

## Combined Heat and Power Newsletter

This summer we are pleased to bring you the latest issue of our quarterly newsletter Combined Heat and Power. This free newsletter will highlight stories and events of interest to the CHP community, and will occasionally provide insight into the latest “hot topics.”

While our focus is primarily upon the Southeast region, we will also incorporate news from across North America. You can link directly to our sources by clicking “more details” at the bottom of each item. This newsletter will be prepared by the CHPCenterSE and published at the end of each quarter. We welcome your thought and contributions.

To subscribe to the electronic version of this newsletter, please [click here](#). For questions or to provide comments, please send an email to Maureen Quinlan at [mequinla@ncsu.edu](mailto:mequinla@ncsu.edu).

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**Compiled by  
Maureen Quinlan**



### **Do you have a CHP System? Let us know!**

The CHPCenterSE is currently seeking CHP Projects for Case Studies! If you own/operate a CHP system and would be interested in having your project publicized, please contact Maureen Quinlan for more information ([mequinla@ncsu.edu](mailto:mequinla@ncsu.edu)).



## **Learn More About CHP Through Our CHP Webinar Series**

The CHPCenterSE will be hosting two webinars this summer and we encourage you to attend! Space is limited so reserve your seat now.

### **Identifying Opportunities for Combined Heat and Power**

**July 21, 2009 11:00 AM - 12:30 PM EDT**

Could Combined Heat and Power (CHP) be a good fit for your facility? Please join us for a 1 1/2 hour webinar to learn about what can make or break a successful CHP project.

In this webinar, staff members of the US DOE's Southeast Regional CHP Application Center will cover:

- CHP technology overview
- Site Screening (demand for energy/heat, reliability needs, opportunity fuels)
- CHP Site Assessments
- How we can help you move forward

## **Incentivizing CHP in the Southeast**

**August 11, 2009 11:00 AM - 12:30 PM EDT**

What policies and incentives are in place in the Southeast region to support Combined Heat and Power installations?

Please join us for a 1 1/2 hour webinar to learn about what resources are currently available at the state and federal levels.

In this webinar, hosted by the US DOE's Southeast Regional CHP Application Center, topics will include:

- Loans, Grants, Tax Credits
- Green Building Standards
- Net Metering & Interconnection
- Production Incentives

## **News from the Southeast**

### **Peregrine Energy Plans to Build Biomass Fueled CHP Unit in S.C.**

Peregrine Energy Corporation, a leader in developing independent power and other industrial energy efficiency-related projects, announced in April that it plans to develop a new woody biomass-fueled cogeneration plant at Sonoco's Hartsville, SC Manufacturing Complex. Plans are for Peregrine to construct and own a new \$135 million, 50-megawatt capacity facility that will be capable of generating enough electricity to power approximately 14,000 homes.

The new biomass-fueled cogeneration facility will replace Sonoco's existing coal-fired boilers. Once the facility is operating, Peregrine intends to sell the entire electrical output and all renewable energy certificates associated with the plant to Progress Energy Carolinas, Inc., and low pressure steam from the plant to Sonoco for use in the manufacture of recycled paperboard and other converted products at its Hartsville complex.

[More Details](#)

### **Ameresco Selected to Construct Nation's Largest Publicly Operated Biomass CHP**

The nation's largest independent energy services provider Ameresco, Inc. has been awarded a \$795 million contract by the Department of Energy (DOE) to construct a biomass cogeneration facility and two smaller biomass heating facilities at the DOE's Savannah River Site in Aiken, SC. The project is the largest energy savings performance and renewable energy contract in the nation's history. Ameresco will finance, design, construct, operate, maintain and fuel the new biomass facilities for the DOE. Ameresco will be reimbursed from the guaranteed energy and operational cost savings generated by the project over the span of the contract.

The project will be primarily fueled with forestry residues that are currently left in the forest to rot when the timber is harvested. The project will create approximately 800 direct construction related jobs during its implementation and result in 125 permanent jobs. When completed, the new facility will result in an annual reduction of 400 tons of per year of particulate matter, 3,500 tons of sulfur dioxide emissions, and 100,000 tons of carbon emissions.

[More Details](#)

## SACE Releases Southeast Energy Efficiency Report

On May 26, the Southern Alliance for Clean Energy released a new report [\*Energy Efficiency Program Impacts and Policies in the Southeast\*](#) which found that the Southeast lags behind other regions in implementing energy saving programs. According to the report, energy efficiency programs in leading states throughout the U.S. are saving as much as 100 times more energy than most states in the Southeast.

Florida and North Carolina are highlighted as the only states in the region to take positive steps towards encouraging energy efficiency. Drawing from a recent national report, the report indicates that an energy efficiency standard of 15% energy savings by 2020 could create 56,350 more jobs in eight Southeastern states and save \$38 billion in energy costs.

[More Details](#)

## U.S. Government Office Turns to CHP for Reliable On-Site Power

A key Government office in the Southern U.S. opened in April equipped with a new reliable combined heat and power system. Previous office facilities were damaged twice by powerful hurricanes, losing power and destroying sensitive laboratory instruments. Officials ultimately decided that onsite power production was needed at the new facility for emergencies, and to manage energy costs from the local utility.

The Capstone Turbine Corporation's UPSource system installed at the site features 6 natural gas fueled Capstone C65 MicroTurbines generating up to 390 kW of continuous power. The waste heat from the microturbines is captured and used to heat the building and hot water for laboratory use.

[More Details](#)

## News from across North America

### CHP: A Manhattan Case Study

*CHP Thrives in NYC* was the Feature Article in the May-June 2009 edition of Distributed Energy. The article focuses on "one of the first examples of CHP operations in Manhattan"- 12 C60 Capstone microturbines with heat exchangers installed on the roof of a 35 story office building. The building's owners, Reckson Associates Realty Corp., entered into a long-term lease agreement with OfficePower LLC for OfficePower to install, own, and operate the 720-kW distributed generation plant and sell the power to Reckson. The systems supplies 35% of the electrical load for the building and 50% of its heating requirements.

This article also details the installation and maintenance of the system as well as the ongoing financial and environmental benefits it provides to the building operators and tenants.

[More Details](#)

### Kansas Wastewater Treatment Plant Receives \$15M in Stimulus Funds

In May, the EPA announced that Johnson County's Douglas L. Smith Middle Basin Treatment Plant will be the largest "green infrastructure" project in Kansas funded by the American Recovery and Reinvestment Act of 2009. \$16 million worth of improvements will include the construction of a new anaerobic digester, a FOG (fats, oils and greases) station to more efficiently receive and treat used greases and oils from restaurants and industries, and a cogeneration system to produce virtually all of the plant's annual operating energy from captured biogases.

According to estimates, the wastewater treatment plant improvement project is expected to create 270 new green jobs, result in almost \$600,000 in annual cost savings for Johnson County wastewater utility rate payers, and reduce annual greenhouse gas emissions by more than 9,700 metric tons.

[More Details](#)

## Two CHP Facilities Earn Energy Star Award for Energy Savings

In June, the EPA presented Energy Star Combined Heat and Power (CHP) awards to two organizations for using highly efficient CHP systems to reduce energy use and lower greenhouse gas emissions and air pollution.

Consolidated Edison CHP System of New York received an award for using a CHP system that produces up to 360 megawatts (MW) of electricity, enough to power most of Manhattan. It is the largest district steam system in the world and is also a key contributor to New York City's electricity supply. The CHP system operates at 75 percent of its optimal thermal and energy levels, better than the industry average, reducing greenhouse gas emissions equivalent to the annual emissions from approximately 150,000 cars.

Duquesne University Energy Center in Pittsburgh received an award for its usage of a 5 MW CHP system. This is Pennsylvania's first approved distributed generation system (onsite distribution only) for creating alternative energy credits. With an operating efficiency of nearly 65 percent, it effectively reduces greenhouse gas emissions equivalent to the annual emissions from approximately 1,700 autos.

[More Details](#)

## University of New Hampshire Completes Landfill Gas-To-Energy Project

On May 19, University of New Hampshire officials announced the completion of the EcoLine™, a landfill gas-to-energy project that uses purified methane gas from a nearby landfill to power the campus. The five million square-foot campus will receive up to 85 percent of its electricity and heat from purified natural gas, making UNH the first university in the nation to use landfill gas as its primary fuel source.

EcoLine™ is a partnership with Waste Management's Turnkey Recycling and Environmental Enterprise (TREE) in Rochester, where the naturally occurring by-product of landfill decomposition is collected via a state-of-the-art collection system consisting of more than 300 extraction wells and miles of collection pipes.

After the gas is purified and compressed at a new UNH processing plant at TREE, it travels through a 12.7-mile-pipeline from the landfill to UNH's cogeneration plant, where it will replace commercial natural gas as the primary fuel source. In operation since 2006, UNH's cogeneration plant captures waste heat normally lost during the production of electricity and uses this energy to heat campus buildings.

[More Details](#)

## Vermont and Maryland Extend Net Metering to CHP

Proposed amendments to Vermont's net metering rule 5.100 became effective April 15, 2009. Among other changes, these amendments increased the system capacity limit to 250 kW and included micro-CHP systems up to 20 kW as an eligible system type. [See DSIRE record.](#)

On May 7, Maryland Governor O'Malley signed SB 981 and HB 1057 into law, allowing customers contracting with third-parties to participate in net metering, allowing a customer's renewable energy facility to be located on their property or a contiguous property, and expanding eligible net metering facilities to include Micro CHP systems up to 30 kW. [See DSIRE record.](#)

[More Details](#)

## **DOE Announces Funding Opportunity for CHP**

On June 1 the U.S. Department of Energy (DOE) announced plans to provide \$156 million from the American Recovery and Reinvestment Act to support projects that deploy efficient technologies in the following four areas of interest: - CHP - District energy systems - Industrial waste energy recovery - Efficient industrial equipment

Applications are due by July 15, 2009. DOE anticipates making selections no later than October 2009. Applications for CHP systems are limited to new integrated CHP systems and replacement of inefficient existing systems. Applicants may propose projects that include multiple CHP sizes and/or types at the same location or at different locations. New systems must have a minimum efficiency of 60 percent. Replacement of an inefficient existing system must have at least a 60 percent overall system efficiency and represent at least a 25 percent efficiency increase when compared to the system being replaced.

There is no maximum amount for an individual award made under this announcement; however, the anticipated award size for CHP projects is \$1,000,000 - \$60,000,000.

[More Details](#)

## **IBM to Build "Green" Data Center at Syracuse University**

IBM, Syracuse University and New York State have entered into a multiyear agreement to build and operate a new computer data center on the University's campus that will incorporate advanced infrastructure and smarter computing technologies to make it one of the most energy-efficient data centers in the world. The data center is expected to use 50 percent less energy than a typical data center today, making it one of the "greenest" computer centers in operation.

A key element of the \$12.4 million, 6,000 sq.ft. facility will be an on-site electrical co-generation system that will use natural gas-fueled microturbine engines to generate all electricity for the center and provide cooling for the computer servers. SU will manage and analyze the performance of the center, as well as research and develop new data center energy efficiency analysis and modeling tools. IBM will provide equipment, design services and support, which includes supplying the electrical cogeneration equipment and servers. The New York State Energy Research and Development Authority is contributing \$2 million to the project.

[More Details](#)

## **FuelCell Energy Power Plant to Provide Energy for Gov. Buildings in California**

In June, FuelCell Energy, Inc., a leading manufacturer of high efficiency, ultra-clean power plants using renewable and other fuels for commercial, industrial, government and utility customers, announced the sale of a megawatt-class Direct FuelCell(r) (DFC(r)) power plant to California's Sonoma County to supply 100 percent of the baseload electricity needed to operate a county jail and county office buildings in Santa Rosa.

The DFC1500(tm) power plant will generate 1.4 megawatts of ultra-clean electricity and its byproduct heat will be recovered and used to replace approximately half the natural gas the County currently purchases to make hot water for space heating, cleaning, and cooking. Overall, the County of Sonoma expects significant energy cost savings during the first year of operation. The fuel cell installation is a major component of the \$22 million Comprehensive Energy Project to make Sonoma County buildings energy efficient, reduce greenhouse gas emissions, and meet the reduction targets established in the County's Climate Protection Action Plan. The DFC power plant is scheduled to be in operation in spring of 2010.

[More Details](#)

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## Upcoming Events

### [5th BioPower Generation USA Conference](#)

GreenPower  
Chicago, IL  
July 8-9, 2009

### [Identifying Opportunities for CHP Webinar](#)

CHPCenterSE  
July 21, 2009

### [Combined Heat and Power Seminar](#)

American Public Power Association  
Albuquerque, NM  
July 23, 2009

### [ACEEE Summer Study on Energy Efficiency in Industry](#)

American Council for an Energy-Efficient Economy  
Niagara Falls, NY  
July 28-31, 2009

### [Incentivizing CHP in the Southeast Webinar](#)

CHPCenterSE  
August 11, 2009

### [ACEEE's 5th National Conference on Energy Efficiency as a Resource](#)

American Council for an Energy-Efficient Economy  
Chicago, IL  
Sept. 27-29, 2009

### [EPA CHP Partnership Meeting and NYSERDA Conference on CHP](#)

U.S. Environmental Protection Agency & New York State Energy Research and Development Authority  
New York, NY  
Oct. 1-2, 2009

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## About Us

The Southeast CHP Application Center (CHPCenterSE) was established in 2004 for the US Dept. of Energy. Its mission is to provide application assistance, technology information, and educational support for CHP in the Southeastern U.S. The CHPCenterSE is co-located at [Mississippi State University](#) and [North Carolina State University](#). We encourage you to visit our website, [www.chpcenterse.org](http://www.chpcenterse.org), for more information.

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