

ElectraTherm's Green Machine Operates in Tandem With Small Steam Engine to Double Power Output and Increase Efficiency

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RENO, NV, Mar 06 (Marketwire) --
ElectraTherm, a leader in small-scale, waste heat-to-power generation, and its distributor SE-TECH, have installed a Green Machine at a German biogas site; the first of its kind to operate the ElectraTherm ORC in tandem with a small steam engine. This combination of the Green Machine and steam engine doubles the power output from a GE Jenbacher 312's waste heat up to 67kWe, boosting the efficiency of the power plant by more than 10%.

The waste heat is provided by a 635kW GE Jenbacher engine running on biogas, with exhaust heat used to generate steam for the small steam engine. The Green Machine acts as the condenser on the steam engine, eliminating the need for a cooling loop and thereby increasing the steam engine's efficiency. The Green Machine utilizes the low temperature (90 degrees C) heat to generate up to 35kWe, nearly doubling the output from the steam engine alone.

The power generated from the waste heat meets the German heat utilization requirements to earn renewable energy credits resulting in a very strong ROI for the Green Machine of approximately 3.5 years for the plant owner.

"SE-TECH pioneered the combined ElectraTherm ORC/steam engine integration and its success has been proven with more than 5,000 hours runtime," said Stefan Farwick, President of SE-TECH. "This unique configuration of two technologies ensures every kilowatt of heat is utilized to make electricity."

Hot water enters the Green Machine ORC where it heats a working fluid into a pressurized vapor. The vapor expands through ElectraTherm's patented twin screw power block, spinning an electric generator to create electricity. The vapor returns to a liquid through direct air cooled condensing to continuously cycle through the system.

ElectraTherm's waste heat-to-power technology converts sources of low-temperature heat (stationary engines, biogas, biomass, geothermal/co-produced fluids, etc.) into power. ElectraTherm's Green Machine fleet has surpassed 70,000 hours of run time with 98% availability.

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 payback. For more information on ElectraTherm and its clean energy products, please visit www.electratherm.com.

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