

## Combined Heat and Power Newsletter

This spring 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)).



## Hot Topic: Federal Legislation to Boost CHP

### ACEEE Explores Benefits of Federal Energy Efficiency Resource Standard

The bill known as the Save American Energy Act, introduced in Congress in February, would require the country's utilities to demonstrate 15% electricity savings and 10% natural gas savings by 2020. In March, the [American Council for an Energy-Efficient Economy](#) (ACEEE) released their report *Laying the Foundation for Implementing A Federal Energy Efficiency Resource Standard* which "highlights the importance of energy efficiency and the various market barriers that have limited the use of energy efficiency, discusses current state actions, and explains how an EERS works to achieve large energy savings". The study estimates that such an efficiency standard would result in net savings of \$168.6 billion and create 222,000 jobs, in addition to reducing strain on the distribution grid and greenhouse gas emissions.

[More Details](#)

## Federal Stimulus Package

The American Recovery and Reinvestment Act of 2009 (Stimulus Package) included a number of provisions for energy efficiency and renewable energy projects.

### Energy Efficiency and Conservation Block Grants

\$3.2 billion has been appropriated for the Energy Efficiency and Conservation Block Grant (EECBG) Program, which provides grants to U.S. local governments, states, territories, and Indian tribes, to fund projects that reduce energy use and fossil fuel emissions, and improve energy efficiency. The program was established by the Energy Independence and Security Act of 2007, but was not previously funded. Potential projects include energy audit programs, projects to install distributed energy resources such as renewable, combined heat and power, and district heating and cooling systems.

[More Details](#)

### Industrial Energy Provisions

[Recycled Energy Development, LLC](#) has compiled a useful summary of clean energy related provisions in the Stimulus Package. Provisions include: ability to collect investment and production tax credits as a grant, bonus depreciation, allowing subsidized energy projects to qualify for tax credits, extending production tax credits through 2013, providing funds for efficiency and renewable loans, bonds, and DOE activities.

[More Details](#)

## News from the Southeast

### New Resources Available on CHP Center Southeast Website

As of January 2009, two new resources have been made available through the CHP Center Southeast's website to provide Combined Heat and Power information to visitors based on their particular geographic location. The first recent addition is the [CHP Incentives Database](#) which allows users to select a state in the southeast and view all current regulations and financial incentives that apply to CHP in that state. Content for this database is provided by the [Database of State Incentives for Renewables & Efficiency](#). Those interested in connecting their CHP or other distributed generation system to the utility's grid, can now access the [Southeast Utility Contacts](#) list and quickly find out who to call. The list includes contact information for all investor owned utilities and Public Service Commissions in the southeast by state.

[More Details](#)

### North Carolina Sustainable Energy Conference Highlights CHP

On April 14-15, the North Carolina State Energy Office held one of the state's premier events on the topic of clean energy, the [6th Annual NC Sustainable Energy Conference](#), in Raleigh. The conference featured a session presented by CHP Center Southeast staff titled "Recycled Energy-Combined Heat and Power" which addressed the advantages of CHP, local success stories, current policy support and financial incentives, national and regional CHP programs, and a technology overview. This presentation will be available at the Southeast CHP Center website ([www.chpcenterse.org](http://www.chpcenterse.org)). Other topics covered during the conference include the Federal Stimulus Package, Energy Efficiency, Economic Development and the Green Economy, Utility Savings Initiative in Public Buildings, Renewable Technologies, Alternative Fuels and Transportation, and Consumer Issues.

[More Details](#)

## Energy Efficiency in Appalachia

The Appalachian Region's energy consumption is expected to increase 28 percent between 2006 and 2030, compared with a 19 percent increase forecast for the United States as a whole. In January, the non-profit Southeast Energy Efficiency Alliance released a new report, *Energy Efficiency in Appalachia: How Much More is Available, at What Cost, and by When?* This study assesses the long-term energy-efficiency gains that could be achieved by implementing an ambitious package of energy-efficiency policies throughout Appalachia. It examines the breadth of energy-efficiency resources in Appalachia; the timeframe for harnessing these resources; and the policies and programs that could most effectively translate these resources into energy savings, as well as the impact those policies and programs could have on jobs and wages in Appalachia. CHP is highlighted as a tool for improving industrial energy efficiency and the study identifies a number of policies that could be adopted to encourage CHP. The study estimates that encouraging CHP, expanding Industrial Assessment Centers, and increasing Energy Savings Assessments would result in industrial energy savings of 27% of projected 2030 consumption.

[More Details](#)

## North Carolina Improves Net Metering Policy

On March 31 the North Carolina Utilities Commission (NCUC) issued an order amending the state's net metering rules. The previous regulation allowed for the net metering for residential systems up to 20 kW and 100 kW for non-residential systems and imposed a participation cap of 0.2% of each utility's North Carolina retail peak load. Now, renewable generators up to one MW may net meter with no aggregate limits on customer participation.

CHP systems qualify for net metering if fueled by renewables. The Commission also removed the previous requirement that net metering customers take service under Time of Use (TOU)-Demand rates, thereby allowing for full retail rate choice. According to the order however, if a customer chooses a tariff other than a TOU-Demand schedule, the customer must turn over all Renewable Energy Credits (RECs) to the utility.

[More Details](#)

## Study Supports South's Ability to Meet National RES

Opponents of a national Renewable Electricity Standard have posited that a lack of renewables in the Southeast will result in high compliance costs, thus such a policy is inherently unfair. However, a study released by the Southern Alliance for Clean Energy in February, [\*Yes We Can: Southern Solutions for a National Renewable Energy Standard\*](#) contradicts this sentiment.

The study finds that using existing technology, the Southeast can meet a national renewable energy standard of at least 15% by 2015, 20% by 2020, and 25% by 2025. Biomass, a potential fuel for CHP systems, is identified as the South's "most important near-term option" for meeting this goal, among a variety of renewably energy sources.

[More Details](#)

## Kentucky Expands Interconnection and Net Metering Policies

On January 8, 2009 the Kentucky Public Service Commission (PSC) issued an order for net metering and interconnection of small sources of renewable power to the electric grid. The guidelines were required by Senate Bill 83, passed in April, which gave the PSC until mid-January 2009 to develop guidelines that would establish technical requirements and an application process. This order expands the previous net metering rule, which already applied to small solar energy systems, to include small generators of wind energy, hydroelectric power and power from biomass or bio-gas systems up to 30 kW.

[More Details](#)

## Duke U. Study Looks at Job Creation Potential of Industrial CHP

In February, Duke University's Center on Globalization, Governance & Competitiveness (CGGC) released a new chapter in its *Manufacturing Climate Solutions* series. This series "presents new research linking U.S. jobs with selected low-carbon technologies that can help combat global warming." The latest chapter, [Recycling Industrial Waste Energy](#) explores the potential for energy savings and job creation in the U.S. by implementing CHP technologies in the industrial sector. The study finds that scaling up industrial waste energy recycling will increase demand for jobs in manufacturing, construction, engineering, plant operations, as well as at host facilities as energy costs are reduced and productivity increases.

[More Details](#)

## Demand for Waste Heat Prompts New Division of Cyclone Power Technologies

Based in Florida, Cyclone Power Technologies Inc. has formed a separate division of its business dedicated to generating sales of its patent-pending Waste Heat Engine (WHE). Operating under the name WHE/Generation, the Cyclone division will market and manufacture WHE systems for applications such as small-scale cogeneration, solar thermal electricity production, biomass combustion, and engines for auxiliary power units for trucks and RVs. Over the following months, WHE/Generation will launch a new consumer-oriented web site, and contract with manufacturers and installers to handle forecasted sales of these systems.

The company will soon install the first beta WHE system at Bent Glass Design in Hatboro, PA. This system will harness waste heat from the customer's glass manufacturing furnaces, and is expected to produce enough electricity to light their 65,000 sq. ft. facility while providing a very attractive two to three-year payback.

[More Details](#)

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## News from across North America

### CHP Fuels Pepsi Bottling Plant

The NY Times recently featured an article profiling a natural gas Combined Heat and Power system installed at PepsiCo's bottling plant in Queens, NY. Funded partially by a grant from the New York State Energy Research and Development Authority (NYSERDA), the 1,600 kW system provides about 80% of the plant's electricity needs. The waste heat is then captured and used to warm the bottles and clean the machines. The CHP system is expected to pay for itself by 2011.

[More Details](#)

### NY Times Guest Post on Distributed Power Generation

In February, the New York Times featured a guest post from author and Rocky Mountain Institute Chairman Amory B. Lovins titled "Does a Big Economy Need Big Power Plants?" The article addresses the evolution of power generation from distributed CHP systems to large centralized power plants, and explores what the future may hold for "micropower".

[More Details](#)

## First Clean Energy System for Restaurants Announced

In January, Owl Power Company, developer and manufacturer of clean energy cogeneration systems, announced Vegawatt™, an innovative new cogeneration system for restaurants and food service facilities. Vegawatt™ uses waste vegetable oil from any food service operation as a fuel to generate on-site electricity and hot water, potentially saving the restaurant thousands of dollars as well as providing a clean, renewable source of energy. Vegawatt™ is installed and has been running since early December at Finz Seafood & Grill in Salem, MA. Most restaurants pay to dispose of their used cooking oil. Some owners have begun to receive compensation for this oil, typically \$0.10 to \$0.25 per gallon. Owl Power estimates that Vegawatt™ owners will achieve a value of \$2.55 per gallon.

[More Details](#)

## Brewery's Biogas Used to Fuel Hospital

Gundersen Lutheran Health System based in La Crosse, Wisconsin has entered into a unique renewable energy partnership with a local brewing company, City Brewery. In January 2009, the two organizations broke ground on an innovative combined heat and power project that is expected to generate eight to 10 percent of the energy used on Gundersen Lutheran's campuses. The renewable energy project uses waste methane gas discharges from City Brewery's waste treatment process and turns it into electricity. It is projected to generate three million kilowatt (kW) hours per year.

Currently, City Brewery flares the gas to dispose of it. The heat and power project will allow the methane gas to be captured and sent through an engine Gundersen Lutheran is installing at the City Brewery site. The engine generates electricity that is then transferred to the power grid. In addition, heat generated from the engine will be captured and recycled back to produce heat for the waste treatment process at City Brewery.

[More Details](#)

## ECR Introduces Residential CHP Product

In February 2009, ECR introduced their new freewatt® system, a home heating alternative that allows homeowners to reduce their carbon footprint. freewatt operates using micro-combined heat and power (micro-CHP) technology, which marries an ENERGY STAR-rated, high-efficiency gas furnace or boiler to a Honda generator.

"freewatt is designed to operate whenever the home has a need for heat," said Michael Paparone, ECR president and CEO. "Using the Honda generator, freewatt generates 1.2 kilowatts of electric power and nearly all the heat created by the generator is then recycled to heat the home. This electricity can be used to power the home or can be sold back to the 'grid.'"

Micro-CHP has been identified by the United States Environmental Protection Agency (EPA) as one of two technologies designated as a Climate Choice technology. According to the EPA, Climate Choice is a new partnership program that recognizes emerging technologies that have the potential to substantially reduce greenhouse gas emissions once they are more widely adopted.

[More Details](#)

## California Marine Base to Install Fuel Cell CHP System

FuelCell Energy, Inc. is a leading manufacturer of high efficiency, ultra-clean power plants using renewable and other fuels for commercial, industrial, government, and utility customers. In February 2009, they announced the sale of a 300-kilowatt (kW) DFC300 power plant to the U.S. Marine Corps Air Ground Combat Center (MCAGCC) at Twentynine Palms, Calif., the largest U.S. training center in the world.

The Direct FuelCell(r) (DFC(r)) power plant will supply onsite baseload power for the MCAGCC's expanding electricity requirements and the fuel cell's surplus heat will be fed into the base's main steam line. At MCAGCC the DFC300 power plant can deliver up to 80 percent total efficiency because the fuel cell's byproduct heat is being used for hot water and space heating. This high efficiency means the power plant uses less fuel to make the same amount of energy -- saving on power costs and significantly reducing carbon emissions.

[More Details](#)

## Oak Ridge National Lab Creates Website to House CHP Research

The Cooling, Heating and Power Technologies Program team, within the Energy and Transportation Science Division (ETSD) at the Oak Ridge National Laboratory (ORNL), works with industry, academia, other national labs, and the federal government to develop cost-effective technologies that increase energy efficiency, reduce peak power demand, ensure better power reliability and quality, and reduce emissions. The CHP Technologies team recently launched [www.coolingheatingpower.org](http://www.coolingheatingpower.org), allowing easy access to their publications, success stories, and research.

For example, the recently released BCHP Screening Tool is software that can be used to estimate the energy consumption and economics of CHP systems in commercial buildings. This tool uses the DOE-2 simulation engine and includes data libraries that describe generation equipment, HVAC equipment, utility rates, weather, and many building types. Find out more information and download the BCHP screening tool [here](#).

[More Details](#)

## Upcoming Events

### [Making Energy Work: Building a Sustainable Energy Economy in the Charlotte Region](#)

NC Sustainable Energy Association

Charlotte, NC

June 23, 2009

### [Clean DG Policy and CHP Webinar Series: Biomass CHP Applications \(2 of 2\)](#)

US Environmental Protection Agency

June 25, 2009

### [IDEA 100th Annual Conference & Trade Show](#)

International District Energy Association

Washington, D.C.

June 28-July 1, 2009

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

GreenPower

Chicago, IL

July 8-9, 2009

[Combined Heat and Power Session](#)  
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

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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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