

## Focus on Energy Full Service Installer Requirements Solar Hot Water

### **Purpose**

Focus on Energy supports the development of Wisconsin's renewable energy market by co-funding renewable energy systems and encouraging the creation of a highly professional class of renewable energy system installers.

### **Experience and Training Requirement Objective**

These experience and training requirements were developed to:

- provide a measure of protection to the public by giving them a standard for judging the competency of installers;
- provide installers with a way to distinguish themselves from their competition;
- promote the quality of installations, thus improving the public perceptions of the technology and helping increase the industry's prominence; and
- prepare and encourage installers to become a certified NABCEP (North American Board of Certified Energy Practitioners) Solar Thermal Installer.

### **Definitions**

#### **Full Service Installer**

A Full Service Installer is an individual that meets, on an ongoing basis, the requirements described in this document.

A **Full Service Installation Firm** is defined as the single point of contact with a customer to design, sell, install and maintain (service and/or repair) renewable energy equipment or who contracts with subcontractors to supply these services. A Full Service Installation Firm must employ a Focus on Energy approved Full Service Installer who takes the responsible role on systems co-funded by Focus on Energy.

**Year of Experience** is having the responsible role on the job installing at least two Solar Hot Water Systems. These two systems require complete permitting and inspection process, if applicable, by a permitting authority. Being in a **responsible role** means doing decision-making on the job and includes the foreman, supervisor, site manager, or experienced worker performing solar hot water installation work without direct supervision.

For systems to be counted toward years of experience they must be documented using the NABCEP System Installation Tracking Sheet (Appendix B).

### **Focus on Energy Solar Hot Water Full Service Installer Requirements**

Solar Hot Water Installers providing services in Wisconsin must meet the experience and training criteria of **ONE** of the following tracks **prior to being listed** on the Focus on Energy Full Service Installation Firm list:

#### Track 1 – NABCEP Certified

Receive and maintain certification by the North American Board of Certified Energy Practitioners (NABCEP) as a Solar Thermal Installer.

#### Track 2 – Field Experience

Four (4) Years of Experience installing Solar Hot Water Systems.

#### Track 3 – Professional Training

Meet **ONE** of the following professional training requirements:

- A. Be an existing licensed contractor in good standing in solar or construction-related areas; **OR**
- B. Four (4) years of HVAC, mechanical, pipe-fitting or plumbing-related experience working for a licensed contractor; **OR**
- C. Three (3) years experience in a government/trade union-approved construction trade apprentice program; **OR**
- D. Two (2)-year construction-related, or engineering technology, or renewable energy technology/technician degree from an accredited educational institute; **OR**
- E. Four (4)-year engineering degree from an accredited educational institution.

#### **AND**

Successfully complete at least 21 hours of Focus on Energy-approved solar hot water installation coursework, including an Approved Solar Hot Water Installation Course with a hands-on component (see Appendix A);

#### **AND THEN**

Focus-eligible installations must pass the performance test conducted by a consultant for Focus on Energy. NOTE: The installer's first system will be eligible for Focus on Energy co-funding prior to Full Service listing, provided the installation passes the performance test and meets all eligibility requirements for Focus on Energy rewards. An installer may not have more than one project approved by Focus on Energy at any given time prior to becoming a Full Service Installer.

#### Track 4 – Self Directed

Successfully complete a minimum of 40 hours of cumulative training that has a teacher-learner structure, including an Approved Solar Hot Water Installation Course with a hands-on component.

Self Directed study must cover the following core competencies:

1. Working Safely with Solar Hot Water Systems
2. Identifying Systems and Their Components
3. Adapting a System Design
4. Conducting a Site Assessment
5. Installing Solar Collectors

6. Installing Water Heater and Storage Tanks
7. Installing Piping, Pipe Insulations and Connecting System Piping
8. Installing Mechanical/Plumbing Equipment and Other Components
9. Installing Electrical Control Systems
10. Installing Operation and Identification Tags and Labels
11. Performing a System Checkout
12. Maintaining and Troubleshooting a Solar Hot Water System

Approved courses are listed in Appendix A.

**AND**

Focus-eligible installations must pass the performance test conducted by a consultant for Focus on Energy. NOTE: The installer's first system will be eligible for Focus on Energy co-funding prior to Full Service listing, provided the installation passes the performance test and meets all eligibility requirements for Focus on Energy rewards. An installer may not have more than one active project approved by Focus on Energy at any given time prior to becoming a Full Service Installer.

**Performance Testing of Systems**

- Following the receipt of a Notice of Installation form, Focus on Energy will request a performance test on the completed system. A consultant will verify that the system meets the System Requirements in the Cash-Back Reward application. If System Requirements are not met, the installer has 30 days to amend and have the system retested at the installer's expense.
- Professional installers must be in the solar thermal installation business at least two years before a performance test is waived. A Full Service Installer with THREE consecutive successful solar hot water system performance tests in the last two years will only have a performance test scheduled if randomly selected. Approximately 20% of installations will be sampled for testing.
- NOTE: If an installer wishes to have a non-Focus eligible system considered toward meeting these Full Service Installer Requirements they may request a Performance Visit at the installer's expense.

**Eligibility**

Potential Full Service Installers must comply with the criteria outlined in the Renewable Energy Program Full Service Installer and Market Provider Eligibility policy in order to be eligible to participate in the Focus on Energy program as a Full Service Installer.

**Listing Removal and Reinstatement**

If Focus on Energy receives a documented complaint, Solar Hot Water Full Service Installers must satisfy the conditions as detailed in the Renewable Energy Program Complaint and Grievance Process and Renewable Energy Reinstatement Policy to maintain or reinstate Full Service Installer listing.

**To Maintain Listing**

To maintain Full Service listing, at least one (1) Solar Hot Water system installation must be documented every calendar year (See Appendix B).

Appendix A: Approved Solar Hot Water Courses

<b>Installation Courses</b>	<b>Institution(s) Offering Course</b>	<b>Hours</b>	<b>Prerequisite</b>
Solar Hot Water Installation Lab (SW 301)	Midwest Renewable Energy Association	21	Introductory course on Solar Water Heating
Solar Hot Water Installation (SW 305)	Midwest Renewable Energy Association	21	Introductory course on Solar Water Heating
Lead Installer Training Residential SDHW (SW 501)*	Midwest Renewable Energy Association	35	Solar Hot Water Installation Lab (SW 301)
Renewable Thermal Energy Technician Associate Degree	Mid-State Technical College	40+	
Solar Hot Water Installation Lab for Professionals (SW 301)	Hot Water Products	21	Introductory course on Solar Water Heating
Solar Hot Water Installation Lab for Professionals	Rundle-Spence, Artha Sustainable Living	21	Introductory course on Solar Water Heating
Solar Manufacturer / Dealer Installation Training	Others TBD. Will be considered if manufacturer submits course outline, curriculum detailing core competencies met, record of other CEUs awarded for use of curriculum		
<b>Introductory Courses on Solar Water Heating</b>	<b>Institution(s) Offering Course</b>	<b>Hours</b>	<b>Prerequisite</b>
Solar Domestic Hot Water Systems (SW 101)	Midwest Renewable Energy Association**	7	
Solar Domestic Hot Water/Space Heating Systems (SW 103)	Midwest Renewable Energy Association**	14	
Solar Water Site Assessor Training (SW 201)	Midwest Renewable Energy Association**	14	Solar Domestic Hot Water Systems (SW 101) or equivalent
Commercial Solar Hot Water	Energy Center of Wisconsin	7	
Solar Domestic Hot Water Systems	Caleffi Solar/ Design Air	6	
Solar Hot Water	Solar Energy International	18-40	
Introduction to Solar Water and Space Heating Systems	Great Lakes Renewable Energy Association	2	
Solar Manufacturer / Dealer Installation Training	Others TBD. Will be considered if manufacturer submits course outline, curriculum detailing core competencies met, record of other CEUs awarded for use of curriculum		

*\* Upon completion of this workshop students will be eligible to be listed as Full Service Installers on the Focus on Energy Solar Hot Water Installer list*

*\*\* Course available for credit leading to a Certificate in Renewable Energy Technologies from Madison Area Technical College*

The Approved Course list will be maintained by Focus on Energy and be available at [focusonenergy.com/fullserviceinstallers](http://focusonenergy.com/fullserviceinstallers) or 800-762-7077. Focus on Energy will determine if courses not on the approved list meet the core competencies and requirements. To request that a course be approved and added to the list, contact:

Focus on Energy – Solar Hot Water Program, 431 Charmany Drive, Madison, WI 53719

Effective 3/1/2008

Appendix B: NABCEP System Installation Tracking Sheet

Prospective Solar Hot Water Full Service Installers pursuing Track 2 must submit a complete System Installation tracking sheet(s) as developed by the North American Board of Certified Energy Practitioners (NABCEP). We have provided NABCEP's tracking sheet on the following page. The requirements to sit for the NABCEP Solar Thermal Installer Certification examination may be found at [nabcep.org](http://nabcep.org).

Please submit the completed form to the MREA:

The Midwest Renewable Energy Association  
7558 Deer Road  
Custer WI, 54423  
715-592-6595 or [info@the-mrea.org](mailto:info@the-mrea.org)

The MREA and Focus on Energy reserve the right to contact the solar system owner.

