



Energy Independent Communities: 25x25 Plan Grants Pilot Presentations 4th Quarter Report

Mayor Larry MacDonald
Chequamegon Bay Region
Green Bay, WI
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Overview

What was measured? Why?

Discoveries/Surprises

Total Projects Considered

Pathways to 25 x 25

Projects Selected – Explanation

Potential Renewable Feedstocks

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Action Steps – Immediate & Long - Term

Energy Independence Team Members



Chequamegon Bay Region Energy Independence Team

What was measured? Why?

- **Energy usage in all partner facilities, outdoor lighting and water systems**
 - This information helped communities identify exceptionally inefficient premises, allowing for prioritization of efficiency upgrades.
 - Reviewing the utility information was also a great opportunity to update premise information and streamline records and tracking methods.
- **Fuel usage in fleet vehicles & equipment**
 - While many partner communities did not have comprehensive records of fuel consumption, we were able to get an idea of what percentage of our total energy usage was going toward transportation and road maintenance.
 - This information helped identify opportunities for incorporating alternative transportation fuels and more efficient vehicles as part of our 25x25 Plan.
 - This effort also demonstrated to partners the need to start tracking their fuel consumption more thoroughly.

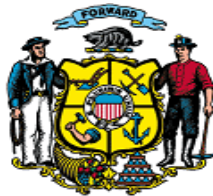




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Discoveries/Surprises

- The City of Ashland was being charged for nearly double their actual number of unmetered street lights. They were refunded over \$23,000 for two years worth of overpayments, with audits under way for an additional four years - potentially tripling their refund.
- Some facilities have multiple premise IDs, and in some cases, utility information was inadvertently omitted from past energy audits.
- Measures put in place to track fuel consumption in some police vehicles were not being enforced. Officers were directed to log their mileage and gas volume on their vehicle computers when fueling, but many were simply entering zeros.
- Much of the energy consumption attributed to facilities was due to employees using individual space heaters and small appliances. In some cases, employees with space heaters near thermostats were accidentally affecting the heating system, which lowered the heat output and led other employees to bring additional space heaters, exacerbating the problem.





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Total Projects Considered

- LED exit lights in the Vaughn Library
- Lighting upgrades in the Bretting Community Center and Ellis Avenue Fire Station
- Insulation and occupancy sensors in Ashland City Hall
- Installation of solar PV, insulation and upgraded heating system in Bayfield Town Garage
- Weatherization and heating system upgrade in Bayfield County Annex Building
- Heating system upgrade, occupancy sensors and more efficient water pumps in Bayfield County Courthouse
- Exterior lighting upgrades at Bayfield County Jail, Annex Building, seven highway garages and campgrounds
- Installation of insulation and solar hot water at Ag Research Station
- Upgraded heating system at BART facility
- Purchase of two hybrid electric buses for BART
- Installation of an on-demand hot water system at BART
- New BART facility (planned for 2010) and transfer station (planned for 2012) will incorporate numerous energy efficiency measures
- Energy efficiency upgrades in La Pointe Library and Town Hall
- LED lighting upgrades for La Pointe outdoor lighting systems
- Biomass-based heat for all La Pointe government facilities
- Installation of wind towers on Madeline Island and Mount Ashwabay
- Weatherization of Red Cliff Administration Building
- Energy efficiency upgrades in Bayfield City Hall, Library and Courthouse
- Installation of insulation, solar PV, upgraded windows, and lighting in Ashland County Courthouse
- Lighting and efficiency upgrades, solar hot water and PV at Ashland County Jail
- Upgraded lighting and installation of PV panels at Ashland County Health and Human Services Building
- HVAC and lighting upgrades, installation of solar light tubes at Ashland County Highway Garage
- Replacement of fleet vehicles, incorporation of biodiesel, and investigation of teleconferencing/carpooling options for Ashland County Highway Department
- Energy efficiency upgrades at Washburn City Hall Complex

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Pathways to 25 x 25

- All partners are approaching energy efficiency measures as first priorities.
- After total energy consumption has been addressed and reduced, communities will begin implementing renewable energy alternatives such as geothermal, solar thermal and PV, and biomass heating systems.
- The Xcel Energy Bay Front Plant will run on 100% biomass by 2012.
- Chequamegon Bay communities are working with Midland Energy to bring a reliable source of quality biodiesel fuel to the region on an ongoing basis.
- AERC is doing research at the Ashland As Research Station to find sustainable, local sources of biomass for Xcel, and will develop research trials for biodiesel crops for Midland in 2010.
- Madeline Island and Bayfield County are currently conducting feasibility studies for wind energy.






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Projects Selected

Most of the previously listed projects were submitted for EECBG funding and will be implemented upon approval.

Projects not submitted for EECBG funding are currently in preliminary stages or on hold pending funds from other sources.

Partner communities are also working together to facilitate regional capacities for incorporation of biodiesel in municipal fleets. This is also largely dependent on funding for biodiesel infrastructure.



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Potential Renewable Feedstocks

Wind – Pursuing/ongoing/completed assessment studies at Madeline Island, Bayfield County (2 locations), Northern Great Lakes Visitor Center, Red Cliff Reservation & Bad River Reservation

Solar – Solar thermal in place at Bayfield County Jail, other sites for solar thermal and solar PV to be investigated.

Biogas (landfill, agriculturally-based)– Possibilities, but nothing yet. Former UW Ag Research Station is a potential site.

Biomass (wood, prairie grasses, other) – Xcel Energy is already operating on a mix of biomass & coal. They've partnered with a local organization (AERC) to develop sustainable local options. Several area schools/businesses already rely on biomass for heat/energy.

Biodiesel – Local energy provider investigating options for retail sale of biodiesel at Ashland gas station. Regional purchasing/storage approach could potentially make biodiesel an option for surrounding municipalities with definite interest in pursuing biodiesel as an alternative for fleets.



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Existing Unknowns: Necessary Information for Future

In many cases, partners would benefit from sub-metering within facilities. This would help identify the least efficient equipment within each facility and enable communities to further refine priorities for energy efficiency upgrades.

Many partners were not tracking fuel consumption in a uniform way. Some were tracking costs while others were tracking volume, and some weren't tracking it at all. Most have adjusted their operating policies and practices to address this problem going forward.

Communities would also benefit from additional information about which specific outdoor lights and plug-ins were included in particular premise IDs. This would help identify the most significant energy consumers within each group to prioritize upgrades and adjust usage charges for customers using plug-ins.



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Action Steps – Immediate & Long – Term

Immediate:

- Communities have changed the way they track energy consumption and have set up accounts with Energy Star Portfolio Manager.
- Team members received training from Focus on Energy on building science, phantom loads, and other energy issues. These sessions resulted in some groups using voltmeters to document phantom load and implement changes in operating practices.

Long-term:

- Communities will implement efficiency measures independently, while investigating options like wind energy, biomass, and biodiesel as regional partners.



Chequamegon Bay Region Energy Independence Team

Energy Independence Team Members

Mayor Larry MacDonald & Clerk Billie Hoopman - City of Bayfield

Scott Kluver, City Administrator - City of Washburn

Steve Sharp, Facilities Manager - City of Ashland

Larry Bean, Alternative Energy Committee Chair - Town of La Pointe

Tracey Ledder, Environmental Programs Manager &

Grants Administrator/Planner Don Corbine - Red Cliff Tribe

Tom Wojciechowski, UW-Extension CNRED Educator - Ashland County

Tim Kane, UW-Extension CRD Educator - Bayfield County

Mark Abeles-Allison, County Administrator - Bayfield County

Bill Ferraro, Town Board Supervisor - Town of Bayfield

Brian Clements, Commission Chair - Bay Area Rural Transit (BART)

Bobbi Rongstad, Energy Advisor - Focus on Energy

Kelly Westlund, Executive Director - Alliance for Sustainability



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Additional Comments, Observations, Recommendations

While this project was at times seen as a burden on limited municipal staff and resources, the results have proven to be more than worth the effort for each of the partner communities involved. We will continue to build on this momentum in the future.

The timeline was somewhat problematic for partners whose responsibilities included work on this project and development of the following year's budget and grant applications. It would have been preferable to delay plan completion until the end of January to avoid this overlap.

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