Galena Biomass Project
Local Civic Groups and Partnerships

Louden Tribal Council—
   Non-Profit Federally Recognized Tribal Government. Coextensive with the City, approximately 800 members.

City of Galena--
   First Class City located on the Yukon river about 300 miles west of Fairbanks.

Galena City School District—
   Sidney C Huntington School (the City School), approximately 80 students.
   Galena Interior Learning Academy (GILA), HS level boarding school on the former AFB, approximately 250 students.
   Interior Distance Learning Academy (IDEA) home-schooling system, approximately 4000 students.
The Learning Curve

--- Studies and Reports ---

- Dalson Energy – Feasibility Study
- Clare Doig – Updated Gana-A ‘Yoo Forest Stewardship Plan
- Ken Stumpf – Forest Inventory of Galena Working Circle
- Greg Koontz – Utilidor Assessment
- Dalson Energy & Grey Stassel Engineering – Conceptual Design (30%)
Partnerships and Contracts

• The City, the school, and the Tribe got together to form SEGA. The City and the school each provided $100,000 to SEGA for incorporating as the fuel harvest entity.

• SEGA is owned and directed by the members.

• Contracts all around—
  • SEGA contract with the school to provide wood fuel
  • SEGA with the City to operate the heating system
  • City with school to provide heat, water, power
  • SEGA with Gana-A’Yoo to purchase trees in place
The 2016 Construction Season—Get ‘er done before school starts

- Coffman Engineering – Conceptual Design (65%) and Final Design
- Stanton Construction – Installed heat distribution and new domestic water line
- Mantech – Converted existing diesel boilers for hot-water/glycol, installed 4.5 MMBtu Messersmith burn-box with Hurst Boiler and performed several additional support tasks
Wood Fuel Supply

Sustainable Energy for Galena, Alaska – Organized in Fall 2014

• Training & Pilot Harvest (Winter 2015-16)

• Timber Harvest & Chip Processing (Winter 2016-17)

• Timber Harvest & Chip Processing (Winter 2017-18)
Operations

Equipment

• Hitachi ZX200 with Waratah 622B processor head.
Operations

Equipment

• Hitachi ZX200 with Waratah 622B processor head.
Operations
Operations

Equipment

• John Deere 748G-III Skidder
Operations
Operations

[Image of a forested area with a truck and logs on a snowy road]
Operations
Chipping
Bulk Chip Storage
Day Bin
Harvest Operations

Timber Harvest

• Three harvest seasons completed

• ~700-800 cords harvested annually.

• Approximately 1.25-1.75 years ahead of heat requirement.
Results

Est. 19 billion Btu Heat Requirement (Input)

- 2016-17 Heating Season
  - 60k g used
  - 421 cords used (75k g displaced)
    - Biomass on-line Dec ‘16

- 2017-18 Heating Season (Aug – Apr 1)
  - 40.6k g used
  - 636 cords used (115k g displaced)