

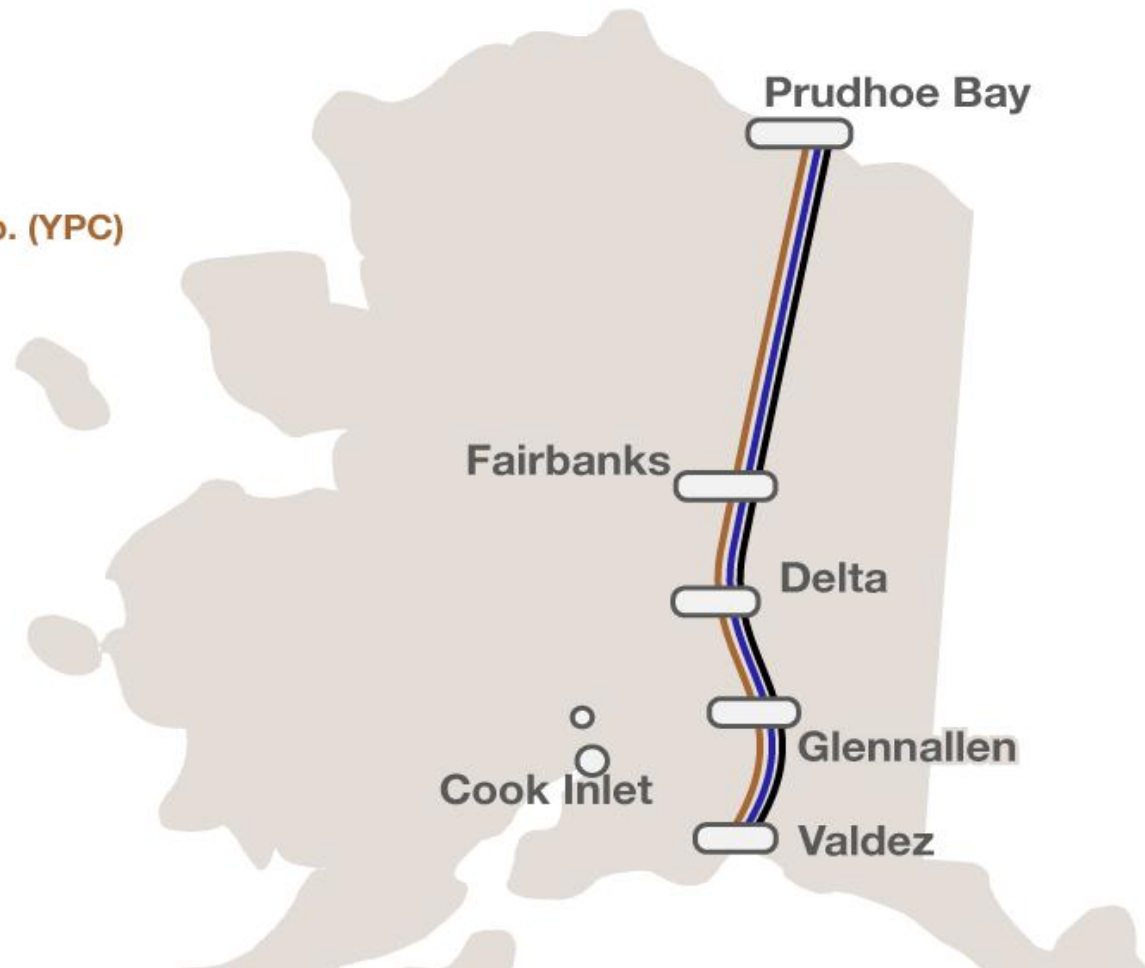
City of Valdez, Presentation before the House Finance Committee
Thursday, March 28, 2013
Juneau, Alaska

Map with TAPS, El Paso, and YPC

1 TAPS

2 El Paso Pipeline

3 Yukon Pacific Corp. (YPC)



Permits Previously Obtained for Gasline to Tidewater by YPC

☞ Formed by Former Governors Bill Egan and Walter “Wally” Hickel

The following permits have previously been received (now expired) for this project route and terminal location:

- FERC Declaratory Order Regarding its TAGS Jurisdiction
- Presidential Finding Approving Export of Alaska Natural Gas
- Coastal Zone Consistency Determination
- TAGS Project-Wide Final EIS
- Ahtna Corporation Right of Way Agreement
- Federal Pipeline ROW Grant
- State of Alaska Conditional ROW Lease
- DOE/OFE Authorization for Export of Natural Gas (Order 350)
- DOE/OFE Confirmation of Order 350
- Anderson Bay (LNG Terminal) Final EIS
- FERC Authorization for Siting LNG/MT Facility
- Anderson Bay LNG/MT Facility Air Quality (PSD) Permit

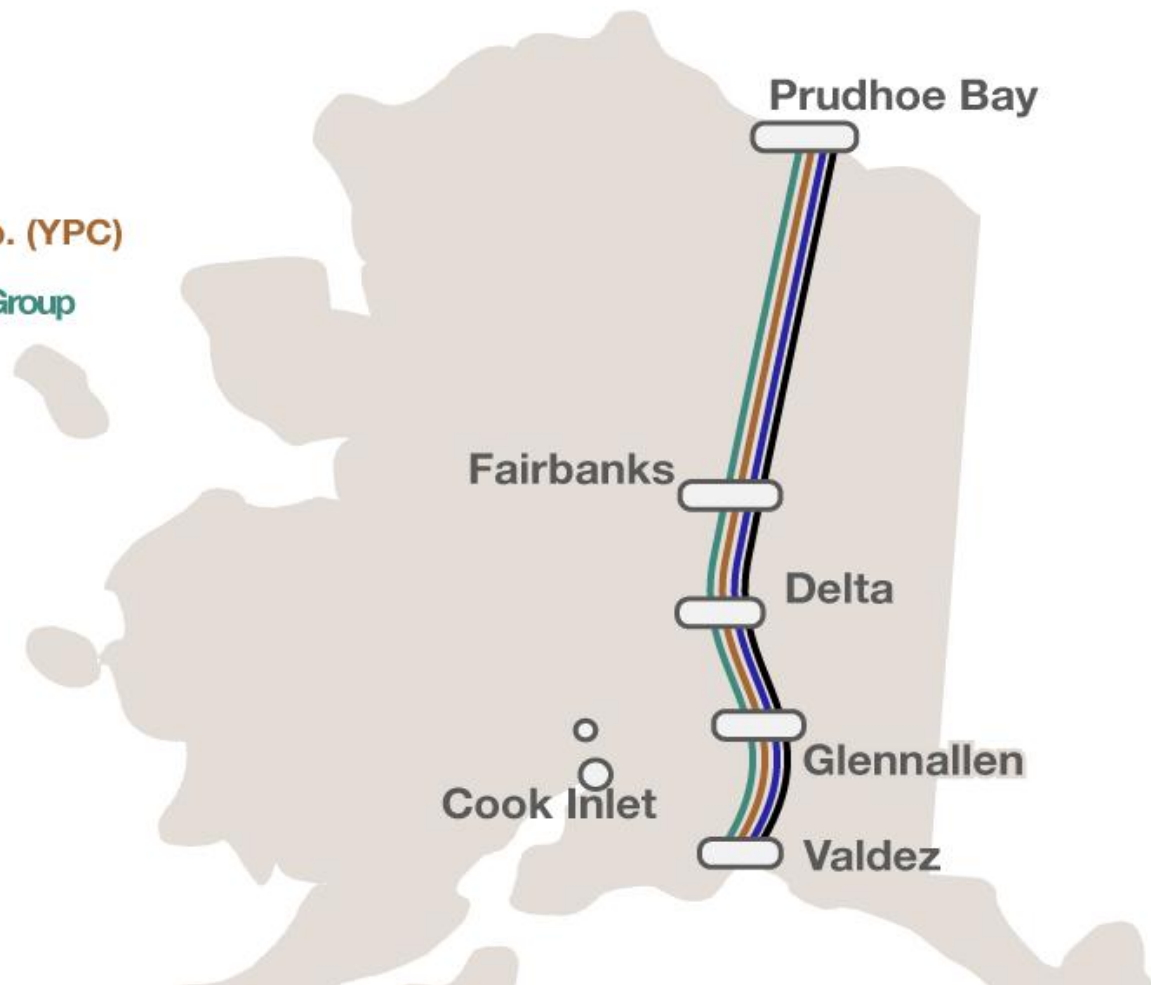
Map with TAPS, El Paso Pipeline, YPC, LNG Sponsor Study Group

1 TAPS

2 El Paso Pipeline

3 Yukon Pacific Corp. (YPC)

4 LNG Project Sponsor Group



Alaska North Slope LNG Project Sponsor Group

Formed in 1999

Formed for Sole Purpose of Evaluating 3
Routes to Tidewater from North Slope

Participants:

- ✧ ARCO Alaska
- ✧ CSX Corp.
- ✧ Foothills Alaska Inc.
- ✧ Marubeni
- ✧ Phillips Petroleum

1. Richardson Highway to Valdez Marine Terminal
2. Richardson Highway to Glennallen then over to Nikiski via Glenn Highway Route
3. Parks Highway south to Nikiski

Conclusion of Study Group: Route most likely to be permitted by federal / state agencies is the Richardson Highway to the Valdez Marine Terminal route.

Map with TAPS, El Paso Pipeline, YPC, Alaska LNG Study Group, AGPA, ANGDA, and AGIA

Showing line to Valdez as well as Alberta

1 TAPS

2 El Paso Pipeline

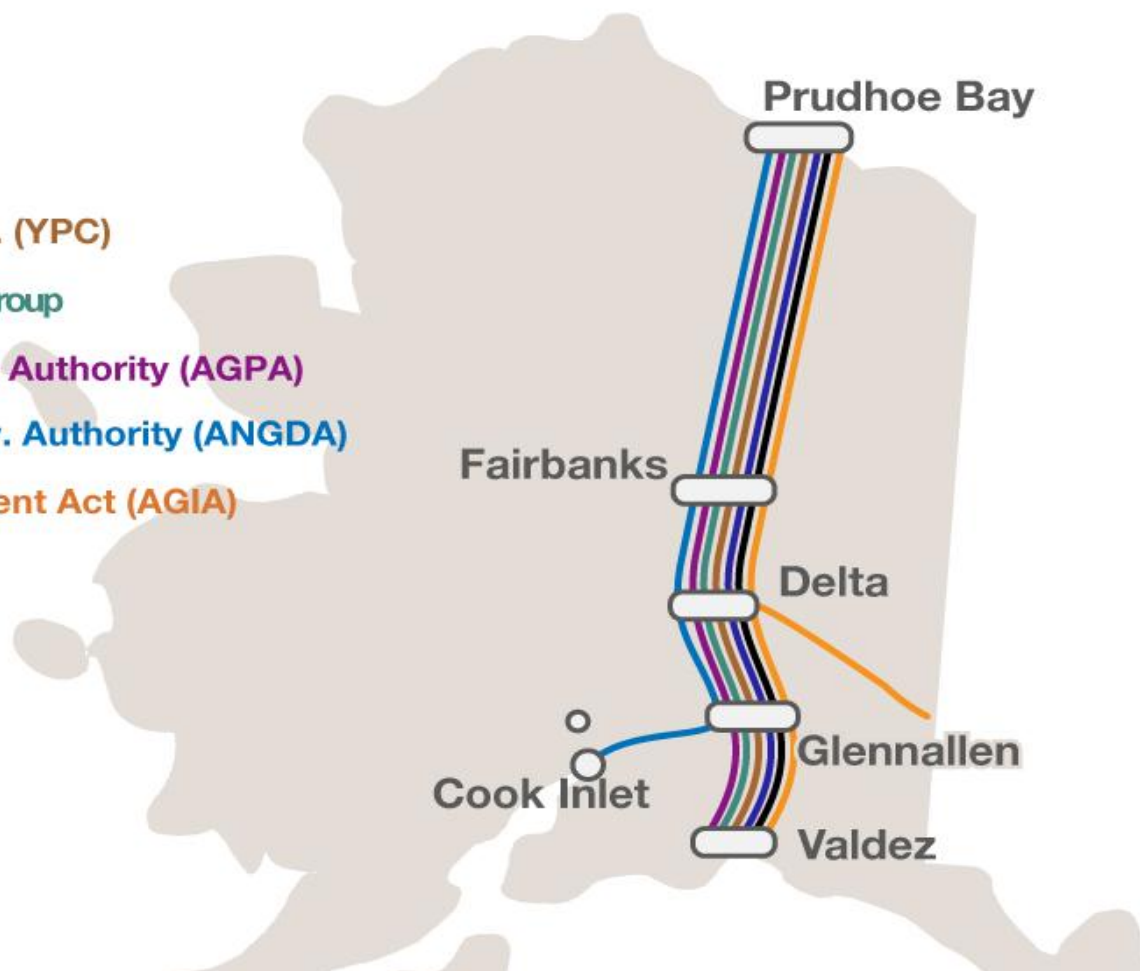
3 Yukon Pacific Corp. (YPC)

4 LNG Project Sponsor Group

5 Alaska Gasline Port Authority (AGPA)

6 AK Natural Gas Dev. Authority (ANGDA)

7 AK Gasline Inducement Act (AGIA)



AGIA

- ✧ Funded following \$15 Million of analysis, presented to the legislature following a several month long special session with presentations from numerous industry recognized consultants
- ✧ Legislation authorized up to \$500 million for licensee
- ✧ Contract awarded to TransCanada / Foothills Pipeline
- ✧ State of Alaska share of AGIA work cost to date \$300 Million
- ✧ Results: Over 1 million hours of engineering work on gasline to Open Season to Tidewater
- ✧ Latest Open Season (September 2012) had a 200% response from the Asian market

Results of September, 2012 Open Season

AGPA	Resource Energy, Inc.
KOGAS (Korea)	Japan Exploration Company, Ltd. (Japan)
POSCO (Korea)	Idemitsu Kosan Company (Japan)
GS Energy (Korea)	JX Nippon Oil & Energy Corporation (Japan)
PTT International Company, Ltd. (Thailand)	Mitsubishi Gas Chemical Company, Inc. (Japan)
PGN LNG (Indonesia)	Nippon Telephone and Telegraph (Japan)
East-West Power Company Ltd. (Korea)	
2.8 bcf/d	2.7 bcf/d
TOTAL: 5.5 bcf/d	

Results of September 2012 Open Season

- Volume used by Wood Mackenzie in their LNG analysis – 2.7 bcf/d
- Volume nominated at September 2012 Open Season by ASIAN Market – 5.5 bcf/d
- In-State Market – .25 bcf/d

Total: 5.75 bcf/d

Map with TAPS, El Paso Pipeline, YPC, Alaska LNG Study Group, AGPA, ANGDA, AGIA, ASAP

1 TAPS

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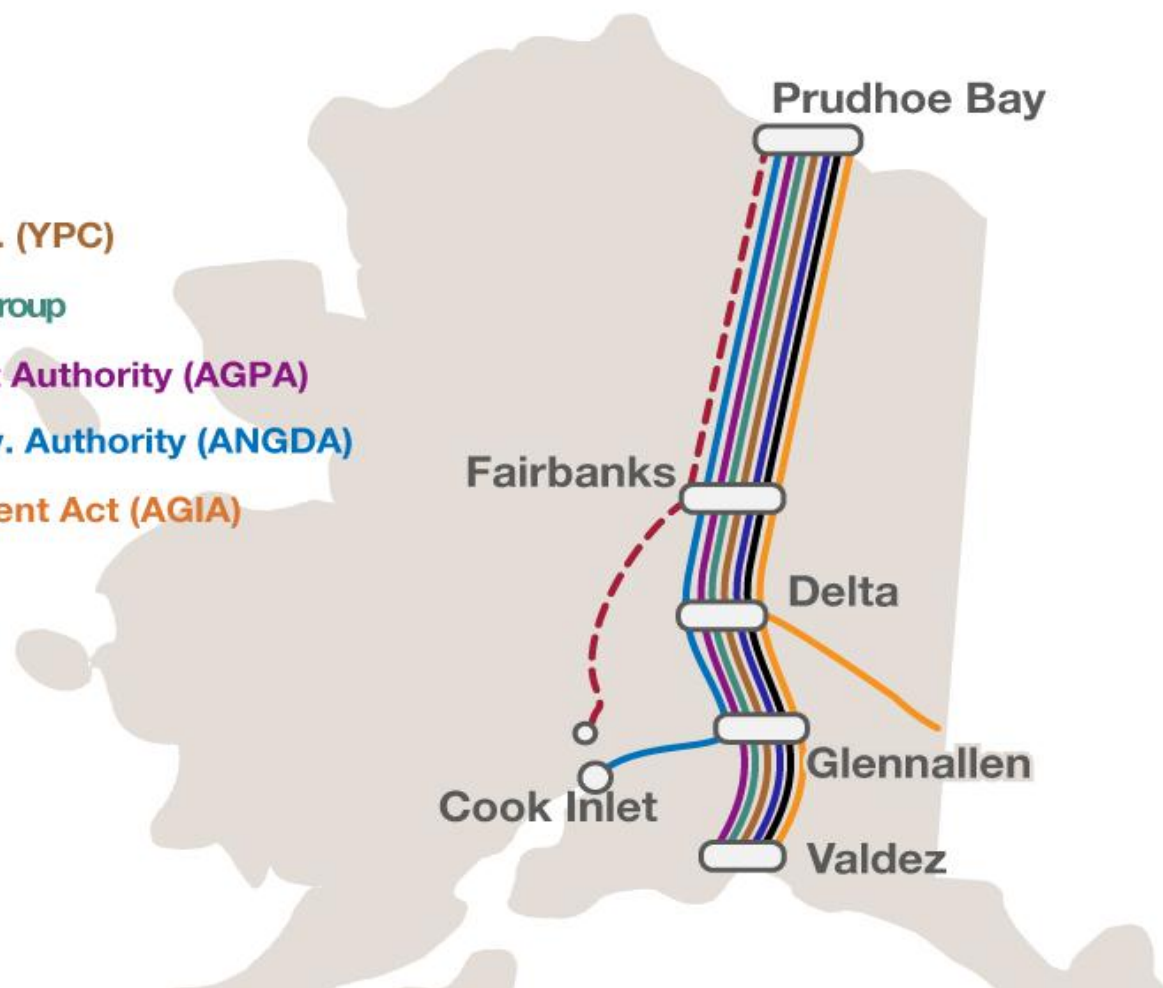
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8 HB4



Alaska's Energy & Fiscal Challenges

1. Fiscal Cliff – 90% Alaska revenues tied to oil
2. High Energy Cost – Interior / Statewide
3. Southcentral Gas Supply

Is There Any Revenue to Alaska From LNG Exports?

Does Alaska Make Money off LNG?

www.woodmac.com

From an economic perspective, Alaskan LNG exports are competitive, viable across scenarios, and could generate between \$220 and \$419 billion for Alaska*

- > The numbers generally “work” for Alaskan LNG exports when the global oil price is north of \$75/bbl oil and Asian firm contract pricing reflects a 13%(+) oil indexation** (indexation for firm contracts today is approximately 14.85%)
- > Proposed Alaskan LNG exports have a substantial cost advantage relative to possible competing LNG supply projects
- > Assuming start-up in 2021 and a project life of 30 years, royalties (12.5%) and state taxes (starting at 25% post-royalties) could yield a total of between \$220 and \$419 billion*
- > While we do not address them, there are a number of commercial challenges associated with all liquefaction projects
- > Alaskan LNG exports have a delivered cost structure below \$10/MMBtu. Given a range of infrastructure cost scenarios, oil prices projected utilizing Woodmac’s April 2011 NAGS price outlook or the NYMEX forward strip, and LNG - oil indexation pricing to Asia of 13 – 16%, Alaskan LNG could be priced DES between \$18.00 - \$46.00/MMBtu through 2050.
- > Alaskan LNG would use assets that are producing gas for re-injection (essentially limited to gathering, transport and processing costs)
- > Most competing Australian projects and proposed NA LNG exports yet to secure Final Investment Decision (FID) are expected to deliver LNG to Asia at costs of \$10 - \$12/MMBtu under current gas price assumptions
- > Royalties (12.5%) and state taxes (starting at 25% post-royalties) could yield \$2.4 to \$24 billion per year.
- > Economics are important, but commercial issues such as the scale of value chain requirements (pipes, storage, etc.), buyer risk tolerance, financing arrangements, etc. are critical

Taking all into account – basis, shipping, capital requirements – Alaska LNG export facilities can deliver LNG to Asia less expensively than US Lower 48 or Canada and competitively vis-à-vis traditional Australian LNG sources



*Total undiscounted taxes and royalties values utilize nominal figures (2.4% inflation), 14.85% indexation, and avg. recourse rate of \$4.18. Assuming a nominal discount rate of 5%, the NPV of taxes and royalties is between \$65 and 124 billion.

**Oil indexation price example: With an oil price of \$100/bbl, “oil indexation” of 14.85% yields a gas price of \$14.85/MMBtu

© Wood Mackenzie 5

Strategy with substance

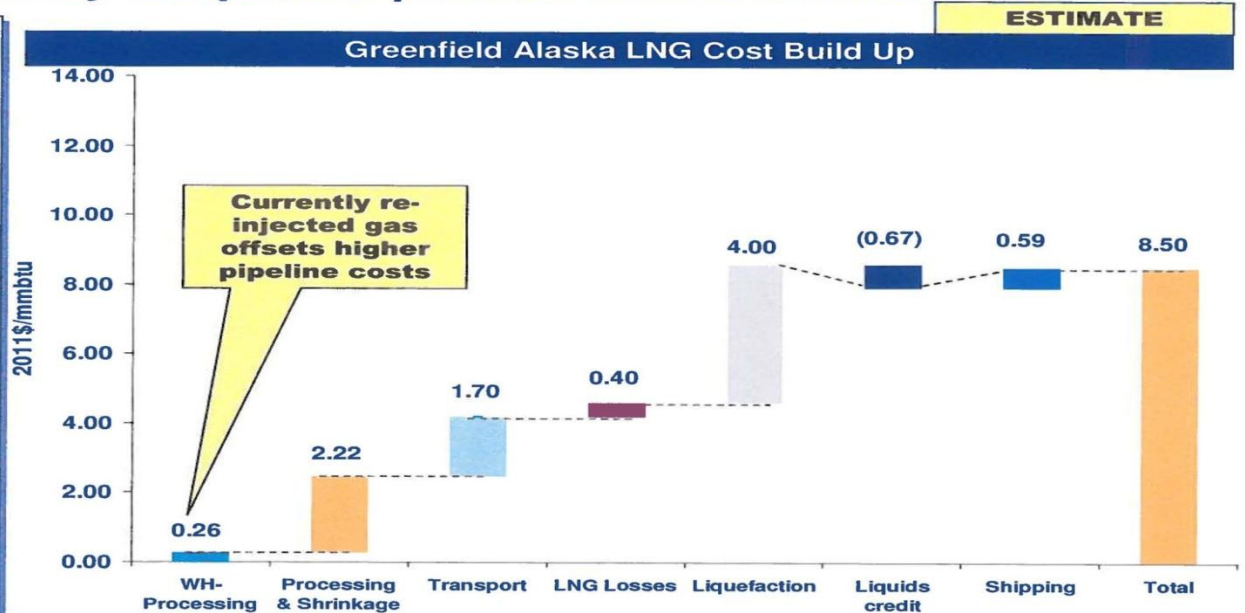
Can Alaska's LNG Compete?

www.woodmac.com

Access to currently re-injected gas upstream puts the Alaska LNG liquefaction project in an economically competitive position relative to others...

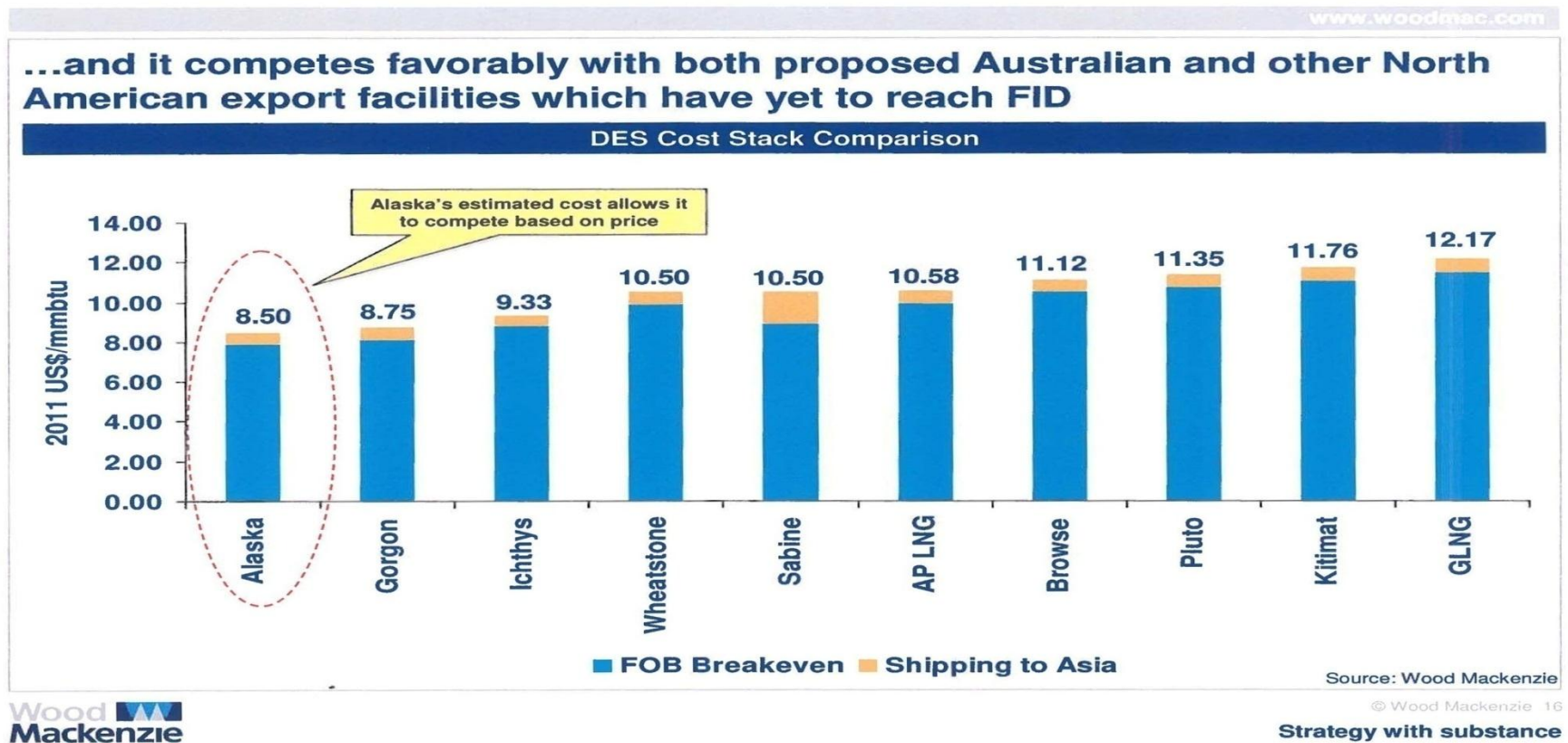
Key Assumptions

- All data from "Transcanada XOM Alaska Pipeline Project Open Season Notice, 2010, Valdez LNG Case" except below items:
- Liquefaction:
 - CapEx: \$1,200/ton; est. rate covers CapEx, Opex, 12% nom. ROE.
 - Alaska LNG losses 9.65%
- Shipping Assumptions:
 - Ship: 155,000 m³
 - CapEx/ship: \$200 million
 - OpEx: \$15,000/day; 2.33% annual escalation
 - 8% ROE after tax
- LNG Processing Losses: estimated from AGIA NPV Report, Fig. 7.2
- Liquids credit determined using \$80/bbl netback price for LPG and volumes provided by AGPA (88,000 MMBtu/d; ~20,000 bpd)



Source: Wood Mackenzie

Can Alaska's LNG compete?



LNG Imports into Asia: examples of gas composition

HV Level (Btu/scf)		Super Lean		Lean	
		1010-20	1020-40	1040-90	1090-
Project		Kenai	Egypt T&T	Nigeria Abu Dabi Qatar E. Guinea	Malaysia Oman Algeria Brunei Indonesia Australia
Typical Components	C1	99.6	98.1	92.2	90.1
	C2	0.2	1.8	5.1	5.4
	C3+	0.2	0.1	2.7	4.5
Gross Heating Value		1010	1025	1090	1120
Typical Project		Kenai	Egypt	Nigeria	Malaysia

Post Treatment Gas Composition Estimate

Component	Composition (Lean Gas Case) Mole Fraction	Composition (Rich Gas Case) Mole Fraction
N ₂	0.007	0.006
CO ₂	0.015	0.015
C ₁	0.899	.0864
C ₂	0.058	0.071
C ₃	0.017	0.036
IC ₄	0.001	0.003
NC ₄	0.002	0.004
N ₅₊	0.001	0.001
	1.000	1.000
BTU Content cubic foot (Pre LPG Extraction)	1067	1118

Southcentral Gas Supply



Long-term Gas Supply Work Group

Regulatory Commission of Alaska
Public Meeting
October 24, 2012 9:00 AM

10/24/2012

[1]


Southcentral Gas Supply

- No Southcentral gas shortfall percentages are anywhere near 100%
- Not all gas in Southcentral goes away
- Exploration activity is up
- Import volume price blended with local gas price

How Does HB4 Solve Alaska's Energy / Fiscal Crisis?

⌘ Revenue to Alaska? - **NO**

⌘ Cost of Energy?



Fairbanks

Southcentral

⌘ Built in Time to Resolve Fairbanks/Southcentral Energy Crisis? **NO**
(2019-2020)

⌘ Liquids for value added jobs? **NO**

⌘ \$400 million to be able to hold an Open Season – same place AGIA was on July 2010

Options for Solving Energy Crisis:

- ∞ HB4 study to hold an Open Season in 2-3 years = \$400 Million
- ∞ Fairbanks – LNG Trucking \$250 Million = gas to Fairbanks at \$10.00-\$12.00 range (2 years)
- ∞ Southcentral – LNG Imports = \$80 Million regas for gas at \$9-12 range (2-4 years)
- ∞ Total cost for Fairbanks / Cook Inlet solution = \$330 Million

Why Are We Ignoring the AGIA Open Season?

- ∞ AGIA Has Produced Volumes of Work Resulting From Over 1 Million Hours of Engineering, Cost Estimates, and Field Work. Approximately \$500 Million spent to date on Open Season.
- ∞ When the \$400 Million is expended under HB4, it would take us back exactly to where we were on July 31, 2010 under AGIA.

What Alaska Should be Doing Rather Than Spending \$400 Million to Begin Yet Another Open Season Process (Third)

1. Engage directly with those companies in Asia that responded to the AGIA Open Season (September 14, 2012)
2. Engage with AGIA licensee to direct next step in engaging with Asian market
3. Engage with North Slope producers to determine cost of “fiscal certainty” regarding gasline to determine if it is cheaper for Alaska to own it – built by the private sector now

There is No Logical Reason to Spend
\$400 Million to Begin a Study for
Another Open (**Third**) Season When
the Last One Had a 200% Response
From the Asian Market

Risk to Alaska's Future?

While we begin yet another study process, the Asian market signs long-term LNG contracts with projects being built in Australia, British Columbia, U.S. Gulf Coast, and Russia