





Biomass Digester w/ Recip Generators



<p>Location: Canada – Ontario – Elmira – Woolwich Bio-En.</p> <p>Industry: Biomass anaerobic digester</p> <p>Energy Source: Recip generator exhaust</p> <p>Challenge: Offset facility loads to increase green power sales to the grid.</p> <p>Financials: 12.5 to 28 ¢/kWh, Capital investment credit, and performance incentive.</p>	<p>Solution: Bio-En designed an anaerobic digester plant for Woolwich township in Elmira Ontario. This large advanced digester produces enough biogas to operate 2 Jenbacher JGC420 generators producing 1400kWe each. They also produce about 600 – 700 kWth each. The exhaust gas is captured in an exhaust gas heat exchanger to a thermal oil loop that transports the heat to an adjacent CCII unit, which converts the heat to Electricity. The remaining heat sinks to the atmosphere through an air blast condenser.</p> <p>The CCII is not rated for export to the grid and operates to offset the internal power production and minimize the plant power consumption. This keeps nearly all of the green power from the Jenbachers available for green incentive power purchase.</p>	<p>Pictures:</p>   <p>Containerized CCII with air condenser.</p>
	<p>Performance: The CCII system produced at 12-13% thermal conversion producing over 100 kW net.</p> <p>Following site repairs, the unit continues to run most of the time. It is shutdown whenever local site grid demand goes below 70 - 80 kW.</p>	
	<p>Economics: This site was funded with the value of the electrical offset and capital investment incentive based on demonstrated power output.</p>	