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On-site Renewable Energy Generation Projects

# APPLICATION INSTRUCTIONS

Program Opportunity # CCEF-OSDG-001  
Version 2

## ON-SITE RENEWABLE DISTRIBUTED GENERATION PROGRAM

FOR COMMERCIAL, INDUSTRIAL, AND INSTITUTIONAL USERS

*Program Release December 1, 2005, revised July 1, 2008  
Applications are accepted on a rolling submission basis*

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## Executive Summary

CCEF's On-Site Renewable Distributed Generation (OSDG) Program is a financial support program for renewable energy installations at Commercial, Industrial, and Institutional facilities in Connecticut. Through the On-site Renewable DG Program, CCEF will offer financial support to buy down the cost of renewable energy generating equipment. The level of support for individual awards is not a fixed amount based on size or cost, but will vary based on the specific technology, efficiency and economics of the installation. The total available grant amount for a given project will be limited to \$4 million (\$850,000 for PV projects). The intent of the funding is to enable owners of renewable energy systems to "break even" over the life of the project, with a modest return on the investment, compared to purchasing the equivalent amount of power from the utility.

Applications for this Program will be accepted on a rolling submission basis. CCEF encourages Applicants who require an accurate estimate of the incentive amount, or who are submitting a proposal close to the maximum size limits to submit a Pre-Application Form or schedule pre-application discussions with the CCEF staff before submitting an Application under this Program. The Application and Pre-Application Forms are available in a separate file on CCEF's Web site.

The Connecticut Clean Energy Fund (CCEF) was created by the Connecticut General Assembly in 1998. CCEF promotes the development and commercialization of clean energy technologies and stimulates markets for electricity from clean renewable sources. CCEF is administered and managed by Connecticut Innovations, a quasi-public state agency created by the General Assembly in 1989 to accelerate Connecticut's entrepreneurial technology economy by making risk capital investments in people, technologies, and emerging companies. CCEF's funding comes from a surcharge on electric ratepayers' utility bills.

## Section 1 - Introduction and Overview

### 1.1. *Background and Objectives*

CCEF, as administered by Connecticut Innovations, Inc., is the organization responsible for managing the investments of the Renewable Energy Investment Fund established under Conn. Gen. Stat. § 16-245n. Having exceeded its objective of having 5 MW of customer side-distributed generation projects contracted by mid-2007, CCEF is now aiming at subsidizing an additional 15 MW of these projects by June, 2010. The On-site Renewable DG Program is expected to deliver the bulk of the capacity identified in this goal.

The specific objectives of the On-site Renewable DG Program are to:

- Fund a geographically and size-diverse portfolio of on-site distributed generation projects from a variety of renewable resources;
- Select projects with a high probability of reaching successful installation and operation;
- Focus on projects that fully utilize the characteristics of the technology and maximize benefits to the host site;
- Give special attention to projects that have potential to reduce the federally mandated congestion charges in Connecticut; and
- Select project hosts that will disseminate lessons learned, barriers overcome, and benefits of the installation to their peers.

The total funding allocated for all selected projects under this Program through 2010 is \$54.3 MM. Targeted funding levels within the total allocation include \$15.285 million for fuel cells, \$29.95 MM for solar PV, and \$6.38 MM for other technologies.

### 1.2. *Program Eligibility*

#### 1.2.1. **Eligible Technologies**

To be eligible, an Applicant must propose to install commercially available clean energy-generation equipment at a Connecticut host site. The installation must utilize technology that falls within one or more of the following categories:

- Solar electric (photovoltaic, or "PV"),
- Wind,
- Fuel cells,
- Landfill gas,
- Waste heat recovery-powered generators
- Low-emission advanced biomass conversion technologies, and
- Class I Hydropower.<sup>1</sup>

Additionally, the CCEF authorizing statute includes a provision allowing CCEF to fund “other energy resources and emerging technologies which do not involve the combustion of coal, petroleum or petroleum products, municipal solid waste or nuclear fission.” Resources and technologies not listed above will be addressed on a case-by-case basis, with substantial weight being given to those resources and technologies approved as a Class I renewable energy source by the DPUC.<sup>1</sup>

### 1.2.2. Minimum Requirements

All Applications must meet the minimum threshold requirements outlined below to be considered for eligibility.

- Host sites must be commercial, industrial, or institutional facilities. These may include offices, hospitals, municipal and government buildings, schools, manufacturing facilities, universities, libraries, museums, and certain special-purpose educational facilities or centers, among others. Portable or mobile systems will not be considered under this Program. Seasonal, temporary, or limited-use facilities will be closely scrutinized for high value and visibility, and may be excluded.
- The project must use an energy-generation device that is commercially available and offers warranties, spare parts, and service commensurate with commercial status.
- Applicants must be the owner and operator of the property or facility (host) where the project is to be located, or a third-party energy services provider willing to own and operate the energy-generation equipment for the contract term.
- Facilities must be located in Connecticut within the Connecticut Light and Power (CL&P) or United Illuminating (UI) service territories.
- Energy must be generated by a renewable energy electric-generating resource within the scope of CCEF’s funding authorization as defined by Conn. Gen. Stat. § 16-245n(a).
- The generating facility must intend to generate energy primarily for consumption at the host site at the moment it is generated. Net metering may be used to accommodate occasional excess production, but if significant excess energy is anticipated the incentive may be calculated on the proportion of the project’s capacity that does not result in excess production.
- A specific site location must be identified at the host site.
- Separate facility locations must be presented in separate Application submissions. They may not be combined into one proposal.
- Projects are expected to be installed and operating within twelve (12) months of an executed contract with CCEF.

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<sup>1</sup> A decision can be obtained by filing a Request for Declaratory Ruling with the Connecticut Department of Public Utility Control. See their Web site at <http://www.state.ct.us/dpuc/> for further information.

**Applications not meeting all requirements outlined above may not be evaluated further under this Program.**

### **1.3. Key Program Rules & Recent Changes**

- Maximum total project incentive is \$4,000,000 to allow for larger-scale and combined-technology projects, such as PV and fuel cells, or wind and hydro. PV-only projects are limited to a maximum of \$850,000.
- The Southwest Connecticut incentive of 2 cents for PV projects, 1.5 cents for all other renewable energy technologies has been eliminated.
- A "Feasibility Study Grant" program has been added, to provide up to \$50,000 for feasibility studies, permitting, meteorological surveys, and other activities needed at the onset of a large project to determine whether or not a proposed project is viable:
  - Maximum funding per project of \$50,000
  - For all commercial entities and third party providers seeking to develop projects with government or non-profit entities where an energy service agreement is being contemplated, the study cost will be reimbursed at the completion of the study, except where a non-renewable energy technology is selected and installed
  - For government and non-profit entities, the study cost will be paid at study completion
- For photovoltaic projects, the maximum size of the installation that will be eligible for a CCEF incentive is now approximately 200 kW<sub>PTC</sub>. This change has been implemented to help assure adequate funding for PV projects for the future, while maximizing the number of projects that can be implemented. See Section 1.3.7.
- For fuel cell projects, a two-tier incentive limit has been established, to reflect the declining cost per kW of large-capacity (>1 MW) equipment. See Section 1.4.1.
- For PV projects, a data-monitoring system (Fat Spaniel or equivalent) is required only for projects which are 50 kW<sub>PTC</sub> or larger.

#### **1.3.1. Energy Efficiency Requirement**

Since it would not be prudent to install expensive renewable energy generation equipment in a building that is wasteful of energy, the OSDG Program has always required an "energy audit" to confirm a reasonable level of energy efficiency in the systems that constitute the electric load of the facility. This requirement has caused some confusion, as well as undue focus on the "audit." To clarify CCEF's intent, and to further insure that

any renewable energy generators deliver the maximum benefit for the ratepayers' incentive funds, the following changes have been implemented:

1. If, within the 36 months prior to submission of the CCEF incentive application, the host site can document:
  - a. Participation in one or more of the Conservation and Load Management ("C&LM") programs run by CL&P or United Illuminating under the Connecticut Energy Efficiency Fund, or
  - b. New construction or major renovation conforming to the efficiency standards of the Connecticut building code in effect as of the time of application

then the site efficiency requirements are satisfied.

2. However, if no significant energy efficiency measures have been implemented within the past three years, an "energy audit" must be submitted along with the CCEF incentive application. The energy audit must include recommended energy efficiency measures and estimated costs and paybacks. The audit may be generated either through participation in one of the utilities' C&LM programs or by a qualified third-party energy services company. Audits conducted by host-site personnel or the renewable-energy project developer will not be accepted.

3. Before any CCEF funds will be disbursed, the host site must provide documentation that all recommended measures with a simple payback of five (5) years or less have been implemented.

### **1.3.2. Security Interest**

CCEF will maintain a security interest (a "UCC clause") in each project for the duration of the contract, subordinated to any other financing obligations of the project. The purpose of this is to insure notification of CCEF of any significant changes in ownership or location of the project.

### **1.3.3. Project Operation**

The project owner is required to operate the project for the "financeable life" of the equipment, which is assumed to be fifteen years for PV and ten years for wind and fuel cells, with other technologies TBD. Language will be incorporated into the Financial Assistance Agreement allowing temporary cessation of operation if it can be documented that continued operation would cause significant economic hardship.

### **1.3.4. Term of Contract**

The term of the contract is the same as the required project operation, i.e., 15 years for PV, ten for wind or fuel cells.

### 1.3.5. Funding Limits – All Projects

No single project will receive more than \$4 million in incentives, and no PV project will receive more than \$850,000.

### 1.3.6. Funding Limits – Project Owners

No single project owner (individual or corporate entity, including parent companies) will receive more than \$4 million in incentives in any three-year period, or more than \$850,000 in PV incentives.

### 1.3.7. Incentive Limits – Photovoltaic Projects

The maximum allowable incentive for for-profit owners will be \$4500/kW<sub>PTC</sub> and for not-for-profit owners it will be \$4750. All projects may also qualify for an additional \$250/kW<sub>PTC</sub> incentive if the site qualifies for LEED Silver, Gold or Platinum. Incentive funding will be limited to \$850,000 per PV project.

The maximum-sized project (in kWAC) which will be eligible for CCEF's incentive will be limited to the difference between the most recent 12 months' peak demand and the "base load." Base load is defined as the average of the account's non-zero monthly minimum demands over the most recent 12 months.

In cases where hourly load data is not available, system size will be determined by the smaller of the previous 12 months' peak demand, or the capacity which would produce no more than 50% of the site's expected kWh annual usage.

### 1.3.8. Notice to Electric Utilities

The application for interconnection ("Interconnection Agreement") for all projects must be made prior to pulling the building permits. This requirement is made to identify any potential problems associated with the utility's distribution system (e.g., the "secondary network" problem), and to maximize the time available to resolve potential interconnection problems without seriously impacting the project's schedule.

### 1.3.9. Retention of Solar and Wind RECs

To ensure that RECs from the OSDG Program are used to meet Connecticut's RPS and to preserve the "other attributes" where economic value has not yet been attributed for potential future monetization for the benefit of CT ratepayers, CCEF will retain the RECs for all solar and wind projects that are 50kW<sub>PTC</sub> or larger.

For all newly approved PV and wind projects, CCEF will retain the RECs in exchange for the estimated present value of the RECs over the term of the Financial Assistance Agreement (normally 15 years). Initially, the present value will be calculated based on a REC value of \$30/MWh, using a discount rate equal to the assumed composite cost of capital for projects.

The payment for the RECs will be in addition to the normally-calculated CCEF grant, and will be paid in increments coincident with the grant payment schedule shown in Table 3 in Section 1.4.1. Production estimates will be calculated by CCEF, using PowerClerk or PVWatts, subject to modification if the actual production differs significantly ( $>\pm 10\%$ ) from the predicted value.

NOTE: If the project owner wishes to retain the rights to the RECs in order to retire them, and thereby rightfully claim credit for being “green,” CCEF will forego ownership of the RECs. A notarized letter from the project owner to CCEF that the RECs generated for the first fifteen (15) years of the project’s operation will be retired and not sold to anyone else, will be required prior to execution of the Financial Assistance Agreement.

#### **1.4. Terms and Conditions of CCEF Financing**

In the event of an award, Applicants must be willing to accept terms and conditions substantially similar to those found below. A Financial Assistance Agreement (FAA) detailing the terms and conditions of the award is expected to be negotiated and executed within ninety (90) days of award notification, after which time the financing offer from CCEF may be retracted. An outline of the basic terms and conditions of CCEF financing are provided in Sections 1.4.1 through 1.4.3.

##### **1.4.1. CCEF Funding and Disbursement**

The level of support for individual awards will vary based on the specific economics of the installation and the technology used, up to a maximum funding cap (see Tables 1 and 2 on the following page).

CCEF will provide funding only for that portion of the project that meets the requirements of Appendix A. The actual subsidy amount will be ascertained by assessment of the difference between the host site’s cost of energy that would be displaced by the proposed on-site generating equipment and the total cost and value of the energy provided by the new clean energy-generating equipment. Each site will be individually analyzed by CCEF and each technology will be evaluated over the reasonable lifecycle of the equipment.

The total financing amount for a given PV project will be limited to \$850,000, and \$4 million for all other technologies. An example of the economic evaluation process can be found in Appendix B.

Table 1 – CCEF Funding Limits for Non-PV Projects

Technology	Maximum Incentive				
	Fuel Cells	Small Wind	Small Biomass	Landfill Gas	Hydro
Funding cap	\$4.70/W	\$3.60/W	\$3.30/W	\$3.20/W	TBD
Evaluation timeframe	10 yrs <sup>2</sup>	15 yrs	10 yrs	10 yrs	20 yrs

Fuel cell projects will be limited to an incentive limit determined by the following formula: The Maximum Allowable Incentive will be the lesser of \$4700/kW or \$4,000,000 divided by the capacity of the project (kW). This is shown graphically as:

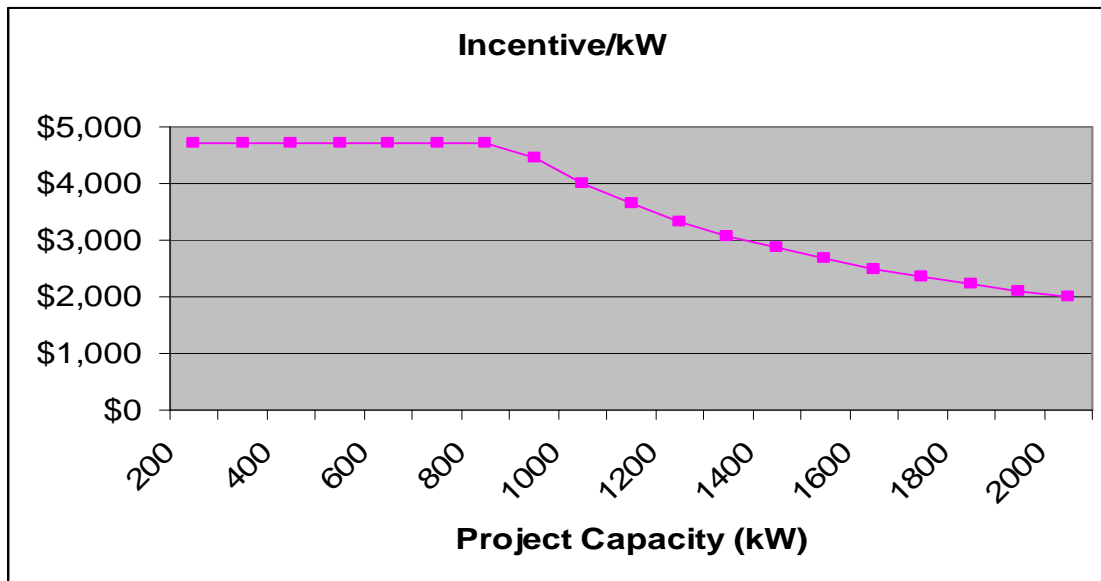


Table 2 – CCEF Funding Limits for PV Projects

Incentive Blocks	Maximum Incentive	
	For-Profit Owners* (\$/Watt <sub>PTC</sub> )	Not-for-Profit Owners (\$/Watt <sub>PTC</sub> )
<100 kW <sub>PTC</sub>	\$4.50/Watt	\$4.75/Watt
>100 kW but <200 kW	\$3.50/Watt	\$4.25/Watt
>200 kW	\$0.00/Watt	\$0.00/Watt
Evaluation timeframe	20 years	

\*Includes Power Purchase Agreements with not-for-profit entities

<sup>2</sup> Subject to fuel cell manufacturer's specifications.

1. The maximum incentive award to any commercial Solar PV project will be limited to \$850,000.
2. All PV projects for sites certified as certified Gold, Platinum or Silver LEED or the equivalent shall receive a \$250/kW<sub>PTC</sub> additional incentive premium.
3. The maximum aggregate incentive dollar amount that any host-site entity will be awarded for multiple PV projects will be limited to \$850,000 in any one three-year period.
4. Any project not approved by June 30, 2008 will be subject to the above modifications, whether or not an application had been submitted earlier.

The incentive funding for this program will be in the form of a grant. The grant monies will be disbursed in installments to the owner of the equipment based on project milestones according to the following schedule, regardless of technology. The facility must implement the minimum recommended level of efficiency improvements prior to installation of the generating equipment before any funding from CCEF is released. See Appendix A for details.

**Table 3 - Disbursement Schedule – Basic Grant**

Milestone	Payment
Delivery of generating equipment to site	50%
Startup, commissioning, and inspection	40%
After six months of successful operation	10%

The final grant payment, after the first sixth-month anniversary of the system commissioning, will be made provided that the system has produced at least 70% of the projected AC energy production during the first 6 months of operation, as verified by CCEF's independent consulting engineer. The present value of retained RECs will also be paid at this point.

Please refer to Appendix B for an explanation of the calculation method used for these premium payment amounts.

#### 1.4.2. Key Terms and Conditions

In addition to the funding terms discussed above, successful Applicants will be required to:

1. Operate the equipment in Connecticut for at least ten (10) years;

2. Make available, in real time, limited operating data from the facility, via a “Fat Spaniel” (or equivalent) energy monitoring system for all installations of 50 kW or more;
3. Provide CCEF with reasonable access to the site;
4. Be prepared to show proof of any contractor and subcontractor’s insurance policies evidencing a minimum of \$1,000,000 liability insurance coverage;
5. Insure the equipment and list CCEF as an additional loss payee;
6. Repay the total grant amount plus interest from the date of disbursement in the event of a default; and
7. Provide prominent and visible signage at the project site and acknowledgment in any and all of the host and owner’s promotional materials recognizing CCEF’s contribution to the project in a form acceptable to CCEF.

### 1.4.3. Management and Reporting Requirements

All Awardees must agree to provide the following minimum management and reporting deliverables to CCEF:

- Invitation to CCEF representative to any scheduled “kickoff” meeting or periodic project meetings when Awardee begins project-specific activity.
- Provision to CCEF of any meeting minutes and action items produced from these formal project meetings.
- A letter certifying completion of the system commissioning and commencement of entry into operational service of the generating equipment.
- Annual reports to CCEF (1 page) regarding the economic and technical performance of the project.

## Section 2 - Program Logistics

### 2.1. *Schedule*

Applications under this Program Opportunity will be accepted and reviewed on a rolling basis. Each project that successfully passes the eligibility screen will receive a detailed evaluation, due diligence, and analysis. Following its detailed review, CCEF will determine the financial support level and notify the Applicant. Upon the Applicant's decision to proceed, CCEF staff will:

- 1) For photovoltaic (PV) projects justifying a total incentive below \$300,000 submit a recommendation for funding to CCEF management for approval, or
- 2) For all other projects, submit a recommendation for funding to the Projects Committee of CCEF's Board of Directors for approval at the next scheduled monthly meeting

Following approval of the incentive, Applicants will be notified of approval and will receive the formal funding offer (the "Financial Assistance Agreement") including detailed terms and conditions. Documents are expected to be negotiated and executed within ninety (90) days of notification.

### 2.2. *Communications and Questions*

Questions or clarifications about this Program must be directed in writing to:

Project Manager, On-site Renewable DG Program  
200 Corporate Place, 3<sup>rd</sup> Floor, Rocky Hill, CT 06067

Or by electronic mail to [cefinfo@ctcleanenergy.com](mailto:cefinfo@ctcleanenergy.com)

Questions and comments must include the name of company and person submitting the question. CCEF will utilize comments and questions to continually improve the process as practical.

**Any oral communications in connection with the Program or this Program Opportunity are not binding and shall in no way alter a specification, term, or condition nor indicate any selection preference other than that identified herein.**

### 2.3. *Project Characteristics*

The projects selected under this solicitation must meet certain standards that include documentation, operational, warranty, and hardware requirements. The details of these requirements can be found in Appendix A.

#### **2.4. Evaluation Process**

The CCEF will accept Applications for this Program Opportunity on a rolling basis. CCEF staff will initially assess incoming Applications against the program eligibility criteria within fifteen (15) business days of Application receipt.

Applications that pass the initial screening will be financially analyzed by CCEF and evaluated for their consistency with the Program's objectives and requirements based on information provided in the application. CCEF may use department staff, staff of other agencies, private consultants, industry experts, or other designated representatives to evaluate the Applications throughout the Application review and selection process at CCEF's discretion and without notice to the Applicant. During this review, CCEF will determine a specific subsidy amount and inform Applicants of the level. Notice of the subsidy amount will require an acknowledgment and commitment by the host to proceed with the project at the identified subsidy level.

Host sites that wish to receive indication of the approximate subsidy amount in advance can submit a "Pre-Application Form" with the required project information. CCEF staff will determine the approximate subsidy.

A project can be rejected at any point in the process at the sole discretion of CCEF. Where appropriate, projects that do not receive a favorable review will be encouraged to resubmit a revised Application at a later date.

#### **2.5. Evaluation Criteria**

The information in each Application will be evaluated initially for completeness and consistency with the Application submittal requirements outlined in Section 3 of this document, the eligible technology criteria identified in Section 1.2, and the Project Characteristics discussed in Section 2.3. All Applications must meet these minimum requirements to be eligible for evaluation. Applications with substantial deficiencies will be rejected. CCEF may request that the Applicant promptly provide missing information or appropriate clarifications.

Projects that successfully meet the threshold eligibility screen will be further evaluated based on:

- Deployment of the technology, and
- Probability of project completion.

The following sections describe the types of questions CCEF will be looking to answer in each of these categories in its assessment of the Applications.

### **2.5.1. Deployment of the Technology**

- How well are the technology attributes matched with the host building's energy needs and requirements? (Is there a better technology or combination of technologies that should be employed at this site?)
- Has the equipment proposed been appropriately sized to the host building's electrical and thermal loads?
- Are the costs of the equipment and installation reasonable?
- Does the proposed installation reflect a thorough understanding of the generating equipment's limitations and capabilities?
- Does the operating and maintenance program adequately address the manufacturer's recommended standards to allow eight (8) years of successful operation?
- Is the quality reliability and operational track record of the equipment adequate to assure reliable operation and ease of maintenance?
- How reliable is the fuel source or resource and how well matched is it with the proposed equipment?

### **2.5.2. Probability of Project Completion**

- Is the project economically sound?
- Is funding secured for the balance of the costs not funded by CCEF?
- What is the level of commitment from the project host?
- Does the project development and operation team have experience necessary to ensure success?
- What is the proposed operational date and how likely is the project to meet this date?
- Are the relevant permits identified and is the plan to obtain them appropriate?

## **2.6. *Application Conditions***

### **No Commitment; Reserved Rights**

This Program Opportunity is not an offer and neither this document nor any subsequent discussion shall give rise to any commitment on the part of CCEF or confer any rights on any Applicant unless and until a binding written agreement is executed by CCEF and the Applicant. CCEF reserves the right to reject any or all Applications; to waive defects or irregularities in any Application; to enter into discussions with selected Applicants; to discontinue discussions with any Applicant at any time and for any reason; to correct inaccurate awards; to change the timing or sequence of activities related to this Program Opportunity; to modify, suspend, or cancel this Program Opportunity; and to condition, modify, or otherwise limit awards pursuant to this Program Opportunity.

## **Applicant's Cost**

All costs to the Applicant associated with the preparation of an Application, material preparation for any related investigative or due diligence activities, other than the external review, and any resulting discussions or negotiations shall be borne by the Applicant.

## **Applicant Representations**

By responding, the Applicant shall be deemed to have represented and warranted: (1) that the Application is not made in connection with any competing Applicant submitting a separate response to this Program Opportunity and is in all respects fair and without collusion or fraud; provided, that this requirement shall not be construed to prohibit any person or entity from being involved in more than one project or Application; (2) that the Applicant did not participate in the Program Opportunity development process outside of CCEF's requested public comment period; (3) that the Applicant has not been convicted of bribery or attempting to bribe a public official or employee of the state, has not been disqualified for contract awards by any agency of the state, and is not in default under any contract with an agency of the state; (4) that the Applicant has not provided any gift or benefit to any state official or employee having direct influence over the evaluation of this proposal; (5) that the Applicant has disclosed all affiliates, partnerships, and relationships; and (6) that the information contained in the Application is true, accurate, and complete and includes all information necessary to ensure that the statements therein are not misleading.

## **Freedom of Information Act**

CII, which administers CCEF, is a "public agency" for purposes of the Connecticut Freedom of Information Act (FOIA). Accordingly, upon receipt at the office of CCEF, your Application will be considered a public record or file subject to disclosure under the FOIA. The FOIA includes exemptions for "trade secrets" and "commercial or financial information given in confidence, not required by statute." CII's legislation expands the FOIA exemption to include "all financial and credit information and all trade secrets . . . concerning any applicant, project, activity, technology, product or invention." Only the particular information falling within one of these exemptions can be withheld by CII if made the subject of a public records request under FOIA. CII will not withhold any information unless the Applicant specifically identifies the information that the Applicant considers confidential or proprietary and demonstrates how such information fits into one of the FOIA exemptions set forth above. Upon receipt of information so designated as confidential by an Applicant, CII will review the request and make a determination as to the confidentiality of such information. CII will provide the Applicant with its determination prior to releasing any such information to the public.

Applicants should be aware that (i) CII has no obligation to initiate, prosecute, or defend any legal proceeding or to seek to secure any protective order or other relief to prevent disclosure of any information pursuant to an FOIA request, (ii) the Applicant will have the burden of establishing the availability of any FOIA exemption in any such legal proceeding, and (iii) in no event shall CII or any of its officers, directors, or employees have any liability for disclosure of documents or information in the possession of CII that CII, or such officer, director, or employee, in good faith believes to be required pursuant to the FOIA or other requirements of law.

### **Use of Information and Ownership of Work Product**

Except for trade secret or other proprietary information identified as such pursuant to the section above dealing with the Freedom of Information Act, CCEF is not restricted in its right to use or disclose any or all of the information contained in any Application and can do so without compensation to the Applicant, notwithstanding any language in the Application to the contrary.

### **State Contracting Requirements**

This Program Opportunity and any contract awarded pursuant to this Program Opportunity shall be subject to and incorporate all applicable legal requirements arising under federal or state law, including applicable state statutes and Executive Orders relating to maintenance and examination of records, nondiscrimination, the Americans with Disabilities Act, violence in the workplace, and whistleblower protection. A more complete description of such state contracting requirements is available on request directed to CCEF in accordance with the communications protocol set forth above.

## Section 3 - Application Submission Requirements

This section outlines the content and format requirements for all Applications submitted in response to this Call for Applications for Operational Demonstration Projects.

### **3.1. Letter of Interest**

It is highly recommended that potential applicants submit a letter and the “Pre-Application Form” documenting their intent to apply approximately sixty (60) days before the intended submission date. This letter should briefly detail the envisioned project and should provide contact information for the project sponsor and future system owner. If an estimate of the incentive for the proposed project is desired, all information requested in the Pre-Application form must be provided.

### **3.2. Application Delivery**

The Application must be delivered personally, by U.S. Mail, or by courier service to the Connecticut Clean Energy Fund's offices.

### **3.3. Application Format, Length, and Copies**

Eligible parties must submit two (2) copies of their Application that are:

- Typed or printed using 12-point font on standard 8.5 X 11” paper, and
- Bound using staples, binder clip, GBC binding, or other soft method. Three-ring binders are not permitted.

There is no minimum or maximum length for the Application. However, a succinct presentation of all relevant information would be appreciated.

CCEF would appreciate an electronic copy of the Application. At a minimum, all spreadsheets and tabular data should be provided in \*.xls or \*.csv files (not \*.pdf files), so they can be analyzed by CCEF staff. All confidential information must be labeled as such.

### **3.4. Application Content Requirements**

An acceptable Application must consist of completed Application Forms A–F and the Additional Documentation listed at the end of the Application Form.

If an Applicant is proposing more than one project, the Applicant shall submit a separate set of Forms and Additional Documentation with each Application. A project may include multiple technologies or multiple units serving the same load at a single facility. Multiple units or technologies serving multiple loads or locations must be submitted as separate projects. The forms are provided in a separate file to this CALL FOR APPLICATIONS and are found on CCEF's Web site ([www.ctcleanenergy.com](http://www.ctcleanenergy.com)) or at the following link: [http://www.ctcleanenergy.com/documents/CCEF\\_renewabledg.doc](http://www.ctcleanenergy.com/documents/CCEF_renewabledg.doc) Instructions for each form are provided at the top of the individual form.

## APPENDIX A – PROGRAM REQUIREMENTS

### *Standard Requirements*

The projects selected under this solicitation must meet the following requirements:

- The installation must be interconnected with the facility's electrical system on the customer's side of the utility's revenue grade electrical meter.
- As part of the application for incentive funding under the On-Site Renewable DG Program, the host facility must document that significant energy efficiency measures have been implemented within the prior three years, or that the site has participated in one of the Connecticut Energy Efficiency Fund (CEEF) programs, (see <http://www.ctsavesenergy.org/programs/business.php>) or had an energy audit performed by an experienced evaluator within the past thirty-six (36) months. Prior to installation of the generating equipment, the facility must implement all recommended efficiency measures that have a payback of three years or less, or provide explanation. Failure to provide documentation of implementation will be grounds for ineligibility for CCEF funding.
- The system owner must be provided with comprehensive manuals for the entire system, including a one-line electrical drawing, cut sheets on all major components (i.e., modules, inverters, charge controllers, batteries), as-built installation drawings, and operation and maintenance instructions;
- The generating equipment should be installed in a manner that provides maximum reliability to the host given realistic economic considerations.
- The system must meet the requirements for interconnection with the distribution system as defined in "Guidelines for Generator Interconnection" that were approved by the Connecticut DPUC in Docket 03-01-15 on April 21, 2004. The distribution companies have adopted UL 1741 (including IEEE C62.41) as the relevant certification standard for equipment providing electrical protective functionality (such as inverters and protective relays). UL 1741 compliance is established by UL and other accredited, nationally recognized testing laboratories as approved by OSHA.
- Fuel cell, biomass and hydro system installations larger than 20 kW, and wind or PV installations larger than 50 kW must include a "Fat Spaniel" energy monitoring system (or equivalent) connected to a RS232 or CANbus communication capable power inverter or a meter with KYZ pulse outputs and access to appropriate communications platform for system performance monitoring and/or renewable energy credit (REC) monitoring. In the event that CCEF retains ownership of the RECs, the energy monitoring system must be connected to an ANSI C-12 certified revenue quality electrical meter with KYZ pulse outputs.

## ***Technology-Specific Requirements***

There are some requirements that will vary based on the technology employed. These additional technology-specific requirements are documented in the following sections.

### **Solar**

- The installation's AC generation output shall not be sized greater than the facility's highest peak load in any one hour. Any equipment capacity above this amount will not be eligible for CCEF funding. Insofar as it can be determined with a reasonable degree of accuracy, the maximum-sized installation that will be eligible for CCEF funding will be the difference between the facility's peak demand and its "base load", where base load is defined as the average of the non-zero monthly minimum demands over the most recent 12 months. (NOTE: this can be determined accurately only when hourly load data is available from the utility. In cases where this is not available, CCEF staff will estimate the maximum incented system size.)
- No subsidy will be provided for capacity in excess of 200 kW<sub>PTC</sub>.
- PV modules and inverters must be on the approved list for the California Solar Initiative Program. The approved list can be found at the following Web site: <http://www.gosolarcalifornia.org/equipment/index.html>
- A full manufacturer's product warranty must be provided to cover major components of the generating system and inverter against breakdown or degradation in electrical output of not more than 10% from their original rated electrical output over ten (10) years and 20% over twenty (20) years. The installer's warranty shall cover the full costs, including labor and repair or replacement of defective components or systems, for the first five years. The manufacturer's warranty must be for a minimum of five (5) years for the inverter(s) and twenty (20) years for the PV panels.

### **Fuel Cells**

- The incentive shall be calculated in accordance with the guidelines expressed in "Changes to OSDG Program Fuel Cell Funding Criteria" found at ([link](#)).
- The equipment shall be sized such that the generating capacity of the unit is not greater than the "base load" demand of the facility as defined in "Solar" above. Any equipment capacity above this amount will not be eligible for CCEF funding.
- The installation must provide for at least one of the following:
  - Use at least 50% of the available thermal energy from the waste heat of the equipment. The estimate for thermal use should be based on the past twelve (12) months' usage data or;
  - Provide enhanced electricity reliability or power quality to specifically identified loads at the host site for which the host is actively considering alternative options of enhancement and will avoid capital expenditures associated with that enhancement.

- A full manufacturer's warranty must be provided to cover major components of the generating system, balance of plant, and inverter against breakdown or degradation in electrical output. The warranty shall cover the full costs, including labor and repair or replacement of defective components or systems. The warranty must be a minimum of one (1) year for all equipment.
- The project must secure delivery of natural gas or other appropriate fuel on a long-term basis (at least one [1] year).

### **Wind**

- The equipment shall be sized such that the electricity production from the unit is not greater than 80% of the average load demand of the facility based on the past twelve (12) months' usage data. Any equipment capacity above this amount will not be eligible for CCEF funding.
- The project must have acquired ALL approvals (local zoning and permits as well as any applicable state and federal requirements) prior to Application submission.
- The project must have collected at least three (3) months of wind resource data at the site OR have a wind resource assessment report from a qualified meteorologist.
- A full manufacturer's warranty must be provided to cover major components of the generating system, balance of plant, and inverter (if required) against breakdown or degradation in electrical output. The warranty shall cover the full costs, including labor and repair or replacement of defective components or systems. The warranty must be a minimum of five (5) years for all equipment.
- Absent a comprehensive meteorological analysis of site conditions, including at least three months of on-site measurement of wind conditions at the proposed hub height, the average wind speed indicated on the New England Wind Map must be at least 12 miles/hour (5.2 m/sec) at the proposed hub height.

### **Biomass**

- The equipment shall be sized such that the generating capacity of the unit is not greater than 100% of the peak load demand of the facility based on the past twelve (12) months' usage data. Any equipment capacity above this amount will not be eligible for CCEF funding.
- The installation must use at least 50% of the available thermal energy from the waste heat from the equipment. The estimate for thermal use should be based on the last twelve (12) months' usage data.
- The project must have acquired ALL approvals (local zoning and permits as well as any applicable state and federal requirements), including water treatment, prior to Application submission.
- The fuel source must be identified and secured with, at a minimum, a letter of intent.
- A full manufacturer's warranty must be provided to cover major components of the generating system and balance of plant against breakdown or degradation in electrical output. The warranty shall cover the full costs, including labor and repair

or replacement of defective components or systems. The warranty must be a minimum of five (5) years for all equipment.

### **Hydro**

- The installation must have a current FERC license that requires operation in run-of-river mode or demonstrated FERC license exemption.
- A full manufacturer's warranty must be provided to cover major components of the generating system and balance of plant against breakdown or degradation in electrical output. The warranty shall cover the full costs, including labor and repair or replacement of defective components or systems. The warranty must be a minimum of five (5) years for all equipment.

### **Landfill Gas**

- The equipment shall be sized such that the electricity production from the unit is not greater than 100% of the peak load demand of the facility based on the past twelve (12) months' usage data. Any equipment capacity above this amount will not be eligible for CCEF funding.
- The installation must use at least 50% of the available thermal energy from the waste heat from the equipment. The estimate for thermal use should be based on the past twelve (12) months' usage data.
- The fuel source must be identified and secured with, at a minimum, a letter of intent.
- A full manufacturer's warranty must be provided to cover major components of the generating system and balance of plant against breakdown or degradation in electrical output. The warranty shall cover the full costs, including labor and repair or replacement of defective components or systems. The warranty must be a minimum of five (5) years for all equipment.

## APPENDIX B – INCENTIVE CALCULATION METHODOLOGY

This section provides examples of the economic evaluation to be performed by CCEF. The starting point of the analysis is to determine what it would cost to make the host cost neutral over a specified period of time.

### A) Calculation of Overall Savings (Avoided Costs)

The level of funding eligible under this program will be determined by the type of technology deployed and the number of years in the analysis. The process is as follows:

1. Determine the capacity rating (kW) of the renewable energy generating system. Multiply that by the “CCEF Funding Limit” amount shown in Section 1.4.1, Table 1 or 2 as appropriate, to determine the Maximum Allowable Incentive.
2. Determine the expected annual energy production (kWh) of the equipment in the first full year of normal operation.
3. Model the host site’s current total energy costs, electric and thermal, and projection of total energy cost going forward.
4. Identify total avoided cost that the host will experience by installing clean on-site generation on a going forward basis.
5. Present Value all energy savings for the term of the analysis.
6. Subsidy amount will be determined based on the difference of the Present Value of total energy cost going forward minus the total avoided cost savings, limited to the Maximum Allowable Incentive as determined in Step 1 above.

#### **Example:**

Present Value of energy cost over the next 10 years – minus Present Value of On-site Generation cost over the same time period – equals subsidy needed to breakeven.