



# **Southern Ute Community-Scale Solar Project**

**James Jensen**

**2015 Tribal Energy Program Review**

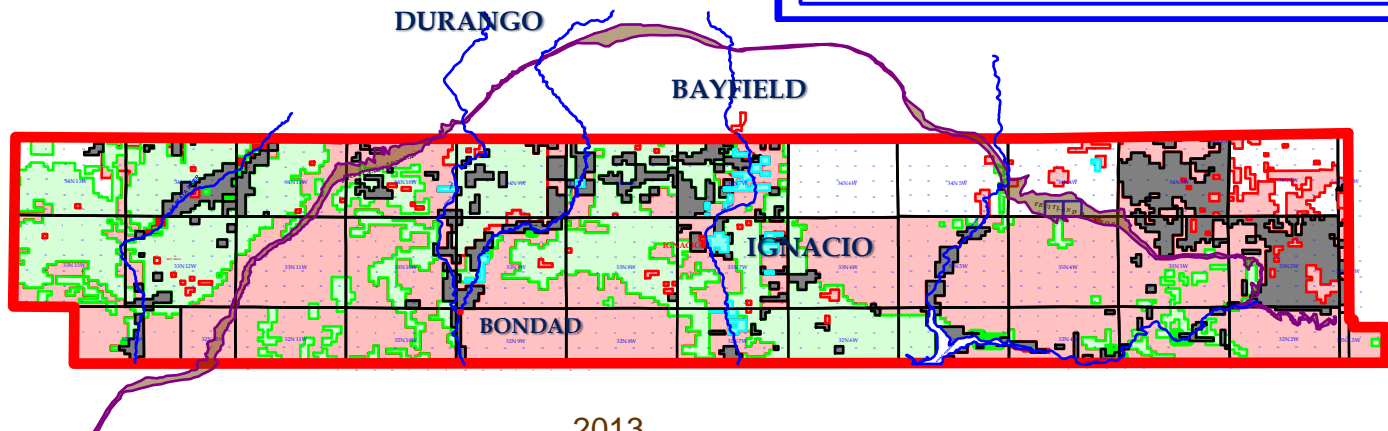
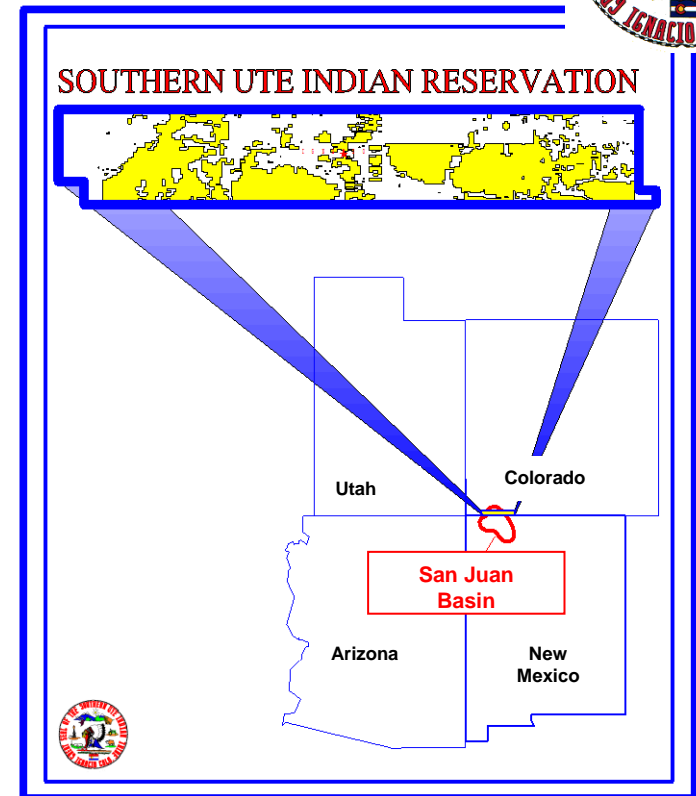
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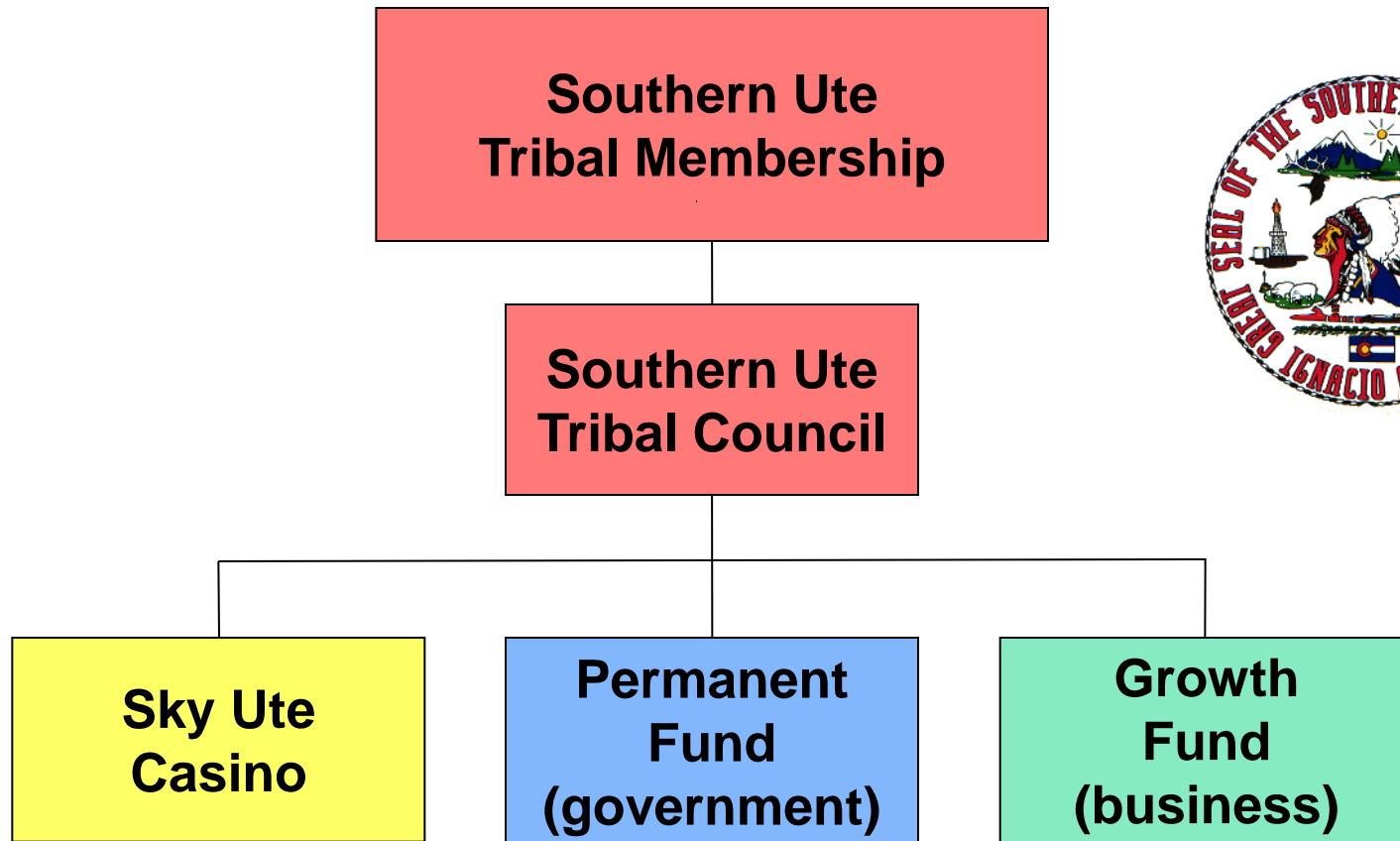
# Southern Ute Statistics Today



- **Tribal Members:** 1,400+
- **Reservation:** 313,070 acres  
exterior: 681,306 acres
- **Unemployment:** 5-7%
- **Employment:** The Tribe is the largest employer in La Plata County with more than 1,300 employees.



# Southern Ute Indian Tribe Organization



# Growth Fund Companies

## Energy

- Red Willow Production Co.
- Red Cedar Gathering Co.
- Aka Energy Group, LLC
- Southern Ute Alternative Energy, LLC

## GF Real Estate Group

- Regional Division - Tierra Group, LLC
- National Division - GF Properties Group, LLC

## Investment



- GF Private Equity Group, LLC

## Tribal Departments

- Department of Energy
- Southern Ute Utilities Division
- Sky Ute Fairgrounds



# Southern Ute Alternative Energy

- Southern Ute Alternative Energy is the Tribe's newest energy company. It was formed in early 2008 to invest in alternative and renewable energy.
  - Funds
  - Operating Companies
- Alternative Energy's objective is to focus on opportunities with
  - positive environmental impact
  - sound technologies
  - sound economics
- Primary areas of focus include:  Solar  Wind
- Alternative Energy is a for-profit business owned by the Tribe and designated to manage the DOE solar project for the Tribe.



# **Southern Ute Indian Tribe**

## **2. Solar Project Overview**



# Solar Project Overview

- 800-1,000kW ground mount PV project
- Interconnection at an underutilized substation
- Electricity generated offsets consumption at Tribal Buildings (Similar to a Solar Garden)
- \$3M budget including \$1.5M award from TEP/EERE - Community-Scale Clean Energy Projects in Indian Country





# Proposed Solar Project Location

Durango

Oxford Tract

Ignacio

SUIT Reservation Boundary

# Proposed Solar Project Location





# Solar Project Objectives

- Offset at least 15% of the fuel usage at the selected buildings
- Reduce energy costs for the Southern Ute Indian Tribe
- Increase Tribal energy security and build capacity of the Tribe to develop additional clean energy projects
- Improve sustainability and increase economic and environmental benefits to the Tribe through the development of a clean-energy operating business.



# Solar Project Participants



- Southern Ute Indian Tribe
  - Southern Ute Growth Fund (Southern Ute Alternative Energy)
  - Lands Division
  - Environmental Programs
  - Water Resources
  - Facilities & others
- US Department of Energy
  - Tribal Energy Program
  - Office of Indian Energy-START
  - NREL
- La Plata Electric Association
- EPC Contractor and various Subcontractors (tbd)

# **Southern Ute Indian Tribe**

## **3. Pre-Grant Development**

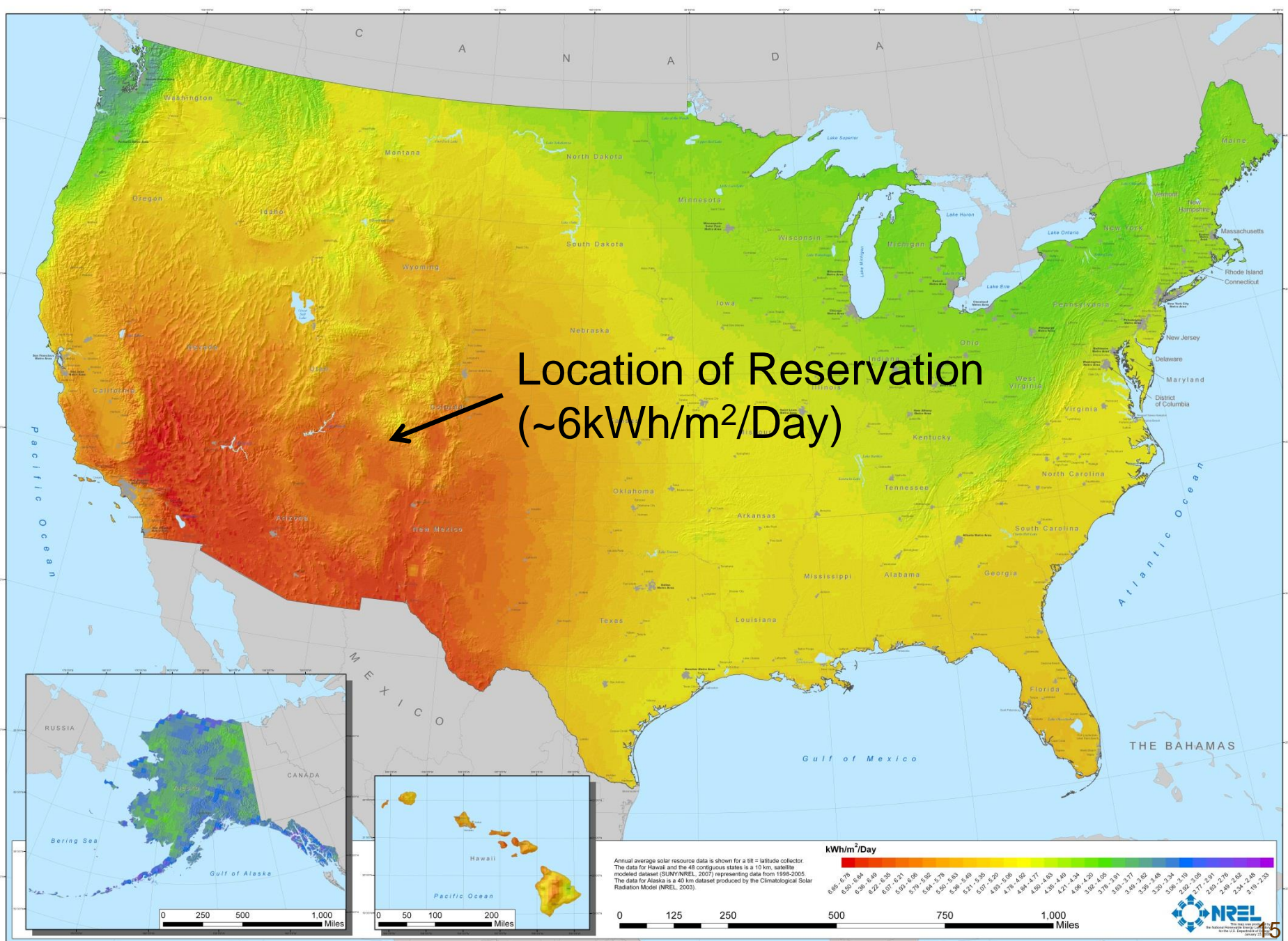
# Solar Feasibility Study

**SUAE conducted a broad study of solar energy options on the Reservation (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



# United States Photovoltaic Solar Resource : Flat Plate Tilted at Latitude



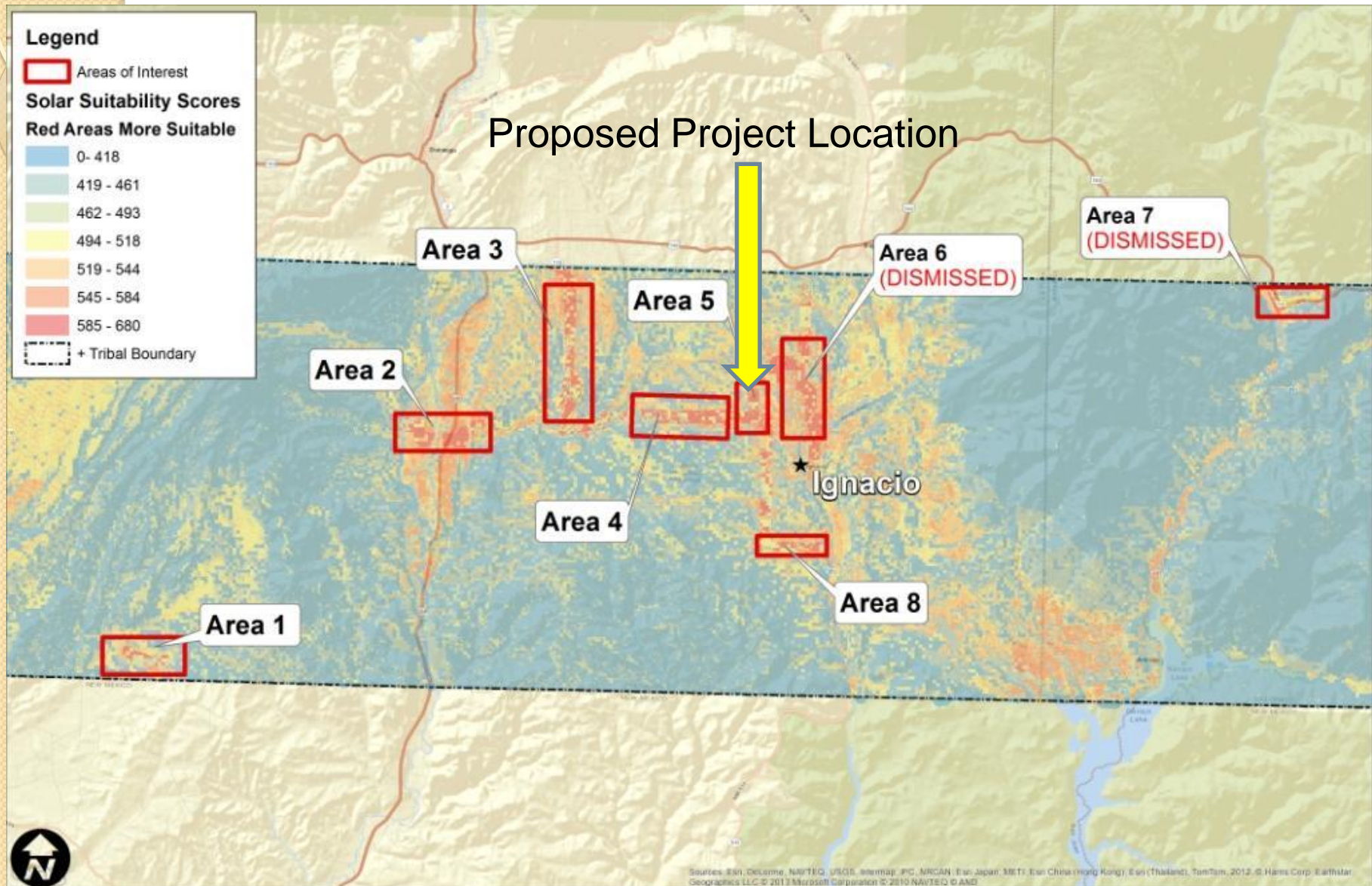
# Solar Feasibility Study

## 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



# Solar Feasibility Study Results

- Reservation has good locations and resource for utility-scale projects
  - Oxford Tract is the highest rated
- Utility-scale solar is not currently viable if energy sold locally
  - Tri-State offered \$52/MWh in 2013 for solar energy from Bodo Canyon project
- Continue to evaluate options to sell energy
  - Distant markets (Phoenix, Las Vegas) have higher prices but not viable due to other issues
    - Potential projects closer than our location
    - Transmission capacities and costs to distant markets are unknown
  - “Solar Garden” model a hybrid of utility and commercial models

# **Southern Ute Indian Tribe**

## **5. Post-Award Progress & Next Steps**



# Project Status - Accomplishments

- Archaeological and Biological Surveys complete and approved
- DOE has made the NEPA determination (Categorical Exclusion)
- Completed geotechnical survey
  - Revealed expansive soils (not unexpected)
- Identified and Surveyed Boundaries for Tribal Land Dedication
- Completed Visual Modeling of the Project
- Drafted RFP for EPC Contractor





# Project Status - Challenges

## Wheeling/Interconnection Agreement Timeline



# Project Status - Challenges

## Negotiating a Wheeling Agreement with Utility

- Utility staff turnover
- Tri-State contract
- Non-Discrimination

# Project Status - Challenges

## Negotiating a Wheeling Agreement with Utility

- Approach
  - Legal Precedent
    - *Devils Lake Sioux Indian Tribe v. North Dakota Pub. Service Commission*
    - *North Central Electric v. North Dakota Public Service Commission*
  - Limited Indemnification

## Next Steps

- Complete “Wheeling/Interconnection Agreements” with local electric utility (Early Summer 2015)
- Complete Tribal Land Dedication (Early Summer 2015)
- Issue RFP for EPC (Early Summer 2015)
- Select EPC ( Fall 2015)
- Finalize Design (Winter 2015/2016)
- Construction (Winter/Spring 2016)
- Commercial Operation (Late Spring 2016)
  - O&M contracted initially, then transitioning to Tribal Operation

# Southern Ute Indian Tribe

## Questions?

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