

An Arctic Direct Air Capture (DAC) Hub

May 7, 2024



An Arctic DAC Hub

Project Title:

- An Arctic Direct Air Capture (DAC) Hub

Funding Opportunity:

- DE-FOA-0002735, Bipartisan Infrastructure Law: Regional Direct Air Capture (DAC) Hubs; Topic Area 1: Feasibility

Prime Recipient:

- ASRC Energy Services, LLC (AES)

Principal Investigator:

- Esther Tempel, AES

Key Participant Information:

- AES is partnered with Oil Search (Alaska), LLC (Santos) and Repsol E&P USA LLC (Repsol)

Cost Share:

- DOE Share: \$2,831,970
- Applicant(s) Cost Share: \$707,992

Senior/Key Personnel



Esther Tempel, AES



Pat Curley, AES



Liam Zsolt, AES



Kyle Kohman, Santos



Dan Eck, Santos



Jaime Castillo, Repsol



Brian Smith, Repsol



Alana Tischuk, Repsol

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DAC Hub Summary:

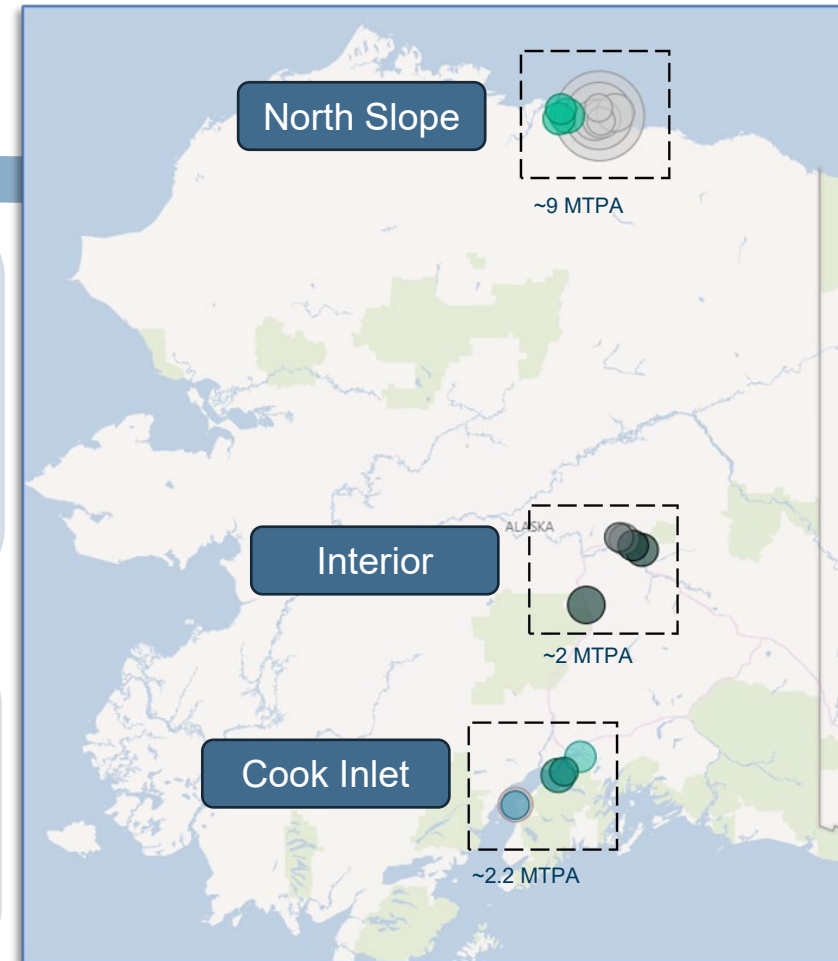
- Seeking to determine the feasibility of Direct Air Capture (DAC) technologies in Alaska and identify a likely location for a future DAC Hub
- Preliminary site screening have identified three areas where geologic storage is broadly possible (North Slope, Cook Inlet, and Interior)
- Two areas have had nearly 50 years of legacy oil and gas development and infrastructure (the North Slope and Cook Inlet) and the other (Interior) is a region fueled mainly by coal

DAC Hub Impact:

- The discovery of oil on the Kenai Peninsula and the North Slope of Alaska provided the driving force for Alaska's statehood
- DAC, as part of larger carbon sequestration hub(s), has the clear potential to create and/or extend well-paying jobs, could provide another revenue source for the State and/or Alaska Native corporations (ANCs) who own the pore space, and sustain the environment

Project's Key Idea/Takeaway:

- DOE investments in Alaska will accelerate and prove up DAC technologies in the cold-weather conditions of the Arctic



Source: EPA FLIGHT Tool

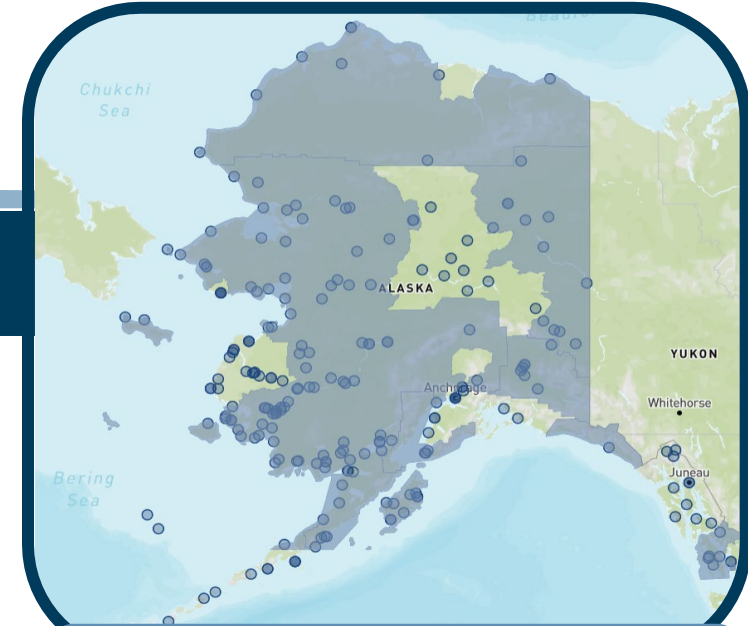
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Project Schedule and Goals:

- In Phase 0a, the intent is to conduct preliminary feasibility study for 9 months and select an anchoring DAC Technology(ies), design adaptations for operating in Arctic conditions, and select a potential location for a DAC hub
- In Phase 0b, additional work will be done to complete a pre-FEED study of the technology and eventual DAC Hub over 15 months

Potential Community Benefits:

- The discovery of oil and natural gas from the Kenai Peninsula and the North Slope of Alaska has provided the economic foundation for Alaska since statehood
- A DAC hub has the clear potential to create and/or extend well-paying jobs, provide another revenue source for the State and/or Alaska Native corporations (ANCs) who own the pore space, and sustain the environment
- With ANC involvement in a future hub, benefits would flow to indigenous shareholders and their communities, many of which are in economically distressed communities, and could lead to the expansion of existing training programs for the local indigenous workforce
- Stakeholder engagement will be integral to success and the Consortium has initiated discussions with key labor unions, other ANCs and tribal entities, local universities including minority-serving institutions, and local community stakeholders



Blue denotes economically distressed communities per the US Climate and Economic Justice Screening Tool, date retrieved, 3/6/2023.