



ANNUAL REPORT 2015



RURAL RENEWABLE ENERGY ALLIANCE

3963 8th St. SW
Backus, MN 56435

RREAL.ORG | 218.947.3779

LETTER FROM THE DIRECTOR

Thank you for your continued support of RREAL and our efforts to end the renewable divide! Every year, we demonstrate that clean energy is not only a means to reduce the environmental and social costs of fossil fuels but also an innovative and effective tool in the fight against poverty.

When we started RREAL in 2000 with no money and a surplus of naiveté, we knew that the concept of serving low-income families through solar energy was worthy of pursuit. Whether through the energy assistance program, affordable housing or community solar, solar energy was clearly going to emerge as a powerful tool in addressing energy inequity and poverty.

2015 was an affirming year for RREAL. Having grown from a grassroots garage band, we are now in the company of hundreds of public and private organizations interested in developing low-income solar models from coast to coast. RREAL's efforts are now very much a part of a national conversation to ensure that solar is broadly accessible to communities of all income levels.

When the President announced the National Community Solar Partnership, a specific initiative to increase access to solar energy for low-income communities, it was cause for celebration at RREAL. As a member of the Partnership, RREAL is now contributing to the national dialogue about low-income community solar and solar accessibility.

The notion of integrating solar energy with the energy assistance program, an existing national network that serves low-income communities, is rapidly being acknowledged as an efficient and logical model program for low-income solar. Serving 96% of the counties in the United States and determining income eligibility, the energy assistance program is the natural vehicle in which to scale low-income solar programs.

While advancing this cause nationally, RREAL continues to serve households directly and locally with solar energy! We diligently



demonstrate the effectiveness of our model through action and service throughout the Midwest.

In addition to the low-income rooftop solar we provide and because of your support and encouragement in 2015, we have secured funding for the first 100% low-income community solar asset in the State of Minnesota! Supporting the Leech Lake Band of Ojibwe energy assistance program, it'll be the first community solar asset integrated into the energy assistance program.

From reforming the energy assistance program to developing solar electric micro-grids for the rural health care community in the developing world, RREAL demonstrates the ability to do much with very little. We clearly have the power to make a difference.

We ask for your continued help in helping others through our Solar Assistance efforts. Our trail-blazing work needs your time, energy, advocacy, creativity and financial support. End the renewable divide and be a part of RREAL's pioneering work.

Jason Edens, Director

OUR PROGRAMS: 2015 Year in Review

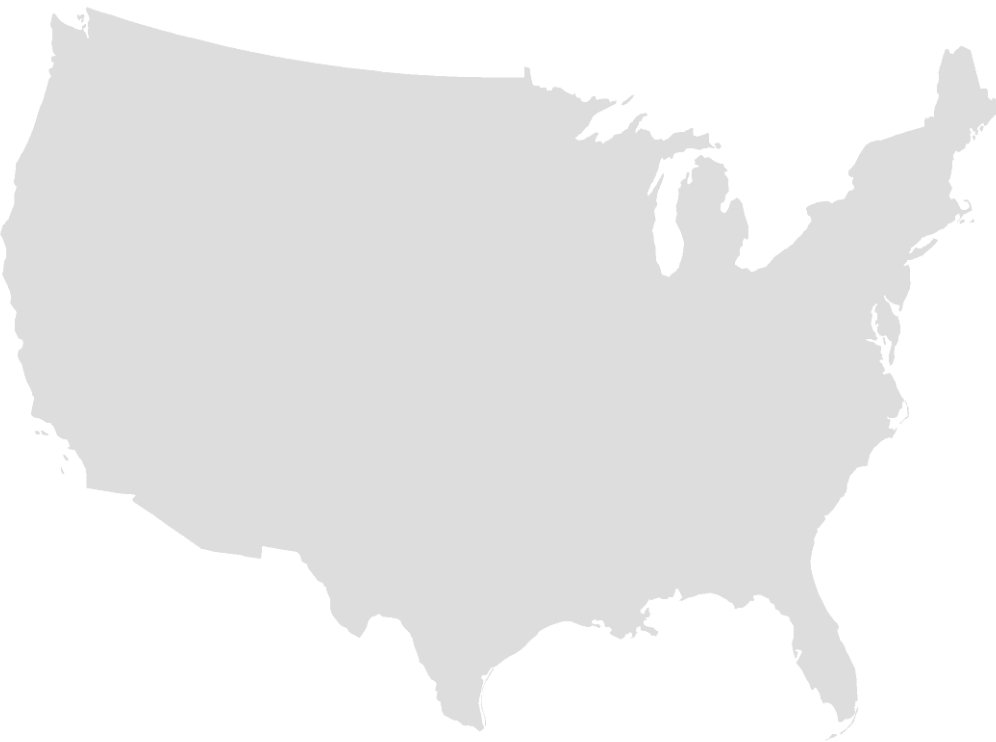
Community Solar for Community Action: A New Model of Low-Income Energy Assistance Developed!

2015 gave RREAL the opportunity to develop and introduce a new model of low-income energy assistance that leverages the emerging community solar model. Serving families through good fiscal and environmental policy, Community Solar for Community Action represents a nationwide opportunity to scale low-income community solar in partnership with the energy assistance program and community action agency network.



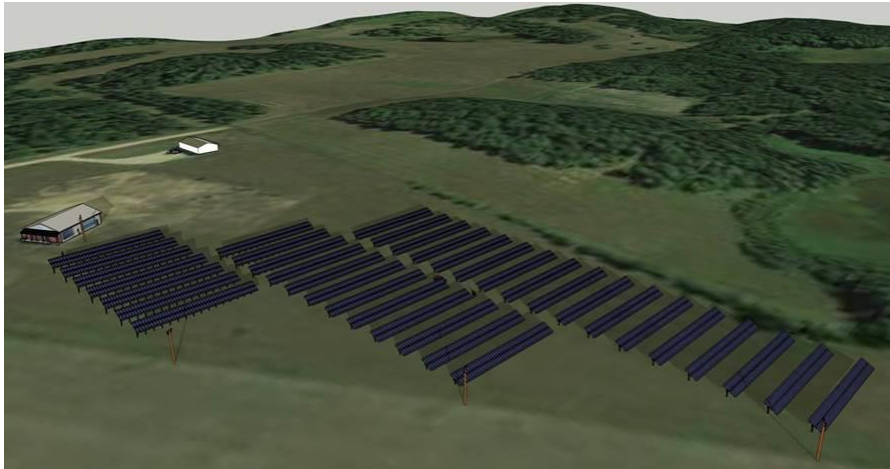
First 100% Low-income Community Solar Installation in Minnesota – Community Solar for Community Action with the Leech Lake Band of Ojibwe Energy Assistance!

RREAL will be demonstrating this new model of low-income energy assistance in a pilot installation this summer on behalf of the Leech Lake Band of Ojibwe community and their energy assistance program. The first of its kind in the nation, this centrally located, community shared asset will generate energy for low-income rate-payers through a unique relationship with the utility and the local energy assistance program!



OUR PROGRAMS: 2015 Year in Review

The RREAL Campus!



And, we have big ambitions for it. After freezing in our Director's garage back in the garage band days, we graduated to the Hunt Utilities Group Campus where we prospered for many years. Now, we own a little more than 20 acres, and our intention is to leverage the land for decades of growth and the deployment of a utility scale PV array with significant low-income participation.

Situated right along U.S. Highway 371, there are also plans to deploy an EV charging station. There's a big gap in the EV charging infrastructure around these parts, and by installing one at RREAL, we can help support sustainable tourism and increase the use of clean transportation!

Owning our own land and facilities is a huge step forward for our organization and will help with our long-term financial sustainability and health as an organization! This land is the new home of both RREAL and our for-profit subsidiary, REAL Solar. Stop by, charge up and visit us at 3963 8th St. SW, Backus, MN 56435.

Finally, we offer our most sincere and deep gratitude to the good people of Hunt Utilities Group who were such fun and gracious hosts! Fortunately, we are still neighbors and collaborators in a clean energy future.

Demonstrated Solar Thermal, PV Powered Season Extension Greenhouse

for Concordia College! RREAL has been advocating for the use of clean, solar thermal energy to extend the growing season in cold climates! Our most recent adventure in this cutting edge application was in partnership with the forward thinking folks at Concordia College, named one of the coldest university campuses in North America!

The solar thermal season extension system uses a proven approach where the heat is delivered directly to the growing medium which is also the thermal mass. The heat directly enhances root and foliar growth and can offer significant season extension. Similar systems elsewhere in Minnesota that RREAL has built have extended the growing season by 6-8 weeks on either side the deep winter.

The intersection of food and energy security! We believe that growers throughout cold climates should be doing something similar to enhance local foods movements and make nutritious, local food available for longer periods of time in the region.



OUR PROGRAMS: 2015 Year in Review

RREAL Seeks Manufacturing Partner for Solstis™ Solar Powered Furnace



As you all know, RREAL developed a patented solar air heating technology that is well suited for residential and commercial space heating in cold climates as well as crop drying, season extension and process heat for a variety of applications – the Solstis™ Solar Powered Furnace. Certified by the Solar Rating and Certification Corporation and qualified for the Made in Minnesota Program, our product represents the state of the art in recirculation solar air heating technology.

RREAL had been creating good manufacturing jobs in our community and installation opportunities for the solar industry nationwide, and we are seeking a manufacturing partner to continue that effort. Now that we have developed the product, manufacturing process, installation methods and marketing capacity, we are well positioned to share our technology with the right collaborator through a licensing agreement.

2015 saw the end of RREAL's manufacturing in Pine River. 2016 will reveal the new home of the Solar Powered Furnace manufacturing home.

Fighting Energy Poverty With Solar Assistance. 7 More Families Served!

Seven low-income households have been equipped with on-site solar energy systems providing long-term resilience to the cost of energy. While we develop a scalable, national model for Solar Assistance, we continue to do our local work and prove the cost-effectiveness of our model through local action and service.



OUR PROGRAMS: 2015 Year in Review

F4: Fossil Fuel Free Fishhouse!

Dragging propane out to your ice fishing house? Why bother?

Using a combination of solar thermal and solar electric technologies, Bemidji State University, RREAL and NW Technical College partnered to demonstrate that you can heat and power your ice fishing house with solar energy. In a state full of ice anglers, we encourage you to check it out at the BSU Sustainability Office

(<http://www.bemidjistate.edu/offices/sustainability/>)



RREAL Joins the National Community Solar Partnership

A national effort to increase low and moderate income solar, the National Community Solar Partnership is comprised of for-profit community solar developers, advocacy organizations, public agencies and NGOs. RREAL is proud to be at the table with friends including Fresh Energy, MN Solar Energy Industries Association, GRID Alternatives and the Minnesota Department of Commerce. Hats off to the innovative leaders who have developed the National Community Solar Partnership.



REAL Solar Design-Build Expansion

REAL Solar had its busiest installation season ever with installations across the State of Minnesota. From the Albert Lead Seed Company featured below, to the far reaches of northwest Minnesota, RREAL is providing high quality, reliable and cost-effective solar energy systems for businesses, homeowners, congregations, nonprofits and municipalities. According to the Solar Foundation, employment in the solar industry has increased by 123% over the past 6 years. The U.S. saw approximately 7.3 GW of solar installed in 2015. We're proud to be a very small part of this growth.



Who Will Forego the Traditional Spring Break and Come to Northern Minnesota in the Winter to Help a Rural, Poverty-Fighting, Clean Energy Nonprofit? Spartans Will!

Thanks to the Michigan State University Alternative Spring Break dream team! Y'all dramatically helped improve our facilities making it possible for us to serve more efficiently and effectively! We're so grateful. We'll be back...



OUR PROGRAMS: 2015 Year in Review

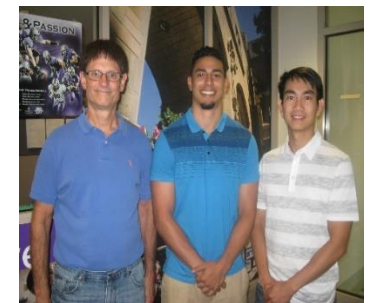
RREAL Thanks the Conservation Corps of Minnesota for Partnership

RREAL has proudly hosted Conservation Corps Members for many years, and last year, we welcomed two more. The Conservation Corps of Minnesota is a legacy of the Civilian Conservation Corps, and RREAL is proud to be among the first agencies to insert solar service into that tradition. Thanks to Nick and Tyler who were at the table and a part of the team in every way. Wishing Nick and Tyler the very best and a heartfelt thank you to the Conservation Corps of Minnesota.



RREAL is fortunate to have a broad base of volunteers and interns making our work possible!

Thanks to our many RREAL volunteers!
The Power to Make a Difference!



Today's Youth are Making Tomorrow's Energy Choices!

Have you been to one of the State's residential environmental learning centers? Perhaps Deep Portage? Wolf Ridge? Laurentian? Eagle Bluff? Northwoods Audubon? Long Lake Conservation Center?

If you have, you know first-hand what a positive, lasting and significant impact they are having on our environment through education. Tens of thousands of Minnesota students spend time at the centers each and every year. The students have fun, make fond memories, but most importantly, they acquire a greater understanding of the value of our environment, our place within it and how our choices impact that environment.

The environmental learning centers have embraced clean energy and are significantly reducing their carbon footprints through energy efficiency and renewable energy while incorporating the effort into the curriculum. As centers of learning for the community, they are an ideal setting for the integration of clean energy into curriculum.

Whether through STEM education at the high school level of an introduction to solar energy, clean energy makes an ideal hub for all kinds of learning opportunities in many different disciplines. The environmental learning centers are doing just that and showing the rest of us how!

The state's environmental learning centers were awarded a grant from the Legislative Citizens Commission on Minnesota Resources to deploy solar electric systems at each site, and RREAL was honored to be the builder.

RREAL has a history of clean energy education and advocacy and several team members who are former naturalists at the centers. We are proud to be a part of this project!

RREAL Installs Solar Electric Systems at each of the State's Environmental Learning Centers!



50 kW

6 Learning Centers

**100,000+ students
learn about solar energy!**



PV for Phebe: A solar electric micro-grid for a critical Liberian Hospital

We all take electricity for granted, yet nearly 2 billion people live without it. Imagine going home tonight to a house or an apartment without any electricity? Take that a step further and imagine that your regional hospital has only intermittent electricity. Such is the reality for most rural hospitals throughout the developing world.

Phebe Hospital in northern Liberia saw the first case of Ebola and survived a brutal civil war. Today, it still battles to keep the lights on while providing high quality health care to a half million people. Expensive and troublesome diesel generators power the hospital intermittently, but it isn't uncommon that the power fails during an operation, birth or emergency surgery. We take electricity for granted.

One of the largest expenses for this critical piece of health care infrastructure isn't medicine or x-ray machines, it is diesel fuel.



Staff Electrician Bobo Installs Small System at Phebe

In partnership with the NE Synod of the Women of the ELCA,

RREAL will be deploying a solar electric micro-grid at Phebe Hospital and School Nursing to create a lasting, clean and reliable energy solution. Not only will this reduce costs for the hospital, but it'll lead to better health outcomes and community wellness.



Project manager and RREAL vet, BJ Allen, gets warm welcome from the Phebe Community

Rather than deploy a centralized capital intensive electric grid across areas without access to electricity, we can **Skip the Grid** and demonstrate a new model of energizing and empowering communities. Micro-grids like the one at Phebe Hospital are designed to meet the current and future energy needs in a democratizing, decentralized and clean way.

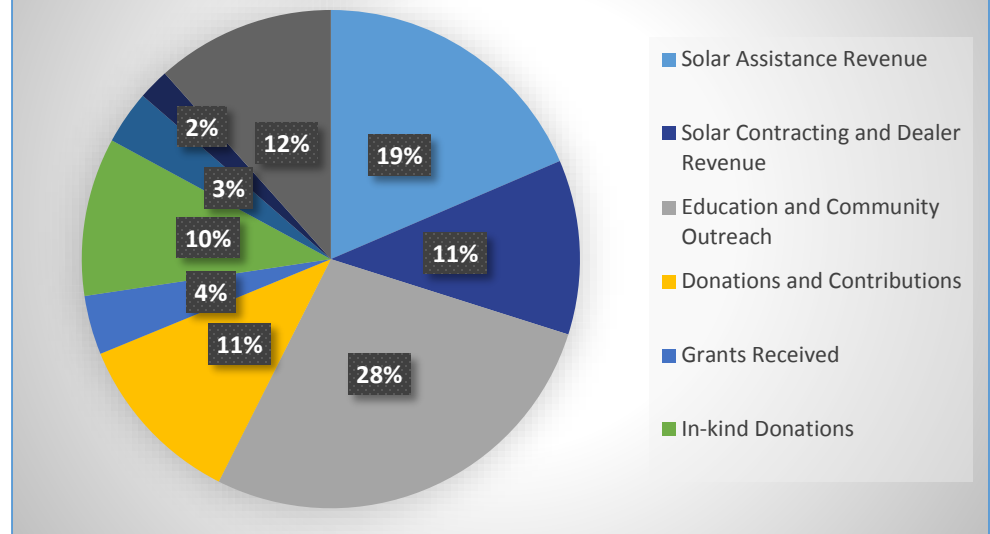
2015 PV for Phebe Project Progress Report

- **RREAL performs pre-feasibility assessment at Phebe Hospital and School of Nursing.**
- **System design completed with assistance from University of St. Thomas**
- **Substantial fundraising performed within the Women of the ELCA community!**
- **Small off-grid system installed at Phebe for back-up lighting in the operating theater.**

FINANCIAL REPORT

Rural Renewable Energy Alliance Statement of Financial Position December 31, 2015		
Cash	\$	224,740.00
Accounts Receivable	\$	38,361.00
Inventory (Net)	\$	92,882.00
Other Current Assets	\$	6,637.00
Total Current Assets	\$	362,620.00
Total Fixed Assets (Net)	\$	195,921.00
Total Assets	\$	558,541.00
Accounts Payable	\$	42,601.00
Deferred Revenue	\$	75,765.00
Other Current Liabilities	\$	178,129.00
Total Current Liabilities	\$	296,495.00
Loans	\$	114,426.00
Total Liabilities	\$	410,921.00
Total Net Assets	\$	147,620.00
Total Liabilities and Net Assets	\$	558,541.00

2015 RREAL Revenue by Program



RREAL Statement of Activities For the Twelve Months Ending December 31, 2015			
	Unrestricted Assets	Temporarily Restricted	Total
Solar Assistance Revenue	\$ 176,898.00		\$ 176,898.49
Solar Contracting and Dealer Revenue	\$ 108,062.00		\$ 108,062.15
Education and Community Outreach	\$ 262,456.00		\$ 263,160.78
Donations and Contributions	\$ 108,394.00		\$ 103,891.86
Grants Received	\$ 36,553.00		\$ 36,553.00
In-kind Donations	\$ 97,937.00		\$ 97,936.50
Gain on the sale of assets	\$ 33,131.00		\$ 33,131.00
Misc. Income	\$ 19,137.00		\$ 19,137.00
Assets released from restriction	\$ 110,703.00	\$ (110,703.00)	\$ -
Total Revenue	\$ 953,271.00		\$ 838,770.78
Program Expenses	\$766,124.00		\$766,124.00
Administration/General	\$ 68,392.54		\$ 68,392.54
	\$834,516.54		\$834,516.54
Change in Net Assets from Operations	\$24,661.00	\$ (110,703.00)	(\$86,042.00)
Earnings from Affiliate	(\$10,924.00)		
Change in Net Assets	\$13,737.00		
Net Assets - Beginning of Year	\$ 130,844.00	\$ 113,742.00	
Net Assets - End of Year	\$ 144,581.00	\$ 3,039.00	\$ 147,620.00

ACKNOWLEDGMENTS

DONORS

Lynn Aiken
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 Rod and Linda Allen
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 Suzanne Allen
 David & Julie Anderholm
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Because of your ongoing support and encouragement, we are able to continue to move families from impoverished to empowered, fighting poverty with clean energy through RREAL's Solar Assistance Program. Please help us ensure that communities will have energy resiliency for decades to come.

RREAL's work can only continue with your support. Every dollar helps, and your donations are tax deductible. You can donate year-round through **GiveMN.org**, or by sending your donation directly to RREAL.

Together we can make a difference!