

Goodnews Bay Renewable Energy Project

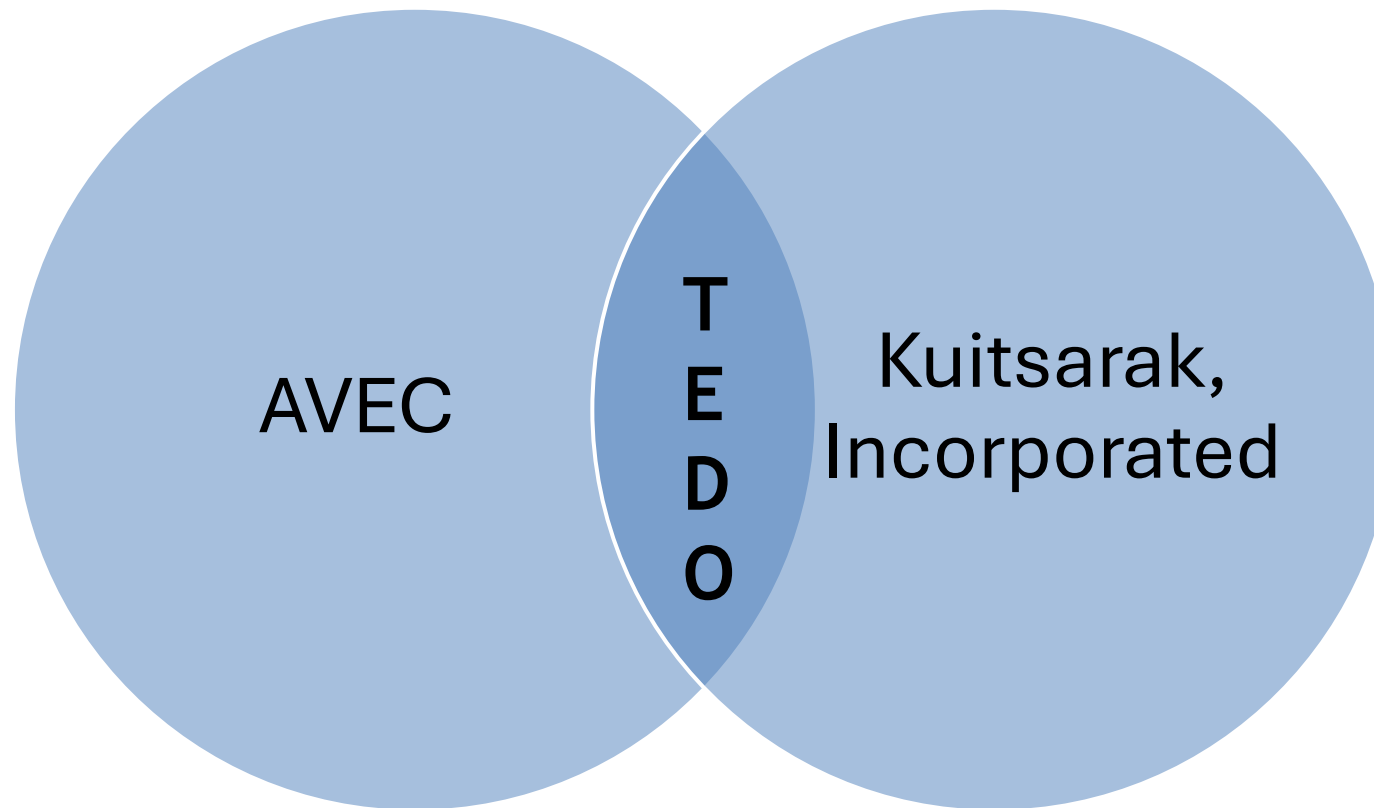
*Alaska Village Electric Cooperative/
Kuitsarak Incorporated
Renewable Energy Joint Venture*

Onya Stein
Project Manager

2024 Program Review
Denver, Colorado
November 20, 2024

Joint Venture

- Partnership between AVEC and Kuitsarak Incorporated
 - To benefit the community of Goodnews Bay



AVEC

Established 1968, Member owned electric utility, Not for profit

- 60 Rural Communities served, 31,000+ Residents
- 46 Power Plants, 161 Diesel Generators
- 9.3M gallons of diesel in 2023 (\$48M)
- 555 miles of Distribution Lines
- 90+% Alaska Native
- Smallest: Anvik 58 → Largest: Bethel 6,154
- 88 FT Employees, 77 PT Employees
- 33 wind turbines serving 23 communities
- Solar (2 AVEC & 2 IPP) serving 5 communities
- Batteries (4 AVEC & 1 IPP) serving 10 communities
- 2023 Total Electricity Sold 126.4 MW





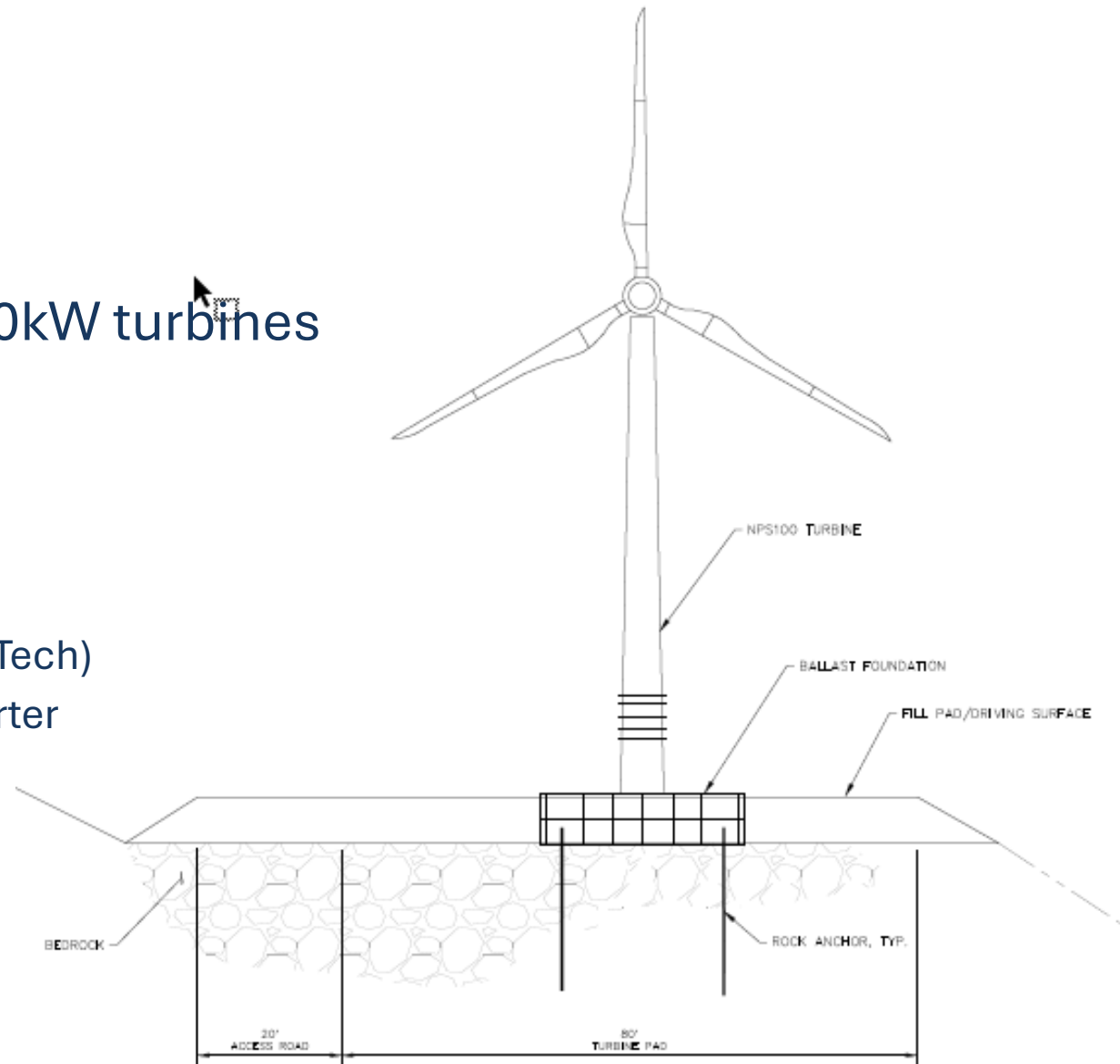
Kuitsarak Incorporated

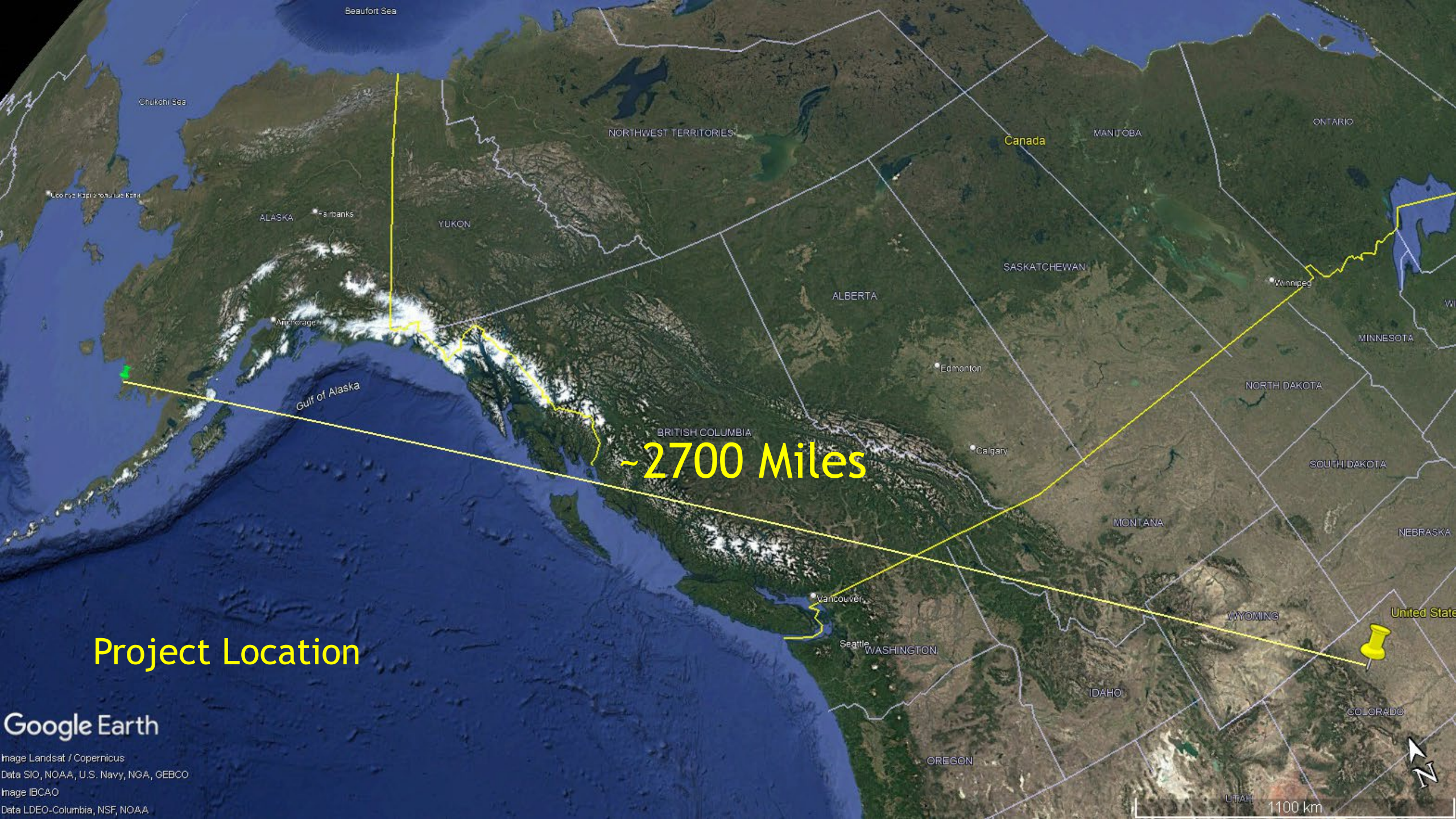
ANCSA village corporation

- Formed in 1971
- Bessie Galila, President
- 7 Employees for Kuitsarak
- 21 Employees for Mumtram Pikkai (subsidiary)
- Represent +/- 80 households
- Tribal Lands owner

Project Overview

- Final Design
- Install two Northern Power Systems 100kW turbines
 - 23-meter tip-up tower design
 - 21-meter rotor
 - NPS100C-21
- Install battery system
 - 324kWh/240kW Lithium-ion LFP battery (Pylon Tech)
 - Oztek Ozpcs-RS40 grid forming, integrated inverter
- Install electronic controls
- Install wind-to-heat system





~2700 Miles

Project Location

Google Earth

Image Landsat / Copernicus
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image IBCAO
Data LDEO-Columbia, NSF, NOAA

1100 km



Project Location

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Data LDEO-Columbia, NSF, NOAA
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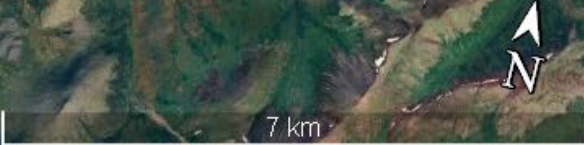
500 km



Project Location

Google Earth

Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus
Image © 2024 Airbus
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Goodnews Bay Proposed Turbine 1

Goodnews Bay Proposed Turbine 2

Goodnews Bay

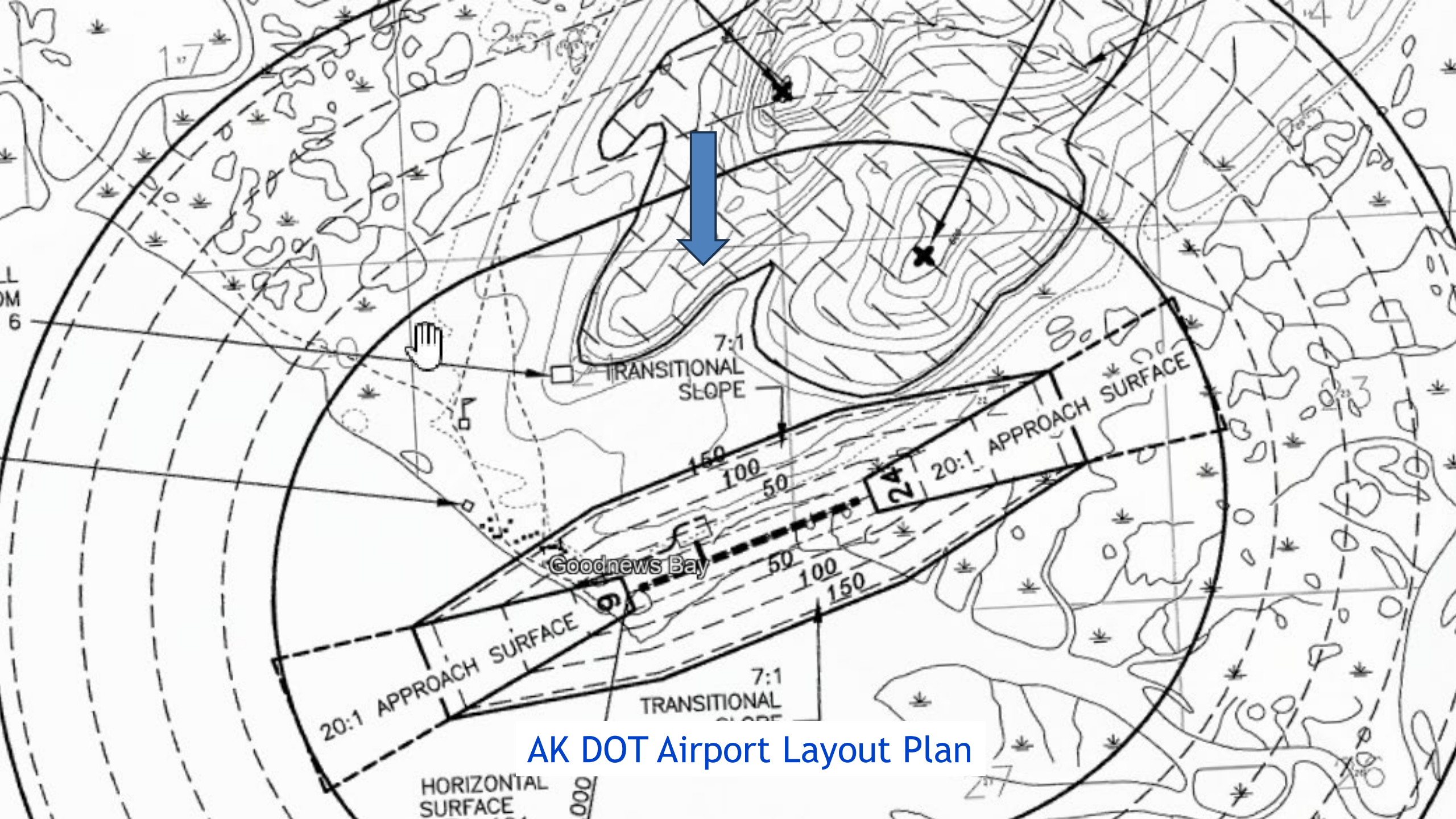
Project Location

Google Earth

Image © 2024 Maxar Technologies

600 m

N



AK DOT Airport Layout Plan

Goodnews Bay, Alaska

Population: 253

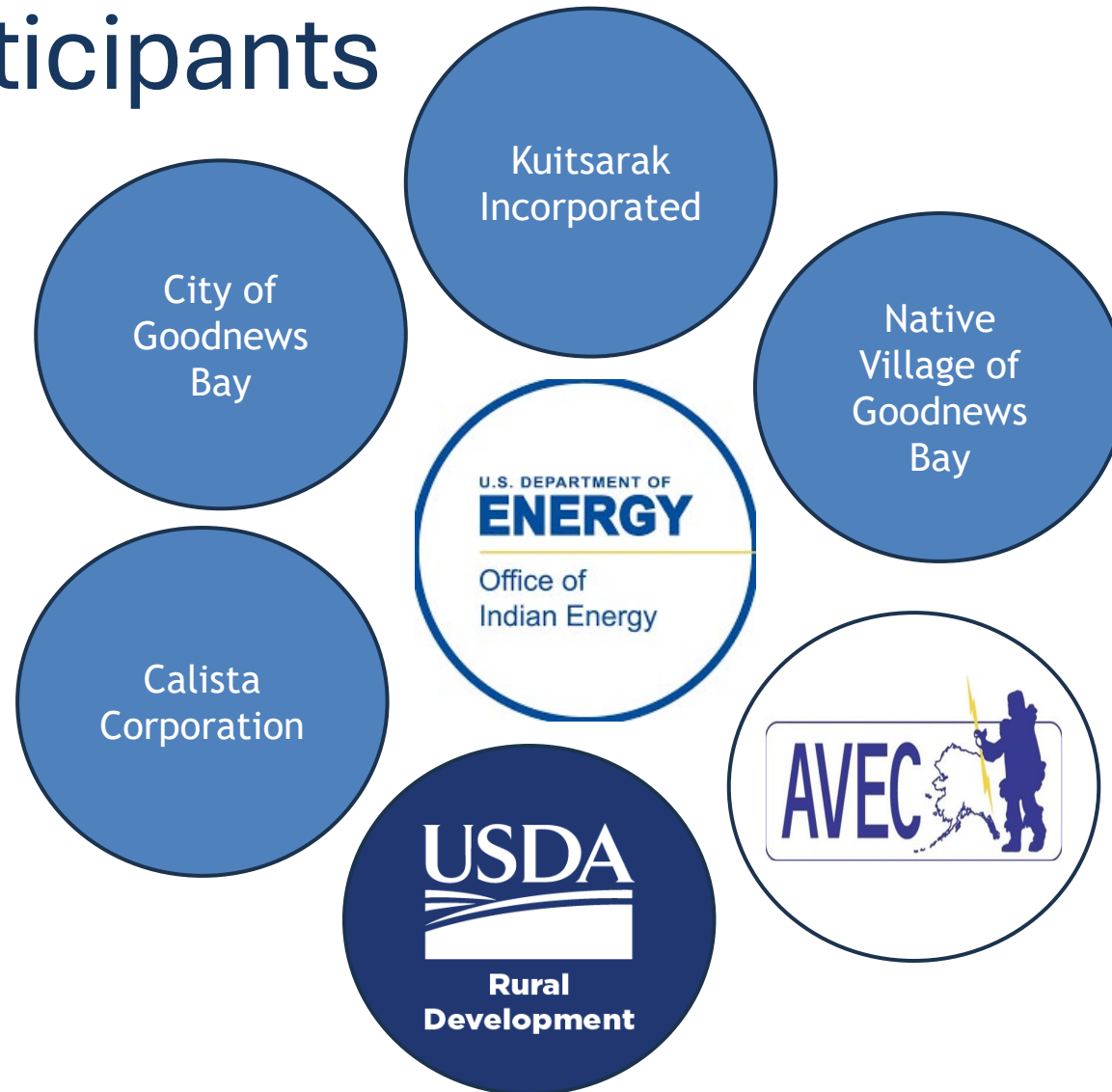
Gas: \$5.89

Heating Fuel \$4.89

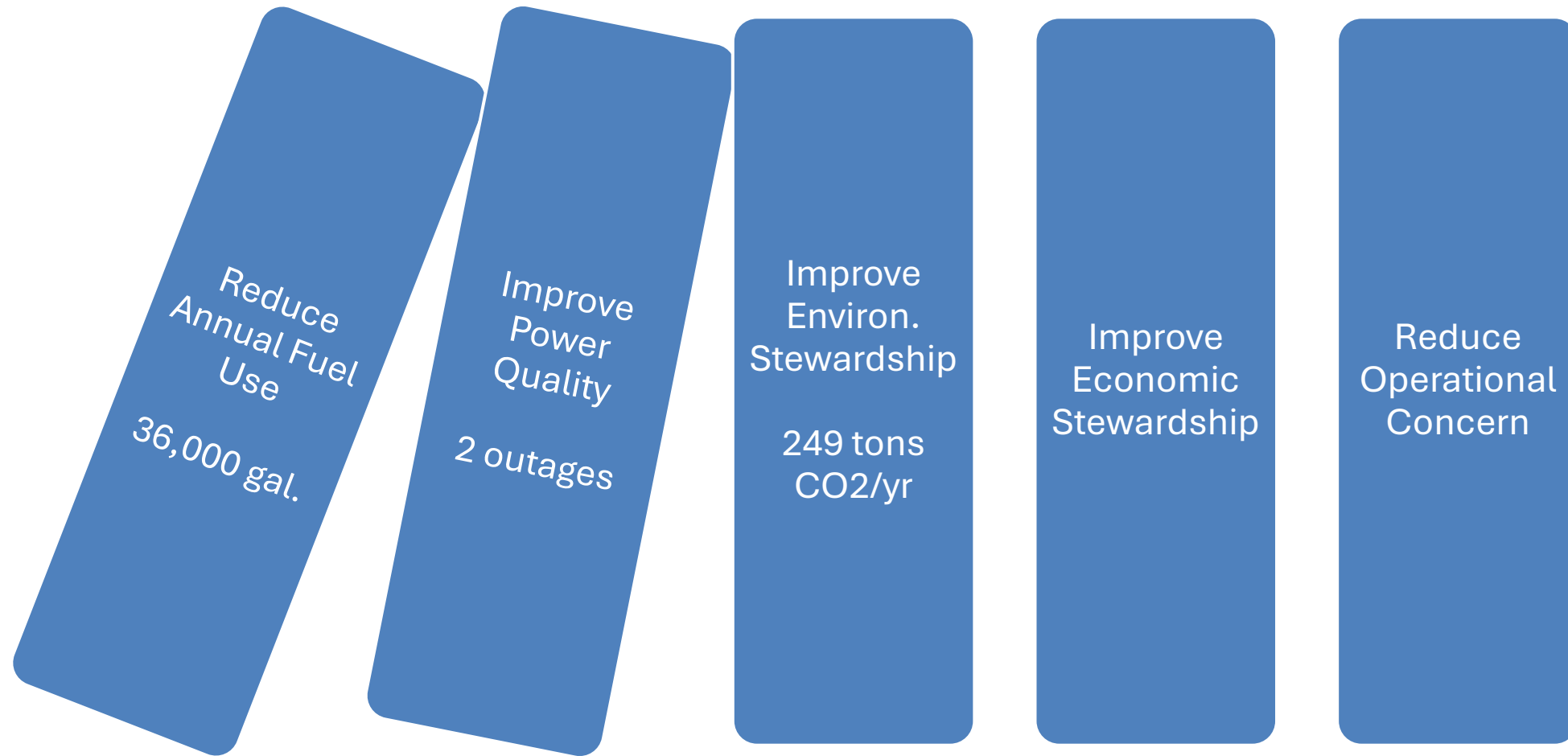
Electric \$0.25 / \$0.70



Project Participants



Project Objectives

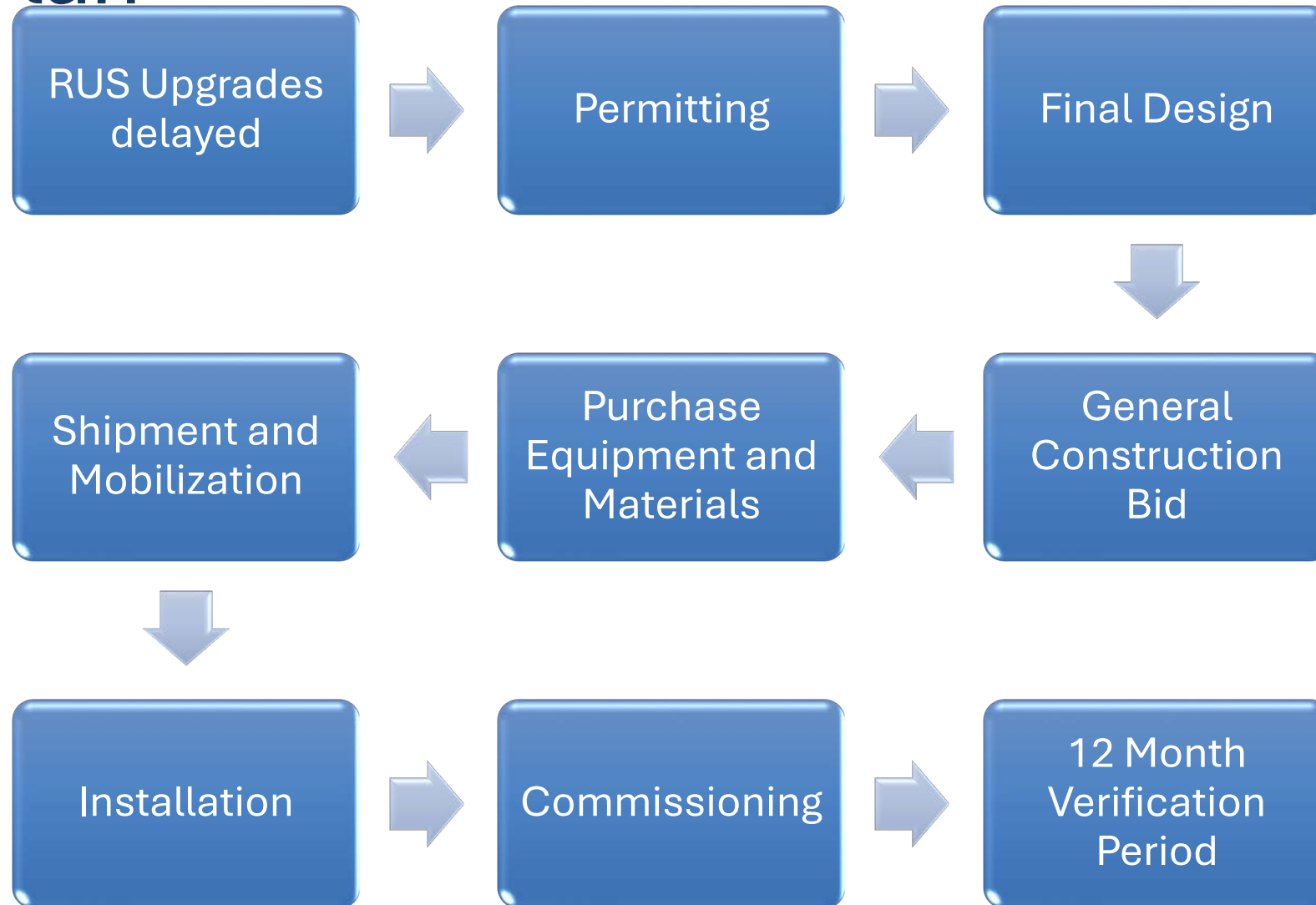


Background Information

- Single phase system
- 2015 wind data was analyzed in 2022, Class 5
- Funding from RUS in place for power system improvements to make it ready for renewables by 3Q2025.

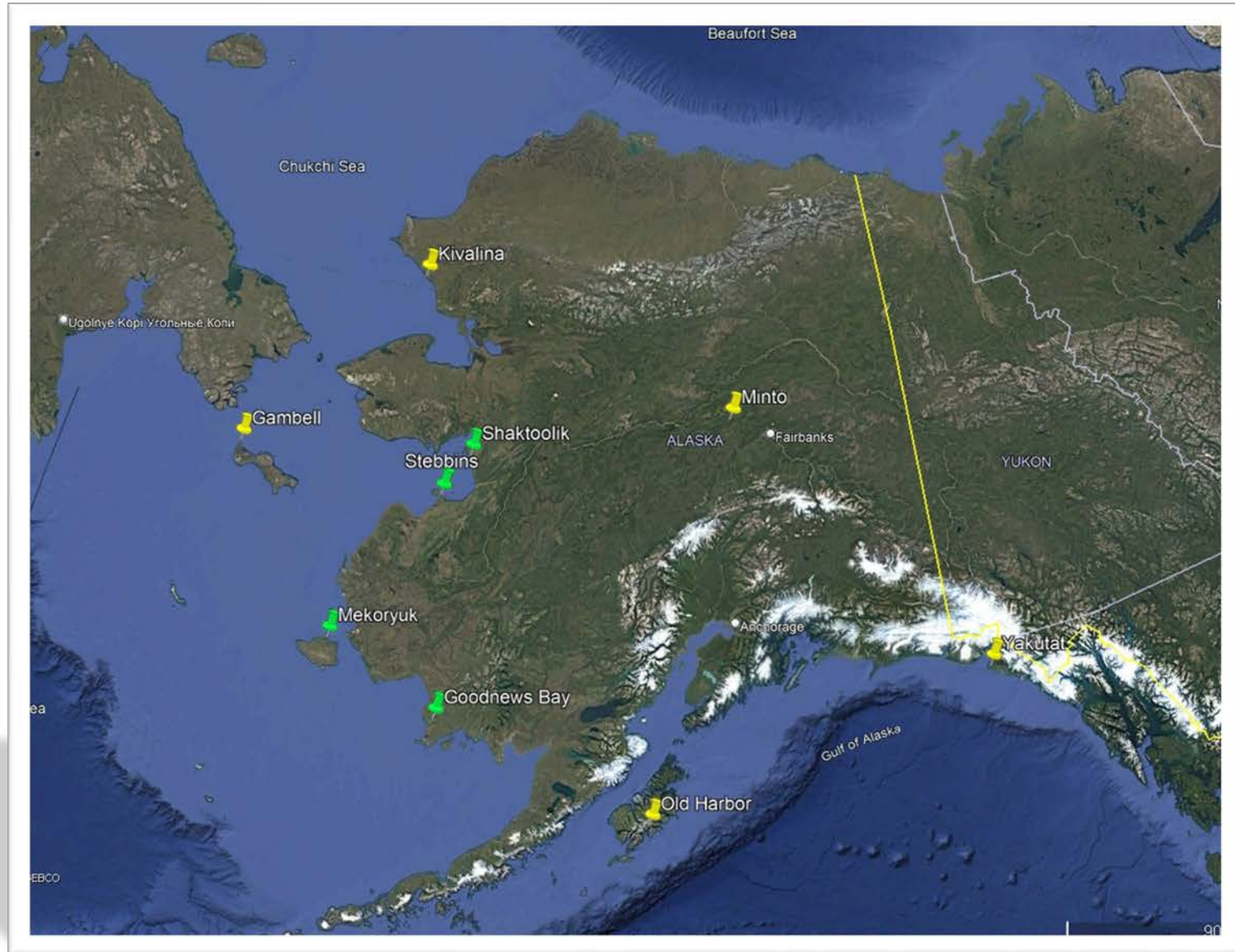


Project Plan



Other Projects

- Shaktoolik Battery Energy Storage System
- Stebbins/St. Michael Renewable Energy Project
- Mekoryuk Repower



An aerial photograph of a coastal village, likely in Alaska. The foreground shows a body of water with a small boat. The middle ground features a cluster of colorful houses (red, blue, green) and some industrial structures like storage tanks. In the background, a large red ship is docked near a red building. The sky is clear and blue.

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Thank you!

Questions?

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