STATE OF CALIFORNIA
SIERRA NEVADA CONSERVANCY

Sierra Nevada Conservancy Grant Program Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Proposition 84)

Applicant:	**City of Alturas**
Project Title:	**Pre-Engineering Study/ Biomass Heating**
Subregion:	**North**
County:	**Modoc**
SNC Funding:	**$75,000**
Total Project Cost:	**$81,800**
Application Number:	**579**
Final Score:	**82**

PROJECT SCOPE

The project would provide a pre-engineering study for a biomass-fueled district heating system in support of the Forest Health Sage Steppe restoration project on the National Forest to include**:** 1) A preliminary design of the biomass heat generation facility for district wide heating, 2) A preliminary design of a heating district distribution system with utilization of existing infrastructure, 3) A fuel cost comparison study for customer conversion, 4) Design alternatives to incorporate the use of combined biomass heat and power generation and existing geothermal wells to augment the district heating system, and 5) Identification of overall project needs for phased development: financing requirements for construction and operation, project schedule requirements, permits and licenses, safety plans, development of supplier and customer contracts, recommended ownership and management structure, initial operation and management plan requirements.

Local utilization of biomass is a key strategy in the Modoc Forest Collaborative Landscape Restoration Project Proposal for implementation of the Sage Steppe Project. (see Letters of Support BLM/USFS). The Modoc Forest and the Modoc area Bureau of Land Management and local and regional collaborators completed a nine-year planning process (FEIS) for juniper management and habitat improvement on the four million acre Sage Steppe ecosystem of dry coniferous forest lands, juniper woodlands, and sage steppe habitat. Key habitat for the sage grouse, degraded by an incursion of juniper, is currently under threat of high intensity fire. Approximately 200,000 acres of the dry forest within the Modoc National Forest project area are at significant risk of volume loss due to pests and disease over the next 15 years. (FEIS) Forest thinning, juniper removal, and fuels reduction are key forest health strategies identified in the FEIS.

The local biomass working group identified biomass thermal as the most accessible use of forest biomass in the near term. This project strategically provides the foundation of a campus for in-county energy production, and value-added processing. The build-out plan includes clustered development on the heating facility site to include combined heat and power generation, densified wood products (pellets and bricks), and other value-added products as appropriate.

Over stocked forest stands have decreased water yield, impacting flows and fisheries in both the Klamath and Sacramento drainages and into the great Basin. There is a reduction in hydrologic values due to reduction of ground cover (shrubs and grasses) and increases in erosion caused by increased juniper density. Some of the streams in the project area are impaired by excess sediment and runoff that cause physical stream channel changes, which in turn increase water temperature and decrease fish habitat. (FEIS) Juniper reduction is a key strategy to improve water quality and quantity. Having an economically feasible use of the biomass to be removed will allow more area to be treated, contributing to environmental, economic and social well-being of the community.

PROJECT SCHEDULE

DETAILED PROJECT DELIVERABLES	TIMELINE
Prepare Solicitation for consultant engineer	September 2012
Select consultant engineer	October 2012
Review engineer report/recommendations	April 2013
Six Month Progress Report	April 2013
Present to City Council with recommendations	June 2013
Initiate Phase II	August 2013
Six Month Progress Report	October 2013
FINAL PAYMENT/FINAL PAYMENT REQUEST	**December 2013**

PROJECT COSTS

PROJECT BUDGET CATEGORIES	TOTAL SNC FUNDING
Project Management Costs	$ 7,500
Pre-Engineering Study	$51,500
Reports/ Public Outreach	$6,300
Administrative Costs	$9,700
GRAND TOTAL	**$75,000**

PROJECT SUPPORT/OPPOSITION LETTERS

- Modoc National Forest
- Modoc Area Bureau of Land Management
- Local business- Baird
- Local business-Niles Hotel
- County of Modoc
- Modoc Land Use Committee
- Modoc Transportation Agency
- The Watershed Center

PROJECT PERFORMANCE MEASURES

Required to include between one and three project-specific measures. Performance Measures listed here represent those proposed by applicants and may be modified through further discussion with SNC staff.

Performance Measures—Key Performance Measure
Percent of pre-project or planning effort resulting in plan implementation.
Data: Progress reported annually for three years following completion of grant.

Additional performance measures one to three years after project completion

1. **Kilowatt equivalent of renewable energy developed and produced**
   Data: Engineering data from schematics
   Billing Data from City of Alturas to agencies and private property owners

2. **Resources leveraged**
   Data: Cash and in-kind collected by project manager
   Financial agreements for construction
   Biomass delivery contract dollar amount

3. **Number and type of jobs created**
   Data: Employee roster from City of Alturas
   Tracking by private businesses
   Extrapolation based upon biomass delivery contracts to district heating facility

4. **Number and value of new, improved, or preserved economic activities**