



Taos Pueblo Renewable Energy Feasibility Study

Taos, New Mexico
2004-2006

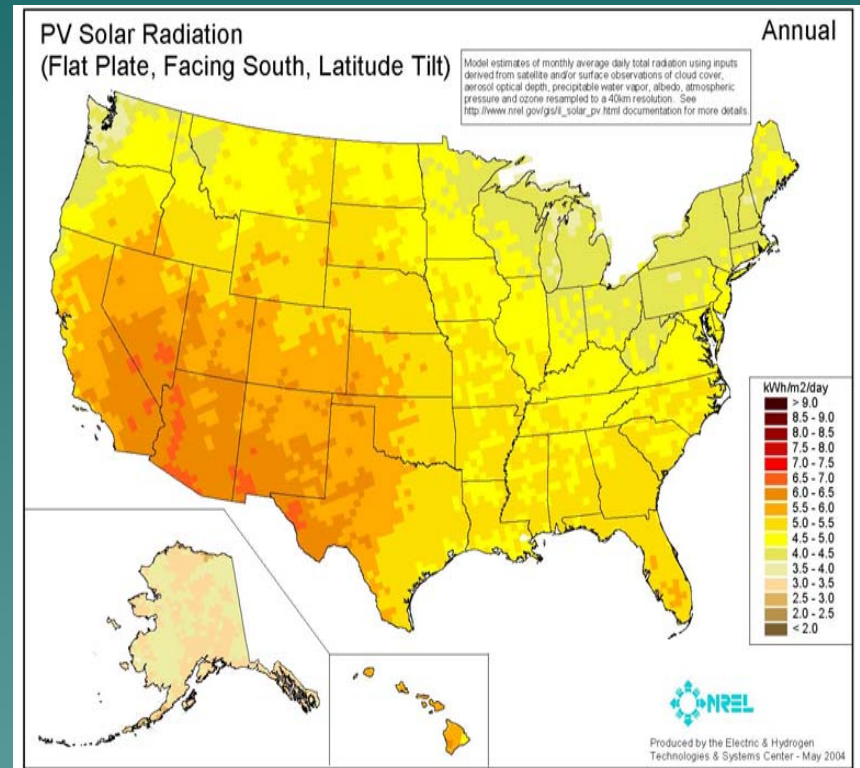
A stylized silhouette of a mountain range in a teal color, located in the bottom right corner of the slide.

Scope of Study

- ◆ Solar
 - ◆ Wind
 - ◆ Biomass
 - ◆ Hydro
 - ◆ Tribal Council review
 - ◆ Business plan development
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- A decorative graphic at the bottom of the slide showing a silhouette of a mountain range in shades of teal, extending from the right side towards the center.

Solar

◆ New Mexico
sunshine
abundant
even in
winter



Solar

- ◆ Demonstration Projects:
rock- storage system and pv-
powered pump supplying
irrigation
- ◆ New housing- passive-solar
design and solar hot water.
- ◆ PV powered buffalo water
tank

Attached Solar Greenhouse



Wind

- ◆ Commercial grade wind sites are on mountain ridges -scenic and cultural issues



Small-scale wind

- ◆ Good seasonal wind resources in open rangeland
- ◆ Pump water for buffalo and cattle
- ◆ Off-grid Residential



Subterranean heating and cooling system

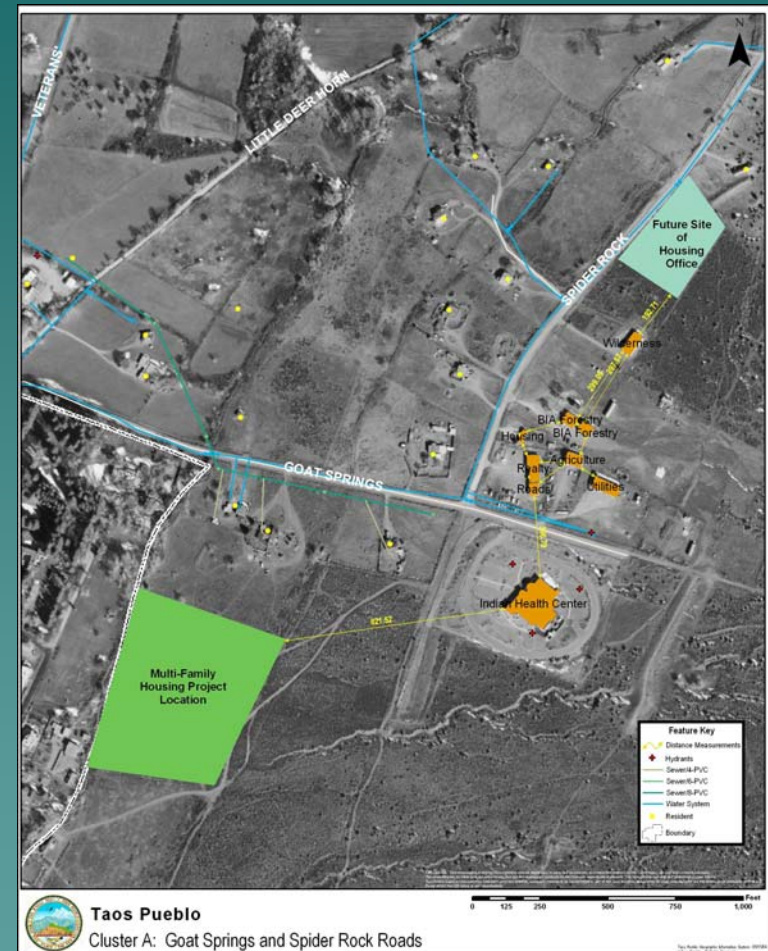




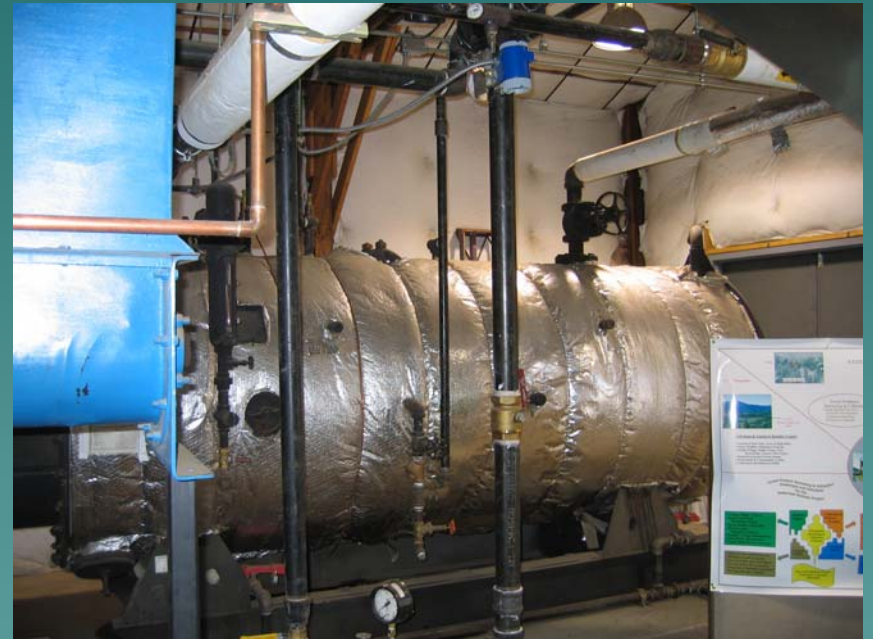


Biomass

- ◆ Preliminary engineering plans for district heat and power system by BioEnergy Corporation
- ◆ Manual fired Garn system for Red Willow Center and greenhouses



Biomass System



Biodiesel Crops



Biodiesel Crops

- ◆ Can be used as rotation crop
- ◆ Oilseed can be processed at planned processing plant in nearby area
- ◆ Algae ponds

Hydroelectric



Irrigation Pipes with 650' Elevation Change



Generation Potential

- ◆ Use of irrigation pipes as penstocks can generate 60% of electrical load
- ◆ 100% of electrical load can be supplied with additional run-of-river installations with less than 20% of stream-flow diversion.

Promising Results

- ◆ Wood-fired district heating systems can enable new businesses such as commercial greenhouses, and lower energy bills for existing and planned buildings.
- ◆ Hydro electric generation can create energy sovereignty.
- ◆ Off-grid land assignments can be used without power line extensions .

