

# Alaska Industrial Development and Export Authority Alaska Energy Authority

## ***SB 23 AIDEA Development Project Financing for a Liquefied Natural Gas Production and Distribution System***

**AIDEA/AEA Policy Presentation on SB 23  
House Finance Committee**

**March 21, 2013 – Juneau, AK**

# Interior Energy Plan

- Opportunity to provide Alaskans with low-cost North Slope natural gas and propane
- Governor's finance package acts as a catalyst, bringing together LNG and propane customers with the private entities that will construct and operate the system
- AIDEA is investigating project feasibility and will only utilize their authorized finance tools if the project makes economic sense
- AIDEA will take an equity stake in project but will not outright build or operate the LNG plant or distribution system
- Governor's finance package is targeted at funding the initial capacity with future expansion funded by private/community investment

# Project Goals

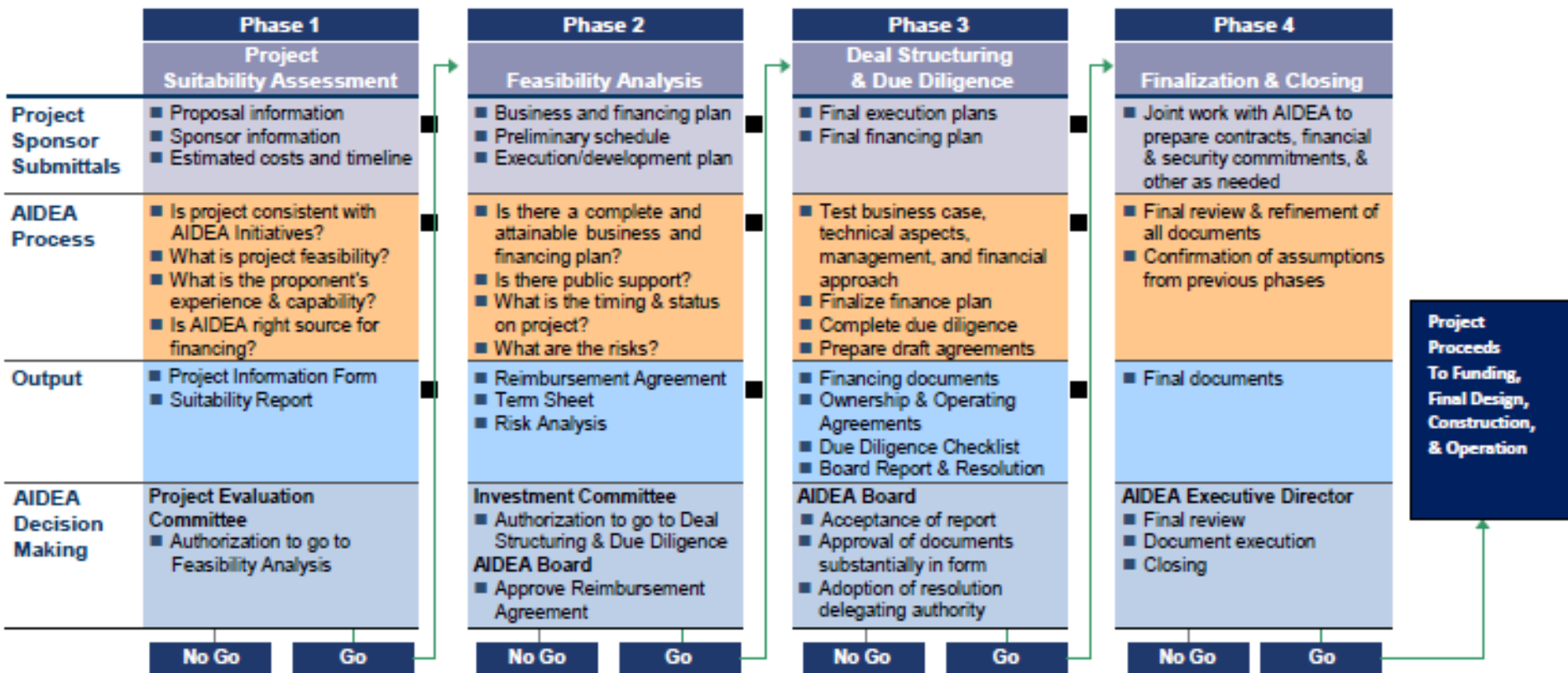
- Provide lowest-cost energy to Interior Alaska consumers as soon as possible
- Get gas first to the Interior while assuring long-term access to gas and propane from liquefaction plant for all Alaskans
- Utilize private sector mechanisms as much as possible

# Project Description

- Natural gas will be liquefied on the North Slope and trucked to Interior Alaska
- Propane will be produced and delivered to Interior and Rural Alaskans
- Primary LNG demand anticipated to be Fairbanks and North Pole
- LNG will be temporarily stored and re-gasified in Interior Alaska
- Natural gas distribution system with storage to supply natural gas for heating

# AIDEA Project Analysis Process: Due Diligence

**This project will not proceed without passing AIDEA's due diligence process and approval of AIDEA's Board of Directors**



# Governor's Finance Package



# \$50 Million General Fund Appropriation

- **Purpose**

- Give AIDEA the needed equity ownership share in the North Slope LNG plant to ensure project is executed
- Directly reduce the price of natural gas to utility customers

- **How it Works**

- AIDEA owns \$50 million share of the plant. This ownership stake will be an AIDEA asset
- AIDEA will not charge a return on its owned share from LNG sales to utility customers
- AIDEA can earn a return from LNG sales to non-utility customers or a sale of the asset

# \$150 Million AIDEA Bond Authorization

- **Purpose**

- Provide low cost capital for the build out of the natural gas distribution system
- Make sure the utility demand for LNG is created in order to ensure the North Slope plant is fully utilized

- **How it Works**

- AIDEA floats \$150 million in bonds as the distribution system is built out
- The bond payments are incorporated in the natural gas utility's rates
- The State of Alaska's moral obligation and the capital reserve fund reduces the bond's interest rate, directly lowering the utility price of natural gas
- 3% to 4.5% interest rate (depending on tax-exempt status of component financed and market rates)

# \$125 Million SETS Capitalization

- **Purpose**

- Provide flexible, low cost financing for the North Slope LNG plant and/or the natural gas distribution system
- The SETS fund provides flexible repayment terms, allowing AIDEA to pursue the best business structure for utility customers

- **How it Works**

- The existing SETS fund is capitalized with an additional \$125 million
- The non-AIDEA owner(s) of the infrastructure are directly loaned the funds with an agreed upon payment plan
- The cost of repaying the SETS loan is included in the price of the LNG
- 3% interest rate (set by SB23)

# \$30 Million Storage Credit

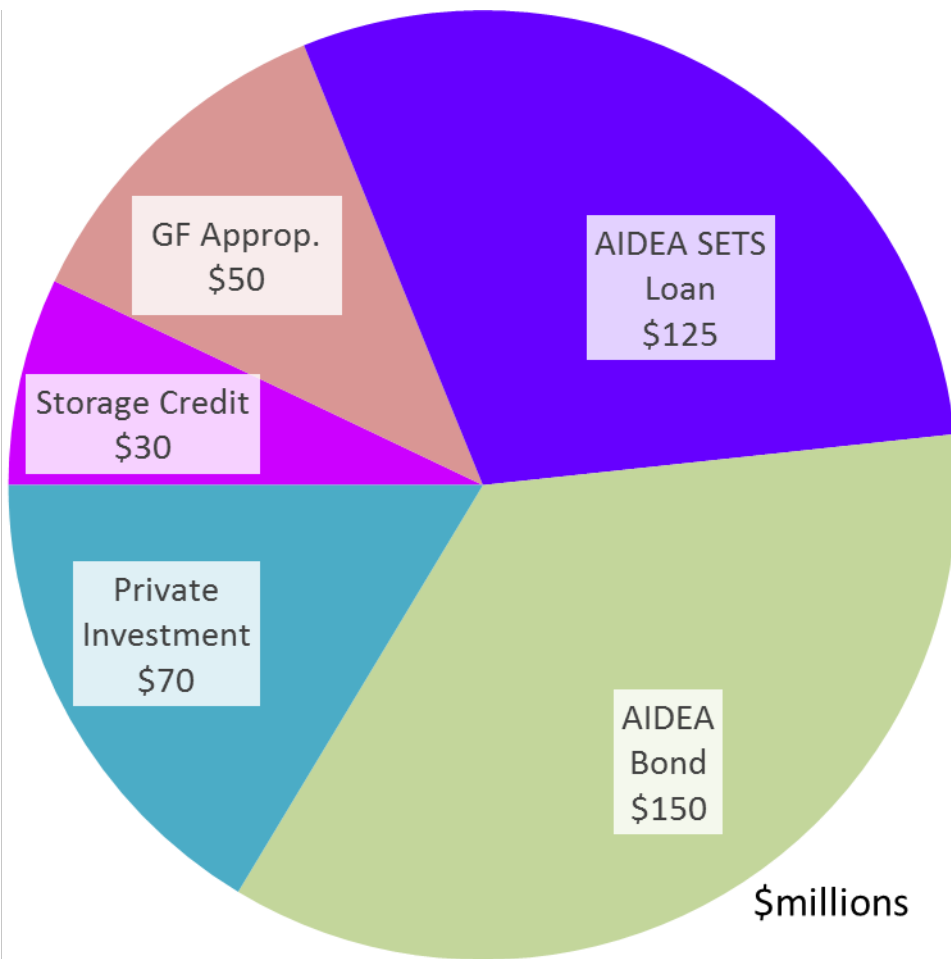
- **Purpose**

- Reduce the cost to build natural gas/LNG storage
- Directly reduce the price utility customers pay for natural gas

- **How it Works**

- \$15 million tax credit for each qualifying storage tank
- The project is expected to have two qualifying tanks totaling \$30 million
- The storage credit was created through previous legislative action

# Potential Finance Options for Initial Buildout



- The initial buildout will be funded from multiple sources, the example used here is just one possibility
- Projected 30 years payback period
- Private/community investment will fund future expansion
- Authorization to use State funds will not be used if AIDEA determines the project is not feasible

	LNG Plant	Regas, Storage & Distribution	Total
State Storage Credit	\$15	\$15	\$30
General Fund Approp.	\$50	\$0	\$50
AIDEA SETS Loan	\$125	\$0	\$125
AIDEA Bond	\$0	\$150	\$150
Private Investment	\$30	\$40	\$70
<b>Total Capital</b>	<b>\$220</b>	<b>\$205</b>	<b>\$425</b>

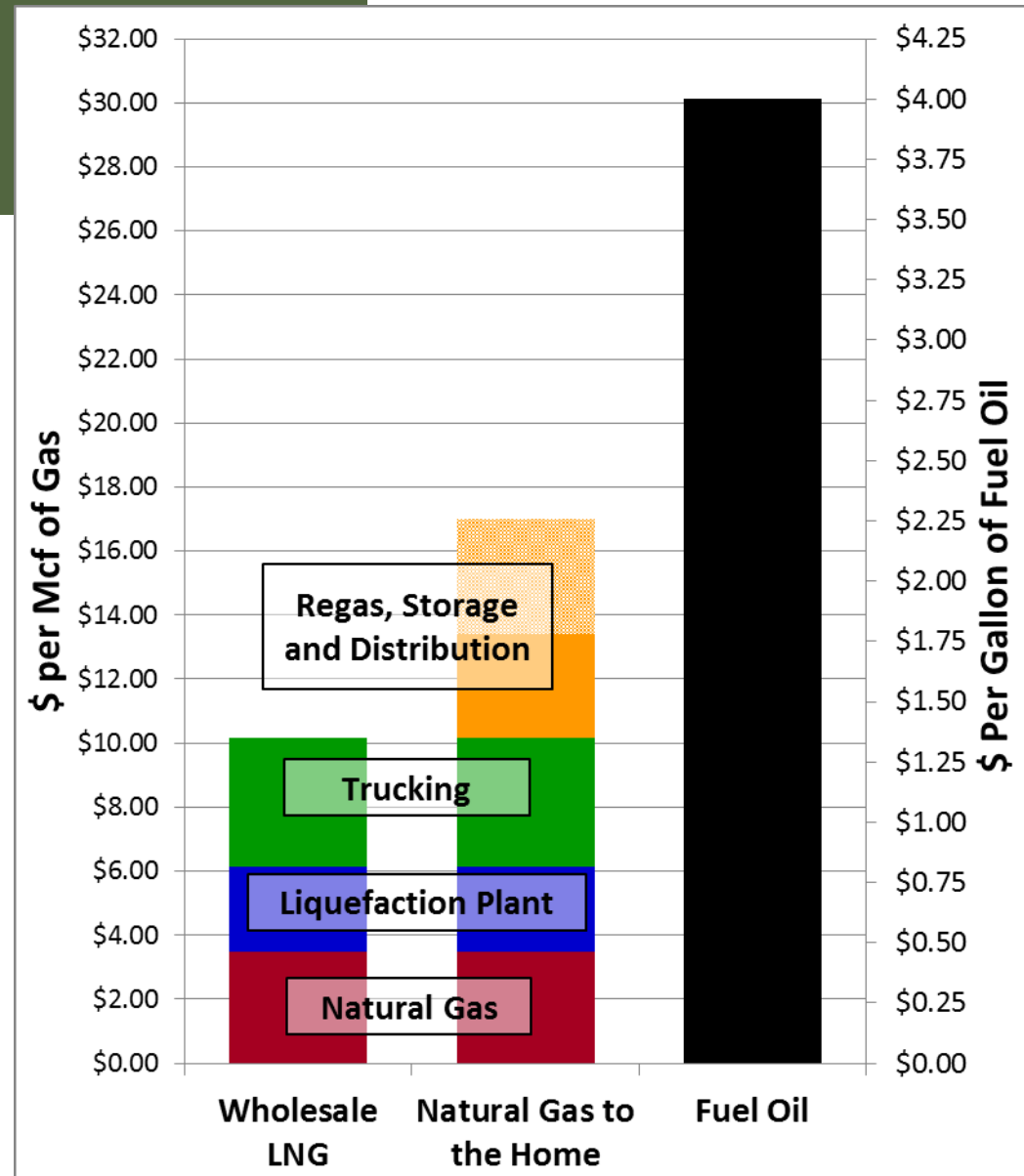
# LNG Lowers Energy Costs

## Expected Utility Price per Mcf

- Wholesale LNG: \$10.15
- Natural Gas to home: \$13.42-\$17.00 per Mcf
- Delivered price is equal to \$1.79 - \$2.27 per gallon of fuel oil

## Key Assumptions

- Initial costs associated with a 9 Bcf plant at start up
- Snapshot in time, costs change with expansion
- LNG plant bifurcated into two sections (industry and utility)
- \$50 million capital cost reduction applied to 6.5 Bcf utility section



# Heating Energy Supply Comparison

## Trucked LNG is the lowest-cost option for Interior Alaska heating

- Electricity would need to be \$0.04 - \$0.06 per kWh to compete with trucked LNG
- Electricity would need to be much cheaper to compete with fuel oil

\$65	\$0.22		<b>Fairbanks Electricity</b> \$0.22 per kWh
\$60	\$0.20	\$8.00	
\$55			
\$50	\$0.18	\$7.00	
\$45	\$0.16	\$6.00	
\$40	\$0.14		<b>Anchorage Electricity</b> \$0.13-\$0.14 per kWh
\$35	\$0.12	\$5.00	
\$30	\$0.10	\$4.00	<b>Fairbanks Fuel Oil</b> \$4.00 per Gallon
\$25	\$0.08	\$3.00	
\$20	\$0.06		
\$15		\$2.00	<b>Truck LNG to Interior</b> \$13.42-\$17.00 per MMbtu
\$10	\$0.04		
\$5	\$0.02	\$1.00	<b>Cook Inlet Natural Gas</b> \$9.45 per MMbtu
\$0	\$0.00	\$0.00	
<b>\$ per MMbtu</b>	<b>\$ per kWh</b>	<b>\$ per Gallon Fuel Oil</b>	

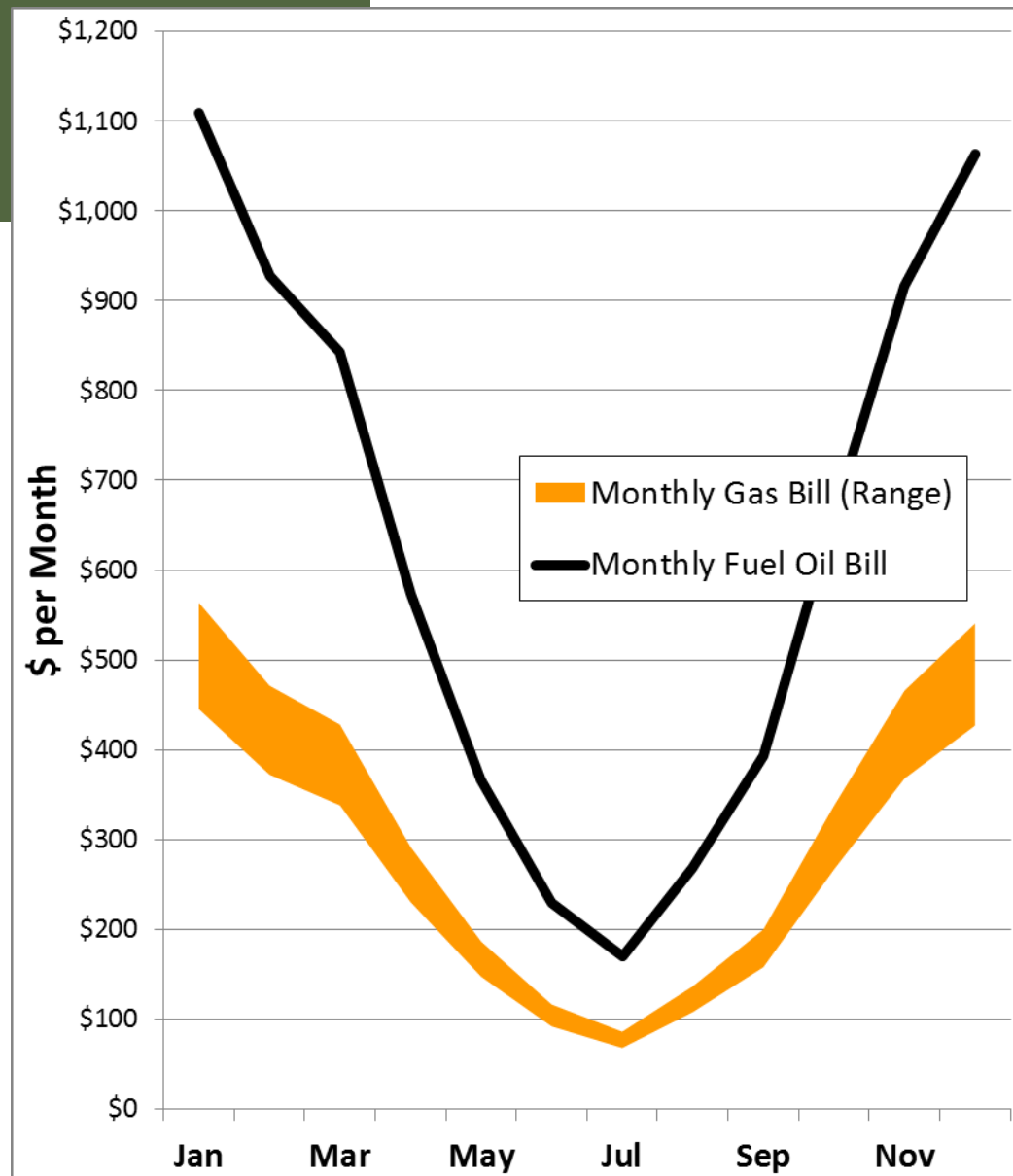
# Household Heating Savings

## Typical Home Heating Savings

- \$2,900 - \$3,750 annually
- 43% - 55% reduction in cost

## Key Assumptions

- Typical Interior Alaska household will use 225 Mcf of gas per year (equivalent to 1,700 gallons of fuel oil)
- Does not account for expected improvement in heating efficiency with natural gas



# Air Quality

## Conversion to natural gas should reduce air pollutant emissions in Fairbanks and North Pole

- Will reduce overall emissions of PM 2.5
- Fairbanks is presently a non-attainment area for PM 2.5
- Potential public health benefits of natural gas is substantial

## Impact on Federal funding and economic development

- The non-attainment area risks losing Department of Transportation and Public Facilities funding if State fails to submit an attainment plan to EPA
- Federal projects in the area face funding hurdles while area is non-attainment
- Cleaner, healthier air in Fairbanks will promote economic development



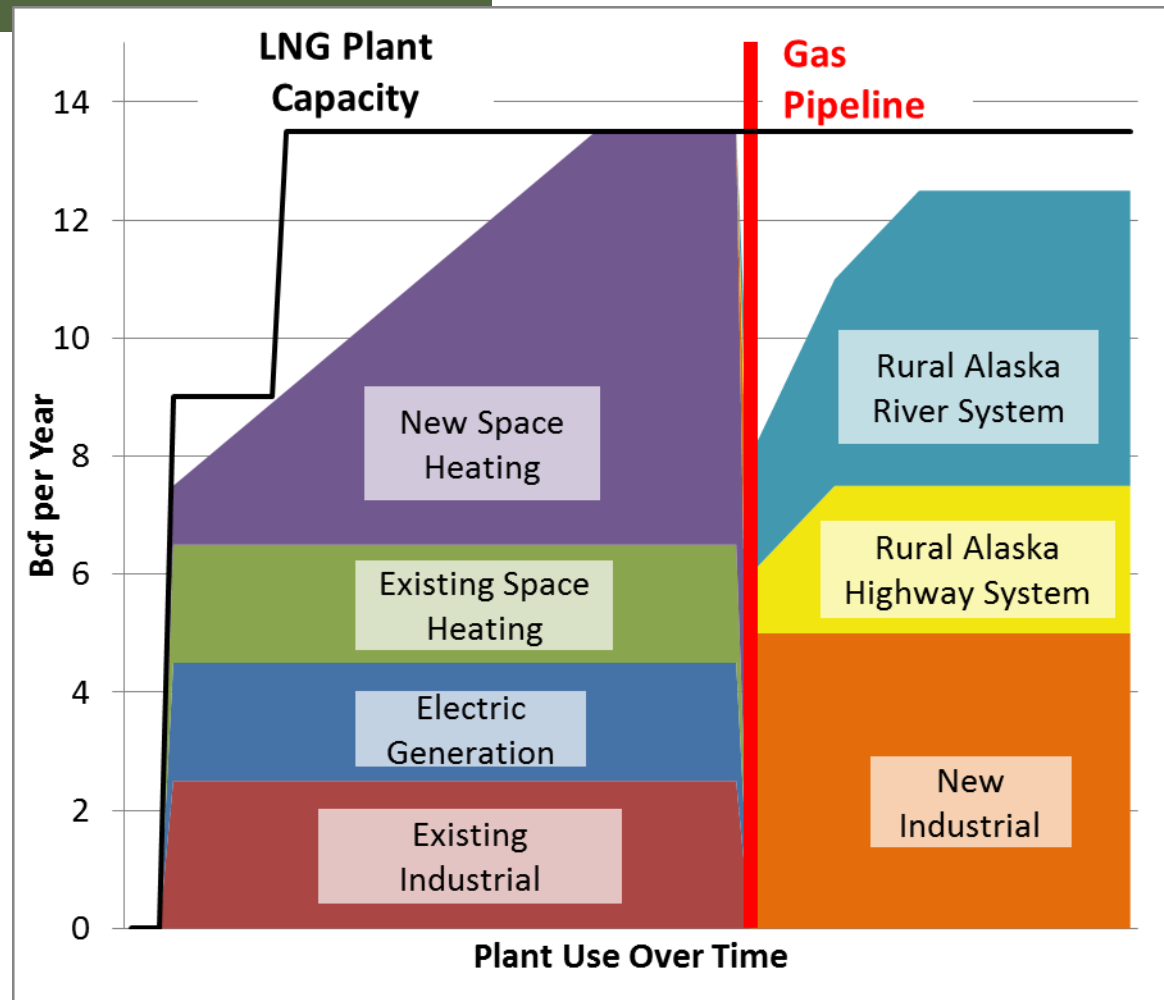
# Savings for Public Buildings

- **Fairbanks North Star Borough School District expects immediate and significant school heating cost savings**
  - Expect schools to pay back cost of converting in less than two years
  - 8 schools will have immediate access to natural gas, with more switching as the distribution system builds out
  - The first 8 schools will immediately save \$25-\$60 thousand dollars a year in heating costs
- **Other State and municipal buildings should experience similar heating cost reductions**

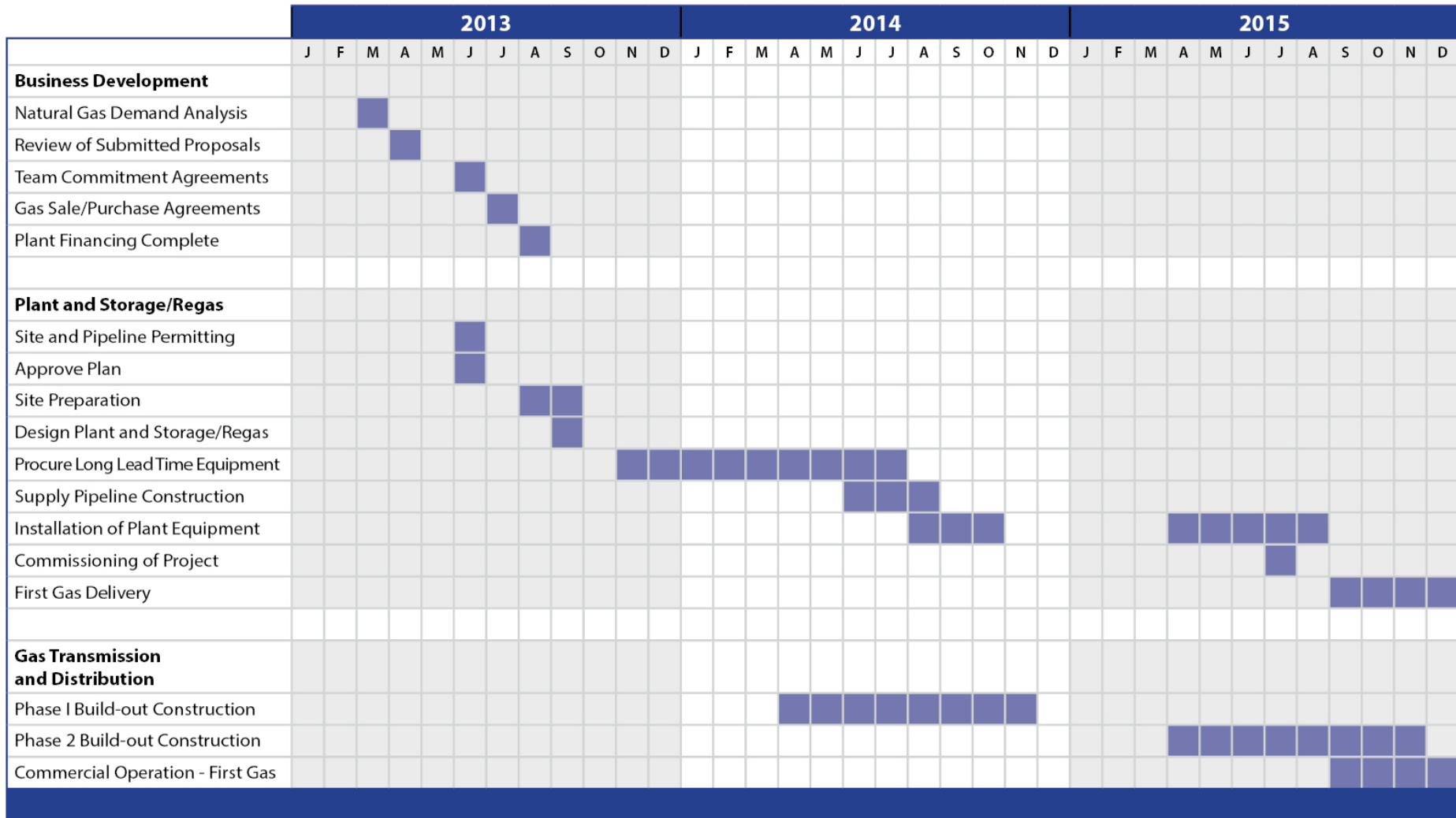
# Long Term Use of LNG Plant

## LNG Plant will be used after gas pipeline

- Plant can serve Rural Alaska before gas pipeline is constructed
- Expect opportunity to sell LNG to new industrial users both before and after pipeline
- Information in chart is for demonstration only



# Project Timeline and Milestones



# AIDEA and AEA

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