



# Community Energy Efficiency and Planning: How UW-Extension can help?

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# Briefly about me!

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- Sustainable Energy Specialist  
[Center for Land Use Education,](#)  
UW-Extension
- Assistant Professor, UW-Stevens Point
  - Human Dimensions of Natural Resources
  - Sustainable Energy Minor program
- Areas of Research and Outreach
  - Community Energy Initiatives
  - Climate change, adaptive resource management and planning





# Enhancing community capacity

- Community capacity and resiliency in a changing environment
- My role as a campus-based Extension faculty



Presenting on energy efficiency at MREA Energy fair, Custer, WI



Facilitating a workshop on adaptation planning, Potawatomi Tribal Nation, Forest County, Crandon, WI

# Community Energy Planning Best Practices

## Successful CEP Implementation *Common Features*

- Leadership and community engagement
  - *Non partisan political long-term commitment*
  - *Community engagement*
- Transparency and outreach
  - *Education and awareness for all residents*
  - *Consistent simple reporting of goals and progress*
- World-class energy efficiency
  - *Sustained improvements*
  - *Performance certifications*
- Integrated utility approach
  - *Single-supply responsibility*
  - *Heating, cooling, electricity, gas....*

**Leadership – Engagement - Integration**

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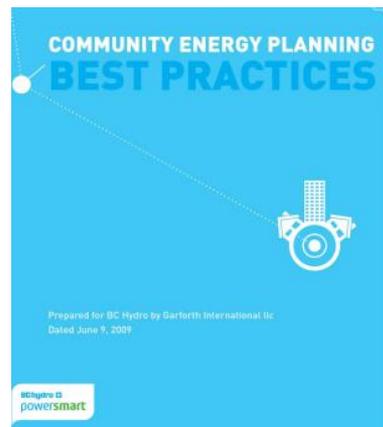
## Successful CEP Implementation (Cont) *Common Features*

- Efficient conversion
  - *Co-generation*
  - *Distributed generation – electric and heat*
- Multi-fuel strategy
  - *Fossil flexibility – coal, gas, oil*
  - *Renewable thermal – solar, biomass, biogas, municipal waste, river/ocean cooling*
  - *Renewable electric – wind, solar*
  - *Strong trend to biomass*
- Low-energy transport
  - *Urban design favouring cycling, two wheelers and walking*
  - *Comfortable multi-modal mass-transit with priority routing*
  - *Measures to favour low-emissions vehicles*
- Magnet for business and academic excellence
- Continuous improvement – raising the bar!

**Continuous Improvement Over Decades**

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## *Critical Factors in Successful Community Energy Plan Implementation*



**UW**  
**Extension**

University of Wisconsin-Extension

Source:

[https://www.bchydro.com/content/dam/hydro/medialib/internet/documents/power\\_smart/sustainable\\_communities/global\\_best\\_practices\\_model.pdf](https://www.bchydro.com/content/dam/hydro/medialib/internet/documents/power_smart/sustainable_communities/global_best_practices_model.pdf)

## Community Energy Initiative

### Community Energy Initiative update

Community Energy Initiative

What others

### A commitment to use energy more wisely and fight climate change



The Community Energy Initiative (formerly Community Energy) is a commitment to use and manage energy differently, better, than ever before. The initiative will also attract quality investment to the city. After all, a reliable, sustainable energy supply is and will continue to be a key to long-term competitiveness and prosperity of cities.

## ALLIANCE FOR SUSTAINABILITY

Ecologically Sound, Economically Viable, Socially Just and Humane

PROGRAMS COMMUNITY



### Supporting Our Cities to Become Energy Efficient

The Alliance for Sustainability supports **elect commission volunteers from 40+ MN Cities** meet their community-wide energy, climate, and air quality issues. They share notes and presentations from our

## City of Madison



City of Madison  
SUSTAINABILITY

Sustainability Home

Residents

Business

City

Transportation

Community

Sustainability Plan

MadiSUN - Solar

Mpowering Madison

Other Resources

Contact Us

## ENERGY EFFICIENCY PROJECTS

### ENERGY CONSERVATION PROJECT AT CITY OF MADISON FACILITIES

The City saves energy to save both the environment and money at the same time. Little measures add up and are difficult to track. But the larger measures we take add up even more, actually a lot more: annual savings of 807,825 kWh, 53,370 therms and 926 tons of CO<sub>2</sub>.

#### Renewable Energy:

Since 2007, the City has installed 11 solar hot water systems on all the fire stations. In addition 4 solar electric systems have been installed on the Engineering Service Building, the Alicia Ashman Library, Demetral Landfill and Greentree Landfill. In total, the City will save 30,648 kWh and 3,426 therms every year. This will reduce greenhouse gas emissions by 43 tons annually. The systems perform extremely well and demonstrate the viability of solar energy in Wisconsin. Most systems have energy monitoring and some are accessible via the internet. In 2009, the City will install 4 more PV systems with 10 kW each.

#### Lighting:

The city has retrofitted many facilities with modern lighting technology. Highest efficiency fluorescent lighting, LED and induction lighting make sure high quality light is

## Spring 2018 Planning for Resilient Cities Workshop

Wednesday, April 11, 2018, 11:30 a.m. – 1:30

LEAGUE OF MN CITIES  
145 UNIVERSITY AVE W, ST PAUL, MN 55103

April 11 Workshop Handouts [April11ResilientCitiesWorkshopHandouts](#)

# Community examples

City of La Crosse & La Crosse County  
Sustainability Indicators  
2016 Report (v3)



June 20, 2017

Prepared by  
Anders Olson



La Crosse, Wisconsin



City of Ashland  
**COMPREHENSIVE PLAN 2004-2024**  
*The Making of an Exceptional City*

Adopted: October 26, 2004 - Amended: January 31, 2012



...f on operating like a business. Our focus is delivering  
...in our sustainability efforts we carefully balance

...ibility plan for operations -- one of the first sustainability  
...to guide sustainability of Waukesha County's internal



# Brown County and the Oneida Tribe Working Toward energy Independence

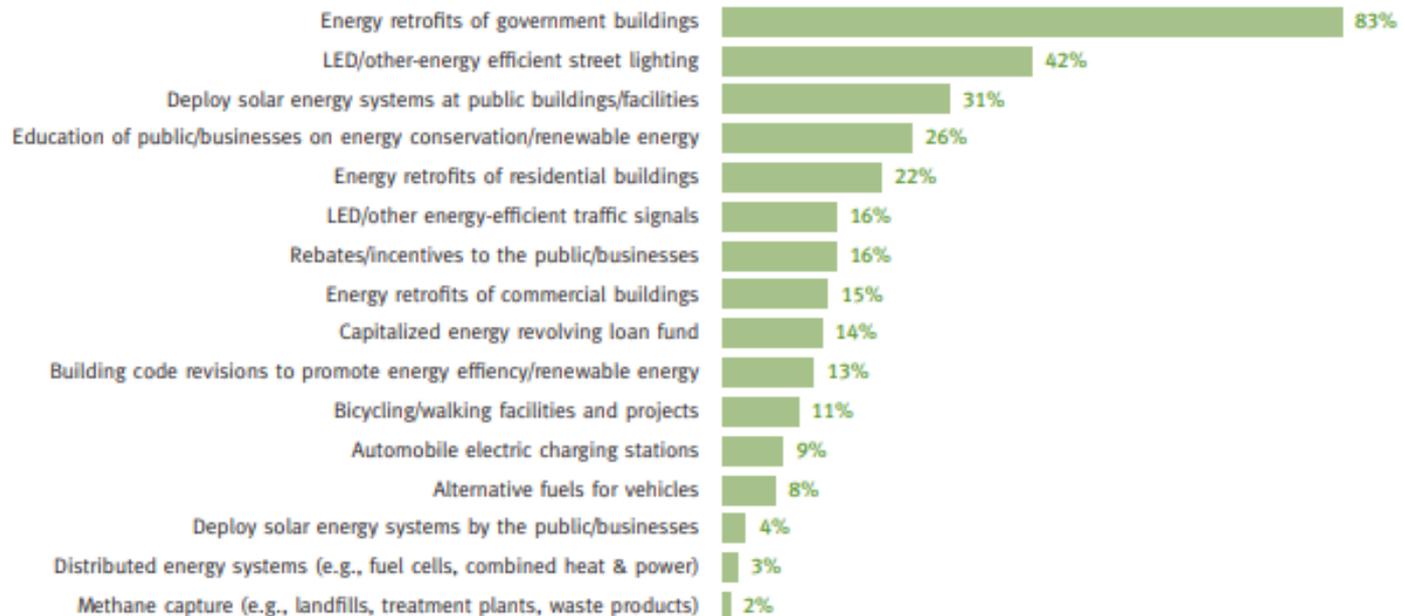


# Good practice- community examples

- American Recovery and Reinvestment Act, 2009
- \$3.2 billion [Energy Efficiency and Conservation Block Grant](#)

## How Did Cities Use EECBG Funds

(percentage of cities)



# Extension contacts and teams

- **Sherrie Gruder**, Extension Energy Specialist

<http://erc.cals.wisc.edu/programs/energy-programs/>

- **Tim Baye**

Professor, Business Development/Energy Specialist at University of Wisconsin, [timothy.baye@ces.uwex.edu](mailto:timothy.baye@ces.uwex.edu), (608) 778-1885

- **Wood Energy Team**

<http://www.wisconsinwoodenergy.org/meet-the-team.html>

- **Bioenergy and Bioeconomy Team**

<https://anre.uwex.edu/teams/bioenergy/>

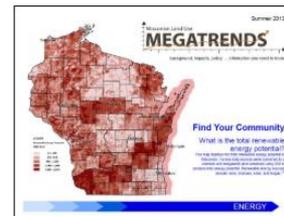
- **UW-Extension Local Government Center**

<https://lgc.uwex.edu/staff/>

# Links and resources

- [Municipal Energy Planning: An Energy Efficiency Workbook](#) by UW-Extension (use workbook checklist, examples)
- Sustainable communities – capacity center, [http://www.capacitycenter.org/new/Energy\\_Efficiency.htm](http://www.capacitycenter.org/new/Energy_Efficiency.htm)
- Tool for Rapid Assessment of City Energy (TRACE 2.0): A Manual for Experts and City Officials, <https://esmap.org/TRACE>
- United States Conference of Mayors- Energy <https://www.usmayors.org/category/committees/energy/>
- National League of Cities- Sustainable Cities Institute, [www.sustainablecitiesinstitute.org](http://www.sustainablecitiesinstitute.org)
- Local Governments for Sustainability- <http://www.iclei.org/>
- Star Communities- <http://www.starcommunities.org/>
- [Energy On Wisconsin Newsletter](#) (subscribe)
- [Solar Energy Financing Guide](#)

## Energy



# Facilitated Discussion: Energy Literacy and efficiency

# Session 1

- Participants get to know each other-group exercise
- Discuss and communicate energy related community efforts and status

# Session 2

- Discuss what each community can do more and learn from each other
- Come up with at least one attainable new energy goal
- Report out key findings

# Session 3

- Identify barriers and opportunity of collaboration
- Set 2 to 3 strategies/actions to accomplish the goal
- Report out- how community, library and school districts could work together to accomplish the goal
- Identify how KEEP and UW-Extension can help
- How GTLC platform can support the energy initiatives



# Thank You!

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## Questions?

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