

Standing Rock Sioux Tribe – Lakota/Dakota Nation



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

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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
- ALLOTTED, 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

STANDING ROCK SIOUX TRIBE



► ORGANIZATION

- CHAIRMAN, VICE-CHAIRMAN, SECRETARY
- 8 DISTRICT REPRESENTATIVES
- 6 AT-LARGE REPRESENTATIVES
- SEPARTED INTO 3 COMMITTEES (JUDICIAL; HEALTH, EDUCATION, & WELFARE; ECONOMICS)
- EACH PROGRAM DIRECTOR REPORTS TO A COMMITTEE

SITTING BULL COLLEGE WIND TURBINE



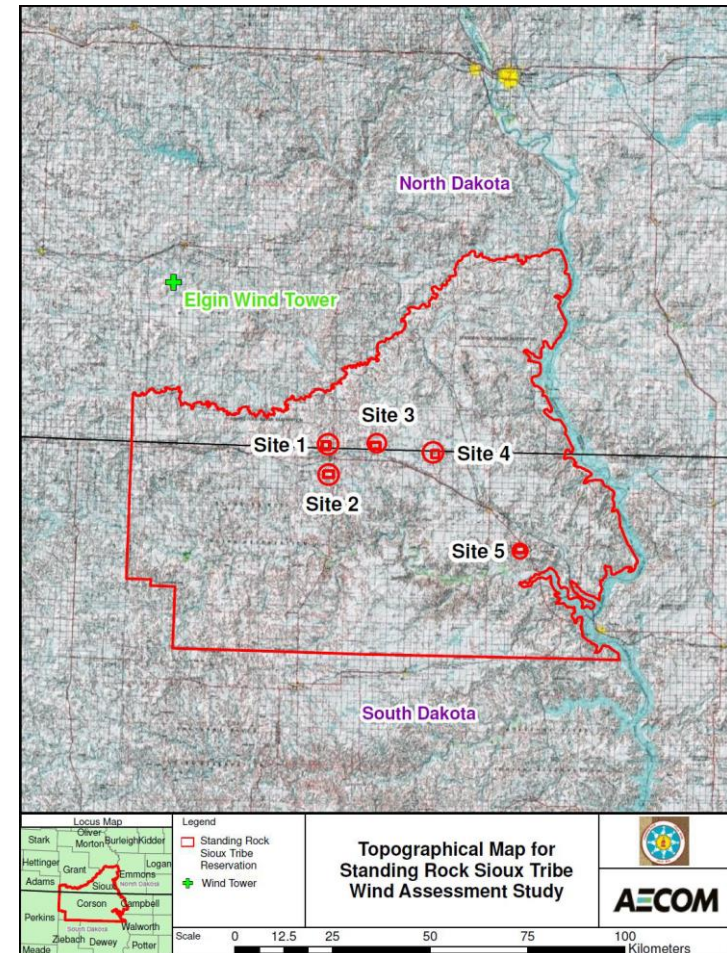
- ▶ WIND TURBINE CURRENTLY PROVIDES ENERGY TO THE SCIENCE CENTER & TRANSIT CENTER (HUD-GRANT)
- ▶ SITTING BULL COLLEGE NOW HAS A 1 YEAR WIND TURBINE TECHNOLOGY CERTIFICATE PROGRAM
 - Introduction to wind turbines
 - Wind energy fundamentals
 - Electricity & circuits
 - Safety & environmental
 - Basic 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



EECBG



- ▶ 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

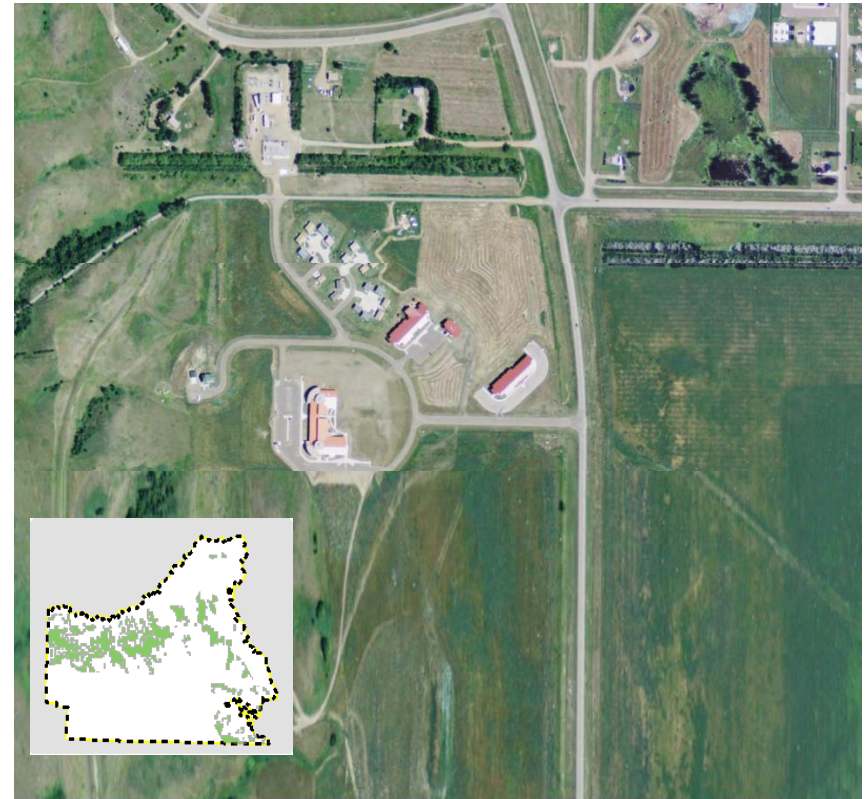


EECBG



▶ Small Wind Turbine Location

- Sitting Bull Finance Center
- Chosen for the location



Renewable Energy & Energy Development Office



- ▶ 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 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 1GW+ WIND POWER GENERATION & TRANSMISSION SYSTEM THAT WILL SELL POWER TO OUT OF STATE BUYERS

OCETI SAKOWIN POWER PROJECT:



- ▶ 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

Community-Scale PV System Installation



▶ 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.

Community-Scale PV System Installation



► 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

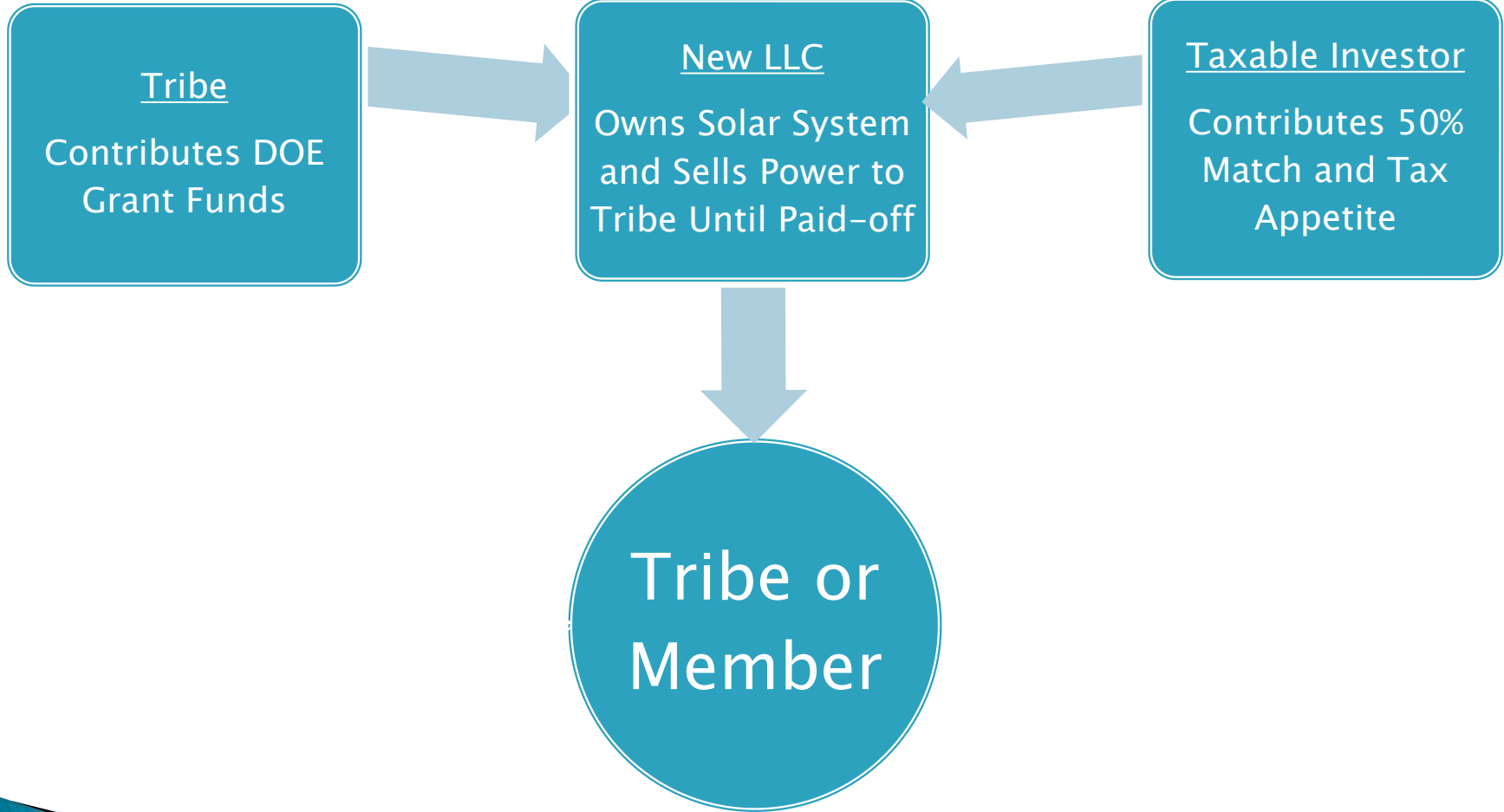
Community-Scale PV System Installation



▶ 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



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

ANY QUESTIONS/COMMENTS?



*"Let us put our minds together
to see what we can build for
our children." Tatanka Iyotake*