

Washoe Tribe



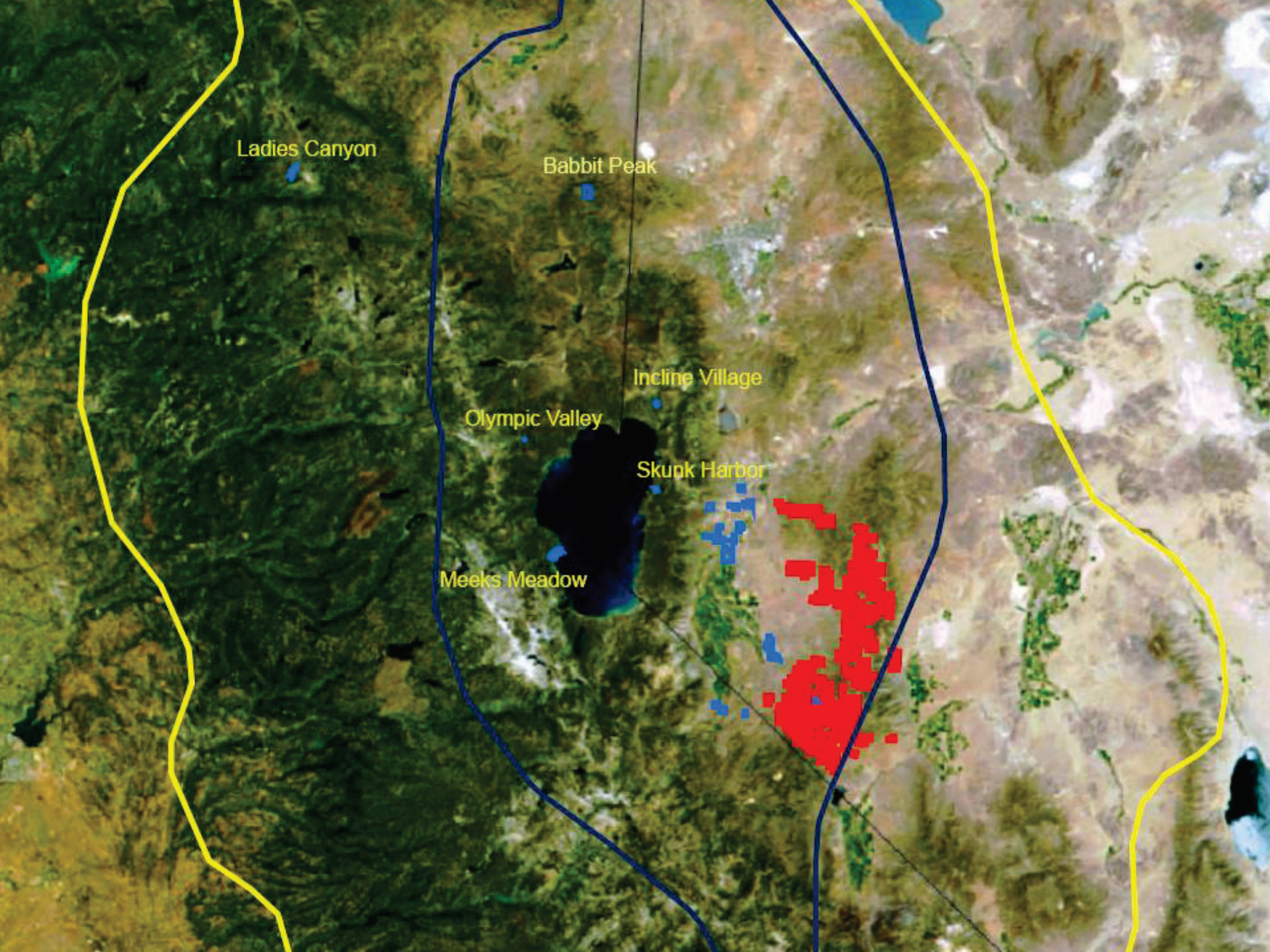
Alternative Energy Feasibility Study











Ladies Canyon

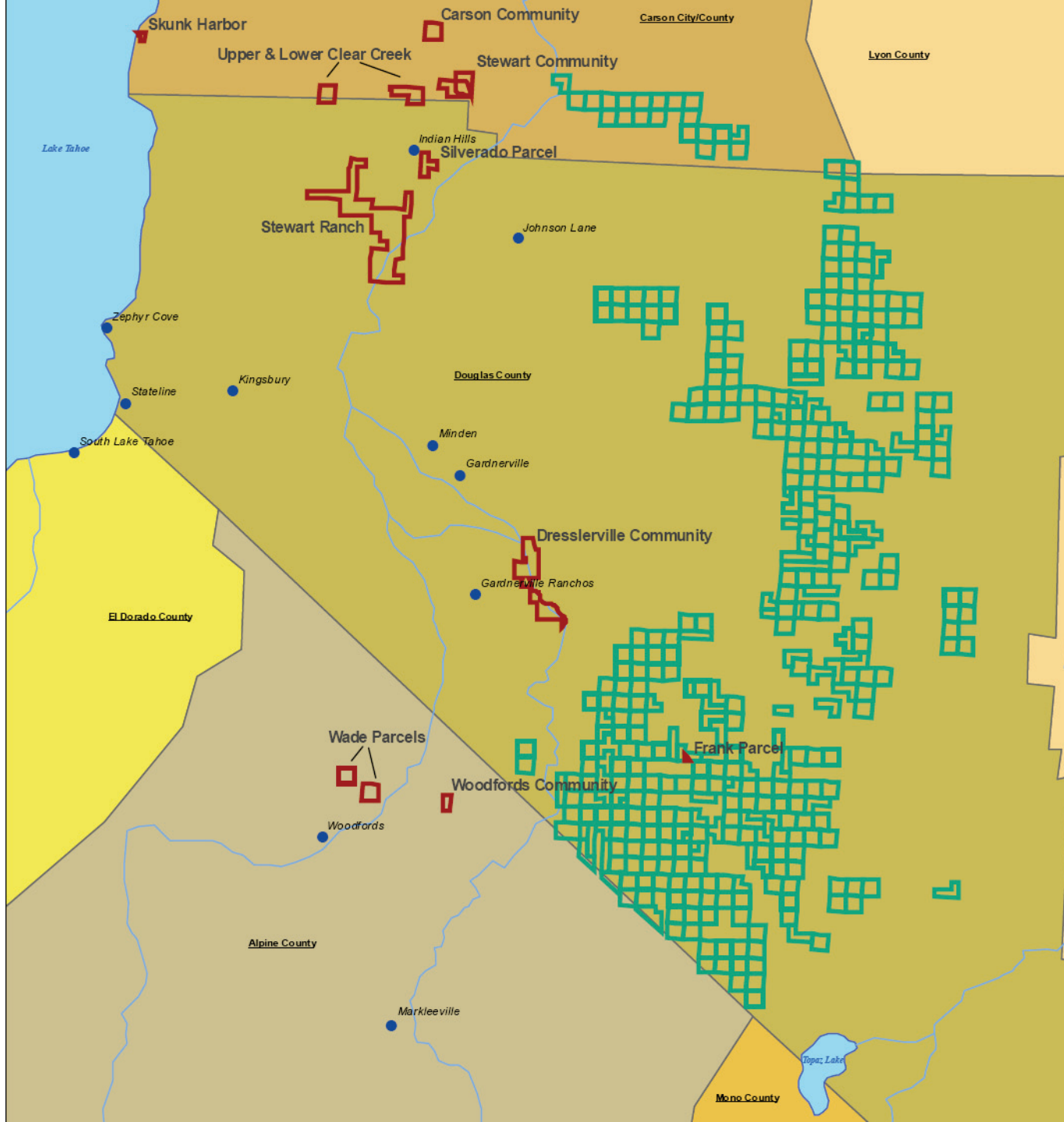
Babbit Peak

Incline Village

Olympic Valley

Skunk Harbor

Meeks Meadow



Washoe Tribe Parcels and Acreages

Parcel Name	Acres
Allotment #231	160
Babbit Peak	480
Carson Community	160
Dresslerville Community/Washoe Ranch	793.32
Frank Parcel	12.23
Heidtman Purchase	80
Incline Village	2.445
Ladies Canyon	145.45
Lower Clear Creek Parcel	229
Mica	0.91
Olympic Valley	2.79
Silverado	160
Skunk Harbor	24
Stewart Community	292
Stewart Ranch	2,098
Uhalde	38.948
Upper Clear Creek Parcel	157.14
Wade Parcels (Upper and Lower)	320
Woodfords Community	80
Total	5,236.23

Washoe Tribal Government

- The Washoe Tribe of Nevada and California is a federally recognized Indian Tribe organized pursuant to the Indian Reorganization Act of June 18, 1934 (48 Stat. 984), as amended.
- The Tribe is governed by a twelve-member, elected Tribal Council that includes two representatives from each of the four Community Councils, two off-reservation representatives, a Reno/Sparks Indian Colony representative, and a Tribal Chairman elected at-large. The Chairman and Washoe Tribal Council are elected to four-year terms.

Alternative Energy Task Force

- Tribal members
- Tribal leaders
- Staff representing various departments including:
 - Environmental
 - Housing
 - Finance
 - Grants
 - General Counsel
 - HeadStart
 - Planning
 - Economic Development
 - Administration
 - Ranch Operations

The Washoe Tribe's Energy Vision

- To guarantee the availability of affordable and reliable energy to all its members;
- To further the Tribe's goals for self-sufficiency and self-determination through empowerment in the Tribe's energy interests;
- To reduce the environmental impact of the Tribe's energy consumption;
- To promote conservation and efficient use of energy;
- To produce all of the Tribe's energy needs through renewable sources by 2025;
- And contribute to the Washoe Tribe's local economy consistent with the Tribe's overall mission which is "To achieve and ensure the integrity of an environment and way of life that is one with nature's elements, community, traditions, and values that promote health and wellness for future generations."

Washoe Tribe Economic Development

- Smoke Shops
- Chevron Gas Station
- Car Wash
- Meeks Bay Resort
- Cattle Raising

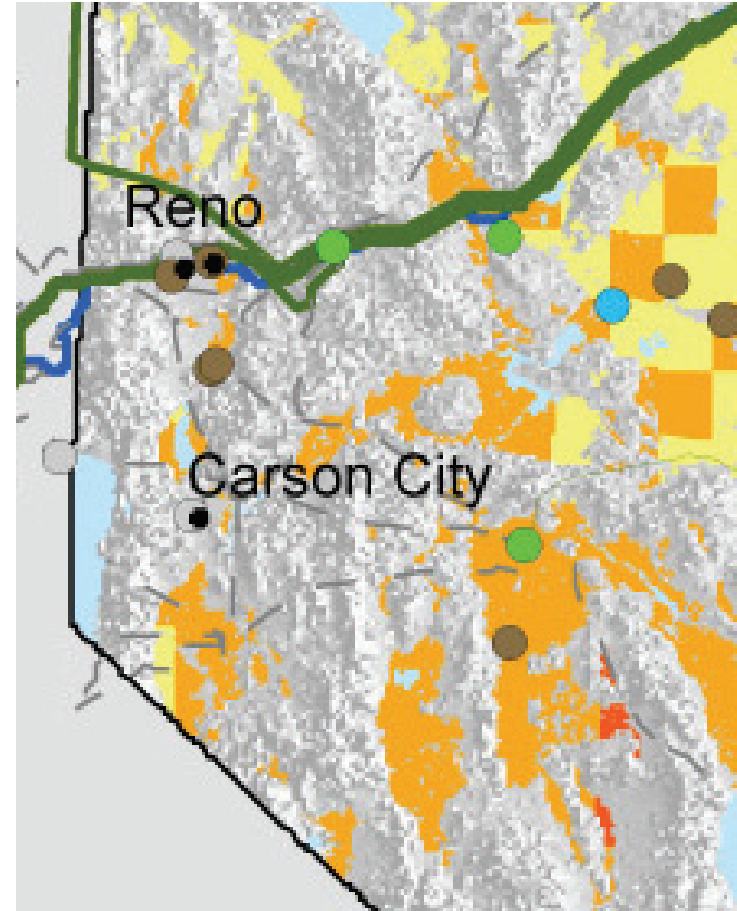


Alternative Energy Resources in Nevada

- Solar
- Wind
- Geothermal
- Hydropower
- Woody Biomass
- Biofuels

Solar

- **Number of Clear or Partly Cloudy Days:**
251
- **Number of Cloudy Days:**
114
- **Average Solar Resources:**
6.5-7.0 kWh/m²/day

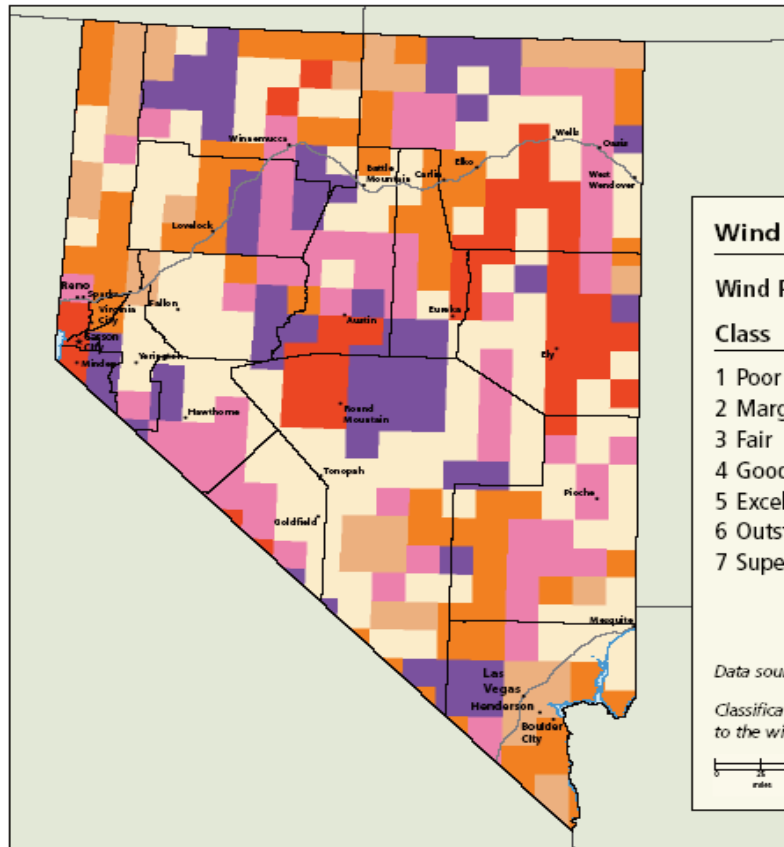


From NCDC at NOAA. Map from NREL.

Wind



Wind



While Nevada has yet to tap into its favorable wind resource, several new projects are planned. One facility proposed for the former Nevada Test Site could consist of up to 550 wind turbines.

Nevada's windy lands suitable for development total nearly 900,000 acres.

Electricity Generation Potential:
55 million MWh/yr.

Wind Power at 50 Meters

Wind Power Density

Class	W/m ²
1 Poor	0–200
2 Marginal	200–300
3 Fair	300–400
4 Good	400–500
5 Excellent	500–600
6 Outstanding	600–800
7 Superb	> 800

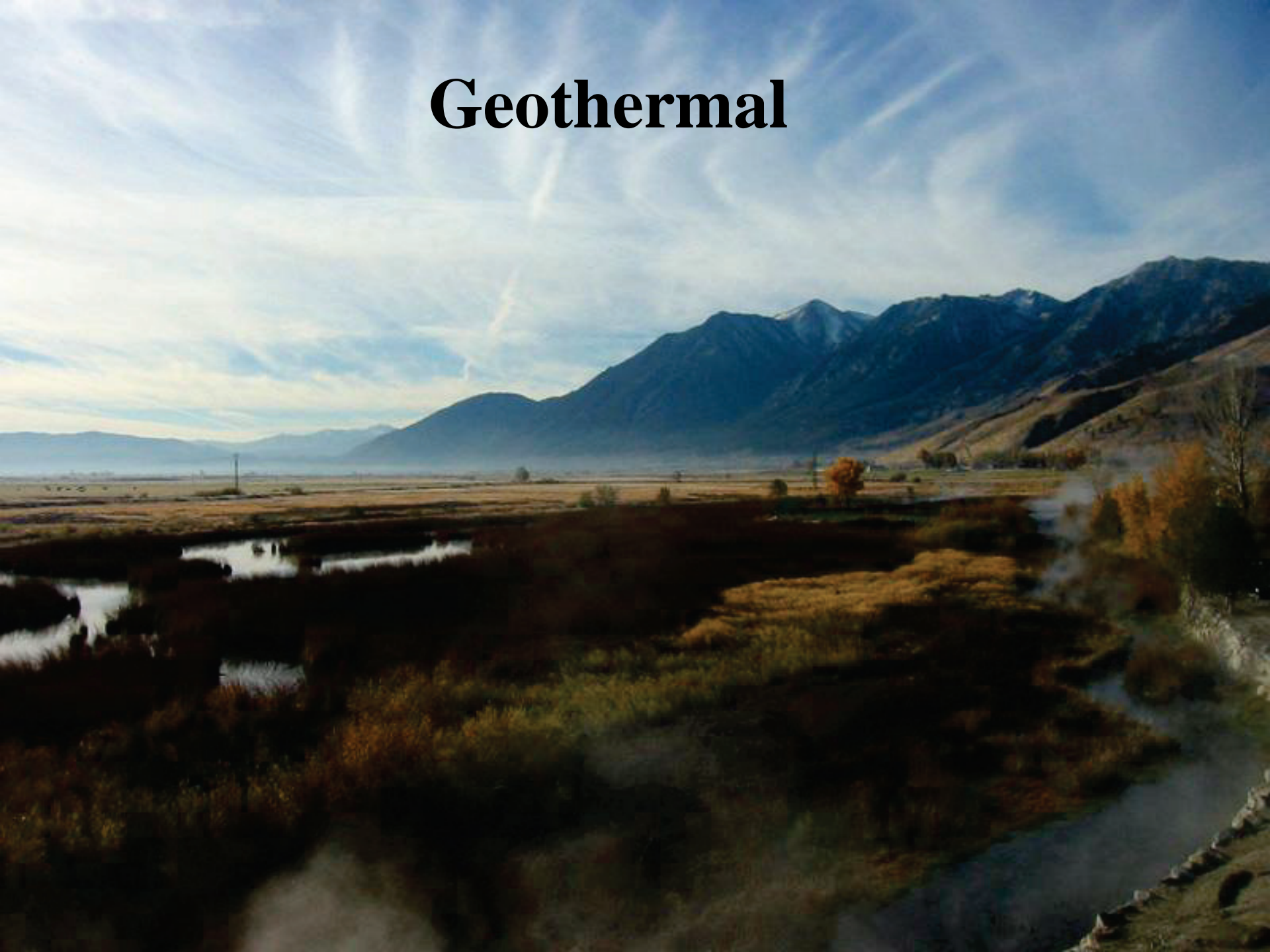
— County
— Interstate

Data source: Pacific Northwest Laboratory 1987

Classification applies only to areas well-exposed to the wind (ridgetops and open plains).

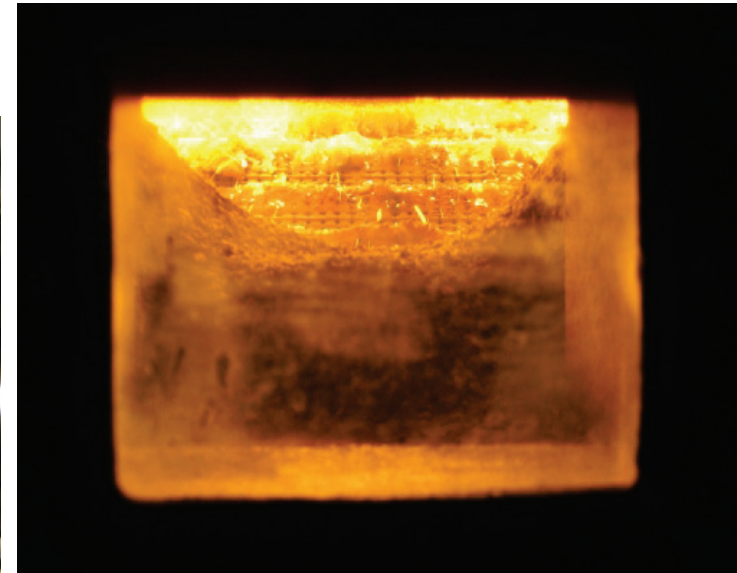
0 10 20 miles

Geothermal



Woody Biomass

Carson Correctional Center Steam Generator



Inside the Incinerator

Biofuel

Bently Biofuels Company is located in the Carson Valley. Bently produces biodiesel from seed oils and recycled restaurant grease. In combination with Bently Agrowdynamics, they also plant canola to harvest the seed for supplementing the recycled oil in the production of biodiesel. The Washoe Tribe may be able to partner with them



The main goal of the proposed feasibility project:

To create a Comprehensive Final Report based on the feasibility study that determines which alternative energy resource has the greatest return per dollar on Washoe land and concludes if a large-scale alternative energy project is an economically viable alternative for the Washoe Tribe to invest in given current technology while respecting cultural and environmental values.

Phase I

- 1) Project oversight and administration
- 2) Training staff
- 3) Preparing deliverables
- 4) Working with Subaward/Consultants
- 5) Tracking completion of activities, tasks and milestones

Phase II

- 1) Researching all opportunities available to work with other organizations, local governments and agencies and use their data
- 2) Continued meetings of the Alternative Energy Task Force
- 3) Working with NVEnergy to discuss transmission lines and a potential power-purchase agreement, estimate a gross income calculation and determine possible load capacity demand
- 4) Collaborating with DOE, EPA, NREL, surrounding counties, BLM and US Forest Service (USFS), the State of Nevada, the University of Nevada Reno (UNR), Desert Research Institute (DRI) and US Geological Survey regarding alternative energy goals, available data, surveying equipment and anemometer loans
- 5) Meeting with staff from Carson City's Biomass Plant to discuss their demand for biomass
- 6) Meeting with Bently Biofuels Plant to discuss biofuels capabilities
- 7) Posting information in Tribal newsletters and the website and in Tribal Council Reports to inform Tribal members of project activities
- 8) Calculating Tribal energy demand of administrative, commercial and residential buildings on Tribal land

Phase III

- 1) Evaluating the number of heating and cooling days to determine where the primary emphasis should be
- 2) Collecting all available information including alternative energy resource maps from DOE, BLM, USFS, the State of Nevada, UNR, DRI and USGS related to solar, wind, geothermal, biomass, and biofuel production in Northern NV
- 3) Applying for anemometer loans
- 4) Overlaying resource maps with maps of Washoe Tribal Land
- 5) Reviewing all collected information and identifying data gaps that require additional data from the field
- 6) Identifying best drilling locations

Phase IV

- 1) Performing environmental assessment and cultural resource surveys for all data collection sites as needed including anemometer, SODAR, pyrometer and geothermal test well locations
- 2) Installing anemometers using laser surveying devices and collecting data
- 3) Renting, installing and collecting wind gust data from SOnic Detection And Ranging (SODAR) unit
- 4) Work with UNR on geothermal test drilling
- 5) Using pyrometer to confirm existing solar data

SODAR

(**S**onic **D**etection **A**nd **R**anging)

Most SODAR systems operate by issuing an acoustic pulse and then listen for the return signal for a short period of time. Generally, both the **intensity** and the **Doppler** (frequency) shift of the return signal are analyzed to determine the wind speed, wind direction and turbulent character of the atmosphere.



Phase V

- 1) Organizing all of the data collected
- 2) Analyzing all of the data collected
- 3) Writing a Comprehensive Final Feasibility Report
- 4) Presenting the completed Comprehensive Final Feasibility Report to Washoe Tribal Council and the Department of Energy

Contact Information

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