

# State Clean Energy Funds

## An Effective Mechanism to Encourage Clean Energy Supply

A clean energy fund is one of several tools that states can use to accelerate the development of energy efficiency and clean distributed generation (DG), including renewable energy and combined heat and power (CHP).

Clean energy funds provide a funding stream that can be customized in ways that best meet a state's energy goals, natural resources, and industry presence. State clean energy funds often receive money from public benefit funds (PBFs). PBFs have been used to support energy efficiency, renewable energy, and clean DG programs in competitive markets. In most cases, states fund their PBFs through systems benefit charges (SBCs), which are small fees (typically in the range of 0.001 – 0.01 cents/kilowatt-hour [kWh]) added to the electricity rates paid by customers.

### How Do Clean Energy Funds Encourage the Application of Clean Energy?

Clean energy funds can be used to:

- Provide funding to narrow any gaps between the market price of electricity and the generating costs of clean energy technologies.
- Address technical, regulatory, and market barriers for emerging technologies.
- Stimulate the development of companion industries and infrastructure that are crucial to the success of clean energy.
- Promote consumers' awareness of clean energy.

### *What Is Clean DG and What Are Its Benefits?*

DG is the generation of electricity at or near the energy end-user. Clean energy technologies include renewable energy sources such as solar, wind, geothermal, biomass, biogas, and low-impact hydroelectric, as well as CHP (the simultaneous generation of electric and thermal energy from a single source).

Clean DG projects yield numerous public benefits, including:

- Bringing economic development to a state.
- Reducing peak electrical demand on the grid.
- Reducing electric grid constraints.
- Reducing grid congestion in targeted load pockets, potentially deferring or displacing more expensive transmission and distribution infrastructure investments.
- Reducing the environmental impact of power generation.
- Reducing fuel price volatility.

Well-designed clean energy funds provide a state with strategic opportunities to:

- *Design a cohesive strategy.* By combining a range of clean energy support programs and funding mechanisms "under one roof," states can develop a cohesive strategy to address a range of clean energy market issues.
- *Support long-term goals.* While many clean energy policies are aimed at jump-starting markets for commercially ready technologies, clean energy funds can be designed to fund initiatives with longer-term benefits, such as research and development and technology demonstration.
- *Complement other clean energy policies.* Because of their flexibility, clean energy funds can be used to complement and leverage other state and federal policies. For example, clean energy funds can be used to increase the effectiveness of other policies, such as federal tax incentives, Renewable Portfolio Standards (RPS), and net metering standards by reducing equipment costs, addressing market barriers, and providing consumer education and outreach.

## What Are the Key Elements of a Clean Energy Fund?

Key elements of a clean energy fund include the funding source, the entity that administers the fund, and the model for allocating the funds.

*Funding source* – In most cases, states use SBCs to fund their clean energy funds. SBCs are generally designated by a state's legislature and administered by the state's public utility commission (PUC).

*Administration* – States have chosen several organizational models for administering their clean energy funds. These have included state energy offices (California), quasi-public agencies (Connecticut, Massachusetts), public regulatory agencies (New Jersey), non-profit organizations (Pennsylvania), and utilities (Arizona).

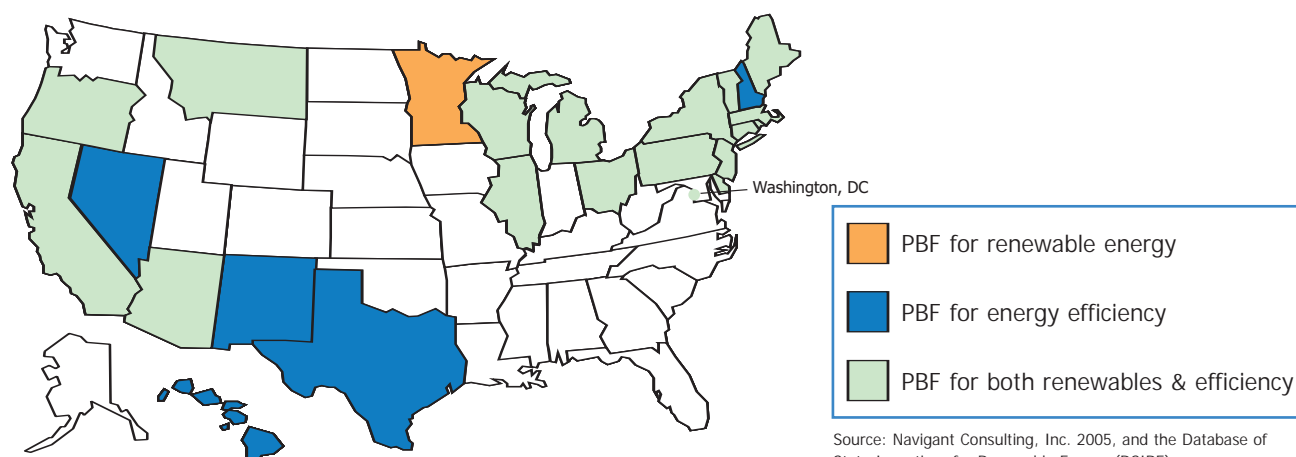
*Fund allocation* – Three basic funding models are used to allocate funding:

- The *investment model* uses state loans and equity to provide initial investment in clean energy companies and projects.
- The *project development model* directly promotes clean energy project installation by providing production incentives and grants/rebates.
- The *industry development model* uses business development grants, marketing support programs, research and development grants, resource assessments, technical assistance, consumer education, and demonstration projects to facilitate market transformation.

## Which States Have Established Clean Energy Funds?

As of October 2008, 23 states and the District of Columbia had established clean energy funds: Arizona, California, Connecticut, Delaware, the District of Columbia, Hawaii, Illinois, Maine, Massachusetts, Minnesota, Michigan, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, Ohio, Oregon, Pennsylvania, Rhode Island, Texas, Vermont and Wisconsin (see Figure 1). The size of these funds ranges from less than \$1 million to more than \$300 million a year.

**Figure 1**  
*States with Clean Energy Funds*



Features of several state clean energy fund programs are highlighted below:

New Jersey. New Jersey's statewide clean energy initiative, the New Jersey Clean Energy Program™ (NJCEP), is administered by the New Jersey Board of Public Utilities (BPU). The NJCEP provides education, training, and financial incentives in three program areas:

- *Residential Programs*, which include heating equipment rebates, home energy analyses, residential solar rebates, and the Comfort Partners program for income-eligible households.
- *Commercial & Industrial Programs*, which offer incentives and technical assistance to commercial, industrial, and municipal customers. The program's goals include increasing energy efficiency, reducing overall system peak demand, and encouraging the use of emerging technologies throughout the state. A Combined Heat and Power Program offers financial incentives for CHP installations.
- *Renewable Energy Programs*, which offer support to customers interested in implementing renewable energy generation technologies and systems. NJCEP offers rebates towards the installation of renewable generation systems such as solar electric, wind, or sustainable biomass; low-interest loans for businesses, schools, and municipalities that want to combine energy efficient and renewable energy technologies; and grants for utility-scale projects and startup businesses.

The NJCEP energy efficiency and renewable energy programs have been managed and implemented by the state's seven investor-owned utilities and gas public utilities, but in April 2007, management was turned over to Honeywell Utility Solutions and TRC Energy Solutions. The BPU will continue as the administrator of the NJCEP. Contracted program managers must manage and implement these programs.

To learn more about clean energy funding in New Jersey, visit [www.njcleanenergy.com](http://www.njcleanenergy.com).

New York. The New York State Energy Research and Development Authority (NYSERDA) administers the New York Energy \$mart program, which provides energy efficiency, research and development, and environmental protection activities. Among other things, the Energy \$mart program administers the New York Energy \$mart Loan Program, which provides an interest rate reduction of up to 4 percent (400 basis points) off of a participating lender's normal loan interest rate for a term of up to 10 years on loans for certain energy efficiency improvements and/or renewable technologies. Con Edison customers may be eligible to receive an interest rate reduction of up

to 6.5 percent (650 basis points). In addition, NYSERDA administers other programs to facilitate the development of clean energy in New York State. These include the DG/CHP Program, which as of 2006 has approved more than 100 DG/CHP systems for funding, representing 100 megawatts (MW) of peak demand reduction.

For more information about the Energy \$mart Loan Program, visit <http://www.nyserda.org/loanfund/>.

For more information about NYSERDA's current opportunities, visit <http://www.nyserda.org/Programs/IABR/IndustryRD.asp#chp>.

Connecticut. The Connecticut Clean Energy Fund is managed by Connecticut Innovations, Inc., a quasi-governmental investment organization. The program has three major components:

- *Installed Capacity Program*, which supports long-term contracts for clean energy projects and incentive programs for host supply or onsite installations of clean DG projects.
- *Technology Demonstration Program*, which supports the demonstration of new clean energy technologies and innovative applications, while also providing infrastructure support to the emerging clean energy industry.
- *Public Awareness and Education Programs*, which support local clean energy campaigns to influence the buying behavior of electricity customers so that they voluntarily support clean energy.

For more information, visit [www.ctcleanenergy.com](http://www.ctcleanenergy.com).

Massachusetts. The Massachusetts Renewable Energy Trust is managed by the Massachusetts Technology Collaborative (MTC), an independent economic development agency focused on expanding the renewable energy sector and Massachusetts's innovation economy. The State Division of Energy Resources provides oversight and planning assistance. MTC's approach is to first identify barriers to renewable energy growth in Massachusetts, then leverage additional funds from other sources, including private companies and nonprofits. MTC's goals include maximizing public benefit by creating new high-tech jobs and producing clean energy. As of June 30, 2007, 629 projects with 85.6 MW of clean energy capacity had been installed with funding from the MTC.

To learn more, visit [www.mtpc.org/renewableenergy/index.htm](http://www.mtpc.org/renewableenergy/index.htm).

## Elements of a Successful Policy

Based on the experiences of states that have developed clean energy funds, a number of best practices have emerged for designing effective funds. States considering establishing clean energy funds can use the best

practices that follow as models for developing their own policies.

- Establish a working group of interested stakeholders (e.g., electric utilities, the state PUC, clean energy advocates, project developers, state energy offices, and state environmental agencies) to develop recommendations for design and administration of the funding mechanism (i.e., the SBC).
- Develop draft legislation for consideration by the state legislature, if legislation is required to implement an SBC.
- Based on the state's specific clean energy goals, determine both the stage of technology development and the kind of incentives needed to support each technology. State clean energy funds often include a portfolio of program options to support both emerging and technically proven technologies.
- Design funding sources to promote consistency in funding from year to year. The ability to carry forward excess annual contributions can be an important feature, especially during early years when activities are ramping up. Employ mechanisms, such as set percentage tariffs, that help ensure consistent funding levels and protect against the diversion of funding to other state needs.
- Develop programs that will complement other state and federal clean energy initiatives, such as RPS, tax credits, and loan programs. This coordination can include policies that allow developers to leverage other funding sources without activating "double-dipping" clauses, which prevent developers from taking advantage of multiple federal or state incentives simultaneously.
- Develop measurable targets (e.g., green power participation rates, infrastructure development measured in MW of new capacity, peak load reduction from clean DG) and monitor progress toward reaching these targets.
- Be willing and able to shift fund priorities and develop new or modified programs in response to changes in markets or technologies as they develop.
- Publicize success stories and goals that have been achieved. Make sure that state officials, office holders, and the public remain aware of the clean energy fund and know that it is achieving the desired results.

## EPA Assistance Available

The EPA CHP Partnership is a voluntary program that seeks to reduce the environmental impact of power generation by promoting the use of cost-effective CHP. The Partnership assists state policy makers and regulators to evaluate opportunities to encourage CHP through the implementation of policies and programs. The Partnership has also assisted states in developing incentive programs. See [www.epa.gov/chp](http://www.epa.gov/chp).

## Additional Resources

EPA has created *The Clean Energy-Environment Guide to Action*. The Guide provides an overview of clean energy supply technology options and, in addition to clean energy funds, presents a range of policies that states have adopted to encourage continued growth of clean energy technologies and energy efficiency. The Guide is available at [www.epa.gov/cleanenergy/stateandlocal/guidetoaction.htm](http://www.epa.gov/cleanenergy/stateandlocal/guidetoaction.htm).

The Database of State Incentives for Renewable Energy (DSIRE) is a comprehensive source of information on state, local, utility, and selected federal incentives that promote renewable energy. See [www.dsireusa.org](http://www.dsireusa.org).

The Clean Energy States Alliance (CESA) is a nonprofit organization that provides information and technical services to state clean energy funds and works with them to build and expand clean energy markets in the United States. See [www.cleanenergystates.org](http://www.cleanenergystates.org).

The American Council for an Energy Efficient Economy (ACEEE) is a nonprofit organization that conducts in-depth policy analyses in a number of subject areas, several of which include utilities, transportation, and federal energy policy. See <http://www.aceee.org/>.

The Pew Center on Global Climate Change has a summary of states with PBFs. See [http://www.pewclimate.org/what\\_s\\_being\\_done/in\\_the\\_states/public\\_benefit\\_funds.cfm](http://www.pewclimate.org/what_s_being_done/in_the_states/public_benefit_funds.cfm).

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