



**B. Please check the type of technology (or technologies) for this application:**

1.  Solar PV
2.  Other Clean Energy Technology (Check any that apply)

System sizes are noted to provide categorical exclusion from requiring federal National Environmental Policy Act (NEPA) review.

- Combined Heat and Power (CHP) – *sized appropriately for the building in which they are located*
- Biomass Thermal – *3 MMBTUs or smaller, with appropriate Best Available Control Technologies (BACT) installed*
- Solar Thermal (no pools) – *sized appropriately*
- Geothermal – *10 tons of capacity or smaller*

3.  Thermal efficiency measures in oil or propane-heated buildings (check any that apply):

- New high efficiency boiler and/or furnace
- Improve efficiency of existing boiler and/or furnace
- Replacement and/or improvement of the heat delivery system (hot water steam including piping, unit heaters, ducting, insulation, dampers, fans, pumps, addition of zones and controls)
- Improve building envelope thermal performance including:
- Reduce heat loss from building including:
    - Increase insulation in walls, attics, basements and roofs
    - Replace older windows with new ones that have a higher insulation value (only if windows constitute more than 25% of building envelope)
    - Reduce the uncontrolled infiltration of outside air by installing weather stripping, sealing and caulking gaps and cracks adjacent to exterior or unheated spaces
  - Reduce uncontrolled convection losses by installing thermal **blocks** where needed
- Measures to reduce heating load due to ventilation, including:

Installation and/or upgrade and balancing of the ventilation system to achieve the minimum controlled introduction of cold outside air consistent with compliance with building codes

Addition of exhaust heat recovery units and air handler economizers

Install new or upgrade existing building Energy Management Systems

4.  Performance Contract Buy-Down

**C. ELIGIBILITY REQUIREMENTS:** Please complete answers in the spaces provided. Please provide documentation as indicated below or other evidence to demonstrate that each requirement is met. If no evidence is provided, DOER can not allocate EECBG funds.

1. The project is shovel-ready

**For Solar PV check all that apply and please attach document(s):**

Completed Site assessment that includes (*check all that apply*):

Solar window shading analysis

Roof assessment demonstrating a life span of 20 years and strength to support PV system per building code

Space for inverter

Estimated system size

Economic analysis

Estimated project cost

Procurement bid documents prepared, which could include

RFP for Power Purchase Agreement (PPA) with potential sites identified with potential system sizes

Site drawings, including roof drawings

Scope of Work

Site Assessment (as an exhibit)

Estimated project cost

Project Schedule

Project has been advertised but NOT initiated (provide date the bid was filed )

**For Other Clean Energy Technologies, check all that apply and please attach document(s):**

Feasibility study or implementation plan that includes *(check all that apply)*:

Assessment of existing conditions, including energy load analysis

Any permitting requirements

Projected energy demand

System specifications, including any ancillary systems

Operation and maintenance considerations and staffing

Economic analysis

Estimated capital cost

Procurement bid documents prepared

Scope of Work

Feasibility Study or Implementation Plan (as an exhibit)

Estimated project cost

Project Schedule

Project has been advertised but NOT initiated (provide date the bid was filed)

**For Thermal efficiency measures in oil/propane-heated buildings, check all that apply and attach documents:**

Completed energy audit report which includes *(check all that apply)*:

Description of existing conditions, including baseline energy and water usage

Energy Conservation Measures (ECMs) identified and prioritized

**NOTE:** Measures requested for funding under Section B.3. should be consistent with the priorities established in the audit

Estimated investment cost for total project, each ECM, life expectancy of equipment, and estimated annual savings.

Procurement bid documents prepared, which can include

- Scope of Work, with description and specifications for selected ECMs
- List of Major Equipment to be Procured
- Estimated project cost
- Project Schedule
- Energy Audit Report (as an exhibit)

Project has been advertised but NOT initiated (please provide date the bid was filed)

**For Performance Contract Buy-Down, check all that apply:**

Energy Savings Contractor (ESCO) vendor selected. Please specify and date DOER notified:

\_\_\_\_\_

Investment Grade Audit (IGA) is completed.

Date signed: \_\_\_\_\_

Date filed with DOER: \_\_\_\_\_

Report received on: \_\_\_\_\_

The Energy Management Services (EMS) Agreement has been signed and executed and allows for *changes after execution in regards to the addition of EECEBG funds*:

Date EMS Agreement signed: \_\_\_\_\_

Date Sent to DOER for filing: \_\_\_\_\_

2. Number of Jobs created (*Please see Attachment B for instructions on how to determine*)

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3. Projected reductions in greenhouse gases/fossil fuel energy (*see Attachment C for instructions on how to determine*) **Please provide your calculations in Attachment D**

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4. Committed leveraged funds (*e.g: Source: MRET Amount: \$100,000*)

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5. Proposed leveraged funds (*ie: What funds will be leveraged to make up balance?*)

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6. For Solar PV and Clean Energy Technologies, please describe and provide evidence of energy efficiency and conservation measures that have been implemented in the connected building in the last five (5) years (*ie: lighting retrofits, Energy Management System*).

**SUBMISSION INFORMATION:**

Please provide either an **electronic copy via e-mail** OR **5 unbound hard copies** to the addresses below:

Email submittal: xx.xx@state.ma.us

5 Hard Copies: Department of Energy Resources  
100 Cambridge Street, 10<sup>th</sup> Floor  
Boston, MA 02114  
ATTN: XXXX

**Attachment A**

**PLEASE ATTACH A REASONABLY DETAILED SUMMARY OF THE PROJECT.**

Please include the following:

A description of the opportunities for public education on energy efficiency and conservation or clean energy as a result of implementation of this project.  
Why this project is important to your community.

Please limit your response to the space provided.

**Attachment B**  
**Jobs Created Description**

According to the US DOE, jobs created/retained are to be determined by taking the amount of funds received (or in this case, requested) and divide them by \$92,000

Ex: \$150,000 EECBG funds received / \$92,000 = 1.63 or 1-2 jobs created

If funds are less than \$92,000 than the *actual* number of jobs that will be created to manage and maintain the project can be listed, or a fraction if the applicant deems this appropriate.

It is also acceptable to provide estimated jobs created based on local income, if data is available. (ie: If the normal annual income is \$45,000. double the amount of jobs could be created than if \$92,000 was used for the estimate)

Created jobs are jobs that did not exist previously. Jobs retained are jobs that are “in-house” or taking jobs from other departments of the municipality and moving them to this project. The ARRA of 2009 is mostly concerned with jobs *created*.

**Attachment C**

Greenhouse Gas reductions can be projected using the following CO<sub>2</sub> emissions factors for the reduction in the applicable fuel type.

Fuel	Emission Coefficients		
	Pounds CO <sub>2</sub> per Unit Volume or Mass		Pounds CO <sub>2</sub> per Unit Energy
<b>Petroleum Products</b>			
Distillate Fuel (No. 1, No. 2, No. 4 Fuel Oil and Diesel)	22.384	per gallon	161.386 per MMBtu
Motor Gasoline	19.564	per gallon	156.425 per MMBtu
<b>Natural Gas and Other Gaseous Fuels</b>			
Natural Gas (Pipeline)	120.593	per 1000 ft <sup>3</sup>	117.08 per MMBtu
Propane	12.669	per gallon	139.178 per MMBtu
	532.085	per barrel	
Source for all of the above emission factors: <a href="http://www.eia.doe.gov/oiaf/l605/coefficients.htm1">http://www.eia.doe.gov/oiaf/l605/coefficients.htm1</a> .			
<b>GRID ELECTRICITY</b>			1004 per MWh

Source for the Grid Electricity emissions factors:  
ISO-NE 2007 Marginal Emissions Draft Report, March 31, 2009

For example, if you install a PV system that is projected to produce 1,000 kwh/year (=1 MWh), then the projected greenhouse gas emissions reductions would be:

$$1 \text{ MWhr/yr} \times 1004 \text{ lbs CO}_2/\text{MWh} = 1004 \text{ lbs of CO}_2$$

If you increased the insulation in your building and projected to reduce your consumption of Natural Gas heating by 1,000,000 Btu/year (= 1 MMBtu), then the projected greenhouse gas emissions reductions would be :

$$1 \text{ MMBtu/hr} \times 117.08 \text{ lbs CO}_2/\text{MMBtu} = 117.08 \text{ lbs of CO}_2$$

**Attachment D**

Please provide your calculations for GHG and fossil fuel energy reductions here.