



Establishing a Technical Assistance Network to Build Capacity in Southwest Alaska

DOE Office of Indian Energy
Annual Program Review

Washington D.C.

May 21, 2019

Project Timeline:

Sept. 2016 – Sept. 2019

Funders:

U.S. Department of Energy
Office of Indian Energy

U.S. Department of Agriculture
Rural Development

Southwest Alaska businesses
and development organizations

Project Website:

southwestAKenergy.org



Southwest Alaska
Energy Network

Project Manager:

Laura Vaught, SWAMC

Southwest Alaska Energy Network

Building a network of energy managers, operators, and leaders who can access training and funding to help Southwest Alaska communities achieve their goals for affordable, sustainable, and reliable energy.



Aleutians



Bristol Bay



Kodiak

Energy Agencies

SWAMC

Project Management

Information Insights

Project Support

Regional Energy
Coordinators

APIA-BBNA-KANA

Technical Advisory
Panel

Communities & Utilities

Regional Energy Coordinators

Bruce Wright
APIA

Jayne Bennett
BBNA

Tyler Kornelis
KANA

Laura Vaught
SWAMC



Wood Tikchik State Park

Technical Panel

**Peter
Crimp**

**Crimp Energy
Consulting**

energy project
planning,
development, and
management

**Jim Fowler,
PE, CEM**

**Energy Audits
of Alaska**

energy audits,
commissioning,
and retro-
commissioning

**Connie
Fredenberg**

**Utility
Management
Assistance**

utility management
and power cost
equalization
reporting

**Brian
Hirsch, PhD**

**Deerstone
Consulting**

microgrid utilities,
renewable and
diesel generated
power

**Douglas
Vaught, PE**

V3 Energy, LLC

wind-diesel system
modeling and
design

Southwest Alaska Energy Network

Aleutians REC

Bristol Bay REC

Kodiak REC

Energy Agencies



Technical Panel

Wind
Solar
PCE
Energy Efficiency
Project Development

- Funding for Projects
- Informational Webinars
- Energy Events



Larsen Bay

Regional Capacity

- * 3 Regional Energy Coordinators
- * Panel of Technical Experts
- * Information Platforms

Project Development

- * Over 20 energy projects moved to next stage of project development
- * Over 50 energy audits completed/in progress to date. Eight local businesses awarded USDA REAP grants for \$75,000 of energy efficiency upgrades.

In-region Energy Support

- * Seeking commitments from regional entities for long-term support for in-region expertise
- * Encouraging each region to incorporate energy planning & development into their work

LEGEND



HEAT



PLANNING



SOLAR



ELECTRICAL



HYDRO



ENERGY EFFECIENCY

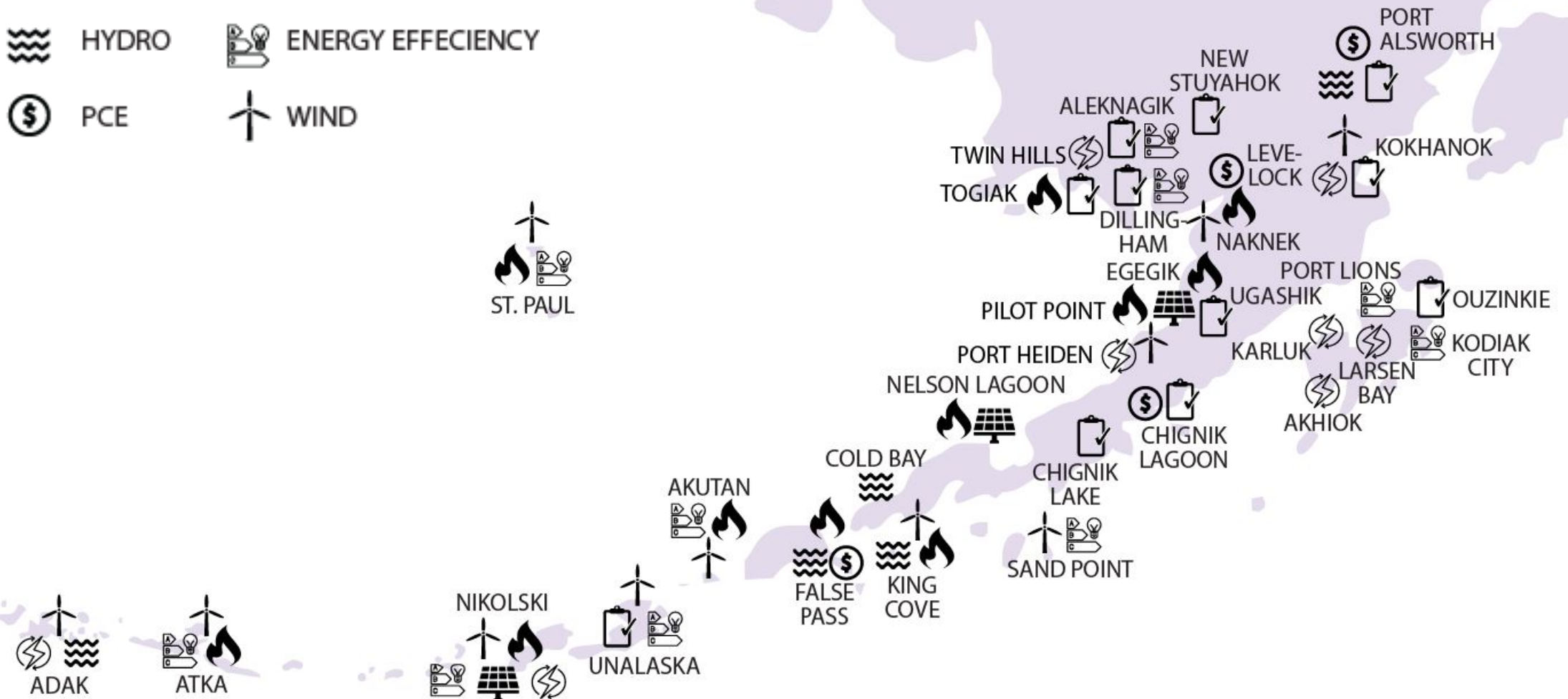


PCE



WIND

Project Highlights



Our Partners



KODIAK AREA NATIVE ASSOCIATION



KONIAG
INCORPORATED

**Kodiak
Archipelago
Leadership
Institute**

Kodiak Region



Ouzinkie

Akhiok

City of Akhiok, KANA
Regional Energy
Coordinator,
Technical Panel

Need: Urgent need for
electric distribution
system replacement

Project: Fast
turnaround for USDA
High Energy Cost
Grant, brought
together expertise to
submit and win the
\$1,289,169 grant.

CITY OF AKHIOK

RENEWING YOUR ELECTRIC UTILITY

ELECTRIC GENERATION POWER PLANT REPLACEMENT PROJECT

Project Funder: Denali
Commission (50%) and State of
Alaska (50%)
Project Purpose: replace existing
electric *generation* power plant
serving the City of Akhiok,
Alaska
Project Notes: Program funder
concentrates on:
• Energy efficiency, reliability,
safety and sustainability
• Could see 30-40% increase in
fuel savings
• Alaska Energy Authority could
provide training and technical
assistance to community*

ELECTRIC DISTRIBUTION SYSTEM REPLACEMENT PROJECT

Project Funder: USDA – Rural
Utility Service – High Energy
Cost Grant
Project Purpose: replace
existing electric *distribution*
system serving the City of
Akhiok, Alaska
Project Goals:
• A 15% reduction in fuel
consumption
• Power outages related to
electric distribution
infrastructure reduced to twice
per year
• Reduction in line losses to
less than 12%

*https://www.omb.alaska.gov/omb/files/19_budget/DCCED/Proposed/2019proj52498.pdf

A PROJECT BY THE CITY OF AKHIOK

Ouzinkie hydro and domestic water reservoir



Ouzinkie

Ouzinkie Tribal Council,
City of Ouzinkie, Spruce
Island Development
Corp., KANA Regional
Energy Coordinator,
Department of Energy

Need: Strategic Energy
Plan & project support

Project: 2-day DOE
engagement, vetted
long term plan;
followed by HOMER
Pro modeling using
leveraged AHFC funds

Our Partners



Aleutian & Pribilof Islands Region

Cold Bay

Atka

City of Atka, The Comforts of Home LLC, APIA Regional Energy Coordinator

Need: Relief from the high heating oil cost in the Aleutians, using electricity from Hydro

Project: Air Source Heat Pump installed in 2018 at City office. First 6 months show a savings of \$770 or \$1,540 if doubled to equal one year.





Unalaska

Unalaska (Dutch Harbor)

City of Unalaska, V3 Energy LLC

Need: Assess wind resource to address strong public interest in renewable energy development

Project: Install 4 met towers, wind resource assessment, and power system integration & economic modeling

Bristol Bay Region

Our Partners



Pilot Point

Kokhanok

Need: Modify wind-diesel system to enable “diesels-off” capability

Project: Upgraded diesel powerhouse, completing wind-diesel integration and adding batteries to the system. Preparing powerhouse education curriculum for high school students.



Kokhanok



Mill Bay Storage, Kodiak

Southwest Alaska Energy Audit Program

Who: Small businesses in Kodiak, Bristol Bay, and the Aleutians

What: Energy audits for business properties: offices, stores, hotels, apartment buildings, & commercial fishing boats

How: Increase energy independence in the private sector by cutting up-front expenses for energy audits (75% discount) & efficiency upgrades (25% of the upgrade cost)



21
audits
completed

30
audits
in progress

8
grants
approved

Over \$75,000 awarded
for energy efficiency upgrades ^{*}through the
USDA REAP Grant



Gabe Dunham
Marine Advisory Agent & Bristol Bay Commercial Fisherman

Choggiung Center, Dillingham

Capacity: the process through which individuals, organizations, and communities obtain, strengthen, and maintain the capabilities to set and achieve their own development objectives over time (The CaDRi Partnership)

What makes a successful Regional Energy Coordinator?

- **Longevity** – has been around long enough to become known and trusted in region
- **Outreach** – communicates with every branch of the energy tree: villages, hub cities, State & Federal agencies, and technical advisors
- **Know-how** – understands basics of rural energy, understands grant requirements and funding cycles, and can communicate topics to villages in layman's terms
- **Motivated!** – Challenges: poor internet and phone connectivity, geographic spread, limited face time, misinformation, cumbersome grant requirements

Regional Energy Coordinator success story

Tyler Kornelis, Kodiak

- **Built own capacity:**
 - Arctic Remote Energy Networks Academy (2017)
 - NREL Executive Energy Leadership Academy (Summer 2019)
- **Established recurring regional energy meetings with stakeholders**
- **Provides ongoing project support to regional tribes**
 - Akhiok – Grant management assistance for distribution system replacement
 - Ouzinkie – Coordination & grant app. assistance for hydro system replacement
 - Larsen Bay – Technical Assessment for hydro dam replacement
- **Seeking new funding to help communities reach energy goals**
 - USDA Community Facilities Technical Assistance & Training grant (June 2019)

Looking ahead: the next 4 months

- **Continue operating energy audit program for businesses**
- **Regional Energy Coordinators and Technical Panel advancing current community efforts**
- **Write final project report**
- **Engage the Regional Native Corporations to showcase the successes and value of this project and to seek their financial support to continue**
 - **To do so, prepare a “white paper” that summarizes lessons learned and promotes the network**

Thank you!

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Southwest Alaska Municipal Conference
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Southwest Alaska
Energy Network

www.southwestAKenergy.org