

Alaska Hydrogen Opportunity

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Hydrogen in the “Hy” North
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ALASKA Hydrogen Opportunity

50 years ago, the modern LNG industry was created in Alaska. For many of the same reasons, the clean hydrogen industry can also be created here in Alaska.

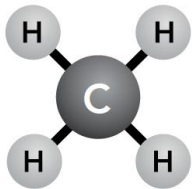
Carbon Storage and Sequestration at the Project Site at Tidewater

Short Distance to Expanding Clean Hydrogen Markets in Asia

Low GHG Natural Gas from Conventional Supply

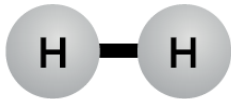
Existing Ammonia Plant well Positioned to be First Mover in Market

Natural Gas



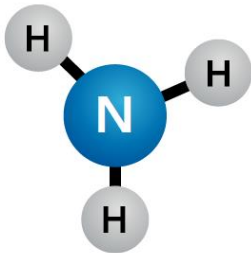
Methane hydrocarbon releases CO₂ when burned, somewhat difficult to store and transport

Hydrogen



Fuel releases no CO₂ when burned, very difficult to store and transport

Ammonia



Fuel releases no CO₂ when burned, somewhat easy to store and transport

Conversion of Natural Gas

- Natural gas can be converted into hydrogen and then into ammonia
- The existing Nutrien ammonia plant in Nikiski uses this process

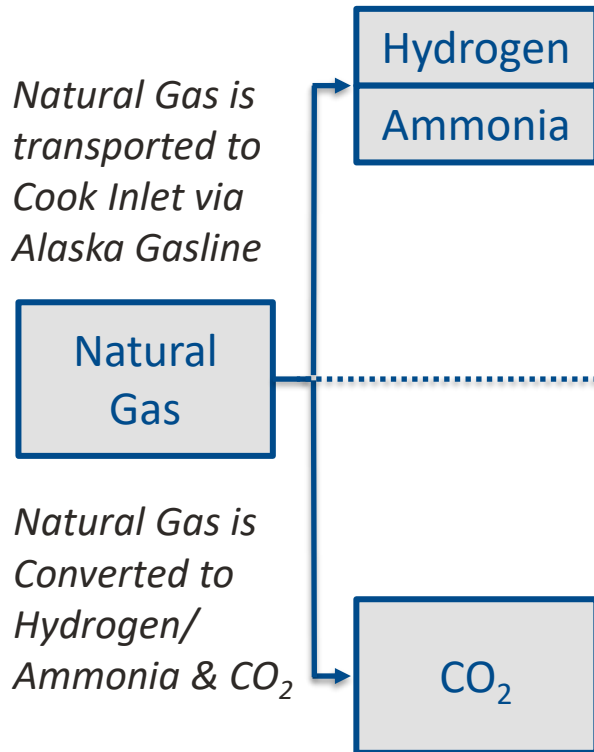
CO₂ Sequestration

- The process to convert natural gas into hydrogen and ammonia produces CO₂
- If this CO₂ is captured and sequestered, the resulting “Blue Ammonia” is a clean fuel

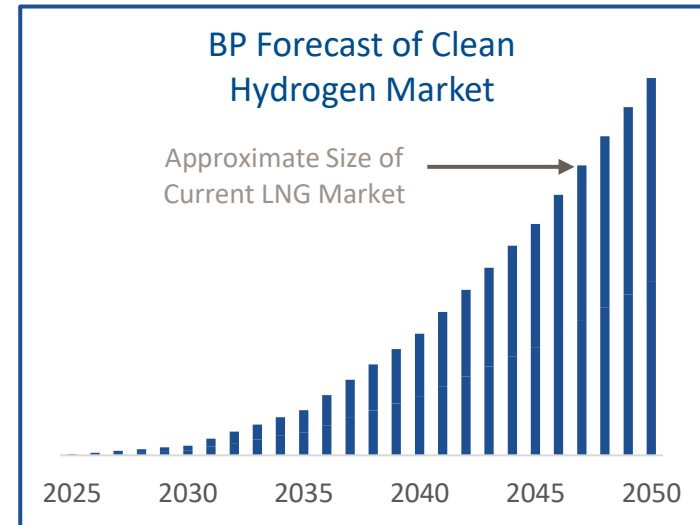
Hydrogen vs Ammonia

- Both hydrogen and ammonia are “clean fuels” and do not emit CO₂ when burned
- Hydrogen is converted into ammonia to make storage and transportation easier
- Ammonia can be exported to Asia to meet their future clean energy demands

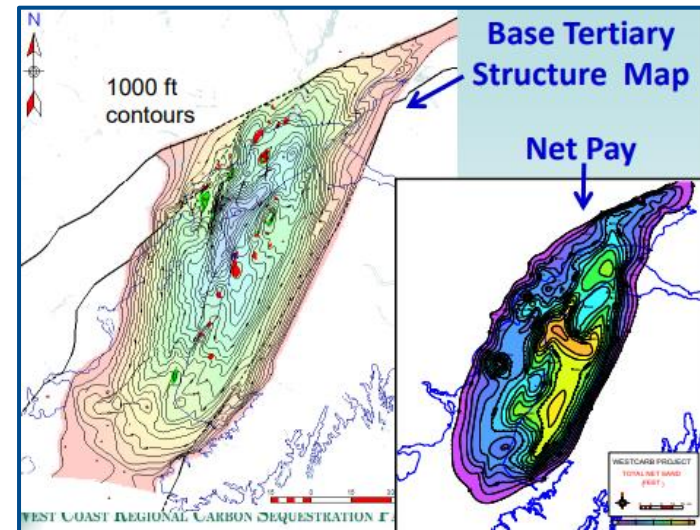
Alaska Hydrogen Opportunity



- Hydrogen/ammonia are clean energy sources
- Key Asian markets forecast rapid demand growth
- Infrastructure funding available for investment in Alaska



- Cook Inlet has the best carbon sequestration potential on the Pacific Coast of North America
- Allows for “future-proofing” Alaska LNG with transition to net-zero hydrogen/ammonia production



Source: West Coast Regional Carbon Sequestration Partnership

AGDC is working with partners on external funding to develop Alaska hydrogen opportunities

Potential funding sources include:

- Private North American energy companies
- Infrastructure bill funding:
 - \$8 billion to be spent on 4+ Hydrogen Hubs
- Private Japanese energy companies
- Japanese state entities

Alaska LNG and Blue Ammonia

Alaska LNG and Cook Inlet Blue Ammonia are Complementary

ALASKA LNG



ALASKA
Hydrogen
Opportunity

The size of the current LNG market can support construction of a 20 Mtpa Alaska LNG facility. This LNG facility is large enough to support construction of the Alaska Natural Gas Pipeline.

Cook Inlet Blue Ammonia demonstrates the opportunity for expanded clean energy supply from Alaska. This future proofs Alaska LNG investment and provides a path to net-zero carbon energy from Alaska.

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