



## Business Case Briefing

### State Incentives for Energy Efficiency, CHP, and Renewable Energy

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Energy management projects can decrease operating costs, reduce exposure to energy price volatility, improve reliability and reduce emissions of air pollutants, including greenhouse gases. Many energy projects are eligible for government incentives from both the federal and state governments. Leveraging state incentives in particular can make the financial returns stronger and potentially trigger corporate approval of projects that otherwise would not receive corporate financing.

Depending on the state and the nature of the incentive programs that are available, energy projects can be constructed with lower out-of-pocket costs, increased internal rates of return, lower total costs and reduced risk.

The brief information provided here gives an overview of the range of incentives that are available for the construction and installation of three specific forms of energy projects: energy efficiency (EE), combined heat and power (CHP), and renewable energy (RE). While this is not an exhaustive list of the types of energy projects for which state incentives may be available, it represents some of the primary areas of clean energy development that states are seeking to promote. EE projects reduce end-use energy consumption either through increased performance or through improved energy management. CHP projects generate power, typically in the form of electricity, but also make use of the waste heat through steam and chiller applications, thereby improving efficiency. RE projects generate energy from non-fossil resources such as solar and wind energy.

#### Types of Incentives

➤ *Grants*

Grants are typically available for feasibility and demonstration projects that increase public and industry exposure to specific forms of clean energy technology. Grants can also be applied to the purchase and construction costs of specified technologies and applications. Depending on the magnitude of a project, grants may be able to cover some, or all, of a project's cost.

➤ *Loans*

Incentive-based loans can provide low or no-interest terms which improve the overall cost structure of clean energy projects. Additionally, state programs can provide loan guarantees which can reduce the risk, and thereby improve the terms, of privately obtained loans that would otherwise be obtained at typical market rates.

These loans can often provide funding for a significant portion, if not the entirety, of a clean energy project, including design, purchase and installation.

➤ *Rebates*

Rebates apply to a specific product, technology, or performance standard. The availability and structure of these rebates vary widely by state, so companies operating in multiple states should be aware of the unique features that may exist in a state. Rebates can be structured for a fixed amount, a percentage of the total project/product cost, or per watt produced/saved. A typical target of rebate programs is Energy Star products for increased end-use EE.

➤ *Tax incentives*

The federal government provides the Renewable Production Tax Credit for qualifying RE technologies as well as an investment tax credit for between 10 and 30 percent of the expenditures for the installation of qualifying RE technologies. The Production Tax Credit has been used mainly for wind power production, for which a credit of 1.9¢/kWh is available, but technologies such as closed-loop biomass, geothermal, and solar also qualify for this tax credit. Open-loop biomass, municipal solid waste, landfill gas, and hydropower qualify for a 0.9¢/kWh credit. Additionally, the federal government allows for tax deductions which include accelerated depreciation of RE property and performance-based deductions on energy efficient retrofits and new construction.

State and local governments also provide tax incentives for clean energy. These can include property tax exemptions for RE installations, sales tax exemptions for qualifying RE technologies, and business and operating tax exemptions for utilities operating wind turbines. Some states also allow for fuel tax exemptions for self-generation. Finally, states also can provide production tax credits that are in addition to those provided by the federal government. Most state and local tax exemptions apply to RE projects rather than CHP and EE. However, CHP equipment that is designed for biomass, landfill gas, or other renewable fuels may also qualify.

➤ *Market set-asides*

Market set-asides are derived from emissions trading markets. Projects that displace electricity from the power grid, and therefore reduce air pollution, may be eligible for allowance grants for nitrogen oxide (NOx) or other pollutants. The total value of any such grant is based on the quantity of emissions avoided as well as trading price of the allowances; for example NOx allowances are trading in the range of \$2,100/ton in 2006. The availability of these allowances is dependant on the state in which the project is located and whether it has a set-aside program. This form of incentive may become more prevalent with the implementation of the Regional Greenhouse Gas Initiative for carbon dioxide (CO<sub>2</sub>) emissions in the Northeast.

## **Incentive Providers**

There are several potential sources for clean energy incentives. Each state is different, so it is good practice to explore the options provided by each kind of incentive provider in each state in which clean energy projects are being considered (Refer to Table 1 for a listing incentive sources).

**Table 1 - Incentive Provider Cheat-Sheet**

Incentive	Federal, State and Local Tax Agencies	Private Financial Institutions	State Agencies	System Benefits Funds	Utilities
Grants			X	X	X
Loans		X	X	X	
Rebates			X	X	X
Tax Incentives	X				
Market Set asides			X		

➤ *State Governmental Agencies*

The Department of Environmental Protection or Energy, or their equivalents, are often good sources for information about state programs and often administer incentive programs.

➤ *Private Financial Institutions*

Private financial institutions in many regions are able to provide incentives for clean energy projects typically in the form of low interest loans, particularly if they are able to balance such a loan against a grant or guarantee provided by a governmental agency.

➤ *System Benefit Funds*

System benefit funds are entities that receive funding typically through a surcharge on electric utility sales to be used for the development of clean energy projects in the state or service territory from which the funding was provided. These are run either through a state agency, an independent non-profit organization or through state utilities – the structure of these organizations can vary significantly depending on the state and the legislation/regulation by which they were created. System benefit funds can provide grants, loans, and rebate incentives.

➤ *Federal, State, and Local Tax Agencies*

As described above, several tax-based incentives may be available depending on the specific location of the project. Contact the relevant tax agency for more information.

➤ *Utilities*

Utilities are often required to provide technical assistance for grid interconnection for renewable power generation and, depending on the state, net metering may also be an option. Finally, utilities often provide incentives for peak-load reduction and EE

projects, and in some states administer programs associated with system benefits funds.

### **Typical Incentive Requirements and Good Practice Guidelines**

The requirements to qualify for clean energy incentives vary depending on the type of incentive, the program rules, and the administering agency. Not all the requirements below apply to each specific incentive, and there will likely be additional requirements based on the structure of the incentive in question, but these are the most common requirements that are to be expected:

- Registration of project with incentive agency
- Use of certified contractor and/or specific products
- Contingency on completion and level of performance
- Payback time requirements
- 7-10 year loan terms
- Peak load reduction requirements for large projects
- Cap on total incentive amount
- Warranties

#### *Guidelines to be aware of...*

- Keep all project receipts and paperwork
- Ensure all pre-approvals are secured prior to equipment acquisition
- Be aware of in-service date requirements as well as incentive expiration dates and application windows
- Take advantage of available free technical assistance

### **Other State Programs to Consider**

Renewable Portfolio Standards (RPS) and net-metering are two popular programs that can be viewed as state incentives for RE and CHP. RPSs allow owners of renewable energy installations to sell Renewable Energy Certificates (RECs) to utilities that are required to purchase a set amount of power from renewable sources. RECs represent the environmental attributes of one MWH of renewable electric power and in some states sell for as much as \$50 each. Net-metering allows surplus power generated at distributed onsite facilities to be sold back to a utility and thus create a new revenue stream for a company. Both of these types of programs can provide added revenue and thus an increased IRR.

## Resources for More Information

- DSIRE – Database of State Incentives for Renewable Energy  
A listing of state RE incentive programs which is maintained by the North Carolina Solar Center, a program at NC State University.  
[www.dsireusa.org](http://www.dsireusa.org)
- Tax Incentives Assistance Project  
Informational website on the energy related tax incentives included in the Energy Policy Act of 2005.  
[www.energytaxincentives.org](http://www.energytaxincentives.org)
- ACEEE's Energy Efficiency Program Database  
Database of EE programs offered in 20 states.  
[www.aceee.org/new/eedb.htm](http://www.aceee.org/new/eedb.htm)
- EEA's economic incentives for distributed generation  
State-by-state distributed generation regulatory requirements including emissions and siting information as well as applicable fees and incentives.  
<http://www.eea-inc.com/rrdb/DGRegProject/Incentives.html>
- REPP – Renewable Energy Policy Project map of public benefit funds  
Information regarding the structure and funding of public benefit funds for those states that contain them.  
[http://www.repp.org/sbf\\_map.html](http://www.repp.org/sbf_map.html)
- FEMP – Federal Energy Management Program  
Administered by the Department of Energy, this web-page provides information on the demand response and EE programs offered in each state.  
[http://www.eere.energy.gov/femp/program/utility/utilityman\\_energymanage.cfm](http://www.eere.energy.gov/femp/program/utility/utilityman_energymanage.cfm)
- EPA CHP – Combined Heat and Power Partnership  
EPA's listing of state funding and regulatory opportunities for CHP and biomass projects.  
[http://www.epa.gov/chp/funding\\_opps.htm](http://www.epa.gov/chp/funding_opps.htm)