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energy advisory

Key Issues: Legislative and Policy Actions for Alaska LNG

House Resources Committee
21st January 2026

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Basis of Opinion

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Agenda

Topics to be covered

- State objectives in Policy Setting
- State Participation in Project Success
- Canadian Pacific Coast Projects
- Phase I Gas Pipeline Considerations
- Path to FID
- Federal Policy Implications

State Objectives in Policy Setting for LNG

Why does the State need to set policy for a commercial gas project?

Is a collaboration with project developers needed or desired?

Are changes to policy or fiscal arrangements essential to create a viable project?

Are changes to policy or fiscal arrangements needed to ensure the State receives due economic benefit?

Examples: tax holiday, lower tax rates, sharing gas price downside, or subsidies

Emphasis on near-term concessions

Examples: incremental taxes additional upside from high gas prices.

Emphasis on long-term value

Scale and Impact

* Based on AGDC previous presentations

1

- 20 Million Tonnes Per Annum (MTPA)
  - 1 billion therms per annum
  - Typical delivered price in Asia $11/MMBtu
  - $11 bn per annum

2

- LNG Revenue relative to GDP
  - Alaska ~20%
  - Compared to Texas <0.5%
  - LNG Canada boost of 3% for BC
    - Estimated Provincial revenues of $78 Bn by 2064
    - Supporting 71,000 jobs

3

- 35 trillion cubic feet (Tcf) of proven gas*
- Potential delivered LNG revenue of over $400 Bn
- Significant potential upside of further 200 Tcf of gas
  - Equivalent to over $2Trillion

4

- Capital deployment for AK LNG is almost exclusively **in midstream**
- Gas cost and shipping may equate to under 20% of cost of gas sold
  - In Texas this figure is nearer to 60%

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- Represents a potentially attractive solution to in-state gas supply
  - Potential to lower energy costs (if full export project is implemented)
  - Gasification of interior communities
  - Driver for further investment eg industry and data centers.

Exposure to Capital Costs

- Compared to US Gulf Coast projects, the majority of the cost of delivered LNG from Alaska will relate to capital investment.
- Thus, the value of the delivered gas is underpinned predominantly from the infrastructure costs, not the upstream gas production.
- Robust cost estimation for FEED and exemplary project management of the EPC contract are thus essential.

US$	Alaska $/MMBtu	Gulf Coast $/MMBtu	LNG Canada $/MMBtu
Cost of Gas	1.00	4.23	2.00
Fuel Cost	-	0.63	-
Processing, Pipeline and Liquefaction*	***9.30 (84%)***	***3.79 (34%)***	***8.30 (75%)***
Shipping	0.75	2.40	0.75
Delivered Gas Price	11.05	11.05	11.05

Source: GaffneyCline analysis. Based on forward prices for December 2025, taken on 11th November

For AK LNG, midstream risk is high, but upstream risk is low; not typical of all LNG projects

State Participation in Project Success

Primary Goals of State and Project Developers

State Objectives:

- Realize appropriate level of value from hydrocarbon resources and facilities
  - Complex consideration that requires private capital
- Utilize state benefits based on government priorities
- Ensure energy security and optimal management of resources
- Enable economic activity and job growth
- Ensure that environment and safety standards are maintained

Developer Objectives:

- Achieve appropriate level of shareholder returns
- Ensure long-term competitiveness
- Serve customers and strengthen relationship
- Generate reliable business case and forecasts
  - Requiring fiscal understanding and stability over life of project

Existing examples of LNG enabling legislation can be used to guide approach for AK LNG

Fiscal Stability

- Fiscal Stabilization is a contractual or legal provision that guarantees investors protection against adverse legislative changes to the originally envisioned economic terms during the life of a project
- Higher commitment of capital and longer project time horizons result in greater emphasis on fiscal stability

Fixed Terms "Tax Freeze"

The tax system applicable at the time of signing remains unchanged for the project life specified in law or contract.

- Qatargas I & II
- Papua New Guinea (PNG)
- Sakhalin LNG
- LNG Canada

Economic Equilibrium Stabilization

If tax changes are introduced, the government makes other beneficial adjustments or otherwise compensates investor to retain the original economic impact.

- Mozambique
- P'Nyang LNG (PNG)
- Grande Tortue Ahmeyim (GTA)

Property Tax Impact

- Due to the capital and time required to develop the pipeline and facilities, taxes and duties that are implemented at early stages of the project can have a disproportionately adverse effect on the economic value and returns
  - It is common for other jurisdictions to offer holidays or exemptions on early taxes/duties/levies like import taxes, VAT, etc.
- Thus, Alaska's Property Tax is one of the biggest potential hurdles to project economics
- At $1/MMBtu it could represent a similar cost to the gas supply into the processing plant
- If the project were to start in phases, impact likely to be higher
- Considerable work carried out to assess a Payment in Lieu of Tax in the 2015-2017 timeframe

Feature	Impact
Assumed Capital	**$50 Bn**
Initial tax burden*	**$1 Bn**
Cost Impact	**$1/MMBtu**
% Increase to Delivered Cost of LNG	**9%**

Source: GaffneyCline analysis, percentage price impact based on JKM forward price for December 2025. * Based on 2% tax on capital value in year 1

Property Tax: State vs Investor value perceptions

- The discount rate used in evaluating project cashflows significantly influences investment decisions:
  - A higher discount rate will place more emphasis on near-term cashflows
  - A lower discount rate will place more emphasis on the longer term.
- Discount rate is a function of many complex features including risk, cost of capital, and investor priorities.
- LNG projects typically adopt a discount rate in the range of 8-12% depending on project structure and other factors.
- Governments typically have a lower cost of capital and discount rate regime.

Property Tax profile	NPV @10%	NPV @5%
Current Statute	$6.3 Bn	$7.9 Bn
"Reverse" profile	$3.5 Bn	$5.8 Bn
Difference	$2.8 Bn	$2.1 BN

Net Present Value (NPV) based on $1bn in year 1 for the current statute, and 20 years depreciation. "Reverse" profile is based on $50 million in year 1 rising to $1bn in year 20. This example is purely for illustrative purposes to show the effect of discount rate and is not based on any recommendation or outcome.

Relationship of Oil and Gas Production

- Mature fields commonly transition from liquids-dominated production to gas focused production at later stages of asset life (e.g. “gas cap blowdown”). Commercial framework and physical infrastructure is needed to capture this opportunity
- Reservoir management factors will affect the relationship between oil and gas production
- Reservoir management for optimum value will be key as Prudhoe Bay moves towards higher gas production
- Gas development is typically less profitable compared to liquids which may merit reconsidering upstream tax and royalty arrangements to enable investment, benefiting all parties
- Assessing these factors is likely to be a complex and detailed process involving a range of modelling, with input from oil/gas producers, AOGCC and other bodies

Carbon Capture

- Latter phases of LNG will require growing processing capability to remove CO_2
- HB50 passed in 2023 provides a framework for Carbon Capture, Use and Sequestration (CCUS)
- Combination of federal tax credits (45Q) and customer demand for lower carbon LNG provides an economic driver.
- Credits for Enhanced Oil Recovery (EOR) increased in Federal HR 1.
- Gulf Coast projects have to remove CO_2 from pipeline gas, however, AK LNG CO_2 content is much higher. Many are investing in CCS due to customer demand.
- Potential additional benefit from reducing carbon intensity of North Slope oil production.
- For a 2 million tonne carbon capture plant, at $85/tonne of tax credit, the benefit to AK LNG could be 17c/MMBtu of delivered LNG*.

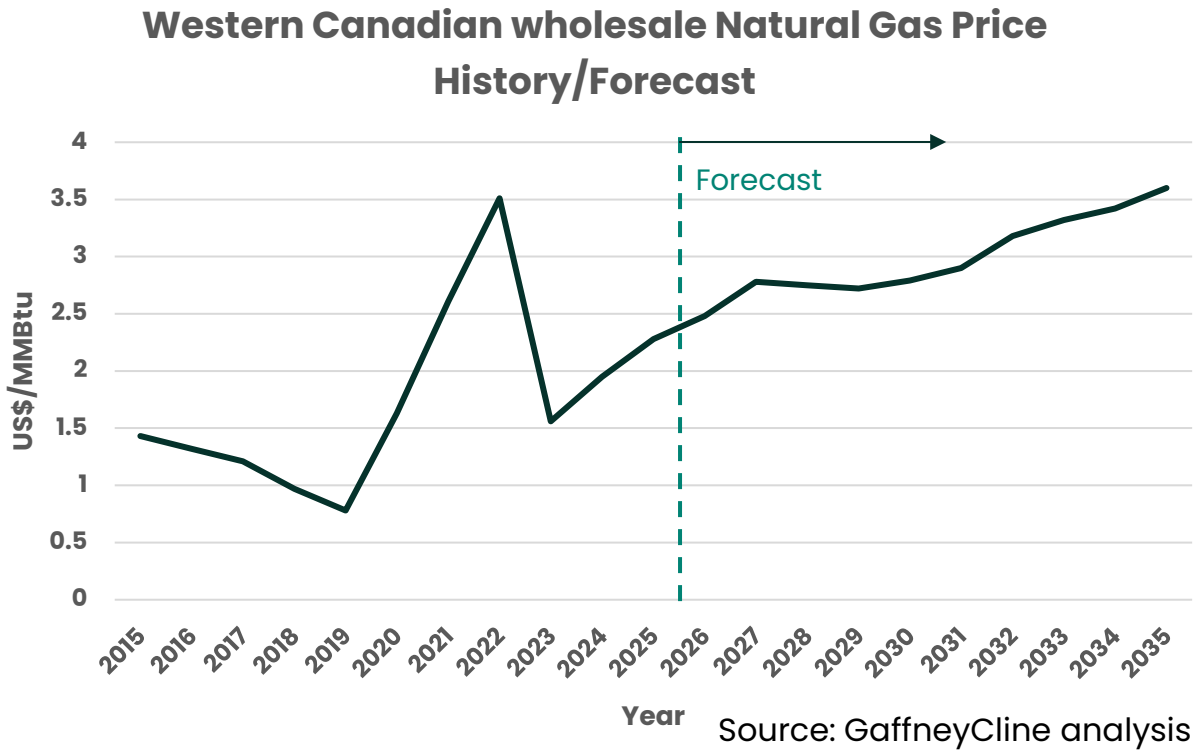
* 2 million tonnes of CO_2 at $85/tonne = $170m per annum, divided into 1 billion therms of LNG = $0.17 per MMBtu

Canadian Pacific Coast Projects

Similarities between Canadian LNG projects and Alaska

- The Canadian and Alaskan business model and economics are similar; thus, many lessons can be derived from projects in BC
- The competitive features of the project stem from **low-cost gas** and **low-cost shipping**
- Core infrastructure includes a costly long gas pipeline across varied terrain.
- Canada and Alaska are both seeking to meet demand for Eastern Pacific LNG sources (perceived as adding to supply diversity, and absence of security risks)
- Targeting major growth in Asia Pacific LNG demand

Shell CEO **Wael Sawan** June 2025



Source: GaffneyCline analysis

What is particularly attractive about LNG Canada… is the differential between AECO and Henry Hub, not to mention the proximity to Asia,..

LNG Summary
Canadian Pacific Coast

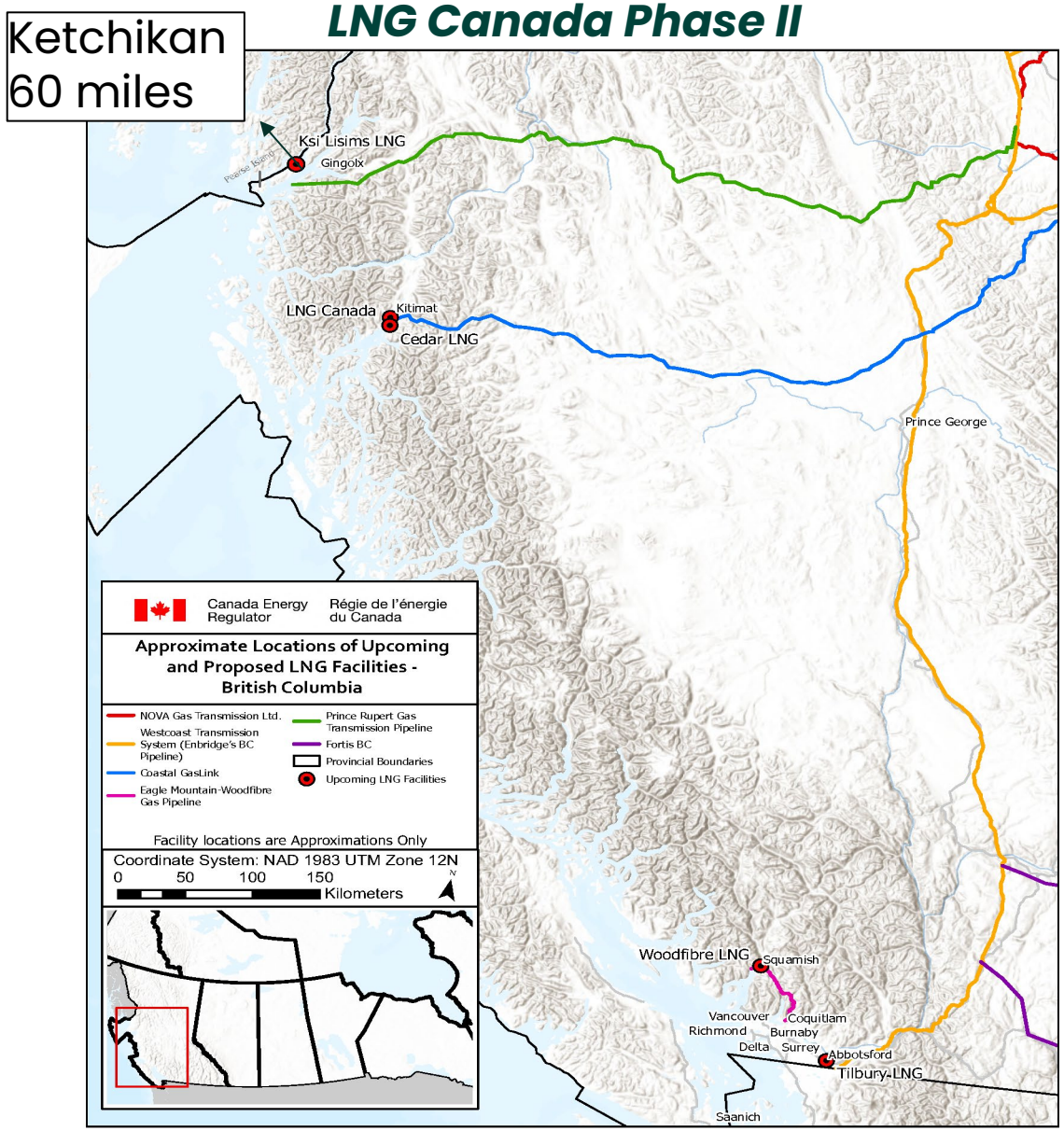
KSI Lisims LNG – 12 MTPA
- Fiscal support but no formal stability mechanism
- Offtake:
  - Shell 2 MTPA
  - TotalEnergies 2 MTPA + equity

LNG Canada – 14 MTPA
- Fiscal support and stability mechanism
- Up to 28 MTPA with Phase 2
- Train 1&2 now operational

Cedar LNG – 3.3 MTPA
- Fiscal support but no formal stability mechanism
- Petronas 1MTPA tolling capacity
- ExxonMobil/ARC 1.5 MTPA

Woodfibre LNG – 2.1 MTPA
- Under Construction, expected completion in 2028

Over 30 MTPA under development or operating plus additional 14 MTPA from LNG Canada Phase II



The map is a graphical representation intended for general informational purposes only. Map produced by the CER, August, 2024, Last updated on Aug 01

Lessons from LNG Canada

- Discussions **commenced in 2013** but final fiscal package **agreed March 2018** with FID **October 2018**
- Key features of enabling legislation:
  - **Natural gas tax credit** for LNG development in British Columbia.
  - **Repeal** of the Liquefied Natural Gas Income Tax Act
  - **Discounted electricity** prices
  - BC carbon **tax exemptions**
  - A **natural gas credit** against corporate income tax
  - **Deferral of provincial sales tax** on construction
  - **Federal tax breaks** / accelerated **depreciation**
  - **Fiscal stability**
- Estimated benefit: Federal **C$1.8bn** Provincial **C$2.16bn***

* https://canadian-accountant.com/content/business/lng-risks-public-purse-report

Phase I Gas Pipeline Considerations

Phase I Gasline Comparisons

Project	Pipeline (owner)	Length	Diameter	Design capacity	Estimated capital cost
AK LNG	AGDC / Glenfarne	~807 miles (1,297 km)	42 in	~3.3 bcf/d	~US$10.7B*
Ksi Lisims LNG	Prince Rupert Gas Transmission (Western LNG & Nisga'a Nation)	~560 miles (≈900 km)	Up to 48 in	~2.0–3.6 bcf/d	~US$4.4–5.0B*
LNG Canada	Coastal GasLink (TC Energy)	~416 miles (670 km)	48 in	2.1 to 5 bcf/d	~C$14.5B**

* Historical estimates
** Approx. final cost

- AK LNG gasline subject to tariff setting mechanism owing to rate case requirements for in-state supply
- LNG Canada/TC Energy – private negotiation of tariff terms, commercially driven
- Ksi Lisims pipeline may be integral feature of project

Phase I Tariff Considerations

- Pipeline capital, operating costs and escalation risk
- Committed, expected and growth case throughput
- Customer differentials (domestic, export, volume-related, etc.)
- Tariff cover- capital costs and/or operating costs
- Other project revenue sources (e.g. gas sales)
- Escalation provisions and controls
- 3rd party access provisions
- Phase 2 (LNG export phase) timing

Phase 1 will have high CAPEX (42" x 807 miles, $10.5 bn), low operating costs, and low throughput (domestic only), with large Phase 2 upside potential. Mechanisms to amortize costs over Phase 2 may be needed.

Phase I Gasline Concept

Benefits:

- Mitigation of forecast gas shortages in Southcentral
- Potential step in securing lower cost energy for Southcentral and Interior
- Reducing the economic and technical risk of a full-scale LNG export project
- Enhanced energy security for the state

Features to address:

- Gas supply and agreements
- Timeframe of exposure to initial pipeline tariff
- Potentially complex rate filing/tariff setting through RCA process or other mechanism.
- Resolution of cost sharing mechanisms relating to “Alaska Advantage Principles”

Phase I Gasline Structure

Regulatory, commercial, and legislative considerations will determine the gas sales structure:

1. Utilities, power generation and Industrial buyers purchase gas direct form North Slope producers, enter into transportation service agreement with the gasline owners.
2. Gas and transportation is bundled, and gas is sold to utilities etc at various delivery points off the pipeline.
3. Potential formation of a special purpose company for gas sales.
4. Consideration may be given to state involvement in any of these concepts

The Path to FID

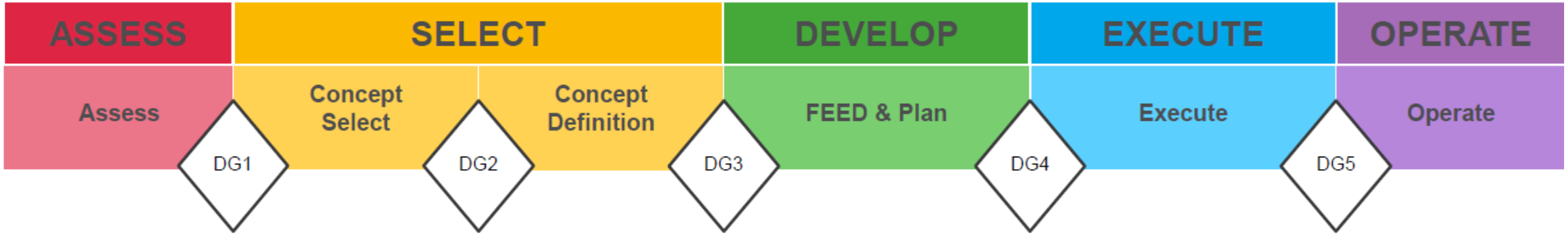
FID Pre-requisites

To take FID, key aspects of the AKLNG project must be considered:

- Phase 1 will comprise the pipeline transporting gas to the state domestic market
- Subsurface (gas availability) risk is low
- Facilities capital costs are high and a dominant part (84%) of the overall cost of supply

The FID decision package must provide coverage of all project work streams to demonstrate readiness to proceed.

Project Management Framework Pre-FID



Large projects are typically managed within a "Stage-Gate" process where project phases are controlled at "Decision Gates" (DG). FID is normally taken at DG4. The DG support package will address:

- Project technical scope (project specification, key design documents)
- Cost and schedule- base, risk analysis, contingencies, and allowances
- Project execution plan- staffing, contracting, procurement, logistics, etc
- Legal, permits, and regulatory framework
- Commercial framework, economics, and business case
- Financing- phasing, coverage, risk management, assurance, etc.
- Stakeholder management

Factors Affecting Pre-FID Schedule

The time required for the “Select” and “Develop” (or Define) phases can vary widely, depending on:

- Project economic attractiveness- highly profitable projects can take FID quickly, marginal projects often require better definition and may have to recycle back to through concept selection
- Project non-technical aspects (regulatory, stakeholder, financing) are affected by external influences
- Project scale, complexity, and innovation

Upstream mega-project Pre-FID phase can vary from less than 4 years to over 50 years

Legislative Action likely to be needed Prior to FID

- Before FID is taken, legislative action may be required in a number of key areas including:
  - Reconsideration and clarification of LNG specific Property Tax statutes, other potential duties/levies, corporate income taxes and accounting treatment
  - Any required LNG specific permitting and regulatory definition
  - Fiscal stability
  - Oil and gas production tax and royalty
  - Equity investment in the LNG project
- With respect to the Phase I pipeline, other pre-FID features may include:
  - Tariff setting for gas supplies to Southcentral and the Interior
  - Credit support or other mechanisms considered appropriate
  - Detailed implementations of the "Alaska Advantage" principles, including tariff allocation between in-State gas requirements and LNG feedstock flow

Federal Policy Implications

Role of Government-to-Government dialogue

- In the first 20 years of LNG industry development, government-to-government facilitation was an integral part of LNG project success
- The Nikiski LNG project (first Pacific LNG project) developed in the 1960s was linked with a US-Japan treaty.
- Rationale for LNG within government dialogue:
  - Critical role of LNG within national energy security
  - Potential wider economic implications of supply failure
  - Lack of fuel switching options

Alaska LNG role in international trade and security

- Value of LNG exports from Alaska are material in trade dialogue with Asian partners
- Annual LNG exports from Alaska are equivalent to:
  - One quarter of automobile imports from Japan
  - One third of automobile imports from South Korea
  - Over ten million imported smart phones or laptops
- Exports from Alaska would be the only source of Pacific American LNG for Asian partners
  - Contribution to energy security
  - Links to wider Asian security considerations
- Potential in-state role for national defense resources.

Federal Loan Guarantee

- Federal loan guarantees will reduce the cost of debt for the LNG project
- Material benefit given size of capital outlay
- Exact terms and debt arrangements will determine impact
- Likely to be in the $0.3-0.4/MMBtu range
- Amounts to 3 – 4% on cost of delivered gas **

Feature	Metric	Annual Cost	Levelized Cost*
Assumed Debt	**$30 Bn**		
Assumed Interest rate without credit support	**6.5%**	**$1.95 Bn**	**$2.7 Bn**
Assumed Interest rate with credit support	**5%**	**$1.5 Bn**	**$2.4 Bn**
Annual saving		**$450 m**	**$300m**
Saving in Cost of Delivered Gas		**$0.45/MMBtu**	**$0.3/MMBtu**

Source: GaffneyCline analysis,
*Including amortization and repayment over 20 years
** based on December 2025 JKM futures price. Effect of loan guarantee assumed to be a reduction of 1.5% in cost of debt, based on prior AGDC/Woodmac presentations.

Questions?