

ORNL TEAM Fact Sheet

As part of the DOE Transformational Energy Action Management (TEAM) Initiative to reduce energy consumption, Oak Ridge National Laboratory is working with Johnson Controls, Inc., through an Energy Savings Performance Contract (ESPC) to convert the laboratory's steam plant operations to a biomass-fueled boiler system. Biomass-- renewable wood and wood products--will replace most of the natural gas and fuel oil currently used to provide steam to ORNL's physical plant operations.

In conjunction with the biomass project, the installation of a Cleaver-Brooks, Inc., Super Boiler will help reduce the ORNL steam plant's fossil fuel consumption by more than 70 percent, reducing the carbon equivalent of over 1 million tree seedlings grown in an urban environment for 10 years or 11,000 acres of pine fir forests. Furthermore, emissions reductions equate to 9,000 passenger vehicles or 120,000 barrels of oil consumed or the energy used by 4,500 homes in one year or 270 coal railcars.

The ESPC projects also include building management system improvements, advanced metering and energy awareness training, HVAC equipment upgrades, energy-efficient lighting, domestic water conservation and the elimination of once-through cooling.

Project implementation cost	\$88.1 million
Project savings	\$8 million / year
Simple payback	11 years
Performance period	18 years
Electrical Energy Savings	12,358,000 kilowatt-hours / year
Electrical Demand Savings	17,000 kilowatts
Natural gas savings	707,000 million BTUs / year
Fuel oil savings	19,000 million BTUs / year
Water savings	170 million gallons / year
Construction phase:	31 months
Project completion:	FY 2011

ORNL is meeting and exceeding the goals and the spirit and intent of the DOE TEAM Initiative

	TEAM Goal	FY09 Results	FY15 Projection
Percentage Energy Intensity Reduction	30	11	58
Percentage Water Intensity Reduction (all buildings)	16	0	16
Percentage Water Intensity Reduction (Goal Subject buildings)	n/a	12	35
Required Advanced Electric Metering Installations	100	80	100
Combined Electrical and Thermal Percentage of Energy from Renewable Sources	7.5	1	21
Measurement & Verification of Results	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Incorporate Sustainable Designs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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