OAK RIDGE NATIONAL LABORATORY
MANAGED BY UT-BATTELLE FOR THE DEPARTMENT OF ENERGY
FACT SHEET

ORNL Technical Assistance with Combined Heat and Power Technologies

CHP is the sequential production of two forms of useful energy — typically electricity and heat — from a single fuel source. CHP offers extraordinary benefits in terms of energy efficiency and emissions reductions by optimizing the use of heat that would otherwise be wasted when generating power. CHP systems can improve power quality, reliability, and overall energy security.

ORNL's CHP team offers technical assistance with CHP projects. The team's expertise covers:

- CHP power generation technologies — turbines, internal combustion engines, microturbines, steam turbines, fuel cells
- CHP waste-heat-activated technologies — generation of hot water and steam, absorption cooling, desiccant dehumidification
- Feasibility issues — emissions, interconnection, cost and performance benchmarking

ORNL offers services including:

- Initial feasibility screening using the Buildings Combined Heat and Power (BCHP) Screening Tool
- Detailed performance analysis of proposed systems based on TRNSYS
- CHP system application economic evaluations
- Utility service rate evaluations

ORNL provided a feasibility evaluation of EPA's plans to route purchased steam to produce electricity before its use for building heat. EPA spent $75,000 to implement the project, which now saves $40,000 and 2410 MMBtu per year.

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ORNL's CHP Integration User Facility allows testing of components and integrated systems.

The Marine Corps saves $5.8 million annually with this 7.2-MW, dual-fuel cogen system. ORNL's review of project plans resulted in improvements in the system's efficiency.

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