



CONNECTICUT CLEAN ENERGY FUND

Connecticut Clean Energy Fund Public Overview of Proposed Geothermal Heat Pump Incentive Program November 23, 2009

Overview

Using funds received as part of the federal economic stimulus package (under the American Recovery and Reinvestment Act – ARRA) to stimulate the development of renewable energy and green jobs in Connecticut, the Connecticut Clean Energy Fund (CCEF) plans to introduce a geothermal heat pump incentive program on or about December 1, 2009. The following document is intended to provide a high level overview of the proposed program.

Public Comment

Interested persons are encouraged to provide the CCEF with written comments by 4:00 p.m. on November 20, 2009. All comments should be directed to Dave Ljungquist via email at info@ctcleanenergy.com or at 200 Corporate Place, 3rd Floor, Rocky Hill, CT 06067. Furthermore, the CCEF will host a 2 hour program dialogue session following the public comment period. **The session will be held in the Community Room at the Rocky Hill Town Hall from 4:00 to 6:00 p.m. on Monday, November 23rd.**

Geothermal Heat Pump Incentive Program

Applications will be open to all Connecticut homeowners, businesses or organizations who wish to install ground source heat pump (GSHP) systems, also known as “geothermal” systems, as the primary heating and cooling system for their buildings. Incentives will be available for both new construction and for existing buildings (retrofits). Systems based on “open loop” designs, where ground water is used directly as the circulating heat transfer fluid, will not be eligible for incentives. Funding is expected to last for approximately 30 months, during which the results will be evaluated for possible continuation under CCEF funding. This program will be conducted in cooperation with incentive programs operating under the Connecticut Energy Efficiency Fund, which are administered by the Connecticut Light & Power Company and the United Illuminating Company. Only one application will be needed to apply for both incentives.

Program Objectives

- Support approximately 350 residential and about 30 commercial geothermal heat pump system applications.
- Increase public awareness of, and interest in, the technology of GSHP systems as a practical, economical means of heating and cooling buildings.
- Provide information and experience which will help establish a foundation for long-term, healthy growth in the ground source heat pump industry with declining reliance on state-sponsored incentives
- Directly stimulate the growth of companies and jobs in the GSHP industry in Connecticut

The program will be continuously evaluated to learn from the response of the market to optimize the incentive structure while meeting the installation objectives.

Applicant Eligibility

- Residential dwellings (new construction and retrofit)
 - All new homes must be ENERGY STAR-rated to qualify for the incentive
 - Existing homes (retrofits) must participate in the utilities' Home Energy Solutions Program (or comparable audit program) prior to installation, and all cost effective shell upgrades must be made prior to installing a geothermal system
- Developers are eligible to apply for incentives for up to 25 residential dwellings
- Commercial facilities (must meet current Connecticut building code standards for efficiency)
- State and municipal buildings (must meet current Connecticut building code standards for efficiency)
- Existing heating/cooling systems may be of any type (e.g., gas, electric, oil)

Equipment Eligibility

- Must be commercially available, with manufacturers' warranties
- All systems must be designed and installed by IGSHPA-certified installer or Certified GeoExchange Designer
- Only closed-loop GSHP technologies are eligible
- Residential systems will be limited to 6 tons (cooling capacity) per dwelling unit
- Commercial systems will be limited to 100 tons (cooling capacity)
- Minimum capacity: 50% of total heating load, based on estimated usage
- Maximum capacity: 100% of the peak heating or cooling load, whichever is greater
- Heat pumps must meet federal Energy Star requirements
- Upon completion, a VIP (Verification of Approved Performance) form must be submitted, and systems must meet 85% of the rated COP or EER and 85% of the rated capacity of the system

Contractor Requirements (Residential projects)

- Must have a licensed heating/cooling contractor on staff, or
- Must be registered as a Home Improvement Contractor or New Home Builder and
- Must affirm that only properly-licensed installers will be used as subcontractors
- Must agree to pay "prevailing wages" to on-site construction workers

Contractor Requirements (Commercial projects)

- Must have licensed heating/cooling contractor on staff, or
- Must affirm that only properly-licensed installers will be used as subcontractors
- Must "buy American" on projects for all government-owned buildings.
- Must agree to pay "prevailing wages" to on-site construction workers

Inspections

- All new construction, prior to installation, for energy efficiency rating (HERS)
- Review of all commissioning reports, upon project completion
- Site inspection of first three projects of any type, per contractor
- If all were satisfactory, spot checks thereafter
- If significant problems with any, next three projects will be inspected

Level of Support for Individual Awards

Incentive Structure: The incentives will be in the form of a grant based on system capacity. In this program, there will be no adjustments for project economics, so efficiency and cost-effectiveness will be encouraged.

There will be a total of \$4,500,000 in grant funds available between December 2009 and April 2012. Grants will be awarded to qualifying projects on a “first come, first served” basis, according to the following schedule:

Grant amount:

- Residential (new construction) -- \$1,200 per ton of air-conditioning capacity
- Residential (retrofits of existing building) -- \$2,000 per ton
- Commercial for-profit -- \$1,200 per ton
- Not-for-profit -- \$2,000 per ton

Maximum project size incented per installation as follows:

- Residential – 6 tons
- Non-residential – 100 tons

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