



**focus on energy<sup>sm</sup>**

Partnering with Wisconsin utilities

**Business Programs:  
Commercial and Industrial Renewable  
Energy Loan Program**

**Technical Application and Instructions**

## **DEFINITIONS**

**Annual Cost Savings** is the amount of energy cost savings that results from the implementation of a **Project**, during the initial 12-month period following the startup of a **Project**. This value is calculated by multiplying the expected net change in kWh, Therms, and/or kW peak demand by the **Customer's** actual average cost over previous 12 months per kWh, kW, and therm.

**Applicant(s)** refers to a **Customer** submitting a technical application for a Commercial and Industrial Renewable Energy Loan.

**Baseline** refers to the current or projected annual energy usage without the proposed **Project**.

**Biogas** means a mixture of gases created during the anaerobic digestion of nutrient rich materials. Anaerobic digestion generates methane and other flammable gases that can be combusted to generate energy.

**Biomass system** means equipment that utilizes biological materials, including trees, grasses, and agricultural wastes, among others. Systems that use coal, fuel oil and propane, or other non-**Renewable Fuel** sources such as used tires, are not eligible.

**Business Day(s)** includes Monday(s) through Friday(s), excluding Saturday, Sunday or Federal Holiday(s).

**Completion Date** is the date that the **Project** will be entirely constructed and operational and all paperwork has been correctly submitted to **Focus on Energy**.

**Customer(s)** means a current non-residential ratepayer within the service area of a **Participating Utility**.

**Focus on Energy** refers to Wisconsin utilities' statewide energy efficiency and renewable energy program specified under Wis. Stat. § 196.374(2)(a).

**Free Rider** means a **Customer** who would have installed a **Program Measure(s)** in the absence of the **Program**.

**Loan Participation** means the relationship between the **Partner Lender** and **Focus on Energy** for particular loans for qualified **Renewable Energy Projects**.

**Geothermal systems** utilize the ground as an efficient energy transfer element and heat sink.

**Measure:** for purposes of the Commercial and Industrial Renewable Energy Loan Program, **Measure** refers to qualified **Renewable Energy Projects**. **Measures** include **Biogas**, **Biomass**, **Geothermal**, **Solar Photovoltaic**, **Solar Thermal**, and **Wind** renewable energy **Projects**.

**Participating Utility** is an electric or gas utility that participates in **Focus on Energy**. A list of **Participating Utilities** is available at: <http://focusonenergy.com/about/participating-utilities>.

**Partner Lender** means a regulated Wisconsin lender, including banks, thrifts, credit unions or Community Development Financial Institutions, that is chosen by the **Applicant** to partner with **Focus on Energy** to finance a **Renewable Energy Project**.

**Payback (Simple Payback)** means the amount of time (in years) needed for *Annual Cost Savings* derived from the **Project** to equal the **Total Project Cost**. For purposes of this **Program**, this **does not include** incentives from **Focus on Energy** or any other incentives.

**Program** means the **Focus on Energy** Commercial and Industrial Renewable Energy Loan Program.

**Program Administrator** means the Contractor hired by the Statewide Energy Efficiency and Renewables Administration to develop and administer the statewide **Focus on Energy** energy efficiency and renewable energy programs under Wis. Stat. §196.375(2)(a). Under this Technical Application, Shaw Environmental & Infrastructure, Inc., dba CB&I Environmental and Infrastructure, is **Program Administrator**.

**Project** means a **Measure** or a group of **Measures** included within a single **Customer's** Application. For the Commercial and Industrial Renewable Energy Loan Program, a **Project** is the **Measure** that receives a loan.

**Renewable Energy Project** means a **Solar Thermal, Solar Photovoltaic, Wind, Geothermal, Biomass or Biogas Project**.

**Simple Payback** refers to **Payback**.

**Solar Photovoltaic** systems capture solar radiation and directly convert it into electrical energy.

**Solar Thermal** systems capture solar radiation and convert it to heat energy in fluids, then convert into electrical energy to offset non-renewable sources.

**Total Project Cost** includes renewable energy generating equipment, materials, ancillary improvements required to construct a fully functional renewable energy system, and installation labor costs. Feasibility studies and other investigation costs are not included in **Total Project Cost**. If costs would be incurred in the absence of the **Project**, they are not considered part of the **Total Project Cost**.

**Wind** systems harness wind energy and convert the mechanical energy into electrical energy through an electrical generator.

## **SECTION 1. GENERAL INFORMATION**

### **1.1 Introduction to the Commercial and Industrial Renewable Energy Loan Program**

Starting in 2016 and running as a pilot through 2018, *Focus on Energy* will make approximately \$2.5 million available annually for loans for *Renewable Energy Projects*.

*Focus on Energy* will use its loans to promote renewable energy development by partnering with private lenders (“*Partner Lenders*”) to jointly finance up to 100 percent of a *Renewable Energy Project*’s cost. For accepted *Projects*, *Focus on Energy* will provide a zero-interest loan, financing up to 50 percent of a *Project*’s financed cost (capped at \$500,000 for the Commercial and Industrial Renewable Energy Loan). A *Partner Lender*, chosen by the *Applicant*, will provide a matching or greater percentage of loan funds at market rates and will issue and service the individual loans on behalf of *Focus on Energy*.

### **1.2 General Information about the Commercial and Industrial Renewable Energy Loan Program**

Commercial and industrial *Customers* in *Participating Utility* territories may apply for a zero-interest loan for up to 50 percent of the financed cost of the an eligible *Renewable Energy Project*. *Focus on Energy* will offer *Project* loans of \$25,000 to \$500,000. These loans will cover up to 50 percent of a *Project*’s financed cost, in partnership with the *Customer*’s lender. Loans will be disbursed on a first-come, first-served basis to technically and financially sound *Project*’s as determined by *Focus on Energy*, in partnership with the *Partner Lender*.

### **1.3 Eligible Renewable Energy Technologies**

*Focus on Energy* is soliciting applications from eligible *Customers* for the following renewable energy technologies:

- Solar photovoltaic
- Solar thermal
- Geothermal
- Biogas
- Biomass
- Wind

## **SECTION 2. ELIGIBILITY REQUIREMENTS/GROUNDS FOR DISQUALIFICATION**

**Focus on Energy** will disqualify applications that do not satisfy all eligibility and technology-specific requirements. Disqualified and incomplete **Projects** will not be evaluated.

### **2.1 Participating Utility**

The **Project** site must be located in a **Participating Utility** service territory. **Applicants** that are served by both a participating electric provider and participating natural gas provider will qualify for a **Project** loan that offsets both electric and natural gas usage. **Applicants** that are served by only one **Participating Utility** will qualify for a **Project** loan for offsetting the energy type provided by the **Participating Utility**. **Applicants** that use Liquid Propane (LP) or energy sources other than electricity and/or natural gas will not qualify for a **Project** loan to offset those fuels as those are not participating utilities.

To determine whether a **Project** is located in a **Participating Utility** service territory, visit <http://focusonenergy.com/about/participating-utilities>.

### **2.2 Customer Type**

Eligible **Applicants** for the Commercial and Industrial Renewable Loan are non-residential rate **Customers** of participating utilities.

Contractors and Trade Allies may submit applications on behalf of an eligible **Customer**, with the **Customer's** signature on the cover page.

### **2.3 New Equipment or Upgrade and Ineligible Uses of Funds**

Repairs, maintenance, or replacement of components with identical or comparable components for existing renewable energy systems are not eligible under this **Program**. However, new equipment associated with proposed retrofits or upgrades of existing renewable energy systems that results in a significant increase in the renewable energy generating capacity and output of an existing system is eligible under this **Program**. In such case, the following documents must be provided with the Application:

- (1) The **Baseline** renewable energy output of the existing system, supported by acceptable measurement data as determined by **Focus on Energy**;
- (2) Calculations, assumptions, and other data supporting the estimated increase in the renewable energy output attributable to the proposed improvements, and;
- (3) Calculations of the expected increase in renewable energy output attributable to the proposed improvements that are measurable and verifiable.

**Focus on Energy** loans for renewable energy technologies may **not** be used for the following:

- Purchase of property (land or buildings)
- Internal personnel and labor expenses
- Feasibility studies and planning efforts
- Leasing equipment
- Equipment purchased prior to loan
- Down payments or purchase orders made prior to loan

## **2.4 Warranty**

All applications must include warranties for both equipment and installation. All warranty terms must be clearly stated and reflect current industry standards.

## **2.5 Compliance**

The **Applicant** is responsible for identifying and obtaining all necessary permits and permissions, including local, state, and federal permits needed to construct and operate the proposed system.

## **2.6 System Size**

The total energy produced by the **Project** is not to exceed 125 percent of either kWh and or Therms usage by the **Customer** in any prior 12-month period, except for farm **Biogas Projects**. If utility data from the 12-month period preceding the loan application does not fully reflect 100 percent of kWh and/or Therms usage, such as for new construction or expansion, then the **Applicant** must provide written explanation of the expected annual energy consumption and supporting calculations or the results of a building energy model that is acceptable to **Focus on Energy**.

## **2.7 Required Payback**

A **Simple Payback** of greater than 1.5 years is required. The **Payback** must not exceed the warranty period for the **Project**.

## **2.8 Free Ridership**

If the **Program Administrator** believes that a proposed **Project** would go forward without the support of this **Focus on Energy** program then the **Applicant** will be deemed a **Free Rider** and the application will be disqualified.

## **2.9 Project Changes**

If changes are made to the proposed **Project** after the loan transaction has closed, the **Customer** must contact **Focus on Energy** as soon as possible to disclose the updates that have been made to the **Project**. Updated specifications and corresponding energy calculations must be provided for any and all changes made to the **Project** after the initial **Project** application. Acceptance of material changes to the **Project** scope or basis of design is at the sole discretion of **Focus on Energy**, which reserves the right to modify or reject the updated application.

## **2.10 Multiple Sites**

**Applicants** may apply for renewable energy system installations at multiple sites. Each **Project** site must be owned by the **Applicant**. **Applicants** may use one application for multiple systems that use the same technology or submit a separate application for each site. **Applicants** must submit separate applications for site utilizing different technologies. All applications will be evaluated individually.

## **2.11 Energy Generation Metering.**

All systems, except for ***Geothermal systems***, must have an electronic method of measuring and tracking energy production, as well as the capability of retaining data during a power outage. For analysis and reporting purposes, systems must be able to export and/or upload energy production information electronically. ***Biogas Projects*** are required to install a ***Biogas*** or methane meter, so as to measure the quantity of ***Biogas*** or methane produced and used for energy generation. ***Applicants*** that are proposing a ***Biomass system*** must provide a detailed plan of tracking all Renewable Fuel inputs into the ***Biomass system***.

## SECTION 3. TECHNOLOGY SPECIFIC REQUIREMENTS

### 3.1 Biogas Specific Requirements

*Focus on Energy* strongly encourages **Biogas Projects** to include installation of a **Biogas** cleaning system. **Biogas** cleaning system costs are to be included in the **Total Project Cost**, and any proposed systems which will not utilize a **Biogas** cleaning system must document the reason why a system is deemed unnecessary. The **Applicant** must also document how the system longevity will not be adversely affected by the lack of a **Biogas** cleaning system.

### 3.2 Geothermal Specific Requirements

Energy savings produced by a **Geothermal System**, are used in substitution of the energy production metrics. Energy savings shall be calculated by comparing the proposed **Geothermal System** to a **Baseline** mechanical system. For both new construction and/or modifications to existing buildings, the proposed equipment is the planned **Geothermal System**. The **Baseline** equipment is the comparable system outlined by ASHRAE 90.1-2007, utilizing Appendix G and the minimum efficiency requirement (Table 3.1 below). All other characteristics of the proposed building in the calculations shall be the same as the original proposed building design.

**Table 3.1: Summary – ASHRAE 90.1-2007 Appendix G – Baseline System Description**

Building Type	Fossil Fuel (Natural Gas) and Electricity	Electricity and No Fossil Fuel
3 floors or less and <25,000 ft <sup>2</sup>	Packaged rooftop CAV air conditioner (direct expansion cooling system with fossil fuel furnace heating system)	Packaged rooftop CAV heat pump (direct expansion cooling system with electric heat pump heating system)
4 or 5 floors and <25,000 ft <sup>2</sup> or 5 floors or less and 25,000 ft <sup>2</sup> to 150,000 ft <sup>2</sup>	Packaged rooftop VAV with reheat (direct expansion cooling system with a hot-water fossil fuel boiler heating system)	Packaged rooftop VAV with reheat (direct expansion cooling system with electric resistance heating system)
More than 5 floors or >150,000 ft <sup>2</sup>	Packaged rooftop VAV with reheat (chilled water cooling system with a hot-water fossil fuel boiler heating system)	VAV with reheat (chilled water cooling system with electric resistance heating system)

Clarifications:

- If the **Project** site is served by a natural gas utility, the **Baseline** energy fuel for building space heating and hot water systems is to be natural gas for heating. If the **Project** site is not served by a natural gas utility, then the **Baseline** fuel will be electricity. Any existing mechanical system that would be replaced with a **Geothermal System** would be required to show a **Baseline** comparison of the **Geothermal System** with the current code-compliant replacement system, not the existing equipment.
- Electrical consumption and peak demand might increase from the **Baseline** to the proposed calculation and this negative value must be included in the energy production metrics.

## SECTION 4. EVALUATION CRITERIA

### 4.1 Evaluation Criteria

Applications will be reviewed for completeness and inclusion of all required information and attachments. Loans will be disbursed on a first-come, first-served basis to technically and financially sound **Projects** as determined by **Focus on Energy**, in partnership with the **Partner Lender**. Incomplete applications will be returned to the **Applicant** and will not receive approval.

**Table 4.1 Evaluation Criteria**

Evaluation Criteria
<b>Reasonable Savings Estimate:</b> <i>Applicants</i> shall provide clear, reasonable calculations of energy savings. Specific considerations include: <ul style="list-style-type: none"><li>• Well-documented and reasonable assumptions</li><li>• Clear and accurate calculations</li></ul>
<b>System Optimization:</b> <i>Applicants</i> shall demonstrate system optimization. Specific considerations include: <ul style="list-style-type: none"><li>• Utilization of the proposed system to meet <b>Customer's</b> energy needs</li><li>• Optimization of engineering design (e.g. use of waste heat or other methods utilized)</li><li>• System production aligns with peak demand schedule (if applicable)</li><li>• System reduces energy use by systems upstream or downstream of the <b>Project</b> (e.g. anaerobic pretreatment)</li></ul>
<b>Focus on Energy Impact on Project:</b> Evaluated based on the impact of the loan for the <b>Applicant</b> and the <b>Applicant's</b> commitment to move forward with the <b>Project</b> if they are determined to be eligible to receive a loan.
<b>Project Cost-effectiveness:</b> <b>Focus on Energy</b> will calculate a <b>Project</b> cost effectiveness using the formula below.  Proposed annual kBTU produced or offset / <b>Total Project Cost</b>

## **SECTION 5. APPLICATION SUBMISSION CHECKLIST AND FORMS**

Applications must contain all of the following items to be considered for *Focus on Energy* loan funds.

- 5.1 Cover Page with Signature
- 5.2 Key Project Metrics
- 5.3 Project Overview
- 5.4 System Design and Optimization
- 5.5 Renewable Energy Analysis
- 5.6 Project Budget and Total Project Cost
- 5.7 Project Timeline and Completion Date
- 5.8 Focus on Energy Impact on Project Viability
- 5.9 Utility Supplied Energy Use History
- 5.10 Energy Generation Metering
- Supporting Documentation (Attach to completed Template):
  - System specifications and basis of design
  - Vendor or contractor quotes
  - Warranty information
  - Calculation of energy production
  - Manufacturer information for major equipment components

*Applicants* should use the Application Submission Requirements as a Template. Attachments shall be limited to supporting documentation.

## 5.1 Cover Page

The Cover Page Form must be submitted with the application. Please copy the form and ensure it is signed by an authorized representative.

<b>Applicant</b>	Applicant's Name	Tax Identification Number (9-digit FEIN or SSN)
<b>Project Site Location</b>	Project Name	
	Site Address	
	City	County
	State: WI	Zip
	Electric Provider	Electric Acct. #
	Natural Gas Provider	Natural Gas Acct. #
<b>Customer Primary Contact and Mailing Address</b>	Name	
	Address	
	City	County
	State	Zip
	Phone	Fax
	E-Mail	
<b>Technology</b>	Biogas [ ] Biomass [ ] Geothermal [ ] Solar Photovoltaic [ ] Solar Thermal [ ] Wind [ ]	
<b>Project summary (less than 200 words)</b>		
<b>Authorized Signature</b>	Signature	Date
<b>Optional: Fill in Contractor information if Contractor is also to be informed</b>	Contractor Name	
	Address	
	City	County
	State	Zip
	Phone	Fax
	E-Mail	
<b>Optional: Lender Information</b>	Lending Institution	Banker
	Address	City/State/Zip
	E-Mail	Phone

## 5.2 Key Project Metrics

*Applicants* must complete Table 5.1 - Key Project Metrics, provided below.

**Table 5.1 Key Project Metrics**

TECHNICAL	
(a) Annual net change in electricity usage (kWh) from renewable technology	
(b) Annual net change in natural gas usage (Therms) from renewable technology	
(c) Average Monthly Peak Demand Offset (kW)	
(d) <b>Total Project Cost</b> (\$)	
(e) Expected Useful Life of renewable technology (years)	
(f) Estimated <b>Project Completion Date</b>	
(g) Electricity Consumption previous 12 months (kWh)	
(h) Natural Gas Consumption previous 12 months (Therms)	
FINANCING	
Estimated <b>Annual Cost Savings</b> ?	
Requested <b>Focus on Energy</b> loan amount?	
Proposed loan term (years)	

*Note:* Enter N/A for any Metric that does not apply to the proposed system.

## 5.3 Project Overview

Include a brief narrative providing:

- A description of the proposed system (including **project** background information, specific site location(s), and **Project** objectives);
- The expected benefits of the system.

## 5.4 System Design and Optimization

Describe the system's capacity, utilization, infrastructure integration, and optimization in a brief narrative that includes the following:

- Capacity of the system
- Percent of energy produced by the new installation that will be utilized on site. If any portion of the system energy production will be sent back to the eligible utility, any interconnection costs and components must be included in the proposal.
- Expected useful life of the renewable energy system. This number should be available from equipment technology specification sheet or be available from the vendor or manufacturer.

- Changes in building use, physical improvements to the facility, or process patterns that will impact utilization of the system.
- Methods by which the system will be optimized. For example, the system provides energy during times the facility is occupied, or has capacity to store excess energy so that the **Project** truly maximizes the usage of renewable resources for the site's needs.

## 5.5 Renewable Energy Analysis

Provide all calculations and assumptions made to determine the energy input and output (kWh, Therms) for the proposed system. Provide documentation justifying assumptions, including capacity factors or loading factors, used in calculations. Include parasitic loads in calculating the net energy offset or production. For detailed guidance on calculating renewable energy production, refer to the Public Service Commission of Wisconsin Standard Calculation Recommendations for Renewable Energy Systems:

[http://www.focusonenergy.com/sites/default/files/standardcalculationrecommendationsCY10\\_evaluationreport.pdf](http://www.focusonenergy.com/sites/default/files/standardcalculationrecommendationsCY10_evaluationreport.pdf). For **Solar Photovoltaic Projects**, peak kW demand offset can be assumed to be one half (1/2) the kW of the rated system size.

## 5.6 Project Budget and Total Project Cost

Provide a description of the **Project** Budget, as well as an itemized list of proposed equipment and the **Total Project Cost** (see definition). For example, **Solar Photovoltaic** systems must itemize the modules, inverters, racking, transformers if required, and balance of system costs.

Table 5.2 - **Total Project Costs** is provided below as a template. Additional lines may be added to this table.

**Table 5.2 Total Project Costs**

Line Item Cost Description	Cost (\$)
1.	\$
2.	\$
3.	\$
4.	\$
<b>Total Project Cost</b>	\$

## 5.7 Project Timeline and Completion Date

Submit a detailed **Project** timeline that describes all tasks, deliverables, and **Project** milestones. A sample **Project** timeline table is provided as Table 5.3; however, **Applicants** may submit a Gantt chart or equivalent.

**Table 5.3 Project Timeline**

Task	Quarter/Year <i>Completion Date</i> <b>(E. Q3/2016)</b>
1.	
2.	
3.	
<b>Estimated Project Completion Date</b>	(enter specific date)

#### **5.8 Focus on Energy Impact on Project Viability**

Describe why the **Focus on Energy** loan is needed to move forward with the **Project**, including the likelihood that the **Project** will move forward with and without the **Focus on Energy** loan. Identify any other additional funding sources in Table 5.4 - Funding Sources. Additional lines may be added to this table.

**Table 5.4 Funding Sources**

Source	Use/Purpose	Funding Amount	% of Total Project Cost	*Application for Funding Complete?
1.				
2.				
3.				

\*Provide confirmation of applications made for additional funding sources in supporting documentation.

#### **5.9 Utility Supplied Energy Use History**

Attach a monthly utility summary of utility-supplied energy consumption for at least the previous 12 months.

If the proposed system is to be installed as part of a new construction **Project** that does not have monthly utility data, explain the expectations of annual energy consumption for the facility and provide supporting calculations or results of building energy model.

#### **5.10 Energy Generation Metering**

Explain the method and equipment that will be used for measuring and tracking energy production, as well as the capability of retaining data during a power outage. **Geothermal Systems** are exempt from this section.