Edwards-Knox Central School District

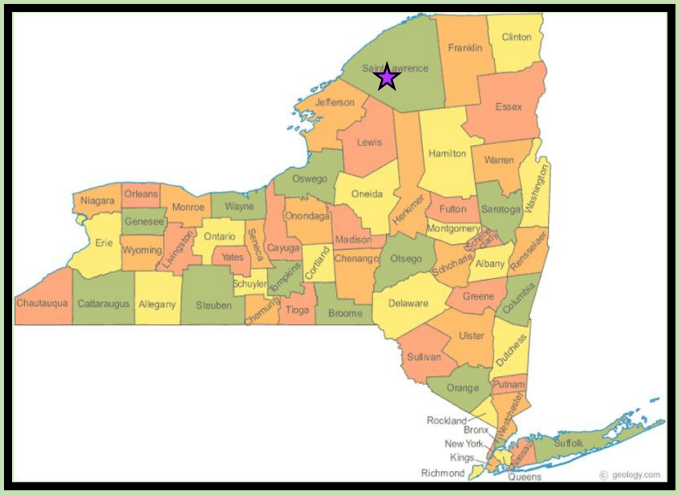
Credit: Edwards-Knox Central School Alumni

In 2009, a Hurst wood chip boiler system was installed for Edwards-Knox Central School District; one of the first public schools to heat with biomass in New York State. The wood chips burned provide heat to the school building (K-12) and to the bus garage. Since the district was able to put in an early proposal, the project was almost fully funded by the school's building aid. After switching from fuel oil to biomass, $197,870.45 was saved during the last winter season of 2013-2014. The new heating system does not require additional staff and little maintenance (a daily routine check) is needed by the custodial staff.

"We were lucky to get our project in early and were almost completely funded by our school building aid."

-Albert Daniels, Director of Custodial Services at Edwards-Knox Central School District

Location: Russell, NY



Key Facts:

- Edwards-Knox Central School District
- Manufacturer: Hurst Boiler Co.
- System Size: 6.0 mmBtu/hr
- Wood Fuel Type: Wood chips
- Annual Wood Fuel Use: 950-1200 tons
- Backup Fuel: Oil
- Annual Cost Savings: Approx. $197,000
- Project Cost: Approx. $1.9 million

Before installing a biomass heating system, fuel oil was used as the primary fuel type at Edwards-Knox Central School. 31.8 lbs. of wood chips at approximately 30% moisture contains about the same amount of energy as one gallon of fuel oil but the price of each differs. One gallon of fuel oil costs the school around $3.50 while the same amount of energy costs approximately $0.88 for chips. This saved the school about $197,000 in the heating season from October, 2013 through April, 2014. Fuel oil is only used as backup for the biomass system and neither heating system is utilized during the summer months.

Credit: Watertown Daily Times

Biomass Heating System at Edwards-Knox Central School District

- Raw, hardwood wood chips delivered from sustainable forests with approx 30-40% moisture
- Two large metal silos to store wood chips
- Wood chips are moved to a walking floor system by a conveyer which takes the chips directly to a boiler
- Boiler system is used to heat 3,000 gallons of water at 180 degrees Fahrenheit
- 12 tons of chips/day could be consumed at 100% firing rate
- Emission controls from cyclone separators for fine ash and constant monitoring of excess oxygen in exhaust stream

Credit: Watertown Daily Times

Albert Daniels, Director of Custodial Services, Speaking to Students about Wood Chip Storage

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New York Biomass Energy Alliance

ESF State University of New York College of Environmental Science and Forestry