

## Louden Tribal Council Renewable Energy

|                          |   |
|--------------------------|---|
| <b>Grantees</b>          | City of Galena (Local Government), Louden Tribal Council (Local Government) |
| <b>Technology Type</b>   | BIOMASS   |
| <b>Region</b>            | Yukon-Koyukuk/Upper Tanana  |
| <b>AEDG Project Code</b> | 10220   |

### REF Grants Received

| Round | App  | Grant Title                          | Grant # | AEA Project # | Phase        | Start Date | End Date | Status |
|-------|------|--------------------------------------|---------|---------------|--------------|------------|----------|--------|
| 4     | 608  | Renewable Energy Feasibility Study   | 7040047 | 402112        | Feasibility  | 7/1/11     | 12/31/12 | Closed |
| 6     | 927  | Galena Community Wood Heat Project   | 7060927 | 402125        | Construction | 7/1/13     | 12/31/15 | Active |
| 7     | 1047 | Galena Community Wood Heat Project 2 | 7071047 | 402125        |              | 7/1/14     |          | Active |

### Grant 7040047: Renewable Energy Feasibility Study

**Project Scope:** This project will deliver a feasibility study and conceptual design for a district heating system for the City of Galena. This study will include a comprehensive forest inventory and forest management plan for the areas surrounding the community of Galena.

The original grant application requested funding for feasibility and conceptual design for a biomass combined heat and power system, pending the outcome of a reconnaissance study performed by WH Pacific. The study identified no CHP technology that is ready for commercialization, but identified opportunities for biomass heating systems. Understanding the sustainable harvest levels of biomass is the first step to developing a biomass heating system.

The feasibility/conceptual design will include a community heat load audit and potential technology for district heating systems. It will also consider utilizing additional recovered heat from the Galena Power Plant. The forest inventory and management plan will include an assessment of land ownership, species, quantity available for a sustainable harvest, and potential harvest methods of biomass. The study will result in estimated quantities and delivered costs of biomass to a potential system.

**Project Status:** The project is complete and grant is closed.

| As of Nov. 30, 2013        | Budget             | Expenditures       |
|----------------------------|--------------------|--------------------|
| Renewable Energy Funding   | \$89,628.04        | \$89,628.04        |
| Other State Funding        | \$0.00             | \$0.00             |
| <b>Total State</b>         | <b>\$89,628.04</b> | <b>\$89,628.04</b> |
| Required Local Match       | \$0.00             | \$0.00             |
| Federal Grant Funding      | \$0.00             | \$0.00             |
| <b>Total Project Costs</b> | <b>\$89,628.04</b> | <b>\$89,628.04</b> |

### Grant 7060927: Galena Community Wood Heat Project

**Project Scope:** The City of Galena will use this grant to fund the design of chip-fired boiler systems to heat its school district and the Galena Interior Learning Academy School (GILA) with local woody resources. The City of Galena will employ contractors to complete the identified tasks. AEA requests deliverables at various points during the design and construction process.

This project is estimated to displace a total of 230,000 gallons per year of fuel oil, using an estimated 2,950 green tons of chips per year (40% moisture content). The technical feasibility phase of this project is complete, but the harvest/fuel inventory plans are in process.

The application includes substantial support for the project from the community, the Louden Tribal Council, Galena City School District, and Gana-A'Yoo Limited.

**Project Status:** The Conceptual Design report has been accepted and the final design is in progress.

| <b>As of Nov. 30, 2013</b> | <b>Budget</b>       | <b>Expenditures</b> |
|----------------------------|---------------------|---------------------|
| Renewable Energy Funding   | \$317,788.00        | \$75,744.60         |
| Other State Funding        | \$0.00              | \$0.00              |
| <b>Total State</b>         | <b>\$317,788.00</b> | <b>\$75,744.60</b>  |
| Required Local Match       | \$41,458.00         | \$28,680.00         |
| Federal Grant Funding      | \$0.00              | \$0.00              |
| <b>Total Project Costs</b> | <b>\$359,246.00</b> | <b>\$104,424.60</b> |

**Grant 7071047: Galena Community Wood Heat Project 2**

**Project Scope:** This project will fund the construction of the biomass fueled district heating loop at the Galena Interior Learning Academy. This project is estimated to displace a total of 230,000 gallons per year of fuel oil, using an estimated 2,950 green tons of chips per year (40% moisture content).

**Project Status:** The final design of this project is in progress through a Round 6 Renewable Energy Fund grant. The construction grant will be issued when the final design is accepted. The community is completing the harvest for the first year of operation.

| <b>As of Nov. 30, 2013</b> | <b>Budget</b>         | <b>Expenditures</b> |
|----------------------------|-----------------------|---------------------|
| Renewable Energy Funding   | \$3,096,900.00        | \$0.00              |
| Other State Funding        | \$0.00                | \$0.00              |
| <b>Total State</b>         | <b>\$3,096,900.00</b> | <b>\$0.00</b>       |
| Required Local Match       | \$0.00                | \$0.00              |
| Federal Grant Funding      | \$0.00                | \$0.00              |
| <b>Total Project Costs</b> | <b>\$3,096,900.00</b> | <b>\$0.00</b>       |