

ALASKA LNG

The Alliance – Kenai Chapter Luncheon
November 17, 2017

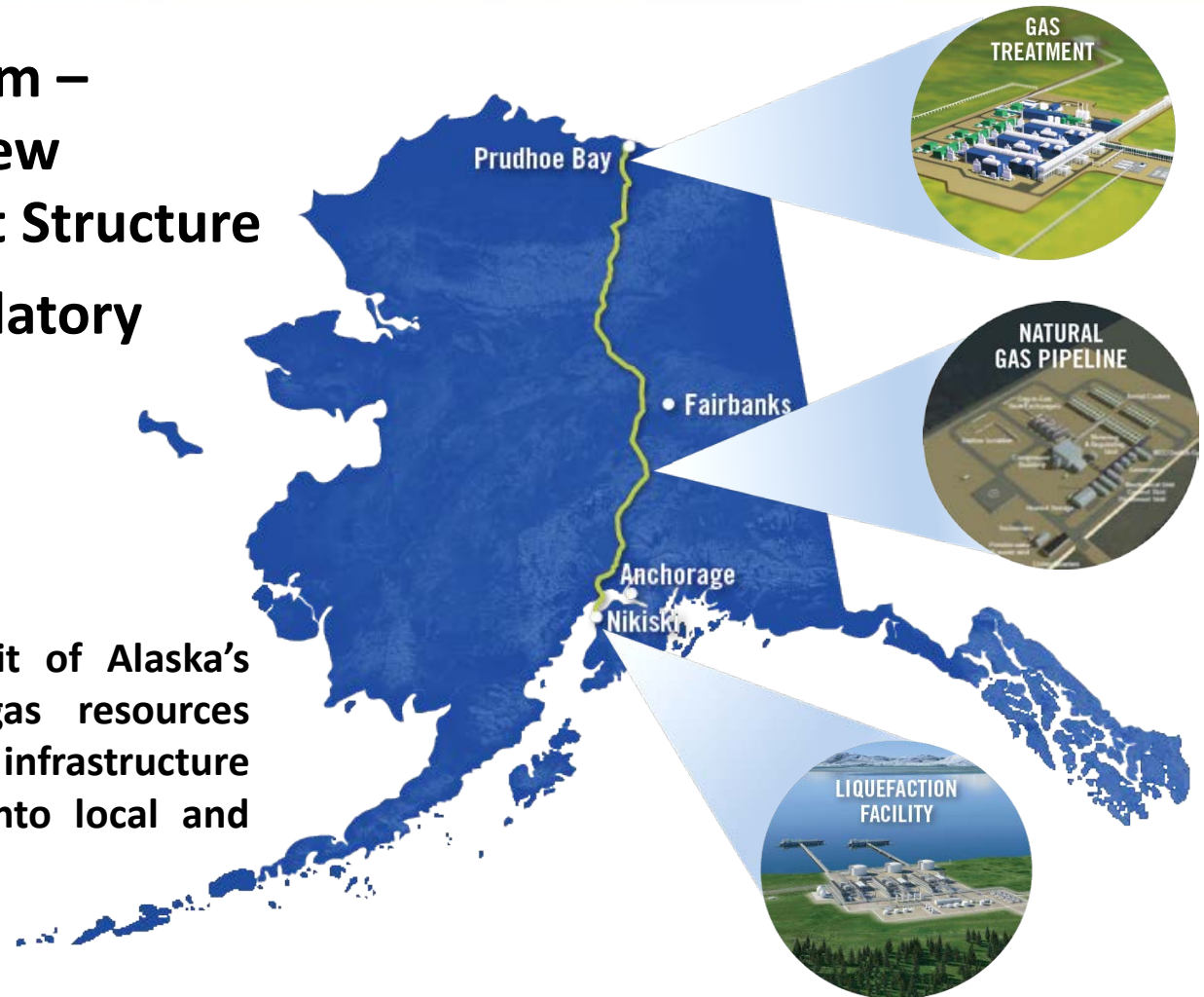


Frank Richards, Senior V.P., Program Management

PRESENTATION OVERVIEW

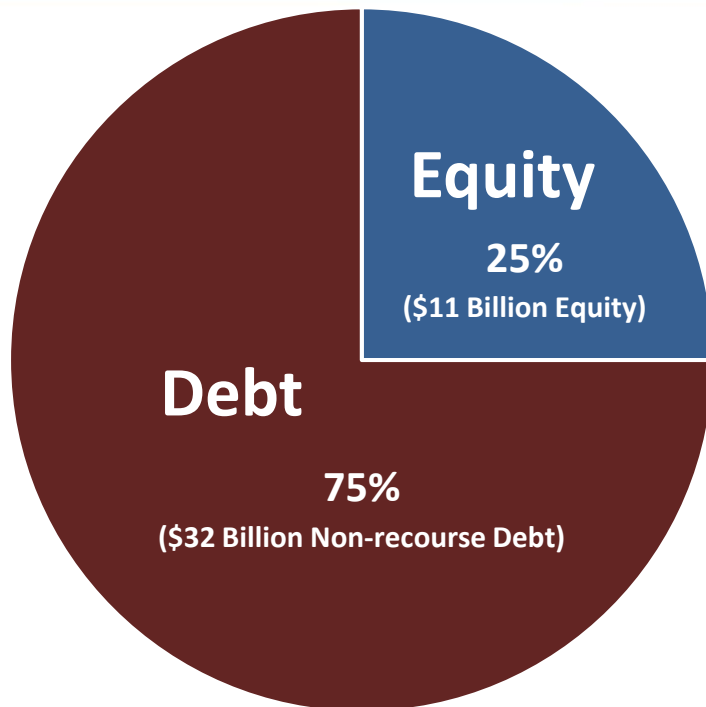
- Alaska LNG system – economic overview
- China Agreement Structure
- Alaska LNG Regulatory Update

Mission: Maximize the benefit of Alaska's vast North Slope natural gas resources through the development of infrastructure necessary to move the gas into local and international markets.

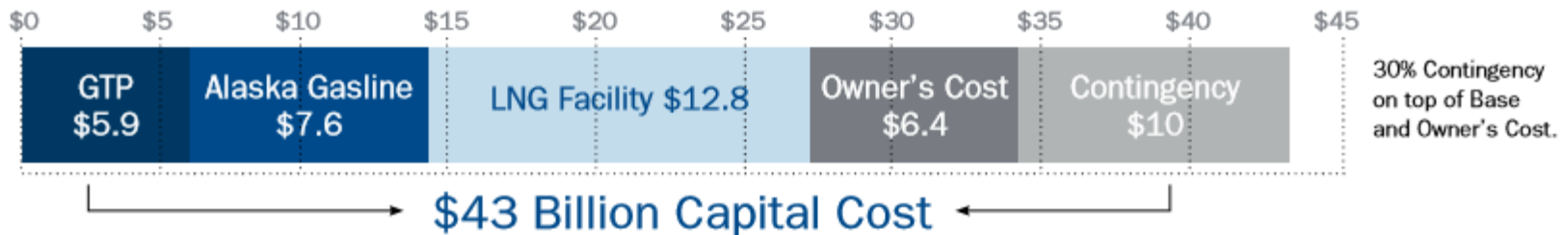


Bcf = Billion cubic feet

ALASKA LNG CAPITAL STRUCTURE

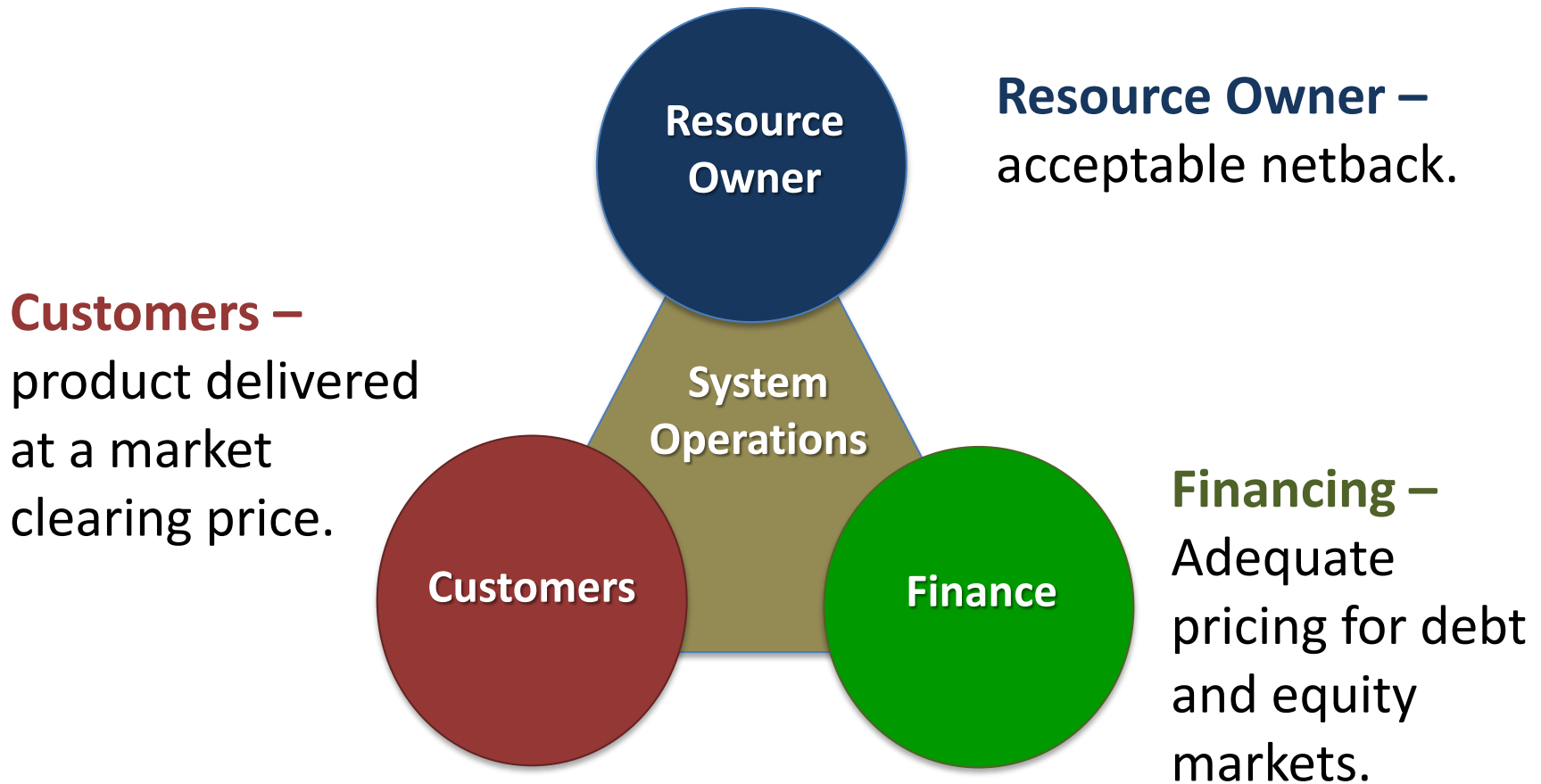


- Base case: 42-inch, three train, 20 Mtpa design.
- Total Capital Cost = \$43 Billion.
- Potential for phased development.



PROJECT ECONOMICS REQUIRES BALANCE

- All infrastructure and resource development project have similarities
- Three key drivers have to be balanced to make the project economic.



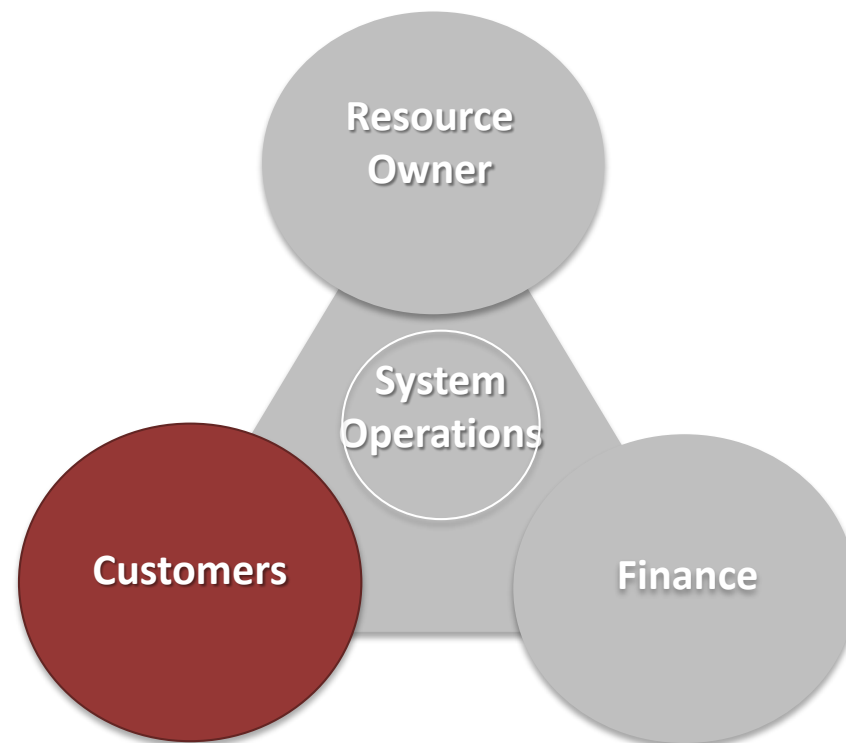
Asia Pacific LNG Market

U.S. Competition

- **Henry Hub plus**
\$5.00/MMBtu
HH at \$3.10 + \$5.00 = \$8.10

International

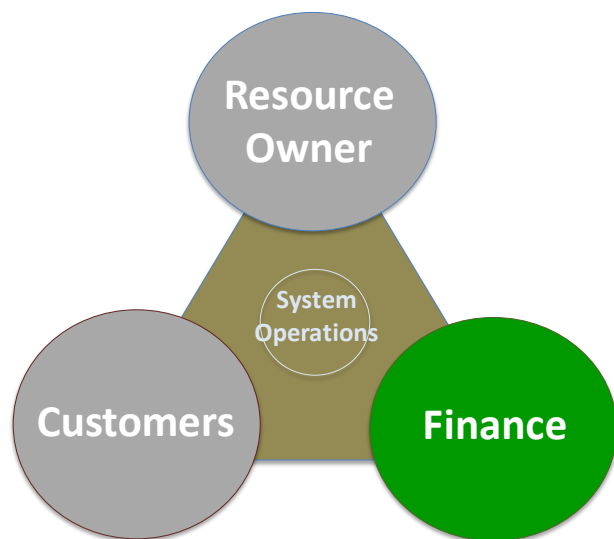
- **12-14% Oil per Barrel**
12% Brent at \$63/Bbl = \$7.56
- **Other emerging pricing**



US Gulf Coast LNG Delivered to Asia			
	<u>\$/MMBtu</u>		
Gas supply	\$ 3.00	<== Henry Hub market price	
Liquefaction	\$ 3.20	<== US Gulf Coast Liquefaction	
Shipping	\$ 1.80	<== Gulf to Asia + Panama	
Total Delivered	<u>\$ 8.00</u>		

Market Price
\$8.00/MMBtu

COST OF INFRASTRUCTURE



Annual Financing Costs

	Ratio	Capital	Price	\$Billions
Equity	25%	\$ 10.8	10%	\$ 1.1
Debt	75%	\$ 32.3	5%	\$ 3.5
Total Annual				\$ 4.6
Equity	50%	\$ 22	20%	\$ 4.3
Debt	50%	\$ 22	5%	\$ 2.3
Total Annual				\$ 6.6

Alaska LNG Infrastructure

System Operations & PILT

- \$1.4 Billion Annually



\$/MMBtu

O&M

\$1.45

Financing

- Debt service - \$3.5 Billion/yr
20 yr; 5%
- Equity - \$1.1 Billion/yr



Debt

\$3.60



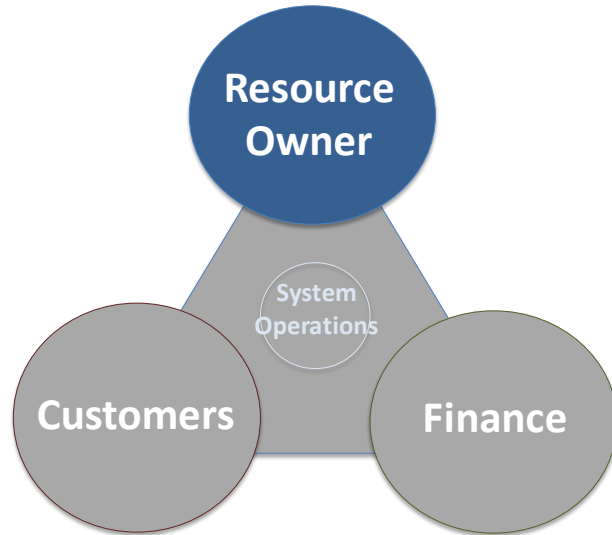
Equity

\$1.15

\$2.00 /MMBtu Savings
(Compared to previous AKLNG)

Alaska LNG System: \$6.20/MMBtu

NETBACK TO NORTH SLOPE



\$1 Billion annually for gas supply; plus

\$1.4 Billion for Alaskan workers and communities.

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\$/MMBtu

**Asia Market
\$8.00**

**Less:
Shipping
\$.80**

**Nikiski
\$7.20**

Selling into an \$8.00/MMBtu Asian market means LNG at Nikiski needs to be \$7.20; less O&M, Debt Service, and Equity Return, leaves \$1.00 Netback to the North Slope.

Alaska LNG System: \$6.20/MMBtu

**O&M
\$1.45**

**Debt
\$3.60**

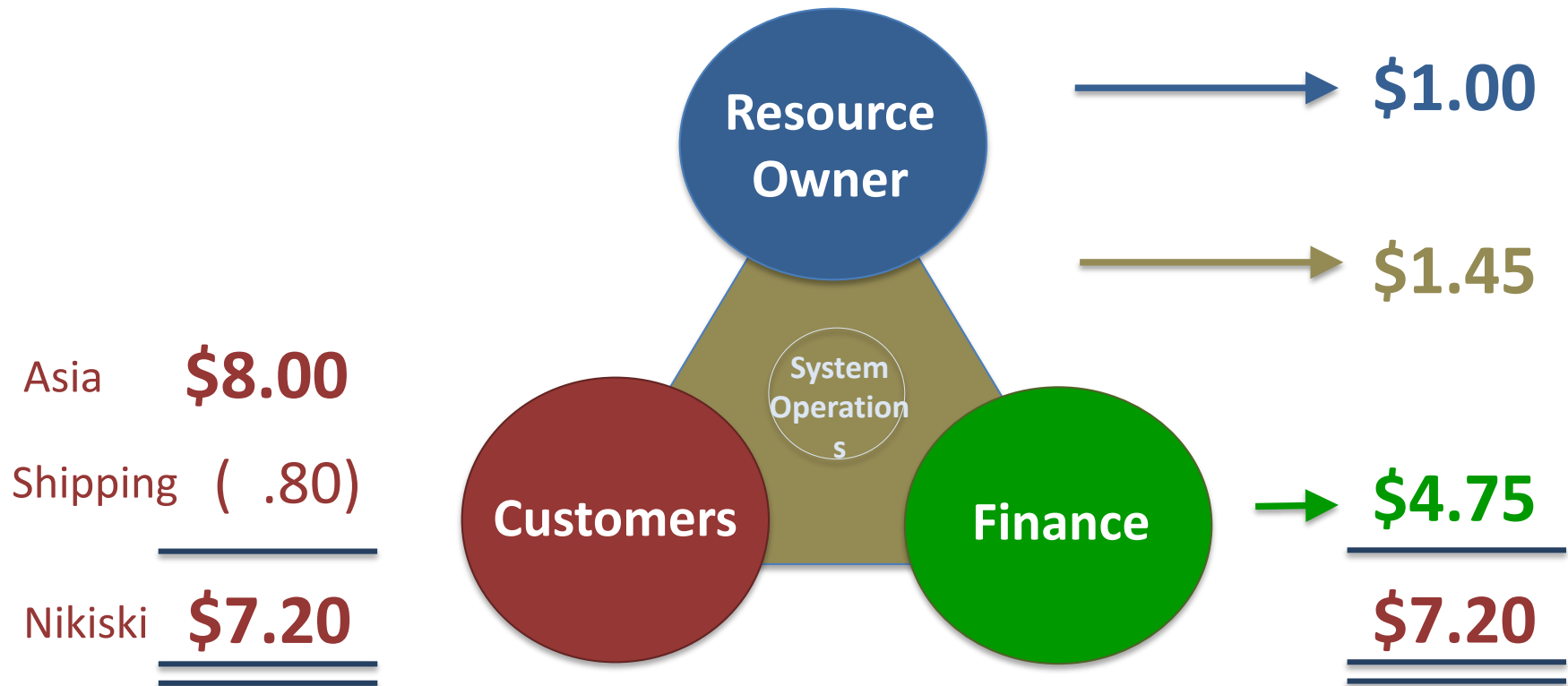
**Equity
\$1.15**

**Netback
\$1.00**

Alaska LNG Unit Cost at 19.7 Mtpa			
	<u>\$Billions</u>		<u>\$/MMBtu</u>
Raw Gas Supply	\$ 1.0	\$ 1.00	
Shipping	0.8	0.80	
Equity Return	1.1	1.15	
Debt Service	3.5	3.60	
O&M + PILT	1.4	1.45	
Total Delivered	\$ 7.8	\$ 8.00	

BALANCING THREE DRIVERS

- The project is economic to all stakeholders under the current structure.



THE CHALLENGE

- **A large capital intensive project.**

- Requires funding of up to \$43 billion if all LNG production trains are constructed together.
- Cost of Alaska LNG is in line with some global LNG projects, but relatively high compared to other U.S. LNG projects due to pipeline.

- **Project transferred to the state.**

- From a pipeline owner and infrastructure investor perspective – both of which are willing to accept lower profits in exchange for long-term stability and pricing – the project can be very economic if structured properly.
- Producers were involved in the initial phases of the project, but due to the decline in global oil prices, determined the project was not as profitable and approached the state to take control of the project and restructure the project as a low-cost infrastructure project.

- **Low oil and gas prices.**

- Oil and gas prices have dropped in recent years and may stay low.
- Profit potential on investments by oil and gas producer companies has dropped, which forces responsible producers to prioritize their global projects.

- **Alaska LNG – an infrastructure project.**

- The State of Alaska , through AGDC, agreed to take over the Alaska LNG project.
- In order to compete in the global LNG arena, the project needs to be economic in 3 areas:

1. The global LNG customers, who now have many options.	2. The debt and equity financial markets, who need to earn a reasonable return.	3. The State of Alaska has to be satisfied that the price for the gas supply is adequate to justify selling gas into the system.
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- AGDC developed a **unique proposal** for large LNG buyers and banks to work in concert with AGDC:
 - Structure is called “debt for capacity.”
 - Proposal is referred to as “G2G”, which stands for “Government to Government,” because it was initially developed as a comprehensive proposal for large government-owned buyers and banks, which are prevalent in China.
- The proposal envisions **75% of the funding to come from the buyers**, in exchange for an equivalent amount of LNG capacity going back to the buyer.

JOINT DEVELOPMENT AGREEMENT



ALASKA
GASLINE
DEVELOPMENT CORP.



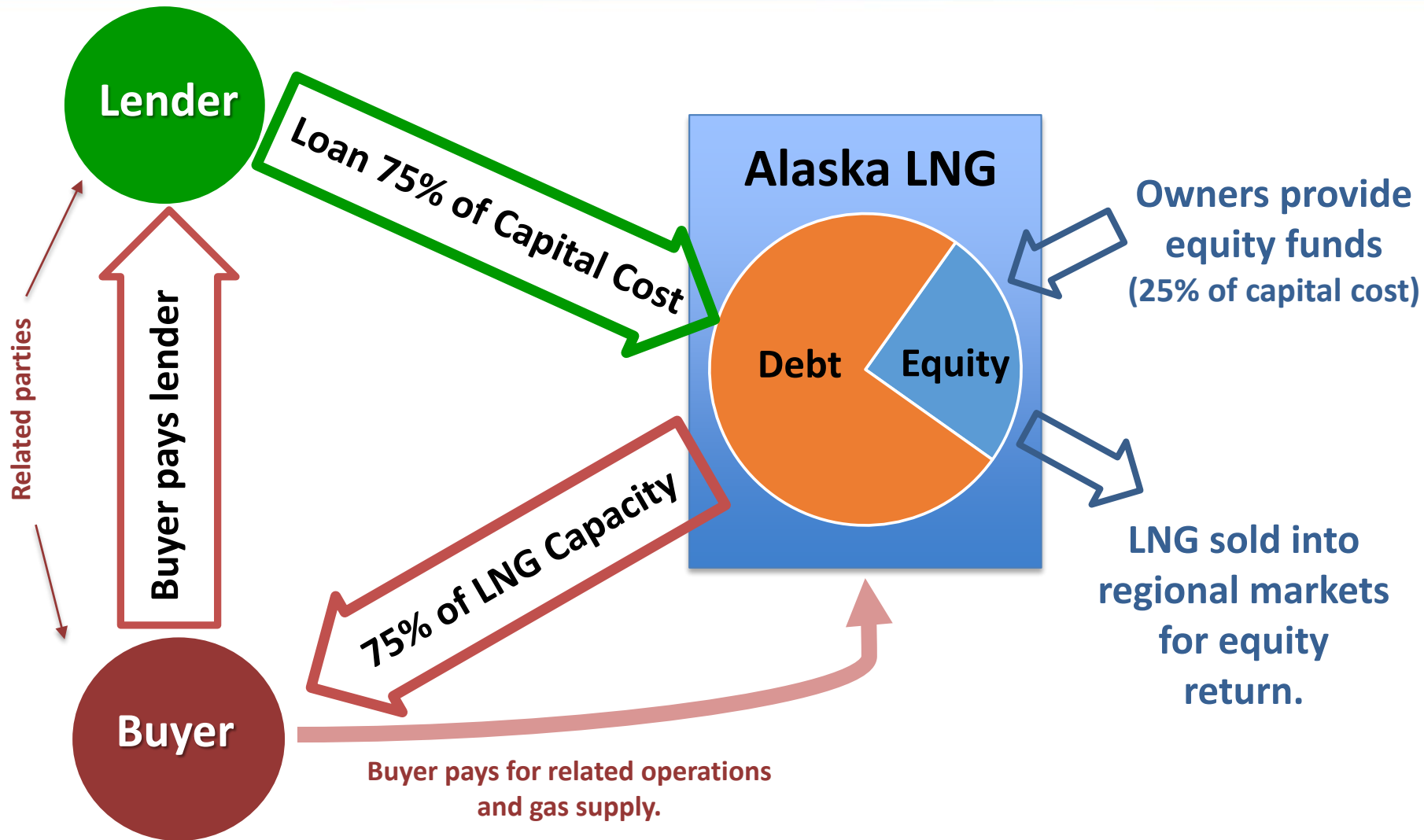
中国投资有限责任公司
CHINA INVESTMENT CORPORATION



中國銀行
BANK OF CHINA

- 75% of project financing from China in exchange for 75% capacity for life of loan.
- 25% of the LNG being sold by AGDC or a special project entity to the wider Asia market.
- A transparent and feasible investment model.
- Strategic financing.
- Specific roles and terms defined by end of May, definitive agreement by end of 2018
- Largest energy transaction between U.S. and China.
- Alaska retains majority ownership of Alaska LNG.

TRANSACTION SIMPLIFIED



- **Alaska Gasline Development Corporation:**

- Independent, public corporation of the State of Alaska.
- Empowered to maximize the benefit of Alaska's vast North Slope natural gas through the development of infrastructure necessary to move the gas into local and international markets.
- Primary focus is to build the Alaska Gasline and the associated LNG production facility at Nikiski, allowing the stranded gas on Alaska's North Slope to be brought to market, providing gas for Alaskans, and providing a significant source of new export revenue for the State of Alaska.
- The majority owner of the Alaska LNG system.
- AGDC will work with state departments and agencies to ensure the Alaskan workforce has every opportunity to be trained and is ready to meet the labor challenges ahead.

SINOPEC – THE BUYER

- **Sinopec:**

- Large petroleum and petrochemical enterprise group, established in 1998.
- World's largest fully-integrated oil and gas company by revenue, with upstream, midstream, and downstream operations.
- China's largest producer and supplier of refined oil products.
- Largest oil refinery company
- 2nd largest chemical company in the world.



Fortune Global 500 Rankings, 2017

	Company	Revenues (US\$M)
1	Walmart	\$485,873
2	State Grid	\$315,199
3	Sinopec Group	\$267,518
4	China National Petroleum	\$262,573
5	Toyota Motor	\$254,694
6	Volkswagen	\$240,264
7	Royal Dutch Shell	\$240,033
8	Berkshire Hathaway	\$223,604
9	Apple	\$215,639
10	ExxonMobil	\$205,004

Sinopec's track record of LNG developments and investments:

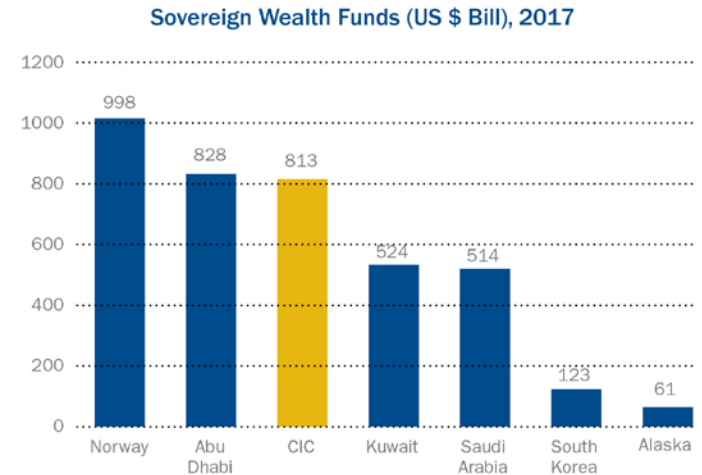
- Sinopec has 3 LNG receiving terminals on China's coast (9 MTPA).
- Partner with ConocoPhillips in Australia Pacific LNG (APLNG) with an offtake commitment for 7.6 MTPA for 20 years.
- 20 year, 2 MTPA contract with ExxonMobil from Papua New Guinea (PNG LNG).

CIC – THE INVESTOR

- **China Investment Corporation (CIC):**



- World's 3rd largest sovereign wealth fund.
- CIC Capital is a subsidiary specializing in making direct investments in infrastructure, mining, and energy (oil and gas) to refine CIC's overall portfolio management and enhance investment on long-term assets.
- Acquired a 10% stake in Teck Resources Limited, which operates Red Dog Mine.
- Acquired a stake in 1 New York Plaza office tower for \$700 million (1st direct U.S. investment).



Track Record of Successful LNG Investment:

- CIC Invested \$3.15 billion in GDF Suez Exploration & Production International SA and \$850 million in Atlantic LNG Company of Trinidad and Tobago in 2011.

BANK OF CHINA – THE LENDER

- **Bank of China:**

- World's 4th largest bank
- China's most internationalized and diversified bank.
- Engages in commercial and investment banking and insurance and investment services.

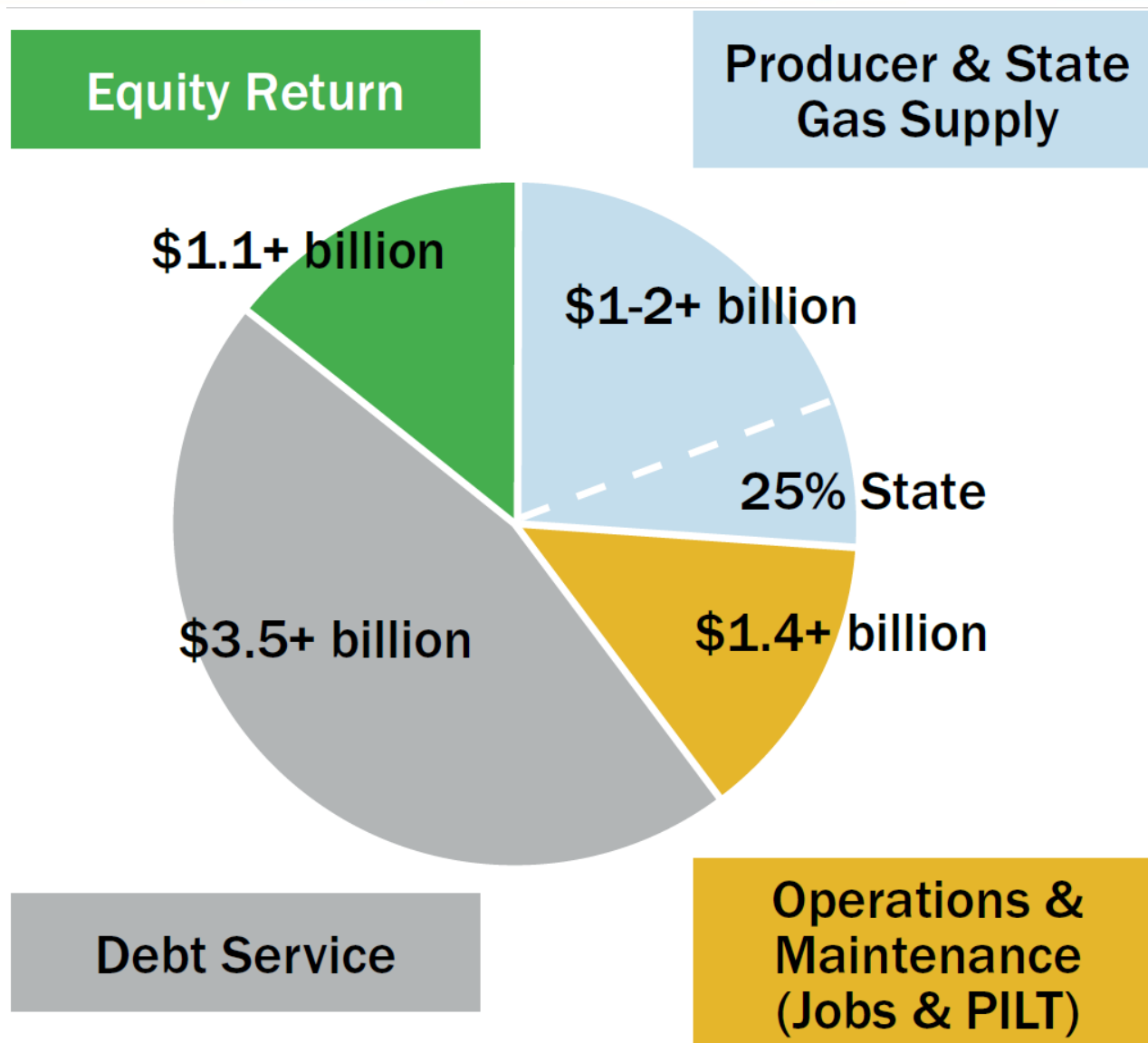


Current Rank ▲	Company (ticker-exchange)	Total assets (US\$B)
1	Industrial & Commercial Bank of China Ltd. (1398-HKG)	3,473.24
2	China Construction Bank Corp. (0939-HKG)	3,016.58
3	Agricultural Bank of China Ltd. (1288-HKG)	2,816.04
4	Bank of China Ltd. (3988-HKG)¹	2,604.30
5	Mitsubishi UFJ Financial Group Inc. (8306-TKS)	2,589.56
6	JPMorgan Chase & Co. (JPM-NYSE)	2,490.97
7	HSBC Holdings Plc (HSBA-LON) ²	2,374.03
8	BNP Paribas SA (BNP-PAR)	2,190.42
9	Bank of America Corp. (BAC-NYSE)	2,187.70
10	Wells Fargo & Co. (WFC-NYSE)	1,930.12

Track Record of Successful LNG Financing:

- Coral South floating LNG project in Mozambique.
- Tangguh LNG in Indonesia.
- Cheniere's Corpus Christi trains 1 and 2.
- Australia Pacific LNG.

PROJECT CASH FLOWS



NEXT STEPS

- **Large amounts of paperwork:**
 - Multi-billion dollar international purchase agreement, loan documents, investment agreements, construction contracts, and regulatory approval.
- **Joint Development Agreement:**
 - Define specifics by May 2018 (interest rate, term of debt, system capacity, LNG shipping, pricing, operations and maintenance forecasts, contributions of parties, etc.)
 - Definitive Agreements by end of 2018.
 - Construction commences as planned in 2019.



FERC Natural Gas Act Section 3 application:

- Filed on April 17, 2017.
- 60,000+ pages.
- Anticipating publication of Environmental Impact Statement (EIS) schedule.

Continued engagement through application review:

- Responding to 801 environmental data requests.
- Engaging with regulatory agencies.



REGULATORY TIMELINE

ALASKA LNG TIMELINE		
2014 – 2016 Producer Led Effort	<p>\$600 million of engineering, environmental, and science completed to advance permitting of Alaska LNG under Producer led effort.</p> <p>State of Alaska takes lead – December 2016</p>	
2017 and Beyond AGDC Led Effort	April 2017	AGDC Files FERC Application
	August 2017	Fast Act Approval
	August 2017	Presidential Executive Order
	November 2017	Joint Development Agreement
	December 2017	EIS Schedule Published
	December 2018	Final EIS Published
	February 2019	Record of Decision

THANKS TO ALL THAT SUPPORT THE EFFORT!

ALASKA GASLINE
DEVELOPMENT CORP.



Get involved.
Get Ready.
Get Engaged.



www.agdc.us

Facebook.com/AKGaslineDevelopmentCorp.