Oxford Solar Project

Presented by
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Southern Ute Indian Tribe
Ignacio, Colorado
November 14th, 2016
Historic Ute Land

- Uintah
- Yampa
- Grand River
- Tabeguache
- Capote
- Weeminuche
- Mouache

Borders:
- Wyoming
- Colorado
- Utah
- New Mexico
- Ute Hunting Grounds
Southern Ute Statistics Today

- **Tribal Members**: 1,400+
- **Reservation**: 313,070 acres
  exterior: 681,306 acres
- **Unemployment**: 6%
- **Employment**: The Tribe is the largest employer in La Plata County with more than 1,300 employees.
Part of Tribe’s overall plan to diversify their businesses
   - Decision started the process in 2006
We have the solar resource
The technology started to become economical for our area
   - Solar costs dropped over 60% over last 5 years
Grant was critical to the project
Solar Feasibility Study

Conducted a broad study of solar energy options (2012-2013)

- **Goals**
  - Identify Lands and Buildings best suited for solar PV projects
  - Identify if Utility and/or Commercial scale solar is currently viable on the Reservation
  - Identify needed conditions for economically viable projects

- **High level analysis of solar energy opportunity within Reservation boundaries**
  - Utility Scale – wholesale energy, ground mount, greater than 1MW
  - Commercial Scale – net metered, roof mount, less than 1MW

- **Solar photovoltaic (PV) technology**
  - Low Technology Risk
  - Rapid Price Decline
  - Widely Deployed
**Solar Feasibility Study**

Identified most suitable areas for utility scale solar

- Utilized site based parameters that impact energy generation, development cost and/or development risk
  - Proximity to transmission infrastructure
  - Proximity to roads
  - Topography (slope, aspect and flood plains)
  - Solar resource
  - Land Ownership
  - Habitat for threatened and/or endangered species
  - Others

- Utilized GIS data and developed parameter weighted scoring methodology to compare sites (Solar Suitability Score)

- Collected data and mapped all Reservation lands

- Selected 8 most promising areas
GIS Based Solar Suitability

Project Location

Legend
- Areas of Interest
- Solar Suitability Scores
  - Red Areas More Suitable
  - 0 - 418
  - 419 - 461
  - 462 - 493
  - 494 - 518
  - 519 - 544
  - 545 - 584
  - 585 - 680

+ Tribal Boundary
Permitting/Land Access

- **Environmental**
  - NEPA - Eligible for a Categorical Exclusion due to early farming and ranching activity which disturbed the land

- **Geotech**
  - Utilized an outside contractor and took extra care in this evaluation

- **Land Lease and Rights of Way**
  - Right to use and access the land (e.g., Trust land)
  - Complexities
    - BIA water ditches
    - Private property
    - Utility rights of way and infrastructure
    - Oil and gas infrastructure
Utility Project Negotiations

Discussions included:

- **Interconnection Agreement**
  - Negotiated with local electric utility
  - Defines the terms under which the project can connect to the grid

- **Power Purchase Agreement**
  - Defines the rates the project will be paid for the energy provided to the buyer
SUIT Buildings that will Benefit from Project

Ten buildings will benefit from the energy produced:

(1) SUIT Growth Fund Building
(2) SunUte Community Center
(3) Animal Shelter
(4) Construction Services
(5) Construction Services Quonset
(6) Water Resources Building
(7) Education Area Building 1
(8) Education Area Building 2
(9) Southern Ute Education Center
(10) Food Distribution buildings.

These buildings were selected due to their location and ability to offset greater than 15% of fuel usage through electric savings alone. With a ground mount facility and an agreement with LPEA to credit the energy generated to the buildings the Tribe specifies.
Growth Fund Building

SunUte Community Center
Solar Project Overview

- Finalize Design (Summer of 2016)

- ~1,000kW ground-mount Photovoltaic (PV) project
- Interconnection near an underutilized substation
- Power sold to local utility
- Electricity generated equivalent to the usage of about 250 households
- $3M budget including $1.5M award from USDOE TEP/EERE - Community-Scale Clean Energy Projects in Indian Country
Solar Project Overview

Construction Started (Fall 2016)
Solar Project Overview

Underground Conduit

Pile Structures

Inverter Assembly
Solar Project Overview

- Energize and Test the Array
- Commission the System
- Commercial Operation
  (Estimated Spring 2017)
Questions?

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