Standing Rock Sioux Tribe – Lakota/Dakota Nation

Establishment of Renewable Energy and Energy Development Office; Wind Feasibility Study, and Future Plans...

Fawn Wasin Zi (Washee Zee)
701–854–3437
fwasinzi@standingrock.org
OVERVIEW:

- BACKGROUND INFORMATION ON STANDING ROCK RESERVATION
- SITTING BULL COLLEGE WIND TURBINE
- EECBG ENERGY EFFICIENCY & WIND TURBINE INSTALLATION AT SITTING BULL COLLEGE
- WIND ASSESSMENT STUDY
- ESTABLISHMENT OF RENEWABLE ENERGY & ENERGY DEVELOPMENT OFFICE (REEDO)
- WIND FEASIBILITY STUDY
- OCETI SAKOWIN POWER PROJECT
- DEMD Sand & Gravel Study
- OIL & GAS PREPARATION WORK GROUP
- COMMUNITY SCALE PV SYSTEM INSTALLATION
STANDING ROCK

- ONE OF SEVEN RESERVATIONS OF THE GREAT SIOUX NATION
- LOCATED IN SOUTH-CENTRAL NORTH DAKOTA & NORTH-CENTRAL SOUTH DAKOTA
- LOCATED IN SIOUX COUNTY, NORTH DAKOTA; CORSON COUNTY, SOUTH DAKOTA AND SMALL PORTIONS OF ZIEBACH & DEWEY COUNTY, SD
- RESERVATION DIRECTLY TO THE SOUTH IS CHEYENNE RIVER SIOUX TRIBE
STANDING ROCK

**LAND**
- **Terrain**
  - Woodlands, rolling hills, river valleys, and lakes
- **CHECKERBOARD OWNERSHIP**
- **ALLOCATED, TRIBAL, AND OTHER (STATE, FEDERAL, NON-INDIAN)**
- 2,320,247.67 ACRES
- LOST NEARLY 560,000 ACRES DUE TO THE PICK-SLOAN ACT OF 1944
STANDING ROCK: LAKOTA/DAKOTA NATION

- DAKOTA: HUNKPATINA & CUTHEAD – YANKTONAI
- LAKOTA: MAJORITY HUNKPAPA, BLACKFEET

Cetan Wakinyan – Chief Thunderhawk – Hunkpapa Lakota
ORGANIZATION

- CHAIRMAN, VICE-CHAIRMAN, SECRETARY
- 8 DISTRICT REPRESENTATIVES
- 6 AT-LARGE REPRESENTATIVES
- SEPARATED INTO 3 COMMITTEES (JUDICIAL; HEALTH, EDUCATION, & WELFARE; ECONOMICS)
- EACH PROGRAM DIRECTOR REPORTS TO A COMMITTEE
WIND TURBINE CURRENTLY PROVIDES ENERGY TO THE SCIENCE CENTER & TRANSIT CENTER (HUD-GRANT)

SITTING BULL COLLEGE NOW HAS A 1 YEAR WIND TURBINE TECHNOLOGY CERTIFICATE PROGRAM

- Introduction to wind turbines
- Wind energy fundamentals
- Electricity & circuits
- Safety & environmental
- Basic hydraulics
- OSHA standards
WIND ASSESSMENT STUDY:

- FUNDED THROUGH THE DEPARTMENT OF INTERIOR
- WORKED WITH CONSULTANT AECOM TO ASCERTAIN THE BEST LOCATION FOR A WIND FARM
Energy Efficiency

- Two possible locations (science center & family support center)
- Family support center was chosen (Lakota/Dakota Immersion Nest, Campus Kids DayCare, and Teaching & Learning)
- Had the highest energy use/unit area from 2007 – 2010
EECBG

- Small Wind Turbine Location
  - Sitting Bull Finance Center
  - Chosen for the location
Begin educational outreach activities
Gathering of data in the 8 communities of Standing Rock including the tribal government
  ◦ Goals & concerns of the SRST
To serve as a research center and information clearinghouse
To ensure that energy development proceeds in a systematic way
Renewable Energy & Energy Development Office

- An advisor to tribal government during “energy” decision making
- Oversee current & future energy grants
- Investigate additional types of renewable energy products
  - Educate SRST on types of renewable energy products
WIND FEASIBILITY STUDY:

- Working with sub-contractors ERM (Environmental Resource Management) and Godfrey & Kahn SC
- By using information from the DOI Wind Assessment Study we narrowed down out of 5 possible site locations to 1 location
- Site 5 (Sherwood Hill) is being currently studied
  - Road accessibility
  - Fiber optic cables located along Hwy 12
  - Large area of trust lands
  - NREL Map score of 3 or more
WIND FEASIBILITY STUDY:

- SITE 5 IS LOCATED WEST OF MOBRIDGE SD AND EAST OF MCLAUGHLIN SD
- CURRENTLY HAVE 2 MET TOWERS AT THE LOCATION THAT HAVE BEEN COLLECTING DATA FOR > ONE YEAR
- CURRENTLY WORKING ON:
  - SITE LAYOUT FOR TURBINES
  - ENVIRONMENTAL ASSESSMENT ACTIVITIES
    - ESTHETIC VIEWS
    - EAGLE POPULATION
  - FINANCING POSSIBILITIES
OCETI SAKOWIN POWER PROJECT:

- STANDING ROCK SIOUX TRIBE, CHEYENNE RIVER SIOUX TRIBE, CROW CREEK SIOUX TRIBE, ROSEBUD SIOUX TRIBE, OGLALA SIOUX TRIBE, FLANDREAU SANTEE SIOUX TRIBE, SISSETON WAPEHTON SIOUX TRIBE, YANKTON SIOUX TRIBE

- TRIBES WILL COMBINE THEIR EFFORTS & RESOURCES TO BUILD A UTILITY SCALE 1 GW+ WIND POWER GENERATION & TRANSMISSION SYSTEM THAT WILL SELL POWER TO OUT OF STATE BUYERS
PROJECT WILL BE BUILT BY $2–$3 BILLION IN FUNDING RAISED BY THE ISSUANCE OF POWER REVENUE BONDS ISSUED BY THE OSPP

- TRIBES WILL MAINTAIN OWNERSHIP & CONTROL OVER THE PROJECT
- FINANCING COSTS WILL BE GREATLY REDUCED & THUS NOT DEPENDENT ON THE EXTENSION OF THE WIND PRODUCTION TAX CREDIT
DEMD SAND & GRAVEL

- SRST WAS AWARDED SEVERAL GRANTS IN THE PAST TO FURTHER STUDY THE SAND & GRAVEL POTENTIAL LOCATED ON SRST
- CURRENT GRANT IS TO FIND ADDITIONAL MINING SITES
- USE OF GIS TECHNOLOGY TO CONDUCT INITIAL RESEARCH
- THE BEST LOCATIONS FOR SAND & GRAVEL ON STANDING ROCK ARE LOCATED ALONG THE MISSOURI RIVER
OIL & GAS PREPARED WORKING GROUP

- GROUP REQUESTED BY CHAIRMAN ARCHAMBAULT II
- INCLUDES: NATURAL RESOURCE DEPARTMENTS (LAND MANAGEMENT, WATER RESOURCES, GAME & FISH, EPA/DER), ADMINISTRATION (EXTERNAL AFFAIRS DIRECTOR), ECONOMIC DEVELOPMENT OFFICES (PLANNING, TAX, ETC.)
- GOAL IS TO BEEF UP OUR CODES & REGULATIONS IN ORDER TO PROTECT THE MEMBERS & INTERESTS OF SRST
Community-Scale PV System Installation

- Standing Rock Sioux Tribe will partner with North Dakota Solar Investments, LLC and Sun Vest Solar, Inc. to install 636 kW of solar photovoltaic (PV) systems at 5 Sitting Bull College Buildings located in Fort Yates ND.
  - Science Building
  - Family Support Building
  - Entrepreneur Building
  - Library
  - Transit Building
Goals & Objectives

- To increase the tribe’s energy independence by increasing its capacity to generate clean, renewable power in an economically feasible manner
- Provide a model for other Tribes to deploy community-scale renewable energy projects
- Improve college job skills training and provide K–12 solar educational opportunities
- Creation of job & mentoring opportunities for Tribal members.
Community–Scale PV System Installation

Goals & Objectives cont’d.
- Diversify the Tribe’s renewable energy portfolio
- Reduce the Tribe’s reliance on electricity generated by fossil fuels, especially coal, thereby lessening the negative environmental impacts associated with coal–fired generation.
Specific Objectives

- Install 636 kW of solar generation capacity at SBC buildings
- Increase the Tribe’s renewable generation capacity with equipment that has low operations & maintenance requirements & costs
- Provide a good match between the renewable solar resource and the time of use of the education buildings
- Be economically feasible for the Tribe by allowing for a relatively rapid payback of capital costs based on energy savings achieved over time.
Community–Scale PV System Installation

- Why Solar Photovoltaic Technology
  - Consistent with the Tribe’s long-term energy goals (PV systems are renewable, carbon-free, emissions free)
  - High match between the electricity demand of the Tribe’s educational facilities & the availability of solar resources
  - Solar facilities are easy to install and have low operation & maintenance requirements
  - To diversity the Tribe’s renewable energy resources
COST-SHARE STRUCTURE

- New LLC jointly-owned by Tribe and SunVest Investors owns System.
- SunVest Solar (through SunVest Investors) contributes the 50% cost share to the projects, so no initial cost share by Tribe.
- Tribe contributes DOE grant.
- SunVest Investors qualify for 30% Federal Investment Tax Credit (ITC) and Depreciation of Solar PV Assets.
- SunVest provides Tribe credit for value of ITC.
- Balance of System Cost (approximately 20% of installed cost of System) is paid overtime by Tribe at rate at or below existing payments to utility provider.
Community–Scale PV System Installation

1. Tribe: Contributes DOE Grant Funds
2. New LLC: Owns Solar System and Sells Power to Tribe Until Paid-off
3. Taxable Investor: Contributes 50% Match and Tax Appetite

Tribe or Member
Community-Scale PV System Installation

- SBC – SOLAR WORKING GROUP
  - SRST IS NEW TO THIS TYPE OF SET-UP
  - WORKING GROUP IS (CFO, IN-HOUSE ATTORNEYS, LAND MANAGEMENT DIRECTOR, LAND OPERATIONS OFFICER/ENERGY & MINERAL MANAGER)
  - RESEARCHING IF INITIAL BUSINESS PLANNING IS THE BEST DECISION FOR SRST
  - RESEARCHING HOW AND IF SOLAR PV INSTALLATION CAN AFFECT WAPA CREDITS
  - RESEARCHING IF WE CAN SET UP THIS BUSINESS PLAN CAN BE SET UP IN A WAY TO EVENTUALLY MERGE INTO A TRIBAL UTILITY
Future Plans

- WRITE for new grants
- CONTINUE research on Renewable energy products and strategic planning
- Begin research on developing an Energy & Mineral Code of Regulation for SRST
- Research on Environmental Effects of Renewable Energy/Energy Development
- Work with our local EPA Office on the development of a Code of Regulation due to the continuing threat of oil & gas exploration
- Standing Rock Minerals
  - Permitting
  - Creating this new entity for SRST
- Creation of a new Tribal Utility
Summary/Lessons Learned

- There’s a lot to do...
- Talk to the community members
- Have an Energy/Mineral Development Office
“Let us put our minds together to see what we can build for our children.” Tatanka Iyotake