



# KWETHLUK WIND & STORAGE PROJECT

ONE COMMUNITY'S JOURNEY TO RENEWABLE ENERGY & RESILIENCE

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# PROJECT DETAILS

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Four 100-kW wind turbines at a wind site ~0.25 miles east of the community (50m tall with 24m rotor diameter)



500 kW/670 kWh battery energy storage system installed outside the power plant (6 hours of power at reduced load during outages)



Power Plant: controls upgrade, load regulating boiler installed



Excess wind will be converted to heat and delivered to 30 electric thermal stoves in homes (resulting in up to 20% savings)



Partnership with the Kwethluk Utility: creating local jobs, building capacity of utility staff, collaboration to develop an updated business plan, a power purchase agreement, and establish an operations and maintenance program

## MADE POSSIBLE BY FUNDING FROM:

State of Alaska Department of Commerce, Community, and Economic Development designated legislative grant (2015), US Department of Energy Office of Indian Energy (2019), US Department of Agriculture Rural Utility Service (2020), US Department of the Interior Bureau of Indian Affairs (2020)

# PROJECT GOALS

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**PRIMARY PROJECT GOAL:** achieve 40% fuel displacement in Kwethluk by 2025



Offset approximately **48,000 gallons of diesel** annually; **reduce** the size and frequency of Kwethluk Inc's **fuel purchases**

**Reduce** diesel generator **operating time** by 2,400 hours annually



Free up funds to allow for an **increased investment** in Kwethluk's system, **increase job opportunities**, pay and benefits for operators, and **provide annual training** for employees



Prioritize large households, homes with elders and families with children for the wind-to-heat program to **reduce heating costs**

**STRETCH/LONG TERM GOAL:** achieve 80% fuel displacement in Kwethluk by 2035 through the addition of wind turbine(s) and solar PV