



Focus on Energy Renewable Energy Program

Proposal Guidelines

Solar Water Heating Implementation Grant

For systems that offset over 5,000 therms per year

Proposals are due
on the last
Wednesday of the
month

This document is
valid through
December 31, 2008

Implementation Grant Guidelines

What is Focus on Energy?

Focus on Energy works with eligible Wisconsin residents and businesses to install cost effective energy efficiency and renewable energy projects. Focus information, resources and financial incentives help to implement projects that otherwise would not get completed, or to complete projects sooner than scheduled. Its efforts help Wisconsin residents and businesses manage rising energy costs, promote in-state economic development, protect our environment and control the state's growing demand for electricity and natural gas.

What is an Implementation Grant?

Implementation Grants provide financial support for the installation of commercially available renewable energy systems that produce electricity and/or thermal energy. For smaller residential or non-residential electric or thermal renewable energy systems, please use the Cash-Back Reward application forms, available at www.focusonenergy.com or call 800-762-7077.

Focus on Energy's policy limits awards to no more than \$260,000 to any individual or business during each fiscal year. This includes projects contracted between July 1, 2007 and December 31, 2008. There is no restriction on the number of contracts an individual or business can receive within the \$260,000 fiscal year limit.

Important!

Before you order, purchase or begin to install any system components, and before you sign an installation contract, your application must be approved by Focus on Energy and you must sign an Implementation Grant Agreement form. Payment of the Implementation Grant is made to you after the renewable energy system is installed and you submit a complete Notice of Installation.

Who is Eligible?

Businesses, organizations, institutions, and state, county, local or tribal governments are eligible if they purchase natural gas or electricity from a Wisconsin utility participating in the Focus on Energy Program. If the renewable energy project is reducing/replacing electricity consumption, you must be a customer of one of the following electrical utilities:

Alliant Energy
Argyle Electric & Water Utility
Belmont Municipal Light & Water
Benton Electric & Water Utility
Bloomer Electric & Water Utility
Cadott Light & Water Dept.
Cashton Light & Water
Centuria Municipal Electric Utility
Consolidated Water & Power Co.
Cornell Municipal Light Dept.
Cumberland Municipal Utility
Dahlberg Light & Power Co.
Eau Claire Energy Cooperative
Elroy Electric & Water Utility
Gresham Water & Electric Plant

Kiel Utilities
La Farge Municipal Utilities
Madison Gas & Electric
Manitowoc Public Utilities
Mazomanie Electric Utility
Medford Electric Utility
North Central Power Co. Inc.
Northwestern Wisconsin Electric Co.
Pardeeville Public Utilities
Pioneer Power & Light Co.
Price Electric Coop.
Princeton Light & Water Dept.
Rice Lake Utilities
Richland Electric Coop.
Scenic Rivers Energy Coop.

Shawano Municipal Utilities
Shullsburg Electric Utility
Spooner Municipal Electric Utility
Stratford Water & Electric Dept.
Superior Water, Light & Power Co.
Viola Municipal Electric Utility
We Energies
Westfield Electric Co.
Wisconsin Dells Water & Light Utility
Wisconsin Public Service Corp.
Wonewoc Water & Light Dept.
Xcel Energy

OR, if your electric provider is not listed above, AND if your renewable energy project is reducing/replacing natural gas consumption, you must be a customer of one of the following natural gas utilities to be eligible:

Alliant Energy
Midwest Natural Gas, Inc.
We Energies

City Gas Company
St. Croix Valley Natural Gas
Wisconsin Public Service

Madison Gas & Electric
Superior Water, Light & Power
Xcel Energy

Other Eligibility Requirements

1. Collaborations or partnerships with non-eligible entities are allowed, but the grant must support a project in an eligible territory. The applicant must be the majority owner of the renewable energy system.
2. The project's simple payback period must be greater than two years. Payback period is defined as: (total estimated cost of the project) divided by (the estimated annual savings minus annual recurring costs such as additional estimated operation and maintenance costs).
3. The proposed project must be replacing/saving natural gas or electricity. Projects replacing/saving other fuels such as propane, coal or oil do not qualify. Projects that improve the efficiency of an existing renewable energy system are eligible if the project results in additional renewable energy use.
4. Focus on Energy's policy limits awards to no more than \$260,000, for any combination of grant types, to any individual or business during each fiscal year. This includes projects contracted between July 1, 2007 and December 31, 2008. There is no restriction on the number of contracts an individual or business can receive within the \$260,000 fiscal year limit.

How do I Apply for an Implementation Grant?

Fill out the Implementation Grant application, which is included as Appendix A at the end of this document. Be sure to complete all relevant sections, attach requested supporting information and have the application signed and dated. Applications must be received by noon on the last Wednesday of the month to be considered for the next month's grant review meeting. Should the last Wednesday fall on a Federal holiday, the proposal is due on the last Tuesday of the month. Incomplete applications will not be reviewed by committee until they are made complete.

Please mail or e-mail one original or electronically signed application with any supporting documentation to:

Renewable Energy Program
Focus on Energy
431 Charmany Drive
Madison, WI 53719

E-mail: renewableapplications@focusonenergy.com

Keep a copy of your application materials for your records.

What Happens After I Apply for an Implementation Grant?

Implementation Grant applications are reviewed monthly on a first-approved basis and are subject to availability of funds. Focus on Energy Staff review and score the grant applications based on the following:

25% of score	Impact of project to advance renewable energy markets
25% of score	Reasonableness of costs, proposed installation time schedule, amount of cost share
25% of score	Adequacy of equipment, installers and energy calculations
25% of score	Readiness to proceed with project (feasibility studies, financing, installation date, permits, power purchase agreements, etc.)

All proposals must include sufficient information to allow the above factors to be evaluated. Only applicants that furnish complete information will be considered for evaluation. Partial proposals will not be considered. The Focus on Energy Renewable Energy Program reserves the right to make final selections.

What Happens if my Grant Proposal is Approved?

If notified that you have been awarded a grant, you will be sent an Implementation Grant Agreement form and a W9 tax form which you must sign and mail back to Focus on Energy within 30 days. The Implementation Grant Agreement form contains terms and conditions you must follow, which are shown in the next section.

All wind turbine projects must obtain a building permit and/or a conditional use permit from the local municipality before the wind electric system can be installed. A copy of this permit must be submitted to Focus on Energy before a Notice of Installation is sent to you.

Before you order, purchase or begin to install any system components, or before you sign an installation contract, your application must be approved by Focus on Energy and you must sign an Implementation Grant Agreement form.

If your system's expected electricity production changes by more than 20 percent after your Implementation Grant is approved, please update the information on the system in writing with the contact information listed on the cover sheet of this application. If the system's updated application is not approved by Focus on Energy, additional funds will not be awarded to the system.

To receive the grant funds, you must submit a Notice of Installation after the renewable energy system has been installed. The Notice of Installation form will be mailed to you with the Implementation Grant Agreement form and a W9 tax form.

The Implementation Grant funds will be paid within 60 days after the complete Notice of Installation has been received and approved by Focus on Energy.

General Terms and Conditions

The following terms and conditions apply to all Implementation Grants:

1. The installation must comply with all applicable federal, state and local codes and regulations governing the installation and operation of renewable energy systems. Electric renewable energy systems must comply with the Wisconsin Electrical Safety Code (Volumes 1 and 2). Solar water heating systems must comply with the Wisconsin Plumbing Code.
2. Required Warranties:
 - a. Two-year Installation Warranty. The system must include at least a two-year installation warranty that covers any defect in the workmanship of the installation.
 - b. One-year Equipment Warranty. All major system components, including any remanufactured or used equipment, must have at least a one-year warranty.
3. Grants are funded on a competitive basis. Grant awards may be less than the amount requested by the applicant.
4. Focus on Energy's policy limits awards to no more than \$260,000, for any combination of grant types, to any individual or business during each fiscal year. This includes projects contracted between July 1, 2007 and December 31, 2008. There is no restriction on the number of contracts an individual or business can receive within the \$260,000 fiscal year limit.
5. The grant recipient agrees to operate the renewable energy equipment, at the location proposed and as described in the grant application, for at least three years.
6. For renewable electric systems, a system performance meter must be included in electric generation systems to measure the total electricity produced in kilowatt-hours (or watt-hours) and have a manufacturer's uncertainty of no more than +/- five percent. The meter must retain the electricity production data in the event of a power outage. The electricity production data must be displayed in a manner that is easily understandable to the system owner.
7. If the renewable energy system is modified after signing this document, the recipient must notify Focus on Energy of the changes in writing. Changes must be approved by Focus on Energy. Failure to receive approval from Focus on Energy for any changes to the renewable energy system may result in a reduced grant payment.
8. This Grant is a not-to-exceed amount. Only expenses identified in the Grant Application will be eligible for reimbursement. Renewable energy components ordered, purchased or installed before this Grant Agreement Form has been signed will not be eligible for reimbursement unless approved by Focus on Energy.
9. The funding match requirement must be met as indicated in the grant proposal.

10. The renewable energy system must be installed and the Notice of Installation submitted within one year, although written requests for extensions will be considered. Projects that take more than six months to complete must submit a progress report after six months noting progress toward installation (such as copies of receipts for equipment purchases). If after six months there has been no substantial progress toward project completion, Focus on Energy reserves the right to terminate the grant.
11. To receive this grant award, the recipient must submit a Notice of Installation after the renewable energy system has been installed. The Notice of Installation must include:
 - a. The final electric and/or thermal capacity and estimated annual energy produced by the system that was installed
 - b. Dated and detailed invoices for all project costs; only costs directly linked to the renewable energy system are eligible
 - c. Copies of warranties for major system components and system installation
 - d. For grid-connected electric systems, a copy of the signed interconnection agreement with your electric utility
 - e. Other items stipulated in the Notice of Installation form
12. Your name and grant award information may be used in various communications to the media. A representative of Focus on Energy will contact you before we use your name in any media communications.
13. Focus on Energy reserves the right to inspect the grant recipient's work to ensure that it is consistent with program guidelines, and to monitor or evaluate the performance of the system for a period of two years after the system has been installed.
14. Focus on Energy reserves the right to terminate this grant award in whole or in part due to the recipient's failure to fulfill the terms certified in this agreement, or due to non-appropriation of necessary funds.
15. The grant recipient will not construe, claim or imply that acceptance of this grant constitutes Wisconsin Focus on Energy Program's approval, warranty, guarantee or endorsement.

Solar Water Heating System Implementation Grant Guidelines

This grant covers solar water heating systems only. Solar space heating systems do not qualify, nor do space heating components that are part of a combination solar water and space heating system. Note that only the therms specifically allocated to heating the water in combination water and space heating systems will be used to calculate the grant amount.

The repair of non-functioning solar water heating systems is eligible. Grant applications for repairs must include a detailed cost quote breaking out the repair needs. The solar water heating system must have a 2 year installation warranty and a one year equipment warranty. Solar water heating systems that malfunctioned due to a lack of maintenance or were previously supported by Focus on Energy are not eligible.

Funding Determination

The maximum Implementation Grant is based on an estimate of the amount of therms that the solar water heating system will offset in an average year:

Maximum Implementation Grant = (annual therms saved) x (reward level)

Reward levels for systems sited at:

- Private buildings: \$6.00 per therm per year
- Non-profit 501 (c) 3 or government building: \$9.00 per therm per year

Limitations:

- Funds will cover no more than 25% of the total installed cost or 35% for Non-Profit or Government Buildings, up to \$50,000.

System repairs:

- Funds will cover no more than 50% of the total repair cost up to \$5,000

Focus on Energy will use the computer program RETScreen to determine the annual energy saved by your system. RETScreen is available on-line at www.retscreen.net. The annual energy produced by the solar system from RETScreen is used to calculate the reward when offsetting electric water heating, or is divided by 0.8 to calculate the reward when offsetting natural gas water heating.

Requirements:

- Professional Installation: System must be installed by a contractor on the Focus on Energy Full Service Solar Water Heating System Installers List ([visit focusonenergy.com](http://focusonenergy.com)).
- Wisconsin Building Code: System owners must adhere to building permit requirements by their local jurisdiction. Where applicable, the system must have an approved building permit. All systems must meet the requirements spelled out by the Wisconsin Department of Commerce for plumbing systems and solar energy systems, as well as conform to any local requirements. "System Requirements" listed in this document are either above code requirements or are listed for clarification purposes. If state code requirements are more stringent than the Focus on Energy Program requirements, then the state code shall take precedence.
- Collectors: Collectors must be rated by the Solar Rating and Certification Corporation (SRCC) or an equivalent agency. Collectors must have a five-year warranty. Flat plate collectors must have a tempered glass glazing.
- Fuels saved/Displaced: The renewable energy system must be saving or displacing natural gas or electricity and must offset water heating only. Systems saving or displacing other fuels such as coal, LP gas (propane), oil or space heating are not eligible.
- Systems: Must be a closed-loop pressurized or drainback system utilizing antifreeze. The function of the system is to provide service hot water; space heating components do not qualify for this incentive.
- Siting: Collectors must be mounted to face between 30 degrees East or West of true South. Collectors must be located so that there is no shading of the collectors between 10AM and 2PM during any part of the year. If shading occurs, attach a Solar Pathfinder (or equivalent) reading to verify your thermal production calculations. Collectors on a pressurized system must be mounted at an angle between 20 and 60 degrees from horizontal. Collectors on a drainback

system must be mounted at an angle between 40 and 60 degrees from horizontal.

- Plumbing:
 - Closed-loop pressurized systems: All piping between the collectors and the heat exchanger must be copper and insulated with insulation rated to withstand 250 degrees F. The balance of system piping may either be copper or cross-linked polyethylene (Pex) rated to at least 200 degrees F at 100 lbs. per square inch and insulated with insulation rated to withstand 200 degrees F. All exposed insulation must have jacketing capable of withstanding moisture, ultraviolet radiation and environmental exposure. A check valve must be installed in the closed-loop. All fittings, valves and gauges must be copper, bronze or brass. All piping must be supported every six feet for copper and every three feet for Pex.
 - Drainback Systems: All piping in the solar loop must be copper with copper, bronze or brass fittings and insulated with insulation rated to withstand at least 200 F. All exposed insulation must have jacketing capable of withstanding moisture, ultraviolet radiation and environmental exposure. All piping to and from the collectors must have an inside diameter of at least 1" and be mounted to at least a 15 degree slope. All piping must be supported every four feet.
- Collector Mounting: All collector mounting and racking systems must be designed to withstand windloading. Certification by a structural engineer is highly recommended.
- Balance of System:
 - Closed-loop pressurized systems: System pressure should be 25 lbs./sq. in. at 60 degrees F fluid temperature. The closed-loop must contain a pressure relief valve, expansion tank and pressure gauge. The solar fluid must be propylene glycol and provide burst protection to at least -60 degrees F (-28 degrees F "no slush").
 - Drainback Systems: The solar fluid must be propylene glycol and provide burst protection to at least -20 degrees F (9 degrees F "no slush").
 - All Systems: a temperature gauge must be installed at the outlet of the storage tank on the feed to the backup water heater. There must be a backup water heater. Product literature, system description and maintenance instructions must be provided to the customer. The domestic hot water piping downstream of the backup water heater must be fitted with a tempering valve to limit the maximum temperature of the hot water to a set point of 120 degrees F (adjustable).
- Performance Testing: Focus on Energy reserves the right to test a number of systems. The systems must be tested on a mostly sunny day to verify that the system is in service and is working properly.
 - Performance testing procedure: A certain number of systems will be chosen by Focus on Energy for inspection. This testing will be provided at no cost to the customer. Testing will consist of checking those items set out in the system requirements. If the system does not pass inspection the customer and installer will be notified immediately of the deficiencies and given 30 days to correct the deficiencies and still be eligible for the incentive. The second performance test will be at the installation contractor's expense. Eligibility for the reward after 30 days will be at the discretion of Focus on Energy.

Example of Funding Level Determination:

Example #1: A solar water heating system is determined to offset 6,000 therms per year using RETScreen. The system is in Focus on Energy territory, installed on a for-profit business and saves natural gas. The system total cost is \$175,000. The grant calculations are determined by taking the estimated energy the system offsets (6,000 therms) divided by 0.8 = 7,500 multiplied by \$6.00 = \$45,000. To check for the maximum incentive cap of 25% of system cost, 25% of \$175,000. = \$43,750. which is smaller than \$45,000. The incentive for this system will be \$43,750. which is under the incentive cap of \$50,000.00 per system.

Example #2: A solar water heating system is determined to deliver 8,000 therms of solar water heat per year using RETScreen. The system is in Focus territory and installed on a municipally owned health care facility. The system total cost is \$236,000. The grant calculation is determined by taking the estimated energy the system will deliver (8,000 therms) divided by 0.8. 10,000 therms multiplied by \$9.00 = \$90,000. To check for the maximum incentive cap of 35% of system cost, 35% of \$236,000 = \$82,000, so the amount is over the 35% cap and the incentive would be \$82,000. However, the maximum incentive cap of \$50,000 applies, so the incentive for this system would be \$50,000.

APPENDIX A
Grant Application
Solar Water Heating Systems

Section 1: Applicant Information

Company/organization that will own the system:

Address (must be a street address cannot be a P.O. Box): _____

County: _____

Company's federal ID number (EIN or SSN): _____

Business classification (circle)

Individual/Sole Proprietor Corporation Partnership Other: _____

Name of primary contact: _____

Contact's phone number: _____

Contact's fax number: _____

Contact's e-mail address: _____

Address where system will be installed (must be a street address: cannot be a P.O. Box):

County where system will be installed (if different from mailing address):

Electric utility at the installation address: _____

Natural Gas supplier at the installation address: _____

Current water heating fuel type: _____

Section 2: Contractor Information

Name of installation contractor: _____

Mailing address:

Phone number: _____

E-mail address: _____

Name of installation subcontractor (if any): _____

Phone number: _____

E-mail address: _____

Name of installation subcontractor (if any): _____

Phone number: _____

E-mail address: _____

For each installation contractor and subcontractor (if any) provide information on their qualifications and a list of projects that they've completed that are similar to the project described in this grant application.

Attach a copy of the installation warrantee.

Section 3: Project Description

Has a feasibility study or site assessment been performed for the proposed project? YES or NO

If yes, please attach a copy of the study or assessment to this application.

Please attach a copy of the solar water heating system site plan to the application and provide a one page description of this project that includes the location, size, scope and intended goals or impacts of the proposed system.

Design Details

Collector type (flat plate or evacuated tube) _____

Collector manufacturer _____

Collector model number _____

Size of Collector Array (total sq. ft. or linear feet of collector) _____

Collector compass direction (in degrees from true south) _____

Collector tilt angle (degrees from horizontal) _____

Type of collector mount (roof or ground) _____

Storage tank volume _____

Gallons of hot water use per day – attach calculations _____

Estimate of thermal energy delivered by the system (in therms from RETScreen – attach calculations) _____

Estimated annual revenue from electricity/gas savings (dollars/year): _____

Estimated annual operation and maintenance cost (dollars/year): _____

Simple payback period (years): _____

(total estimated cost of the renewable energy system) divided by (the estimated annual revenue minus annual recurring costs such as additional estimated operation and maintenance costs)

Show simple payback period calculation:

Attach an installation/equipment estimate or bid from a manufacturer or installation contractor.

Attach any product literature or information, including copies of the product warranties.

Section 4: Other Information

Have you applied for or been awarded other grants for this project? If yes, please identify the grant, source of grant, the grant award amount and anticipated award schedule:

Why do you need Focus on Energy funding for this project? Please explain:

Estimated date of hiring an installation contractor: _____

Planned installation completion date: _____

Section 5: Applicant Certification

I hereby certify that I have performed or reviewed this analysis and the attached documentation, and that the information is reasonable and accurate.

Applicant's Signature

Date

Printed Name

Title

Periodically, Focus on Energy evaluates program energy savings by monitoring energy use prior to and after home improvements. Your signature provides Focus on Energy approval to obtain energy consumption data directly from your utility company. If you prefer not to grant Focus on Energy access to your energy consumption records, please check the "Opt Out" box. Opt Out

Keep a copy of this document for your files.

To be completed by Focus on Energy staff:

Application received by:

Name

Date

Estimate of energy production: _____

Estimated grant amount: _____

Estimated production and grant amount approved by:

Name

Date