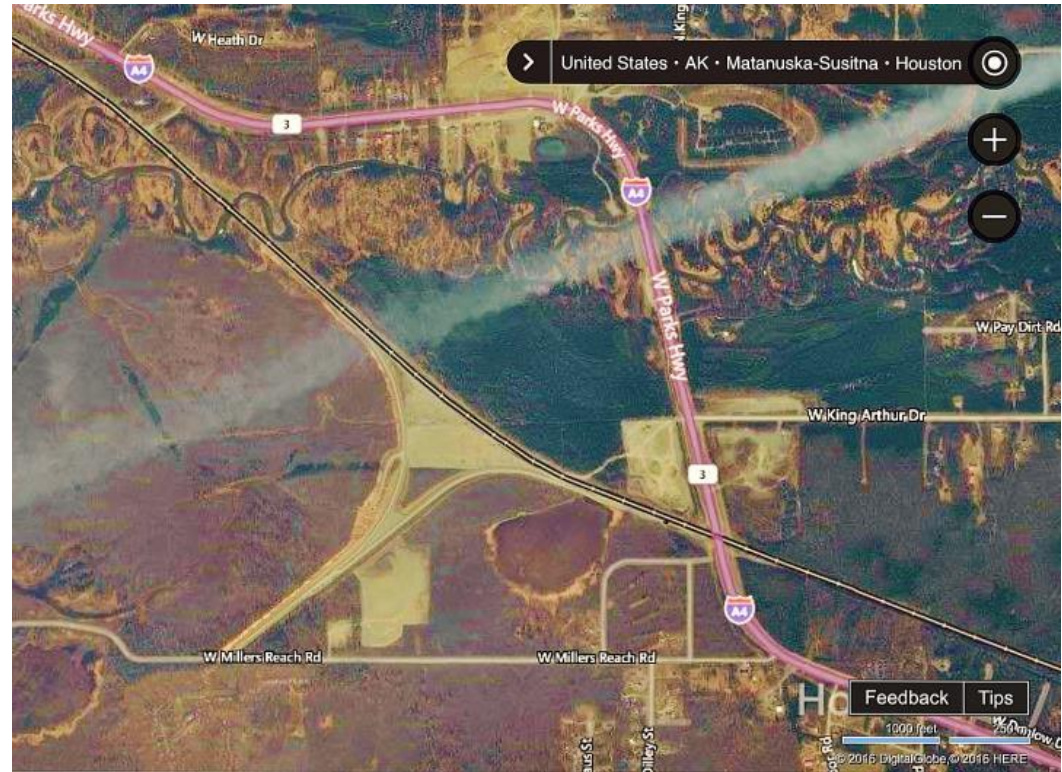


# Agenda

- Goal
- What is LNG
- Technology
- Location
- Development / Transport
- Utilization
- Benefits / Summary



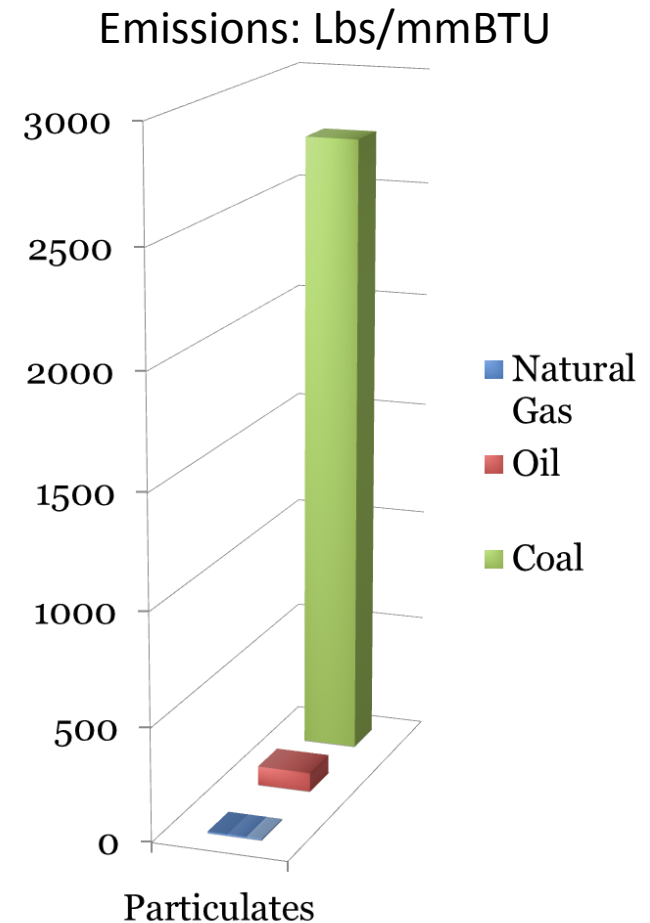
“Supporting the statewide transition from imported diesel to domestic energy”

# LNG for Alaska

“Supporting the statewide transition from imported diesel to domestic energy”

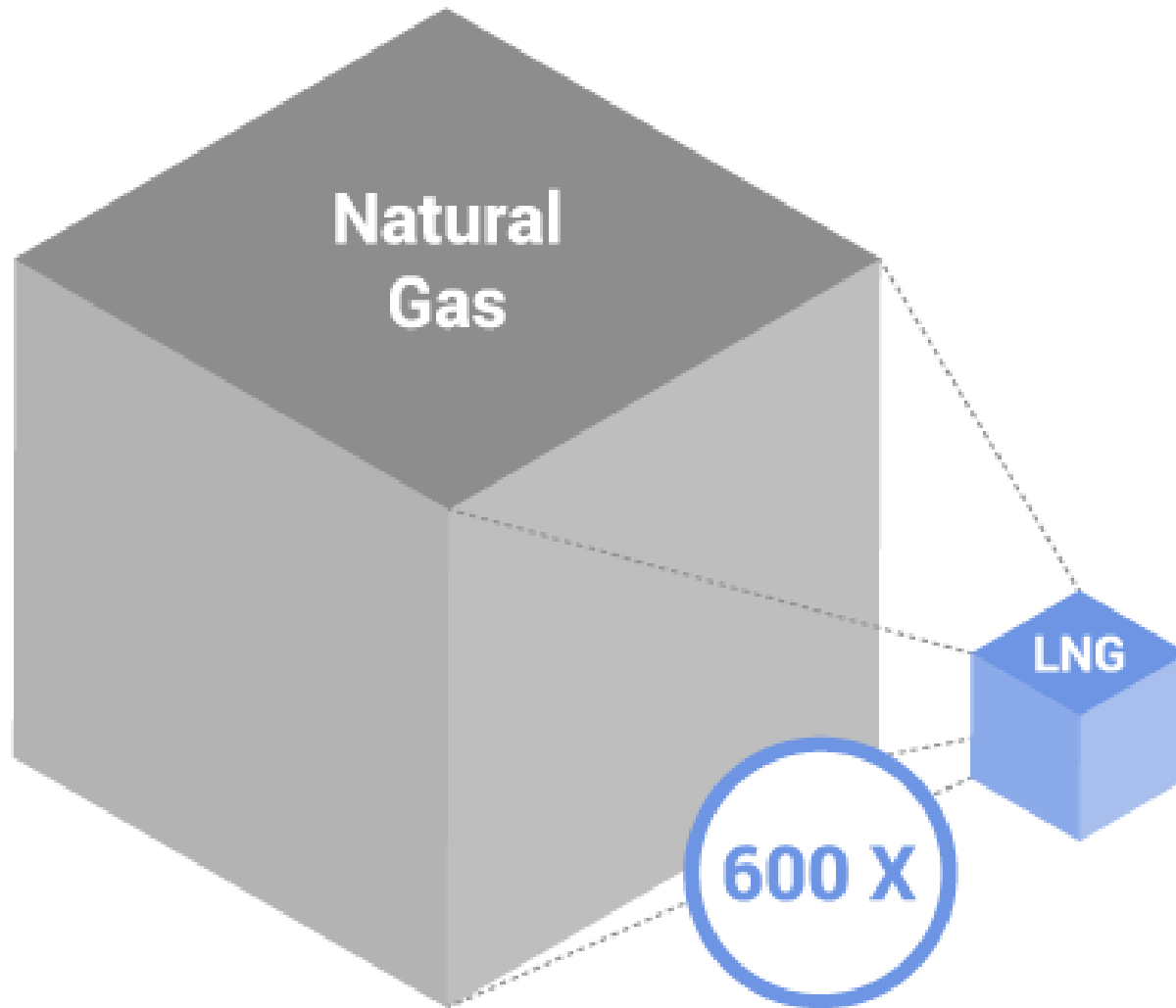
# Goal of Project

- Natural Gas Utilization
  - Domestic
  - Cost Effective
  - Low Emissions
- Diesel Power Generation
  - Imported
  - Expensive
  - Emissions
- Technology to densify is available



“Supporting the statewide transition from imported diesel to domestic energy”

# What is LNG?



# Safety Moment - LNG

LNG is natural gas in its liquid state at  $<-260^{\circ}\text{F}$

- Fire Hazards**
  - NOT flammable in its liquid state.
  - Must be vaporized in order to burn. Very slow burning and difficult fuel to ignite.
  - Requires a high temperature ignition source and an appropriate mixture with air (5% – 15% saturation.)
- Storage Hazards**
  - Stored at low pressures such as 30 psi
  - Spills vaporize to ATM
- Chemical Spill Hazards**
  - Non-toxic and non-corrosive.
  - Requires PPE to handle



“Supporting the statewide transition from imported diesel to domestic energy”

# Technology / Development

- Siemens Technology
  - Liquefaction
  - Modular
  - Scalable
  - Rapidly Deployable
- Engineering / Development / Operation
  - Northstar Industries
  - Liberty Energy Trust

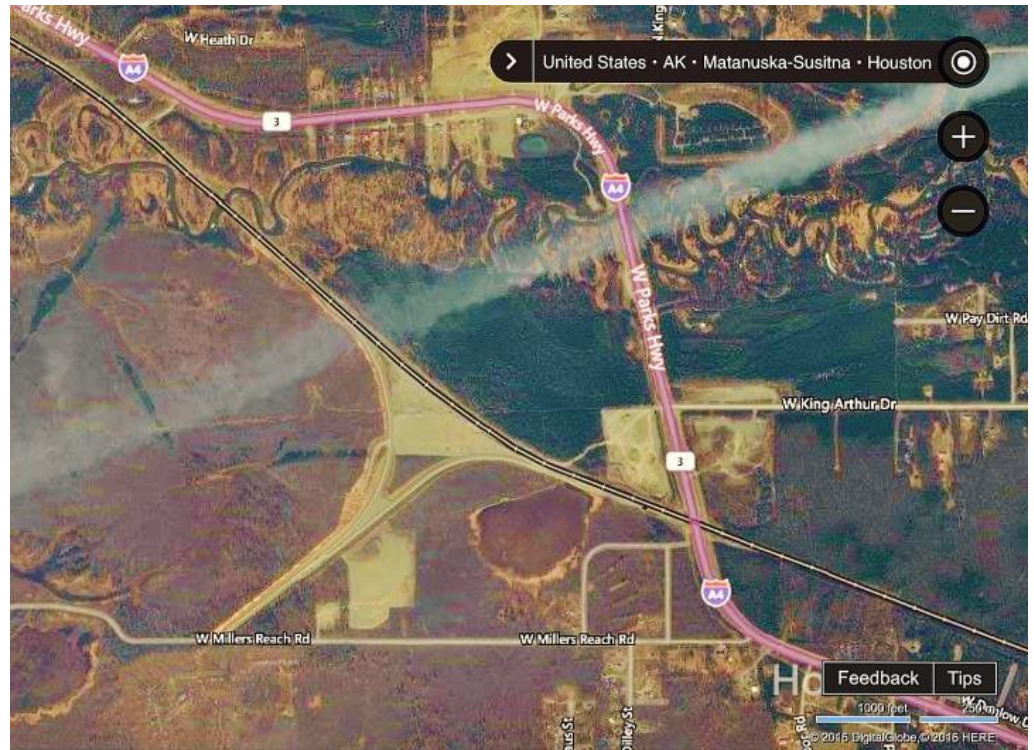


“Supporting the statewide transition from imported diesel to domestic energy”



# Location

- Houston is ideal location
  - Land Available: 1,000 acres
  - Gas: Multiple sources
  - Transportation:
    - Rail siding
    - Road Access



“Supporting the statewide transition from imported diesel to domestic energy”

# Transportation

- AK Rail
  - North to Fairbanks
    - To Fairbanks storage
    - Truck to communities/mines
  - South to Ports
    - Marine to remote port
    - Remote port to truck
    - Truck to communities/mines
- ISO Tanks
  - Modular/Intermodal use



“Supporting the statewide transition from imported diesel to domestic energy”



# Utilization

- Industry
  - Mines
  - Fisheries
  - Forestry
- Communities
  - Schools / Clinics
  - Heating / Cooking
  - Water / Sewer
- Natural Gas Gensets
  - Power generation
  - Combined Heat & Power



“Supporting the statewide transition from imported diesel to domestic energy”

# Summary

- Technology is available
- Prime location in Houston
- Cost-effective rail transport
- Efficient use of energy
- Benefits
  - Economic Stability
  - Health & Education
  - Environment

Pieces are in place



“Supporting the statewide transition from imported diesel to domestic energy”

# For More Information

Andre' Gonthier

Director of Special Projects:

Liberty Energy Trust / Northstar Industries

[agonthier@northstarind.com](mailto:agonthier@northstarind.com)

[www.northstarind.com](http://www.northstarind.com)

[www.LibertyEnergyTrust.com](http://www.LibertyEnergyTrust.com)

“Supporting the statewide transition from imported diesel to domestic energy”

# THANK YOU

**Roger Purcell, East-West Pacific Consulting**

rpakhome@hotmail.com

907.357.9922

**Tom Harris, Knikatnu, Inc**

atomharris@gmail.com

907-227-2744

“Supporting the statewide transition from imported diesel to domestic energy”