bcfd	Billion Cubic Feet Per Day	LOI	Letter of Intent
BLM	Bureau of Land Management	M3	Cubic Meters
Capex	Capital Expenditure	MMBtu	Metric Million British Thermal Unit
CB&I	Chicago Bridge & Iron Company	MOU	Memorandum of Understanding
CCS	Carbon Capture and Sequestration	MT	Metric Tons
CIT	Corporate Income Tax	MTPA	Million Tonnes Per Annum
CO <sub>2</sub>	Carbon Dioxide	NETL	National Energy Technology Laboratory
CO <sub>2</sub> E	CO <sub>2</sub> Equivalent	NPRA	National Petroleum Reserve Alaska
DES	Delivered Ex-Ship	O&M	Operations & Maintenance
DOE	Department of Energy	OCs	Outer Continental Shelf
DOT&PF	(Alaska) Department of Transportation and Public Facilities	Opex	Operating Expenses
EA	Environmental Assessment	QRA	Quantitative Risk Analysis
EIS	Environmental Impact Statement	ROW	Right-Of-Way
EPC	Engineering, Procurement & Construction	SPA	Sale and Purchase Agreement
FEED	Front End Engineering Design	TAPS	Trans-Alaska Pipeline System
FERC	Federal Energy Regulatory Commission	Tbtu/yr	Trillion British Thermal Units per Year
FID	Final Investment Decision	Tcf	Trillion Cubic Feet
FOB	Free on Board	TPA	Tonne per Year
FTA	Free Trade Agreement	USGS	United States Geological Society
GHG	Greenhouse Gas	VDR	Virtual Data Room