



CHP as an Electric Energy Efficiency Measure...

- Green Communities Act of 2008 - CHP projects are considered an Energy Efficiency Measure eligible for Incentive Funding by Program Administrators (“Utilities plus Cape Light Compact”)
- Compared to prior marketing-focused Gas Utility Incentive Programs, the Electric Program CHP Incentive has increased but so have the approval requirements



Incentive Requirements

- **Passes Massachusetts' Benefit/Cost Model**
 - **Installed Cost**
 - **CHP System Electric & Thermal Efficiency**
 - **Run hours with on site with use of thermal energy**
 - **Maintenance Costs**
- **60% Combined Electric and Thermal Efficiency (HHV basis)**
 - **A project which barely exceeds the minimum efficiency requirements is unlikely to have a BCR > 1.0**
- **Overall building energy efficiency measures are also implemented**



CHP Incentives for Qualifying Projects

- 150 kW or less, incentive is \$750 per kW
- Over 150 kW, capped at \$750 per kW
- Up to 50% of Installed Cost

(May be subject to Program Administrator Budget Limitations)



Application Supporting Details

- Facility Use/Mechanical Description
- Isolate Thermal Loads available for offset by a CHP Unit
 - Seasonal (Space Heating)
 - Daily Profiles of Thermal Loads (i.e. Domestic Hot Water)
 - Constant Loads (i.e. Process)
- Hourly Modeling (Pre- and Post-CHP): Difference (assuming no export) reflects CHP system operation
 - Facility purchased: Fuel consumption, kWh energy and kW demand
- CHP Installed and Maintenance Costs
- CHP System Detail
 - Make/Manufacturer/Type
 - kW Output/Electric and Thermal Efficiency/Thermal Output (type and quantity)
 - Parasitic Loads
 - Methods of Control



Applying for an Incentive

- Prospect Form
 - Basic customer information
 - Summarizes high level billing information and general building HVAC & process equipment
 - Used for prescreening purposes to determine whether to proceed with the more detailed analysis necessary to support an incentive application
- Guidebook for CHP Incentives
- Both documents are available on the Mass Save® website.

<http://www.masssave.com/business/building-or-equipment-upgrades/find-incentives/incentive-details-business-custom-retrofit-nstar?q=08e57708-ba3d-4963-8c9f-89d9027d6e39>



CHP Prospect: Prescreening

	Utility Consumption Data: Enter in yellow boxes				
Usage Month	Billing Year	Electric, kWh	Natural Gas, therms	Gal Oil consumption	Oil Therms
Jan					
Feb					
Mar					
Apr					
May					
Jun					
Jul					
Aug					
Sep					
Oct					
Nov					
Dec					
	Total				



CHP Prospect: Prescreening (cont'd)

Enter "X" for all that apply				
End Uses				
Equipment providing uses	Space Heating	Domestic Hot Water	Space Cooling	Process
Fossil Fuel Fired Central Boiler - Steam				
Fossil Fuel Fired Central Boiler - Hot Water				
Electric Heat				
Rooftop HVAC				
Centrifugal Chiller				
Steam Absorption Chiller				



Summary

- CHP can be a good energy savings opportunity for certain customers
- Careful analysis is necessary to ensure that the facility's thermal and electric load needs and profile is consistent with CHP equipment selection
- The system needs to be properly controlled to minimize thermal dumping and exporting of power
- Obtain early involvement of Program Administrator



For Follow-up Questions

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