

ElectraTherm Green Machines Generate Electricity from Wood Waste at Mill in Oregon

Reno, Nevada – ElectraTherm, a leader in distributed, waste heat to power generation, commissioned its second Green Machine at an integrated wood products mill in Wallowa, Oregon. Together, the two machines operate off the waste heat of a biomass boiler to generate emission-free electricity.

Integrated Biomass Resources (IBR) processes small-diameter timber into various wood products, such as firewood and fence posts. Wallowa Resources Community Solutions, Inc. (WRCSI) purchased and installed the first Green Machine at the Wallowa mill in December 2012. The site uses residuals from its wood products to fuel a Uniconfort dual stage gasification boiler, creating hot water for process heat used for drying. The excess heat in the form of hot water is used to fuel the two Green Machines for onsite power generation. Since the commissioning of the second machine in July, both Green Machines now operate in tandem with the biomass boiler. The boiler sends hot water to the Green Machines at 205°F, which generates a combined output of more than 65 kWe net for the site. The added electrical generation capacity allows IBR to offset a greater portion of the electrical demand at the mill, which displaces the retail cost of power for significant savings. Future plans to increase efficiency include recovering the heat not utilized by the Green Machines for additional drying use.

“The Green Machine was easy to incorporate into our system and the installation and commissioning process went smoothly,” said Matt King, Renewable Energy Program Coordinator, WRCSI. “ElectraTherm provided strong support during the commissioning process and initial start-up phase.”

Each Green Machine 4400, ElectraTherm’s standard Organic Rankine Cycle (ORC) generator with electrical output up to 65kWe per machine, feeds off the hot water from the boiler to generate green energy from heat that would otherwise go to waste. Hot water enters the Green Machines at up to 240° F, where it heats a working fluid into pressurized vapor. As the vapor expands, it drives ElectraTherm’s patented twin screw power block, which spins an electric generator and produces power.

ElectraTherm’s Green Machine generates [fuel-free, emission-free](#) power from low temperature waste heat, on applications such as internal combustion engines, biomass, geothermal/co-produced fluids and solar thermal. ElectraTherm’s Green Machine fleet of 42 global installations has accrued more than 250,000 hours (28 years) of runtime to date. A list of reference sites is currently available on the [website](#).

About ElectraTherm, Inc.

ElectraTherm, Inc. is a renewable energy company headquartered in Reno, Nevada. ElectraTherm’s product, the Green Machine, generates fuel-free, emission-free power from low temperature waste heat using the Organic Rankine Cycle (ORC) and patented technology. Our machines are modular, robust power generators with an attractive return on investment. For more information on ElectraTherm and its clean energy products, please visit www.electratherm.com.