



Champion Report

Theme Area: **Energy**

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REPORTING PERIOD: October 14, 2014 - January 13, 2015

Goals/Strategies or Action Steps:	What NEW success have you had in moving your theme goals forward over the reporting period?
Energy in our Region	The City of Pierz has now joined as a GreenSteps City participant.
Energy in our Region	Staple Ag Center: 100 acres of canola - crushed for oil for two tractors and one local foods truck. Need to move into analytics of use. Meal market (by product of canola oil) is in high demand as it is a high energy source for livestock.
Energy in our Region	Biomass is alive and well – FinbroMinn is switching from manure to all wood; replacing the manure that two companies were using with more forest waste. By transitioning to wood they’re moving to 65-70 megawatts.
Energy in our Region	Biofuels Prairie Packing methane operation is pumping methane gas into pipeline in the Long Prairie – and getting the green credits (in big demand in California).
Energy in our Region	<p>The Renewable Energy Innovation Project “REIP” is a strategy or a proposal for how Minnesota can move forward progression of renewable energy ideation toward commercialization and has been utilized by the: Minnesota NGA’s (National Governors Association) Clean Energy and Economic Development Policy Academy, which is being spearheaded by the MN Department of Employment and Economic Development. Minnesota’s NGA has convened a group of state leaders working to craft renewable energy policy for the next legislative session.</p> <p>Hills continues conversations with The Energy Foundation into 2015 with the intent of discovering an approach that improves our energy work throughout MN with early conversations of a pilot project</p>

	in Region Five. Look for upcoming meeting invites where YOU will be encouraged to share your ideas of next best steps.
Energy in our Region & Increase energy efficiency	<p>There are now thousands of Toasty Turkeys in our region. Because of an innovative project supported by the University of Minnesota Central Region Sustainable Development Partnership, CERTs and Agstar, RREAL completed the installation of a unique solar thermal system on for a turkey producer here in Central Minnesota. The ventilation make-up air heating system could transform the energy economics for the nation’s largest producing turkey state – Minnesota.</p> <p>In December, the turkey producer hosted an event coordinated by RREAL and CERTs to present the project findings and demonstrate the unique system. The Toasty Turkey findings will also be featured at the 2015 CERTs statewide conference in March.</p>
Energy in our Region & Increase energy efficiency	Zenergy to build 900 kW Community Solar Garden in Central Minnesota.
Energy in our Region & Increase energy efficiency	RREAL to build first Community Solar Garden for Low-income Energy Assistance in nation here in Central Minnesota.
Energy in our Region & Increase energy efficiency	GESP Guaranteed Energy Savings Program is another funding mechanism overseen by the state of MN available to municipalities in the region, where major energy upgrades can be funded based on the energy saved from the projects, making the upgrades a budget neutral move (which can be very beneficial to cities who can achieve projects without increasing operations budget).
Energy in our Region & Increase energy efficiency	With funding from the Otto Bremer Foundation and the Blandin Foundation, RREAL is continuing to scale its Solar Assistance (solar heat for low-income families) program. This year, RREAL is installing scores of low-income installations in partnership with several communities in our region including the Leech Lake Band of Ojibwe.
Energy in our Region & Increase energy efficiency	With support from the University of Minnesota Central Region Sustainable Development Partnership, RREAL investigated the extent to which solar water heating systems can offset emissions associated with outdoor wood boilers when such systems are designed in combination with one another. Wood heat accounts for 54% of statewide polycyclic aromatic hydrocarbons and about a quarter of all PM2.5 emissions, so this research will be valuable in terms of evaluating the role that solar thermal can play in reducing such emissions while also stabilizing cost.
Increase energy efficiency	CERTs is working on 2 LED lighting campaigns, first we are aiming to help service stations update their canopy lights to LEDs, and helping Turkey Farmers update their livestock housing to LED lighting. These are both heavy lighting users, and provide substantial savings opportunities by upgrading. We help by helping prospective service station owners and farmers identify all of the rebates and incentives available to them, connect with the different appropriate LED lighting vendors, and help with the technical aspects of upgrade. We also have a residential lighting resource we have developed that we like to get in as many hands as possible called the 'Right Light Guide'.

Increase energy efficiency	Central Lakes College developed a proposal for the Renewable Development Fund grant to be submitted for approximately \$400,000 worth of PV and biofuels based electrical generation.
Increase energy efficiency	Central Lakes College Ag & Energy Center purchased an additional heavy tillage 4-wheel drive John Deere tractor and has converted it to straight vegetable oil (SVO) proceeding with plans to farm approximately 1,400 acres of land using locally produced fuel.
Increase energy efficiency	PACE Financing legislation passed the MN Legislature during the last session which allows all municipal and counties with bonding authority the right to issue 20 year notes to finance energy efficiency and renewable energy projects for commercial properties within their jurisdiction through a special tax assessment. This is a game-changing, paradigm shifting piece of legislation that will make it possible for any business owner interested in clean energy and energy efficiency to deploy such improvements. The savings from the improvement must exceed the tax assessment, and that assessment travels with the property not with the business. In short, PACE financing eliminates the upfront expense of deploying renewable energy installations and facilitates a rapid positive cash flow. Any City within the State of MN can participate. All bonds are secured through the St. Paul Port Authority.
Increase energy efficiency	Extremely generous solar incentives! 1) REEGP (Renewable Energy Equipment Grant Program) provides no-cost solar energy systems to low-income families on energy assistance; 2) MIM Solar Thermal (made-in-Minnesota) which provides up to 25% of the total project costs for homeowners, business owners, nonprofits, schools and municipalities, and 3) MIM Solar PV PBI (Made-in-Minnesota solar electric production based incentive) which provides generous incentives for electric generation. Numbers 2 and 3 only apply to investor owned utilities.

How are you working with any of the other RR Theme areas?

RREAL is also installing a solar electric system for the Lakes Area Habitat for Humanity Re-store with grant funding from First Solar. The project will stabilize operating costs for Habitat for Humanity.

RREAL continues working with SPROUT food hub on high tunnel, season extension research. Now in the second year of data collection, RREAL doubled the high tunnel insulation envelope to compare year 1 with year 2. Concordia College has expressed interest in a similar project and is seeking the funding to begin working with RREAL next spring.

Sprucewood Workforce Housing complex in Baxter was recently completed and is a direct result of Resilient Region work. The project engaged the housing and energy theme areas in a collaborative effort. RREAL installed a 40 kW solar electric installation to provide long term energy cost stability. More than half of the solar panels have been installed and are fully functional. This collaborative project between the Central MN Housing Partnership, Keuper’s and RREAL is very much a product of the Resilient Region collaborations.

In partnership, RREAL and Brainerd HRA will be demonstrating the use of solar electricity to provide stable energy costs for low-income residents. This fall, RREAL will be installing a grid-tied, residential solar electric system on a “scattered-site” HRA unit. The intention is to do so across all appropriate scattered site rental units leveraging recently received USDA RCDI funding.

List any Goals or Recommendations within the plan that your team of theme Champions are struggling to address?

Creating opportunities and information-sharing for municipalities to consider PACE financing and policy adoption would directly support both energy theme goals and increase the capacity of LGUs in the region seeking to implement energy efficiency and renewable energy projects. The energy champions are considering a variety of formats and welcome suggestions.

Creating a more energy efficient region through working with utilities and emphasizing energy efficiency is part of the plan goals and was reinforced as a priority at the January 2014 community input session. The energy team continues seek opportunities to better address this goal area. The aforementioned Made in Minnesota solar thermal rebate program provides an opportunity for this goal and the team continues to promote this program – and welcomes any suggestions for increasing outreach.

Energy

Energy Issue I (EI)

Energy in our region: Not all of the jobs that were lost in the past ten years were to developing countries with lax regulatory oversight and low wages, many jobs were lost to advancements in technology and related productivity gains. Because the region has many companies that are working within energy related fields, developing breakthrough technology in energy production will be critical for advancing the industry cluster and the region.

Energy Issue I Goal

Increase energy efficiency: Create a more energy efficient region through working with utilities and emphasizing energy efficiency. Employ education and outreach to capitalize on technological advancements in energy including smart grid technologies and renewable energy conducive to our region such as geothermal, solar, wind, biomass, energy storage and hydro power.

Recommendation 1

***Public/private collaboration:* Increase collaboration between public and private sectors to implement new energy technologies, including state and federal financing for private/public partnerships.**

Action Step A

Partnerships: Work with Habitat for Humanity to build additional energy efficient homes and work with Community Action Partnership (CAP) agencies to weatherize homes.

Action Step B

Priorities: Target group homes and programs serving the low-income, senior, and disabled populations.

Action Step C

Information sharing: Add utilities to email notification for agendas of city/county/Region 5 Development Commission's EDA/HRA/Planning Commissions, etc. so the utilities can review for

possible projects. EDA to send email to utilities with prospects/commercial building projects.

Action Step D

Seek out information: Utilities regularly ask EDAs for information about possible commercial building opportunities.

Action Step E

Identify contacts: Create a contact list of utility personnel that all the utilities can refer to regionally.

Action Step F

Rebate information: Post utility rebates on the new Resilient Region website and link to utility websites.

Action Step G

Coordinate between utilities: Set up a regular schedule for utilities to meet on the issues of energy efficiency and low-income programs.

Action Step H

Utility contact information: Inventory regional utilities and post a regional utility map and contacts on the Resilient Region website.

Action Step I

Policy change: Collectively address the policy issue of inequity between credits for BTUs and/or KWHs saved. Ask for support from energy advocate agencies and local governments.

Action Step J

Educating farmers: Support energy efficiency in agriculture. Plan a statewide conference for the agriculture industry and farmers focusing on energy efficiency. Support the Minnesota Project's Dairy Initiative on energy efficiency.

Action Step K

Educate commercial and industrial:

Campaign for commercial and industrial efficiency.

Recommendation 2

Support renewable energy requirements: Energy users support utility companies in meeting renewable energy requirements

Action Step A

Standardize rebates: Standardize rebates across utilities.

Action Step B

Neighborhood energy use: Work with Center for Energy and the Environment (CEE) to conduct neighborhood energy challenges. Educate residential consumers.

Action Step C

Consumer energy use: Use existing software (MyMeter) to encourage customers to manage usage.

Action Step D

Case studies: Publicize case studies of families that have utilized programs that save energy.

Action Step E

Publicize programs: Encourage utilities to list programs available for low-income residents

Action Step F

Low-income focus: Encourage utilities to lead discussions around low-income gaps.

Action Step G

Coordination and promotion: Coordinate and promote existing efficiency programs

Recommendation 3

Conservation and renewable technologies: Encourage and teach conservation and advance practical renewable energy technologies that have a reasonable return on investment. Teach people how to conserve energy, manage energy demand & about new technologies – without bias as to type of energy source. Focus on conservation. Discuss/teach how energy sources contribute to pollution.

Action Step A

Economic development: Create an energy incubator campus, leverage existing expertise, and create target incentives to advance the commercialization of clean, green, sustainable enterprises

Action Step B

Solar access: Ensure access to solar energy for all housing.

Action Step C

Equipment: Help finance energy efficient business equipment for commercial, industrial and agricultural enterprises.

Action Step D

Policy: Incentivize energy conservation through such actions as tax incentives for home owners and businesses that utilize solar, wind, etc. Reduce regulations that impede renewable energy production. Promote policy that supports decentralized energy production. Provide incentives such as cost share incentives and

rebates to help energy users adopt renewable energy technologies.

Action Step E

Energy production: Focus on small scale energy production. Cultivate the hazardous energy sources like nuclear. Focus on research not production.

Action Step F

Research: Support research on conservation and renewable technologies.

Action Step G

Waste to energy: Support opportunities to turn waste into energy.

Action Step H

Service delivery planning: Engage in planning for brown-out/black-out times when utility companies are not able to operate.

Action Step I

Infrastructure: Pursue solutions to building local renewable energy infrastructure (i.e. electric car stations).

Action Step J

Education: Utility companies should partner with schools to provide classroom-based education on renewable energy.