WIND FEASIBILITY STUDY;
COMMUNITY-SCALE PV SYSTEM INSTALLATION

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OVERVIEW

- BACKGROUND INFO ON STANDING ROCK
- WIND ASSESSMENT STUDY
- WIND FEASIBILITY STUDY
- COMMUNITY SCALE PV INSTALLATION
- OTHER PROJECTS:
- CONCLUSION
- LESSONS LEARNED
STANDING ROCK

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

- LAND
  - ROLLINGS HILLS, RIVER VALLEYS, WOODLANDS, & LAKES
- CHECKERBOARD OWNERSHIP
- 2,320,247 ACRES
- 700,000 TRIBAL LAND, HAS INCREASED DUE TO LBBP
- LOST NEARLY 560,000 ACRES DUE TO THE PICK-SLOAN FLOOD CONTROL ACT OF 1944
STANDING ROCK

- DAKOTA
  - HUNKPATINA & CUTHEAD – YANKTONAI
- LAKOTA
  - HUNKPAPA & BLACKFEET
ORGANIZATIONS
- CHAIRMAN, VICE-CHAIRMAN, SECRETARY
- 8 DISTRICT REPRESENTATIVES
- 6 AT-LARGE REPRESENTATIVES

LEADERSHIP SEPARATED INTO 3 COMMITTEES
- JUDICIAL
- ECONOMICS
- HEALTH, EDUCATION & WELFARE
- EACH PROGRAM DIRECTOR REPORTS TO ASSIGNED COMMITTEE ON A MONTHLY BASIS
- LOOK GENERATIONS INTO THE FUTURE: HOW WILL OUR DECISIONS TODAY AFFECT FUTURE GENERATIONS?
SRST LEADERSHIP

ENERGY DEVELOPMENT

- RESOLUTIONS STATEMENTS:
  - TO DIVERSIFY ENERGY SOURCES (BOTRH RENEWABLE & NON–RENEWABLE)
  - TO DIVERSIFY ECONOMIC RESOURCES
  - TO ADMINISTER SERVICES THAT MAY CONTRIBUTE TO THE SOCIAL & ECONOMIC ADVANCEMENT OF THE TRIBE AND ITS MEMBERS
WIND ASSESSMENT STUDY

- FUNDED BY DOI
- WORKED TO ASCERTAIN THE BEST LOCATION FOR A WIND FARM
- CRITERIA BASED ON:
  - ACCESSIBILITY
  - PROXIMITY TO SUB-STATIONS OR TRANSMISSION LINES
  - AVAILABILITY OF TRIBAL TRUST OR TRIBAL FEE LAND
  - WIND DATA TAKEN FROM MET TOWER IN ELGIN ND
  - SECONDARY: “WHERE’S THE WIND”
THE 2ND STEP IN THE VISION FOR A COMMERCIAL WIND FARM ON STANDING ROCK

2 50 METER MET TOWERS ARE NOW LOCATED ON THE SHERWOOD HILL SITE

BUSINESS PLAN:
- WIND ENERGY TAX CREDITS
- BUSINESS MODELS

WHAT IS BEST FOR STANDING ROCK?
WIND FEASIBILITY STUDY

- YEAR–LONG MONITORING BEGAN IN JANUARY 2013
- DESK STUDIES COMPLETED – GEOLOGIC SETTING, POTENTIAL AVIAN IMPACTS
- PRELIMINARY INTERCONNECTION INDICATES CHALLENGES IN GETTING POWER TO MARKET
WIND FEASIBILITY

Project Name: SRST Wind Monitoring
Site Name: Tower 1
Period of Report: 01/17/2013 to 03/11/2014
Average Wind Speed: 15.83 mph

Tower 1
45°43'15.58"N
100°42'6.81"W

Tower 2
45°42'36.80"N
100°40'14.34"W

SITE LOCATION
WIND FEASIBILITY

Project Name: SRST Wind Monitoring
Site Name: Tower 2
Period of Report: 01/18/2013 to 03/11/2014
Average Wind Speed: 16.54 mph

Wind Speed (mph)

Tower 2

SITE LOCATION

Tower 1
45°43'13.58"N
100°42'6.83"W

Tower 2
45°42'36.80"N
100°40'14.58"W
WIND FEASIBILITY

- PROBLEM: NEPA REQUIREMENTS/THPO CLEARANCE
- PROBLEM: TRANSMISSION
  - WE HAVE ENTERED INTO NDA WITH SEVERAL COMPUTER DATA CENTERS
    - SOLVES INTERCONNECTION PROBLEM
    - SATISFIES PUBLIC REVIEW (USE POWER LOCALLY)
    - POTENTIAL FOR JOB CREATION
COMMUNITY SOLAR PV INSTALLATION

- CURRENTLY IN PROCESS...
- COST SHARE STRUCTURE:
  - NEW LLC JOINTLY OWNED BY SRST & SUNVEST INVESTORS
  - SUNVEST SOLAR (THROUGH SUNVEST INVESTORS) CONTRIBUTES THE 50% COST SHARE TO THE PROJECTS, SO NO INITIAL COST SHARE BY SRST
  - TRIBE CONTRIBUTES DOE GRANT
  - SUNVEST INVESTORS QUALIFY FOR 30% FEDERAL INVESTMENT TAX CREDIT AND DEEPRECIATION OF SOLAR PV ASSETS
  - SUNVEST PROVIDES TRIBE CREDIT FOR VALUE OF INVESTMENT TAX CREDIT. BALANCE OF SYSTEM COST IS PAID OVERTIME BY SRST AT RATE AT OR BELOW EXISTING PAYMENTS TO UTILITY PROVIDER
COMMUNITY SOLAR PV INSTALLATION

- THE SRST WILL PARTNER WITH ND SOLAR INVESTMENTS, LLC TO INSTALL 636 KW OF SOLAR PHOTOVOLTAIC SYSTEMS AT FIVE SITTING BULL COLLEGE BUILDINGS IN SIOUX COUNTY ND.

- PROJECT WILL PROVIDE SOLAR POWER TO THE MAIN ADMINISTRATIVE & ACADEMIC BUILDINGS ON THE SITTING BULL COLLEGE CAMPUS
COMMUNITY SOLAR PV INSTALLATION

- PROJECT IMPACT:
  - REDUCE CARBON FOOTPRINT
  - BECOME MORE ENERGY INDEPENDENT
  - GAIN VALUABLE EDUCATIONAL BENEFITS FOR EVERY LEVEL OF SCHOOLS ON THE RESERVATION

- PROJECT GOALS:
  - TO DEPLOY CLEAN ENERGY AT A COMMUNITY SCALE ON SRST
COMMUNITY SOLAR PV INSTALLATION

- KEY TAKE AWAY
  - STRUCTURE OF DEAL IS DESIGNED TO MAXIMIZE DOE GRANT FUNDS TO DEPLOY MORE SOLAR PV THROUGH UTILIZATION OF GRANT FUNDS & PRIVATE TAX FINANCING TO MAKE RENEWABLE ENERGY MORE COST EFFECTIVE FOR SRST

- ELECTRIC OFFSET
  - 42.6% CLEAN ENERGY OFFSET OF ELECTRICAL CONSUMPTION AT THE SBC SITE
COMMUNITY SOLAR PV INSTALLATION

- POWER PURCHASE AGREEMENT
- AFTER SOLAR PV SYSTEM IS OPERATIONS, SAVINGS WILL BE PAID IN A PPA UNTIL THE BALANCE OF THE SYSTEM IS PAID FOR.
- AT THE END OF THE PPA TERM, THE OWNERSHIP OF THE SYSTEM WILL “FLIP” TO SRST
LESSONS LEARNED

- FRUSTRATION – DEVELOPING IN INDIAN COUNTRY…
- SURROUNDING WIND FARMS
- LOCAL BIA SRA FIELD OFFICE (LACK OF ENERGY EXPERIENCE)
- RENEWABLE ENERGY & ENERGY DEVELOPMENT OFFICE
- CREATION OF ENERGY & MINERAL MANAGER
- STRATEGIC PLANNING
ADDIITIONAL PROJECTS

- OCETI SAKOWIN POWER PROJECT
  - 7 COUNCIL FIRES
  - SRST, CRST, CROW CREEK SIOUX TRIBE, ROSEBUD SIOUX TRIBE, OGLALA SIOUX TRIBE, FLANDREAU SANTEE SIOUX TRIBE, SISSETON WAPEHTONSI 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
GRID ALTERNATIVES

- IN SUMMER OF 2017 INSTALLED A SOLAR PV SYSTEM AT A HOME IN FORT YATES ND
- SUMMER OF 2018 – PLAN ON INSTALLING SOLAR PV ON A COMMUNITY–TYPE BUILDING
GRID ALTERNATIVES
NEW ADMINISTRATION
  ◦ TO CONTINUE THE “NO DAPL, CLEAN WATER FIGHT”
  ◦ LOOK INTO FUNDING A SOLAR PV SYSTEM THAT WILL OFF-SET THE ELECTRIC USAGE AT SRST MR&I TREATMENTS SYSTEMS
ADMINISTRATIVE DIRECTIVES

- OIL & GAS PREPARATION WORKING GROUP
- NEW GRANT COMMITTEE (CFO, ADMINISTRATION, CONTRACTING…)
- ENERGY LEADERSHIP
“LET US PUT OUR MINDS TOGETHER TO SEE WHAT WE CAN BUILD FOR OUR CHILDREN.”

TATANKA IYOTAKE

HUNKPAPA LAKOTA MEDICINE MAN

SITTING BULL