CHP
EPA COMBINED HEAT AND POWER PARTNERSHIP

CHP Support at the State Level

Combined heat and power (CHP) can help states reduce energy costs and improve their business environment, support energy infrastructure, and improve energy security and power reliability, all while offering environmental and climate change benefits. In recognition of these benefits, many states have implemented policies favorable to CHP that are delivering results. The U.S. EPA's CHP Partnership is highlighting California and New Jersey as two examples of states with successful CHP programs.

California

In 2006, Governor Arnold Schwarzenegger signed Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. This landmark legislation requires a reduction in greenhouse gas emissions to 1990 levels by 2020. The California Air Resources Board (CARB) is the lead agency for implementing AB 32; in 2008, CARB developed a draft Scoping Plan that proposes a comprehensive set of actions designed to reduce overall carbon emissions in California.

Recognizing the proven economic and emission benefits of CHP, CARB recommended an increase of 4,000 MW of CHP capacity by 2020, enough to displace approximately 30,000 gigawatt-hours of demand from other power generation sources. CARB estimates that this increase in CHP capacity will reduce 6.8 million metric tons of carbon dioxide equivalent by 2020.

Recognizing that market barriers stand in the way of CHP reaching its full market potential in California, the state is moving forward with a multi-pronged approach that addresses significant market barriers, provides incentives where appropriate, and may include potential mandates. Specific actions under consideration include:

- Creating utility portfolio standards for CHP.
- Encouraging power export so CHP systems are optimally sized for onsite heat loads and large enough to provide transmission and distribution capacity to utilities.
- Developing guaranteed rate structures and market access for CHP that appropriately value the electrical system and environmental benefits of CHP.

To encourage the development of small CHP systems (i.e., systems that produce less than 20 MW), California passed Assembly Bill 1613, the Waste Heat and Carbon Emissions Reduction Act. The Act directs the California Public Utility Commission (CPUC), publicly owned electric utilities, and the California Energy Commission (CEC) to establish policies and procedures for the purchase of electricity from eligible CHP systems. It also directs CARB to report on the greenhouse gas emissions reductions resulting from the increase of new electricity generation from CHP. The Act requires the CEC to establish, by January 1, 2010, technical criteria for eligibility of CHP systems under programs to be developed by the CPUC and publicly owned utilities. By statute, the CEC's guidelines require that CHP systems:

- Be designed to reduce waste energy.
- Have a minimum efficiency of 60 percent.

- Emit no more than 0.07 pounds of nitrogen oxides per megawatt-hour.
- Be sized to meet the eligible customer generation thermal load.
- Operate continuously in a manner that meets the expected thermal load and optimizes the efficient use of waste heat.
- Be cost effective, technologically feasible, and environmentally beneficial.

More information about actions California is taking to support CHP as part of AB 32 is available on CARB's Web site at <www.arb.ca.gov/energy/chps/chps.htm>. This Web site contains a link to the 2008 Climate Change Draft Scoping Plan, announcements of the CHP Technical Stakeholder Workgroup and archives of past meeting materials, implementation status of the Waste Heat and Carbon Emissions Reduction Act, and CHP-related links to the CPUC and CEC.

New Jersey

New Jersey has positioned itself as a leader in supporting and expanding the use of CHP through a sustained focus on implementing favorable CHP policies.

In October 2008, the state released the New Jersey Energy Master Plan (EMP). The EMP proposes a road map for building a responsible energy future with adequate, reliable energy supplies that are both environmentally responsible and competitively priced. The EMP was developed through an extensive and inclusive stakeholder process. Recognizing the environmental and economic benefits of CHP, the EMP identifies CHP as a key solution to meeting the state's energy and environmental goals. Specifically, New Jersey hopes to spur the development of 1,500 MW of new CHP capacity by 2020. Steps to reach this goal include building on existing economic and regulatory incentives and developing new ones, as well as smoothing regulatory and legal hurdles to turn waste energy into useful energy. The EMP tasked New Jersey's Board of Public Utilities (BPU), Department of Environmental Protection (DEP), and Economic Development Authority (EDA) with:

- Identifying and alleviating regulatory conflicts across permitting agencies to streamline and simplify approval processes (including DEP's adoption of a general permit for cogeneration facilities, where appropriate).
- Using Retail Margin Funds* to provide rebates to new CHP facilities.
- Exempting from sales and use taxes all fuels used by new and existing CHP facilities that meet a minimum efficiency.

If successful, the EMP estimates that 1,500 MW of additional CHP capacity could result in 10,000 gigawatt-hours of reduced demand on the electrical grid by 2020, displacing more than 33 trillion Btu of space and process heating requirements from natural gas and heating oil in the commercial and industrial sectors.

The EMP builds on a suite of policies already in place in New Jersey that support CHP, highlighted on the next page.

For more information about CHP, please visit the CHP Partnership Web site at www.epa.gov/chp.

* New Jersey's Retail Margin Fund derives from a non-bypassable charge imposed on all customers of New Jersey's seven investor-owned electric public utilities and gas public utilities.

Combined Heat and Power Grants

On March 31, 2009, Governor Jon Corzine signed Bill A2507/S1932, which authorizes the BPU to use, at minimum, up to $60 million of the Retail Margin Fund to provide grants for CHP production, energy efficiency projects, and programs promoting renewable energy and energy efficiency. The money will be used primarily to develop CHP facilities and will provide rebates up to $450 for every kilowatt of capacity installed, based on efficiency levels and performance.

In addition to this performance-based program, incentives to offset the up-front capital costs of CHP projects are being funded through New Jersey's participation in the Regional Greenhouse Gas Initiative (RGGI). RGGI is a regional cap-and-trade program developed by 10 northeastern states to reduce CO_2 emissions from the power sector 10 percent by 2018. New Jersey was the first state in RGGI to support auction allowances. As part of RGGI, New Jersey auctions 100 percent of its allowances. Proceeds from the auction are placed in the New Jersey Global Warming Solutions Fund. Sixty percent of the monies in the fund are allocated to the EDA to provide grants and other forms of financial assistance to commercial, institutional, and industrial entities to support end-use energy efficiency projects. CHP is specifically called out as a measure deserving support. The RGGI auction is estimated to generate $60 million annually. The first solicitation for grants is currently available on the EDA Web site at <www.njeda.com>.

New Jersey Pay for Performance

The New Jersey Clean Energy Program offers the Pay for Performance (PFP) incentive program for energy efficiency improvements in existing non-residential buildings with an annual average peak electricity demand of 200 kW or larger. The program requires a committed energy reduction of 20 percent in a "whole building" approach. Rather than offering specific rebate levels for specific equipment types, the PFP program calculates the performance incentive as a variable $/kWh or $/therm incentive based on projected energy savings. Projects involving CHP are limited to $1 million per CHP project per calendar year. The 2009 budget for PFP is $33.9 million. More information is available on the PFP Web site at <www.njcleanenergy.com/commercial-industrial/programs/pay-performance>.

Favorable Interconnection Standard

New Jersey's interconnection rules are favorable to distributed generation, allowing systems up to 2 MW in capacity to qualify for net metering. The rules specify three levels of review and include simplified procedures for systems less than 10 kW. Fees vary by level. There is no fee for Level 1 interconnection; the fee for Level 2 is $50 plus $1 per kW, and the fee for Level 3 is $100 plus $2 per kW. Utilities may not require Level 1 and Level 2 customer-generators to install additional controls or external disconnect switches not included in the equipment package, perform or pay for additional tests, or purchase additional liability insurance. Interconnection to networks is also permitted.

For more information about the New Jersey Energy Master Plan funding opportunities for CHP and the steps New Jersey is taking to support CHP, visit the EMP Web site at <www.state.nj.us/emp/> and the New Jersey Clean Energy Web site at <www.njcleanenergy.com/>.