Tribal Technical Assistance
Energy Sovereignty Institute
2019 Tribal Energy Workshop

Presented By
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SANDIA’S HISTORY IS TRACED TO THE MANHATTAN PROJECT

...In my opinion you have here an opportunity to render an exceptional service in the national interest.

- July 1945
  Los Alamos creates Z Division
- Nonnuclear component engineering
- November 1, 1949
  Sandia Laboratory established
- AT&T: 1949–1993
- Lockheed Martin: 1995–2017
- Honeywell: 2017–present
SANDIA IS A FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTER
MANAGED AND OPERATED BY

National Technology & Engineering Solutions of Sandia, LLC, a wholly owned subsidiary of Honeywell International Inc.: 2017 – present

Government owned, contractor operated
SANDIA HAS FACILITIES ACROSS THE NATION

Main sites
• Albuquerque, New Mexico
• Livermore, California

Activity locations
• Kauai, Hawaii
• Waste Isolation Pilot Plant, Carlsbad, New Mexico
• Pantex Plant, Amarillo, Texas
• Tonopah, Nevada
Authorized to fund and implement a variety of programmatic activities that assist American Indian Tribes and Alaska Native villages with:

- Energy development
- Capacity building
- Energy cost reduction
- Electrification of Indian lands and homes

To advance the mission, IE works with American Indian Tribes and Alaska Natives to maximize the value of their energy resources through:

- Facilitation of energy development
- Education and training
- Technical assistance
- Funding

Facilitate on-site strategic energy planning for the tribal leaders, elders, and staff

- Resource assessment
- Energy options analysis
- Roadmap for future development

Learning and blending facilitation techniques for strategic energy planning

https://www.energy.gov/indianenergy/technical-assistance
Technical assistance provided to federally recognized Indian tribes, including Alaska Native villages, tribal energy development organization, and other organized tribal groups and communities – to advance tribal energy projects.

Types:

- Technical Analysis – transmission and/or utility assessment, market access, and energy efficiency reviews
- Financial Analysis – economic or market analysis for early stages of development
- Strategic Energy Planning

• Tool for tribal communities to achieve near- and long-term energy goals
• Helps tribal leaders and community members define their unique energy goals and priorities
• It can create opportunities to integrate energy, environmental, economic development, and community interest
• Benefits of a strategic energy plan:
  • Cost saving for tribal members
  • Potential revenue from renewables
  • A stronger economy
  • Greater energy independence and security
  • Local influence over energy facility siting
  • More energy efficient communities
  • Healthier communities
  • A cleaner environment
  • Regional tribal coordination and collaboration
  • A chance to demonstrate leadership

Step 1: stakeholders and community members is central to the development (local utility, community leaders & members, facilities manager, community businesses, etc.)

Step 2: Leadership is key to a successful plan. It has the power to make decisions, direct funding resources, and promote the project throughout the process.

Step 3: Clearly articulate the community’s long-term energy vision and goals (assure affordable and reliable energy, strengthen economic development, build workforce, etc.)

Step 4: An effective plan builds upon what has already been accomplished (energy usage baseline, understanding strengths, weakness, and opportunities, list of energy systems and resources, etc.)

Step 5: Energy efficiency and renewable energy can meet multiple goals (energy savings, sustainability and reduction in the use of diesel fuel, e.g. reduce energy consumption by x% by x year, etc.)

Step 6: Resource is limited so prioritizing projects will be critical, pursue highest impact projects first, etc.

Step 7: Various options are available to fund and finance energy projects (federal, state, non-profit grants, private investments, etc.)

Step 8: This public document summarizes all the data, information, vision, goals, and priorities – most effective when formally adopted and approved by the Tribal Council.

Step 9: Once adopted the plan becomes a living document (can be updated, used to reflect and verify projects are moving the Tribe closer to its stated vision and goals.

Ref.
Sandia Energy Storage Valuation with QuESt Software

- **What is QuESt?**
  - Accessible and easy-to-use software tool for energy storage valuation and related applications developed at SNL
  - No software licenses required – It’s free!
  - Can be adjusted to fit specific needs

- **What does it do?**
  - **ESS Valuation** – Estimate potential revenue generated by energy storage systems providing multiple services in the electricity markets of ISOs/RTOs.
  - **Behind The Meter** – Estimate the cost savings for time-of-use/net energy metering customers using behind-the-meter energy storage systems.

- **How is it beneficial?**
  - Analysis of cost savings obtainable given tariff structure (time of use, demand charges)
  - Sizing of Energy Storage – system power (kW) and capacity (kWh)

- **For more information on QuESt:**
  - github.com/rconcep/snl-quest or sandia.gov/ess
DOE’s Tribal Energy Program offers student internships at Sandia National Laboratories

**Eligibility:** Current college upper-classmen and graduate students, who are familiar with Native American culture and tribal issues, support the Tribal Energy Program efforts with technical project tasks.

**Required:** As authorized by the TEP, the student applicant must
- be a US Citizen
- be a Native American as defined as
  - a member of a Federally-recognized Tribe, Alaska Village or Alaska Corporation
- be specifically interested in renewable energy

2002 - 2019
- Over 30 undergraduate & graduate interns have participated
- Over 13 different tribal affiliations
- Over 12 different majors
- Four interns have been hired this year

Field trip to the Navajo Nation
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