

## Combined Heat and Power Newsletter

This fall 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  
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### News from the Southeast

#### CHPCenterSE Webinar Presentations Available

Did you miss our recent CHP webinars? No need to worry! The presentations from the *Identifying Opportunities for CHP* and *Incentivizing CHP in the Southeast* webinars are now available on the CHPCenterSE website [here](#).

#### Capstone Turbine Adds Distributor for Arkansas

Capstone Turbine Corporation, a leading clean technology manufacturer of microturbine energy systems, announced in July that it named Interstate Power Solutions as its distributor in Arkansas, Kansas and Missouri. Interstate will offer Capstone microturbines for use in combined heat and power applications, agriculture operations and biogas.

[More Details](#)

#### NC Paper Mill Considers Biomass CHP Plant

International Paper is working with Sterling Planet Holdings, Inc. to determine the feasibility of installing a new biomass CHP plant at their paper mill in Riegelwood, NC. The new plant, fueled by wood scraps and forest wastes, would replace the mill's older, less efficient plant, thereby reducing CO<sub>2</sub> and other harmful emissions.

The 40-45 MW plant would produce steam for the mill's pulp and paper processing, while the electricity could be sold to Progress Energy to help the utility meet its requirements under the state's Renewable Energy and Energy Efficiency Portfolio Standard (REPS). The REPS requires investor owned utilities in NC to produce 12.5 percent of their electricity through eligible technologies by 2021.

[More Details](#)

## Studies Show Efficiency Improvements Could Meet Growing Energy Demand

The School of Public Policy at the Georgia Institute for Technology released a report in August titled *Meta-Review of Efficiency Potential Studies and Their Implications for the South*. The report reviewed 19 state, regional, and national level studies published in the last 12 years. With aggressive policies, the report estimates the South could reach a 1 percent annual reduction in energy consumption through efficiency improvements, which would offset the region's forecasted increase in demand of 0.84 percent per year. Their analysis also shows that although it is technically feasible for the South to reduce its energy consumption by 2 percent annually, it would not be cost-effective.

[More Details](#)

## Meeting the Bioenergy Needs of the Southern U.S.

An article from the August issue of Biomass Magazine titled *Filling a Need: Forest Plantations for Bioenergy in the Southern U.S.* examines how the region will meet the growing demand for woody biomass. Faculty from NC State University describe the history of the plantation method of growing trees and how our knowledge of this process can be harnessed to increase output for the growing number of wood pellet, biofuels, and biomass cogeneration facilities being built in the region.

[More Details](#)

## Florida Awards \$2.5 Million for CHP Ethanol Refinery

In July, the Florida Energy & Climate Commission awarded \$2.5 million under the Renewable Energy and Energy-Efficient Technologies Grant Program to Southeast Renewable Fuels, LLC to construct a combined heat and power ethanol biorefinery. The facility, to be located in Hendry County, FL will initially produce 20 million gallons per year of ethanol from locally grown sweet sorghum. The CHP system will produce steam and electricity for the facility, with excess electricity being sold to the local utilities. Southeast Renewable Fuels will also capture and sell the carbon dioxide produced through the alcohol fermentation process.

[More Details](#)

## BMW to Upgrade Landfill Gas CHP Plant in South Carolina

In August, the U.S. Environmental Protection Agency named BMW Manufacturing Co. 7th on their list of top 20 on-site green electricity generators. BMW Manufacturing has received this distinction, in large part, due to the ongoing Landfill Gas to Energy program which began in late 2002. For over 6 years, BMW has collected methane gas from the nearby Palmetto Landfill and transported it through a 9.5 mile pipeline to the Plant's energy center where it provides over 60 percent of the energy for their Spartanburg, S.C. plant.

Recently, BMW announced a \$12 million investment to add 2 new, highly efficient gas turbine generators capable of producing 11,000 kilowatts (kW) of electricity. These two new cogeneration turbines will replace four older, less-efficient turbines. The new turbines have the capability to increase electrical output from 14 percent up to almost 30 percent of the plant's current electrical demand. Using methane gas to provide energy for the plant has saved BMW an annual average of \$5 million in energy costs, with an additional \$2 million anticipated from the turbine upgrades.

[More Details](#)

## News from across North America

### Dept. of Energy, Treasury Taking Applications for Clean Energy Project Funding

The U.S. Departments of Energy and Treasury began accepting applications in late July for a program that will make direct payments in lieu of tax credits to companies that create and place in service renewable energy facilities. CHP systems up to 50 MW are eligible for a grant equal to 10 percent of the basis of the property. The CHP system must have a minimum efficiency of 60 percent to qualify, unless at least 90 percent of the system's energy comes from biomass. (See [DSIRE summary](#) for this incentive)

The two Departments estimate distributing at least \$3 billion in financial support to approximately 5,000 biomass, solar, wind, and other types of renewable energy production facilities. The funding for this effort is made available through the American Recovery and Reinvestment Act. For application information visit the [Dept. of Treasury website](#).

[More Details](#)

### CHP Electricity Powers Cars 22 Times Farther Than Ethanol

In an article published in August, Thomas R Blakeslee of The Clearlight Foundation claims that a biomass CHP application is a much more efficient way of fueling vehicles than ethanol. His analysis shows that the average car can travel 5,350 miles per year on the ethanol produced from an acre of corn. Rather than create ethanol, if this corn was harvested and used to fuel a CHP system it would produce enough electricity to power an electric car for over 117,000 miles. Blakeslee calls for a fundamental change in U.S. utilities laws to encourage more deployment of distributed CHP plants.

[More Details](#)

### Coca-Cola Enterprises to Use Fuel Cell Technology from UTC Power

UTC Power, a United Technologies Corp. company, announced in July that it will supply two of its new PureCell® Model 400 fuel cell systems to provide on-site electricity and heat for Coca-Cola Enterprises' production facility in Elmsford, N.Y. The efficient energy and heat source will help further Coca-Cola's sustainability efforts, specifically around energy conservation and water stewardship.

UTC Power will install two fuel cell systems on-site at the Coca-Cola facility. Together, the fuel cells will generate enough energy and heat for 30 percent of the facility's overall operational needs. They also will serve as a backup source of power in the case of a utility power outage. UTC Power will own, operate and maintain the fuel cells as part of a 10-year energy services agreement.

[More Details](#)

### Sears Tower Unveils Sustainable Plan

Chicago's Sears Tower announced plans for the most significant sustainable modernization projects of an existing building ever undertaken. The project will result in unparalleled energy savings and reduced CO2 emissions to the tallest building in the Western Hemisphere, reducing the base building electricity use by up to 80 percent, which includes a combination of energy savings and fuel cell driven cogeneration.

The energy savings equal 68 million kilowatt hours annually or 150,000 barrels of oil every year. The sustainability plans also drive economic development in the West Loop, creating more than 3,600 jobs, and are part of a broader initiative to transform the global icon. The cost of construction for the Sears Tower project is estimated at \$350 million.

[More Details](#)

## First CHP Plant for Commercial Greenhouses in North America Up and Running

A new CHP plant at Soave Enterprises' sprawling, 55-acre tomato greenhouse complex in Kingsville, Ontario began operation in July. The complex is located near Lake Erie's north shore, and is the first of its kind in North America. The high-efficiency 12 MW onsite power plant is powered by four of GE Energy's Jenbacher gas engine cogeneration modules. In addition to generating power and heat to support greenhouse operations, the power plant also treats the gas engines' exhaust, enabling CO<sub>2</sub> from the exhaust to be recycled and applied as a special fertilizer to enhance greenhouse crop production.

Surplus electricity from the greenhouse power plant is being sold to the local grid and may power up to 15,000 homes each year. The plant was among seven natural gas-fueled combined heat and power projects approved by the Ontario Power Authority in 2006 to showcase how advanced cogeneration technologies could help make industrial plants more energy independent, improve local grid reliability and support Canada's clean and renewable energy goals.

[More Details](#)

## Sacramento Utility Establishes Feed-In Tariff for Distributed Generation

The Sacramento Municipal Utility District (SMUD) has established a feed-in tariff (FIT) effective January 2010 that streamlines buying electricity fed into its distribution system from eligible generation units at customer sites. The FIT is currently aimed at systems up to 5 MW connected to SMUD's local distribution system, and is capped at 100 MWs system-wide.

SMUD sees the FIT as a way to provide a new opportunity for customers to own or host efficient small-scale generation plants and be able to sell power from those units at a fair market price. It sets higher prices for power produced from renewable sources like solar and biogas, but also applies to Combined Heat and Power generators.

[More Details](#)

## McKinsey Report: Energy Efficiency Could Save U.S. \$1.2 Trillion

In July, McKinsey & Company, a worldwide management consulting firm, released their report *Unlocking Energy Efficiency in the US Economy*. The report finds that non-transportation related energy efficiency is a vast resource in the U.S., but will require a "comprehensive and innovative approach to unlock it". They estimate that such a holistic approach would cost \$520 billion through 2020, and yield energy savings of \$1.2 trillion while reducing projected energy demand by 23%.

CHP is specifically examined in the study as one approach to improving the energy efficiency of the industrial sector. The report points out that energy consumption in the industrial sector is highly regionalized, with the South making up half of current consumption, and half of the sector's efficiency potential. The potential of CHP could be unlocked through supportive regulations, financial incentives, and building awareness.

[More Details](#)

## Mexican CHP Plant Contract Awarded

In August, the state-owned oil & gas utility PEMEX awarded a consortium of Abener and Abengoa México a contract to construct a 300 MW cogeneration plant in the Mexican state of Tabasco and operate it for 20 years. The total investment of the project is estimated at \$633 million. Fueled by natural gas, the new plant will create steam and electricity for one of PEMEX's facilities. The plant will be able to generate between 550 and 800 tons of steam per hour. Moreover, the project will reinforce the current electrical structure of the Mexican Electricity Federal Commission thanks to the construction of a transmission system to send the energy surpluses to other centers of PEMEX.

[More Details](#)

## NY Allows MicroCHP to Net Meter

In August 2009, New York passed legislation adding residential micro-combined heat and power to the list of technologies eligible for net metering. The system cannot exceed 10 kW. Unlike the state's other eligible technologies that earn retail rate credit for excess production each month, owners of micro-CHP systems will receive credit at the utility's avoided cost rate. (See [DSIRE summary](#) for this policy)

[More Details](#)

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## Upcoming Events

### [US Clean Heat and Power Association Annual Meeting](#)

Washington, D.C.

Oct. 7-9, 2009

### [Data Center Energy Efficiency Workshop](#)

U.S. Dept. of Energy, American Society of Heating, Refrigerating, and Air-Conditioning Engineers  
Atlanta, GA

Oct. 21, 2009

### [EPA's Clean DG Policy and CHP Webinar Series](#)

### [Qualified Specialist Training: AIRMaster+](#)

U.S. DOE's Southeast CHP Regional Application Center  
MSU Campus, Starkville, MS

Dec. 15-18, 2009

### [ASHRAE Winter Conference– Building Sustainability from the Inside Out](#)

American Society of Heating, Refrigerating, and Air-Conditioning Engineers  
Orlando, FL

Jan. 23-27, 2010

### [23rd Annual Campus Energy Conference](#)

International District Energy Association  
Reno, NV

Feb. 9-12, 2010

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## About Us

The Southeast CHP Regional 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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