

The SPF Is Now SRCC Certified!

After two and half years of waiting, we are pleased to report that RREAL's Solar Powered Furnace is now CERTIFIED by the Solar Rating and Certification Corporation (SRCC)! Not only have we finally received our long awaited certification, but RREAL's proprietary design took gold, silver and bronze in efficiency! In other words, we have the three most highly efficient collectors on the North American Solar Air Heat market.



For more than two years, our intentions to market and deliver our technology to the nation were hamstrung by a lack of SRCC certification. Required by State law here in Minnesota and dozens of other states, SRCC certification is necessary to market, sell or install solar thermal equipment. Although the State of MN was generously sympathetic to our plight and allowed the use of our collector in a "certification-pending" status, other states were not as cooperative. We were wholly unable to capitalize on the growing solar thermal market outside of Minnesota. That is no longer the case!

Although we're relieved to have finally received our certification, it was a frustrating process not only for us as an individual organization but for the solar industry and nation as a whole. At a time when the need for clean, domestic renewable energy is greatest, bringing products to market is lethargic at best. At a time when rhetoric about solar energy is at a fever pitch, there is a backlog of 300+ solar thermal collectors awaiting certification. For the sake of the industry, our environment and national energy security, we need to fast track certification!

Obtaining certification was a battle, and we would like to thank all the folks that helped make it happen. We really appreciate your concern and efforts on behalf of our nonprofit organization. We couldn't have done it without your voice in the chorus!

Solar Assistance Stays Busy Through the Winter

With the economic downturn, more and more families are struggling with their winter heating bills. This fact was made very apparent from RREAL's many Solar Assistance clients throughout this winter. Usually during the winter months, RREAL's installation numbers take a dip along with the temperatures. However, this winter, RREAL was able to stay fairly busy despite the frigid temps. From September to February, twenty-four installs were

completed. These installations ranged from Crookston to Two Harbors, and crisscrossed the small west central Minnesota towns of Erhard, Vergas, Sebeka, and Clitherall. Since RREAL's inception, we have now installed over 100 solar heating systems for recipients of heating assistance. We are also meeting with a variety of organizations that are interested in replicating this money saving, long-term solution to fuel poverty.



Hoyt Lakes, MN

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RREAL Announces the Development & Deployment of the Warm Air Controller !

To improve RREAL's Solar Powered Furnace (SPF) even further, a new sophisticated system controller was collaboratively developed with IMC Instruments, Inc. This controller has brought about a number of improvements for the installation crew and homeowners. This new controller replaces the thermostat, transformer-relay, and snap-disc, and has numerous advantages over the old installation method, including:

- Reduced electrician installation time due to the ability of system to be prewired. Components can use existing wall outlets and simply be plugged in by a Power Limited electrician in many cases;
- A sensor is used in place of a snap disc. The new thermistor (temperature sensor) has a much longer life and will nearly eliminate the chance of having to replace the sensor after the collectors are installed;
- Expanded system adjustment functions will address site-specific operating needs;
- Peak High and Low data recording and convenient user interface digital display;
- Data logging capabilities.



IMC Instruments has developed an extensive line of Solar Water Heat Controllers, but only after a long process of RREAL working with IMC engineers, was a new controller for solar air heat systems developed. Introducing the **Eagle 2 Warm Air Differential Temperature Controller!**

For determining site-specific system performance, the data logging feature of the Eagle 2 Warm Air controller is priceless. Not only can the adjustable user interface functions (Temperature Differential, Collector Low Limit, and Thermostat Set-point) be recorded, but sensors (House Temperature, Collector Temperature, Auxiliary Temperature Probe, and if the Fan is On/OFF) can be monitored and recorded as well. All this proves useful in determining usable heat output of each system, making it possible to calculate savings experienced with the solar system.

Currently RREAL is implementing the first series of data logging equipment, through a grant written collaboratively with the Otter Tail Wadena Community Action Council (OTWCAC). This grant paid for training of the OTWCAC energy auditors and installers on 16 Solar Assistance installations. Over the next year, each of these systems will be monitored and evaluated for performance.

With reduced installation time, more robust sensors, informative user interface, increased flexibility, and data logging capabilities, RREAL is proud to announce this new addition to the SPF System. Keep an eye out for further information regarding data logging results and figures in future newsletters.

New Website Launches!

When RREAL won the Social Entrepreneurship Cup in June of 2009, the organization also won a spot at the Nerdy Overnight Website Challenge. The Nerdy, a division of the web development company Sierra Bravo, realized that when it comes to websites and technology that can improve outreach and increase donations, many nonprofits are lagging far behind. Through the Overnight Website Challenge, sixteen volunteer web design teams offered their expertise to help sixteen non-profits

rebuild (or build from scratch) their websites so that they may use technology to better accomplish their missions.

Beginning at 9am on March 20 and concluding the next day, ten volunteer team members worked to rebuild RREAL's website. The new website now includes an online store where customers can buy an SPF system and component parts, an interface on which SPF dealers may communicate, a solar system library, and even an



iPhone/Droid Application. RREAL would like to thank all of the volunteers that helped create such a wonderful site. www.rreal.org

Minnesota Launches New Solar Air Heat Rebate!

On March 11, 2010, the State of Minnesota launched the Solar Air Heat Rebate program! This program significantly reduces the cost of solar air heat installations for Minnesota residents.

Prior to submitting an application for a rebate, homeowners must have implemented household energy efficiency measures, completed a solar site assessment, demonstrated at least 85% solar resource in the winter months, selected an installer, and made an earnest down payment on the proposed system.

Single family residences can qualify for a rebate of up to \$2,000, while multi-family

2-3 units can qualify for a rebate of up to \$4,000. The rebate is calculated based upon the square footage of the solar air heat system aperture, and is \$25 per square foot. The rebate will not exceed 25% of the total project cost.

Help RREAL complete more Solar Assistance installations while helping yourself with a renewable source of winter space heat! RREAL can complete a site assessment for your home, prepare a system design, and complete the installation. RREAL is a qualified MN solar installer, with a

Residential Contractor's license. We have considerable experience, with over 60 solar air heat installations completed in the State of Minnesota alone. Don't wait to go solar, take advantage of these great opportunities while they're available!

Detailed application instructions can be located on the MN Department of Commerce website. http://www.state.mn.us/mn/externalDocs/Commerce/Solar_Air_Heat_Rebate_Application_031110102916_SolarAirHeatRebateAppl.pdf

Solar Air Heat Installation Trainings Empower Others to Perform Solar Assistance in Their Communities

RREAL Hosts Second Dealer Training in March

The training was attended by 18 Dealers and Installers and included participants from central Wisconsin to western Montana. The two-day training included a second-day installation on a Habitat For Humanity Home in Merrifield, MN. Dealer Trainings are designed to assure that Dealers:

- Are very familiar with system design options
- Understand the context of fuel poverty within which RREAL was created
- Participate in an installation and have all questions answered about installation techniques
- Understand what makes Solar Air Heat unique and how it is representative of opportunities in the solar field
- Feel comfortable describing the features and benefits of RREAL's Solar Powered Furnaces
- Can collaborate with other dealers and share ideas about marketing and installation

To participate in a future Dealer Training, contact Tim Ollhoff, tim@rreal.org to get on the list.

RREAL and OTWCAC Partner to Train Crews

In December of 2009, RREAL and the Ottertail-Wadena Community Action Council (OTWCAC) began a collaborative effort to provide RREAL's Solar Powered Furnace (SPF) to low income families in the OTWCAC service area. Funds for this effort were provided from a grant which was awarded to OTWCAC by the Minnesota Renewable Energy Marketplace (MN REM).

All together, 16 projects were funded by the MN REM grant. As a part of this grant, 4 different OTWCAC weatherization auditors were trained on how to select acceptable solar sites for the SPF and 4 different OTWCAC contracting crews were trained on how to install the SPF systems. It is hopeful that with this project, OTWCAC might be able to offer RREAL's SPF as a part of their weatherization package for low income families. With RREAL's mission to "make solar power accessible to families of all income levels," this project was a huge step in the right direction.

The last project was completed on April 20th with a stellar installation and a jubilant homeowner. RREAL would like to thank everyone at OTWCAC for their interest and support!

If someone you know would be interested in RREAL's work, pass this newsletter along!

If you would like to receive our newsletter via email, please send your request to admin@rreal.org

RREAL Wish

List:

- High quality tools
- Reliable work vehicle
- New or high-quality laptop computer
- Fall protection sets (2)
- Enclosed trailer
- Volunteers

Help Make RREAL's Work Possible

RREAL is a 501(c)(3), non-profit organization that relies on the generous donations of individuals dedicated to the ideas of environmental and social justice. Please consider making a tax-deductible contribution so we can continue our important work to make renewable energy accessible to people of all income levels!

I would like to submit a gift of:

\$50

\$100

\$250

\$500

\$1,000

Other \$ _____

Name: _____

Address: _____

City/State/Zip: _____

Phone: _____

E-mail: _____



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