



**DOE Annual Program
Review
Denver, Colorado
Inter Tribal
Technical Assistance Program**

November 13 - 17, 2017



A Remote Region



- No roads and few electrical interties to connect communities
- 61 % more expensive than Anchorage
- High cost goods and fuel
- Residents struggling to keep up with utility bills

Energy – Recap of what was accomplished at NANA Regional Corporation

Strategic Energy Plan (SEP)

1. The goal of the NANA SEP is improved energy security through strategic energy planning and improved understanding of available energy options.
2. SEP branded as the NWALT (NorthWest Arctic Leadership Team) Energy Plan to show collaboration and partnerships within the region. NWALT consists of NANA, Northwest Arctic Borough, Maniilaq (regional healthcare provider), School District, i.e., large institutions within the region, all working together.
3. Energy Steering Committee formed to improve communication on energy issues.



NRC Energy Accomplishments



- *Energy Option Analysis*

- *Purpose – identify and develop energy resources for each community.*

1. 6 feasible options – wind, hydro, biomass, solar, fossil fuels. Low hanging fruit – energy efficiency and conservation.
2. Not every village has a renewable energy source nearby.
3. Shallow rivers impacting fuel delivery to the Upper Kobuk villages, and Noatak.
4. Have helped with wind, solar, biomass, efficiency projects throughout region

Energy – What we’ve learned

Project Timelines

| Description | Range in years | Examples |
|---------------|----------------|---|
| Current | 0 | Current deployment mix |
| Immediate | 0-1 | Conservation, Energy Efficiency, weatherization, biomass, coordination of feasibility studies, assure access to PCE and other energy assistance programs. |
| Short | 1-3 | |
| Mid-term | 2-10 | Wind, infrastructure development, biomass, and other alternative development. |
| Long-Term | 5-15 | Natural Gas, geothermal, large scale infrastructure, development, disruptive technologies |
| Stretch Goals | 15+ | Advanced storage technologies |

NANA plays a crucial role in funding and financing for projects in our region. We also advocate for state and federal energy policies that impact our communities.

Energy – What we've learned

1. State and Federal funding is getting more competitive
2. Data collection is crucial, but can't study to death
 - A. 1 year of wind data
 - B. 5 years of stream flow
 - C. Project performance data for investment payback
 - D. TED & ECO meters for Conservation – with NWAB
3. Energy audits, energy assessments, market basket study, etc.
4. Data shows NANA residents are falling behind on utility bills
5. Project development, including stakeholder coordination.
6. Infrastructure planner
7. Communicating NWALT energy priorities to stakeholders
8. Update Energy plan
9. Research emerging technologies

Energy Steering Committee Goals & Outcomes

- ✓ **Public Private Partnerships**
- ✓ **Village Economic Development**
- ✓ **Fostering Sustainable Behavior**
- ✓ **Roads & Inter-ties**
- ✓ **Powerhouse Upgrades to Integrate RE**
- ✓ **Workforce Development & Skills Training**
- ✓ **Energy Education**



Inter-Tribal TA Project Objectives

- Two Energy Steering Committee (ESC) meetings per year (instead of one currently)
- A day of technical training/workforce development added to each ESC meeting
- Energy and business planning for individual tribes and the overall region
- Technology reviews for unique arctic applications
- Promote economies of scale in energy & power projects for the NANA Region
- Conduct topical research, including the development of a Regional Energy Authority/Joint Action Agency

Energy Steering Committee – Identified Village Priorities

- Energy Education
- Upgrades to power plants
- Community Efficiency Programs
- Energy Storage Batteries
- Solar Energy
- Interties
- Wind Energy systems
- Biomass/Waste to Heat
- Combined Heat & Power
- Hydro electric
- Roads
- Bulk fuel buying, logistics, & storage
- Bulk fuel farm upgrades
- District Energy distribution



Energy Steering Committee Meetings

- In Kotzebue; have held 2 so far (semi-annually)
- About 40 attendees – NANA region villages, NANA and NW Arctic Borough leadership and staff, technology vendors, federal and state agency representatives, AVEC and other utilities, bulk fuel delivery companies, project developers, energy finance industry
- Excellent technical exchange on heat pumps, battery-inverter systems, solar and wind, bulk fuel
- Increasing regional interest and refinement of needs and solutions

Energy Presentations

- DOE Indian Country Energy & Infrastructure Working Group (ICEIWG)
- NANA Village Economic Development Committee (VEDC)
- Northwest Arctic Borough (NWAB) Economic Development Commission
- Village Energy Meetings – Buckland, Deering, Selawik, Kiana; also visited Kobuk to review biomass and Shungnak to review results of various studies (START, AMP)
- Alaska Energy Storage Working Group (upcoming this week)

Technical Assistance Initiatives

- Heat Pump Study
- Hybrid "Diesel-off" Configurations
- Bulk Fuel Collaboration
- Joint Action Agency
- Coordination with Other Regions



Taikuu!

