



# SULLIVAN COUNTY, PA SCHOOL DISTRICT BIOMASS DISTRICT HEATING PROJECT



The Sullivan County School District’s biomass district energy system supplies heating and hot water for the Elementary School, High School, and new Administrative Offices. The system replaces over 95% of the fuel oil used at the facility and consists of a state-of-the-art, renewable energy plant where hot water is generated from locally sourced woody biomass. The hot water is piped to the High School and then distributed to the Elementary School and Administrative Offices.

The biomass system equipment includes a fully automatic fuel handling system that feeds a 2.8 mmBtu/hr advanced biomass combustion (gasification) unit and hot water boiler provided by AFS Energy Systems of Lemoyne, PA. The hot water boiler charges a 3,000 gallon hot water thermal storage tank that helps the system meet instantaneous peak demands without using oil.

The project meets local, state, and federal goals for rural economic development and creation of green jobs centered on renewable energy. The project keeps dollars spent on energy within the local economy, helping to create jobs within the local forest products industry and reducing the County’s dependence on foreign oil. The biomass system provides environmental benefits including a net reduction in greenhouse gas emissions. The project employs sophisticated combustion controls and thermal storage to ensure efficient operation, and effectively eliminates 960 lbs/year of sulfur dioxide emissions from fuel oil combustion.

The biomass system is providing the County taxpayers with substantial energy savings. Implementation of the biomass system reduces the District’s annual cost for heating by \$115,000. The project has a total cost of \$1.65 million with project funding provided by a combination of the Pennsylvania Energy Development Authority (\$630,000 grant), PA DCED Alternative and Clean Energy Program (\$250,000 grant and a 1% 10-yr loan), USDA Northeastern Area State and Private Forestry (\$200,000 grant) and the Appalachian Regional Commission (\$55,000 grant). The USFS Wood Education and Resource Center provided the initial feasibility study for the project, which allowed the owner to pursue project implementation.

## PROJECT AT A GLANCE

**Project Cost: \$1.65 million**

**Grant Dollars:**

- PA EDA grant \$630,000
- PA DCED grant \$250,000
- USDA grant \$200,000
- ARC grant \$55,000

**Project Savings: \$140,000 annual energy savings**

**Energy Profile (annual):**

- Replace 52,000 gal fuel oil /year (95%)
- 525 mtCO2/yr net carbon offset
- 2.8 mmBtu/hr wood chip boiler
- 800 tons wood chips /year

