Energy On Wisconsin

Energy Means Business
Meeting Notes
Milwaukee, WI
May 14, 2013

Meeting Objectives

- Learn from one another through sharing information, successes, challenges, and needs on energy conservation, efficiency and renewable energy program implementation.
- Provide access to information including funding sources, tools, site visits and contacts for assistance to build local capacity that enables greater implementation options and success
- Explore ways to work together toward greater energy independence and local resilience

Overview: Energy On Wisconsin: State Energy Extension Partnership

Megan Levy, Director Local Energy Programs, State Energy Office; Sherrie Gruder, Sustainable Design Specialist and Energy Program Coordinator, UW-Extension

Energy On Wisconsin, a collaboration of the State Energy Office and UW-Extension, is spearheading these quarterly gatherings of Energy Independent Communities (EIC) and other municipalities and school districts interested in sustainable energy programming. This program is part of a State Energy Extension Partnership formed through a US Department of Energy Grant. Our goals for this partnership are to:

- Support communities' learning and actions to help you effectively leverage state and federal energy programs and implement your energy priorities
- Build a state-wide energy efficiency and renewable energy capacity that solves local and regional problems while creating jobs and improving local economies

To help accomplish that, we established the new Energy On Wisconsin web clearinghouse: http://energyonwi.uwex.edu

- an information clearinghouse on energy conservation, efficiency, renewables and bioenergy
- a listing of energy education offerings including these face to face meetings agendas, notes and PowerPoint presentations. This is where you register for future meetings.
- an interactive forum for sharing your issues, questions, information and results statewide
- a site where you can upload visuals of your projects as individual photos, photo groupings and videos

Welcome

Chris Abele, Milwaukee County Executive

The County Executive has a real estate company that does green building – any green features in a building lowers operating costs and value of the building long term. Green business is doing well by doing good. He brings this experience to the County Executive's office.

"Kill-a-watt challenge" just launched by MKE County – reduce energy costs by 5%/yr. in county buildings http://county.milwaukee.gov/killawatt

Just prepared the single largest capital budget for parks to work on deferred maintenance – catch up on it. Has also increased purchase of park land. Make it an instinct for people every day to make sustainable choices a culture of continuous improvement.

County just hired a new sustainability manager – to get people to change their behavior make them feel good about what they're doing and to look at what others are doing. Don't tell people what they ought to do- or be superior, but model and show sustainability works. Tesla- this isn't just a good electric car, this is a great car. It shouldn't just compete it should be great. It should not compete on price but be cheaper. Political decisions often made with short term view,

MKE County financial status: $1B in liability 2 years ago with large debt service. Two years later have $30m surplus, first credit upgrade in the county. Energy efficiency is a great investment. Advance this culture of sustainability thinking.

Stewardship model- state funding to preserve land is important to WI. Long vision policy rather than short term.

Keynote Address, Will Allen, Farmer-in-Chief, Growing Power

In 21st year – First farm in a food desert in inner city of Milwaukee.

Two years later helped a boys and girls club to grow an organic garden. Will helped them plant a garden which became a front page story in Milwaukee Journal Sentinel (MJS) in 1995. Started as a for- profit. Helped kids sell at Fondy street farmers market. Grew crops behind Will's green houses. The kids had never grown anything. Came to garden late June 3X/week (late to start a garden). They planted beans, peppers, collared and 5 crops. Groundhogs came in and ate their beans. Kids persevered in the 90 degree weather. Groundhogs ate their collards but the kids came back. They were learning life skills that would bode well for their future. Another MJS article prompted other groups to call Will. Growing Power now has 140 employees with 15 regional training centers around US and in other countries. First Lady's Let's Move project - Will has worked with Michelle Obama to help with childhood obesity project.

Growing Power has over 300 acres of outside production and greenhouses.

Farmers have to hang in there because they face a lot of adversity -this is Will's business background. We have 1 million fewer farmers than 1960 and lack of land and price of land. Our food system doesn't work. We have large food hunger where more people die from hunger than from wars. Only 3% of our food has good nutritional value. Work is about educating people in a concrete way. In Europe farmers are put on a pedestal unlike in the US. In 40 years, there will be 3.1billion more people on the planet. We need to ramp up with local food growing. Industrial farming cannot feed the world. We've displaced

small farmers and the small towns they were in. Average size farm now is 1500 acres vs. 500 decades ago. And in the south, the once thriving towns are worse than any inner city in safety and other issues.

Urban agriculture is the fastest growing area of urban agriculture and half of the people that want to get involved are 40 years and younger. Young people want jobs in the food system. Growing power has renewable energy, aquaponics, research, architectural design. We can create thousands of jobs if we are able to scale up. This work is about social and environmental justice. Growing Power farms on asphalt and concrete where open lots are. Detroit now has 90 square miles of vacant land and not one grocery store left in the city. Growing Power is a food system of the future.

Aquaponics, the first vertical farm, 5 story structure. Growing Power is in the process of raising $12m to build the facility. It will double as an agricultural institute with degrees given out.

They recently hired a local news anchor to do public relations and media for the work Growing Power is doing in 70 projects currently in US and around the world. Many corporations come to volunteer- over 5,000 volunteers a year.

Diversified marketing scheme- have CSA- Market Basket- 20 lb bag of food 52 weeks a year. Drop sites in neighborhoods – need 10 bags minimum. Some sites are at businesses like Foley and Lardner. Built out a store – grocer and deli- been successful operating 1 year now. Also have farm stands at Miller, Harley, Rockwell Automation, Kohls so employees can eat healthier. Deliver to restaurants. Makes sure everyone has access to same quality food regardless of income. Working with 3-4th year medical students with community garden and medical kiosk next to it. Quantifying nutritional value of food. Working with UWM. Testing protocols being developed.

- It's about the soil. Composted 40m lbs of material into soil. 7000 lbs of worms to make organic fertilizer.
- Use solar PV that generates 25% of their electricity needs.
- Have solar hot water.
- Collect rainwater and reuse to water plants.

- Concrete example that inspires people to go into action.

- Do trainings. Aquaculture with Great Lakes Institute. Every month for 5 months and then start a business when graduate. Many workshops. MREA participates with them and teaches people how to use renewable energy in gardening.

Discussion
How can we help you activate goal to meet fundraising target of $12m for the vertical farm?

$15m brought into city by Growing Power conferences and trainings, visitors. Some of board strategy is to go outside of MKE to raise money. Kubala Washatko doing architectural design. Working to have it off the grid. Looking at geothermal. Greenhouses will be stacked on top of each other. It will be able to

house 400 people as well. First floor will have large retail store. It's in a food desert 3.5 mi away from grocery store.3rd floor greenhouse, meeting rooms. 4th floor commercial teaching kitchen. 5th floor all greenhouse.

Success story from international training. Will Allen is part of Clinton Climate Initiative. Working with Zimbabwe. Farmers from Africa stay 6 weeks here. Teach them aquaponics to raise tilapia; they need the protein. You can raise them in 6 months – 10,000 tilapia in 10,000 gal system.

Growing Power is building largest fish hatchery in MKE to grow lake perch with the Great Lakes Institute.

Food to solve a lot of our issues. 3/10 young people will go to bed tonight in US without a meal.

250,000 carrots into MPS, Cisco delivers them to 140 kitchens in the school system. Have 25 acres food production.

Attendee Introductions

Darren Harris– Urban Clean Energy Ventures – will speak

Murray Sim, Clean Energy NA - will speak later today about the biogas project. Their company also is completing the project to eliminate consumption 110 t coal in the city of Madison by rebuilding Charter street coal plant into a natural gas plant

Dale Deeds - ZBB Energy, Menominee Falls. His company is on the panel.

Chris Kuhl -ZBB Energy- project with Visa to try direct current for on- site solar and wind in data center in D.C. Project 40% more efficient than baseline datacenter. Data Centers are expected to use 10% national energy by 2020. Looking at technology to learn energy consumption of a chip

Ngozie Omegbu –Legacy Redevelopment– interested in sustainable development

Doug Kelley -Board President for Center of Entrepreneurship. Real estate consultant – interested in E for commercial development projects

Brian Driscoll WECC – partnership with City of MKE and Clinton Climate Initiative on home energy affordability. Employer provides employee benefit of energy efficiency loan on wages. Pilot with Johnson Controls

Amy Trukowski- private consulting firm in renewable energies – runs urban ministry in Brookfield and the church point solar

Dean Wolf. Milwaukee Solar – one of 1st NABCEP certified for solar thermal, MREA instructor works with Focus on Energy, put 6 solar HWS on MKE fireshouses. Put growing powers PV system on. 3 yrs ago provided 100% of their electricity needs

Maurice Weaver – Chicago Elato International – solar in central and west Africa

Greg Fritch – President, Clean Energy North America. Recovering utility guy who's making up for it in last 16 years. Will speak on panel

Amy Greil - Kenosha County UW-Extension

Kathy Heady - WEDC sector manager business and industry division- WI Manufacturing Extension partnership profitable manufacturing - $2.1 m investment worked with xx firms – starting phase 3 of the program. See WMEP site PSI Phase 1 results: WI profitable sustainability

Erick Shambarger- City MKE Office of Environmental Sustainability – make sustainability an economic development strategy practice for the city. Older buildings use more energy than the surrounding communities. Rally around energy efficiency (EE) as an economic development strategy. Milwaukee is the EE and renewable energy (RE) nexus of the country- MKE has a strong foundation for this. ME2 program (working w WECC) – trying to retrofit 1000 homes by summer. Wind turbine at port of MKE.

Heather McCombs, WI Green Building Alliance (WGBA) Executive Director – proud of office in 5th ward receiving $20,000 of recycled furniture from ROE Recycled Office Environments. Refurbish office furniture and customize it for your office.

Steve Adams – SEWRPC Southeastern WI Regional Planning Commission is an independent public agency that does short and long term planning around land use and public transit. Housing study for 7 county area just completed and on their web site- www.sewrpc.org ; Info about land.

Michael Harper. Urban Clean Energy Ventures – "these are the types of discussions where positive change is stimulated and produced." Look forward to doing work outside this room.

Energy and the Urban Business - Michel Harper , LEED AP, WasteCap AP, **CEO, Urban Clean Energy Ventures–**

Urban Clean Energy Ventures developed Bishops Creek. They installed an 11KW rooftop solar PV system

How do we make energy a business and a viable one? Michael worked in finance not a granola cruncher. Backed into this looking at the carbon markets as a way to make money. From project development end collaborated with Darren Harris to form Urban Clean Energy Ventures- develop turn- key solutions. Learned about Steve Ostrenga of Helios who supplied the solar panels for Bishop's Creek we will tour. He created his own green collar job. He's looked at how do we apply these practices in a way to help communities.

When energy independent communities presented, it was more than a concept but how we leapfrog into the 21st century. How do we do things that allow us to be more conscientious about resource utilization, reduce our carbon footprint and help communities? Insurance and Reinsurance about climate change- there's a big cost that will become an increasing risk of increasing disasters.

Education and awareness aspect. How to create "ecopreneurs" – people who are service-minded with interest in energy. Participated in energy literacy program from K to Grey thru USEO. Work with public programs with MATC – get students on this path and with MKE Office of Environmental Sustainability.

Educating our clients – energy auditing from building owner's mindset. Making the case for EE and RE is about business – saving operating costs is a value creation model. How to produce another unit of income by operational savings.

Model built around symbiosis – water food and energy, etc. are connected. In Africa people see that microgrid works.

Worked with Dave Jenkins, Director of WI State Energy Office in ARRA days – on how to overcome up front cost. How do we get resources to user group in an efficient manner? NY State NYSERDA and Green Bank – as economic development strategy. SBIC introduces private capital to make investment from venture perspective – impact investment perspective.

Tesla Motors up 146% over last 2 days. Solar City on an upward trend as well. Scale up MKE to produce exports for economic multipliers. See MKE as an opportunity. Repurpose transportation $ to electric vehicles. TESLA and Apple won because they made it cool. Cool factor around quality products, service and providers. Working to build partnerships and relationships to build entrepreneurs and scaling businesses.

Energy Means Business Panel

Kathy Heady, Sector Development Manager – WI Economic Development Corporation.

WEDC –provides technical resources and financial support to businesses. Work with individual companies as well as industry sectors. Energy is one sector WEDC identified.

Entrepreneurship and Innovation nurtures early start up, technology companies. Help investors invest in small companies. Partner with some MKE early stage startup companies

WEDC has Regional account managers – 2 in greater MKE area. Meet with individual companies.

International division working to help companies export and with foreign direct investment

Leverage industry leaders. In MKE involved in water. MKE Water Council and new accelerator facility. Investing in scale up MKE. Working with organizations in a financially sustainable state

WI Energy Research Consortium. Work with Universities and technical colleges. Focuses on growth and competitiveness of energy industry. Identified 900 companies with 100,000 employees and $38b in sales. Cluster in MKE. Working on strategic plan of how to grow the energy industry. Distributed energy resource systems. Building energy efficiencies, renewable fuels. Energy and water nexus. Train workforce here that can staff this.

Clean Energy revolving loan fund. WI targeted all those funds to manufacturing companies as loans that will come back as revolving loan. 26 loans clean energy supply chains, companies that utilize renewable technologies and others

Sustainability Initiative of WMEP – WI Manufacturing Extension Partnership www.**wmep**.org

Part of WEDA and transform MKE initiative. Scale up MKE initiative

Steve Ostrenga, CEO and founder of Helios Solar Works - met Michael Harper in coffee shop. Helios is unique as a startup as bridge between local investors and direct foreign investment out of Europe, and WEDC and a private investors' bank. Engaged in networking and building relationships to get critical mass to get facility going and hire people. 25% of revenue in year 1 of Helios went to England, though most of their business is domestic. Working now with Hong Kong, Chicago, and a Spanish Developer to put modules in Japan. This is a global environment. Solar is a booming industry. More people work in solar than coal: 82,000 vs 110,000. It's a growing environment as solar grew 50% last year (2012). Solar produces 1/10 of 1% of electric generation worldwide.

Chris Kuhl, VP of Engineering, ZBB Energy Corporation– networks important to get relationships off the ground. Missing from this room is distributed energy systems taking energy generation into hands of people that buy the energy. Microgrid needs new model from a finance perspective. Where state, county and city governments can take lead of the federal government. Utility companies are missing from the room. Energy interdependence rather than independence– operational and economic model – Business model that keeps the lights on today is going to change – Edison Electric Institute paper talks about financial risk of changing paradigm of current financial model for Energy. Prosumers of power. Utilities with either be partners or adversaries. Nature of power based on the wires coming into buildings. Feed in tariffs and net metering, RE portfolio standard. New terms: PPA at the end user at hospitals, schools; energy performance contracting, energy security- self generate and self- consume interacting with private utility – utility industry doesn't act on energy alone in the future.

Enernet – the energy network

Energy Independent security act 2006

Teig Whaley Smith – Economic Development Director, MKE County. Did $50m in development in Energy Star development and green building and some SHW before recently joining the county.

At the county 3 primary resources to bridge between economic development and the "emerald cities" movement – link between economic development and RE and the financial mechanisms to accomplish that.

1. Land – 1 of largest landowners in MKE county not including parks – when freeway comes down, County has land
2. Financial resources – create financial incentives
3. Programming – leverage financial resources for programming

Role for startups and the work force. How do we prepare our workforce?

On the big corporation side, recruit companies to Research Park – success in larger industry recruitment

Smaller communities Economic Development Loan Fund www.medconline.org up to $250k per loan at `5% 40% of project costs. It's a soft second on the loan pool as of May 2013. Good for existing business looking to expand.

Startups –partnership and innovation – ABB building and accelerator building to bring in research-focused companies with start up some on EE.

Ready to Work training workforce- ID sectors with expected growth and train people for those projects. Already trained people in building techniques – lead abatement and energy efficiency. wrpt big step

MKE has the right companies here to tell stories of energy sustainability

Discussion with Panel and attendees– interconnectivity is a big issue

Draw parallel to telecommunications industry and free market with people getting signals into their house. Separating generation from wires – ATC owns the wires vs. generation is the first essential step but utilities will fight. Push for deregulation of RE only of 1-2MW or greater. There shouldn't be a government entity of way for a private entity to purchase that energy off the grid. One approach is to pay commission to utility. Conversations must start taking place. States that have deregulated

Retail number for solar is = to cost for buying coal electric. If have to sell power wholesale can't compete. 8-12% decrease in costs in last 5 yrs. Utility out to make money. Don't care if comes from coal, nuclear or renewable energy. In last 4 months nationally the news is about shake up in utilities. How will they make money at it? Utilities will have to come on board. Renewables have taken on partisan sides unfortunately. Power Purchase Agreements (PPAs) and solar leasing will boost solar installations and business as it has in other states that have them. It is ambiguous in WI state law. Needs to be codified. Need to engage the utilities. RENEW WI is working on this.

The utility model – only earn money on ratepayers (not customer)- who they make money on. Return on rate base plus expenses. They reset every 2 yrs. To earn authorized rate of return, they want to own and control all RE. The deregulated part is only generation. Third party ownership behind the meter is the way to proceed. Suggests seeing RENEW's work on Expanding Market Access http://www.renewwisconsin.org/policy/PolicyBrief-1A-Third%20Party%20Ownership%20of%20RE.pdf

Encourage the PSC to lock in rates on We energies natural gas plants for at least 5 yrs to hedge against NG rates rising – extremely volatile. Once we liquefy NG it will go to Asia and Europe.

Chris – Hawaii is regulated state – win-win business model. Hawaii has RPS goals and charged with operational stability. In Hawaii PV doesn't need incentive as rates are $ 0.35 per kWh. Energy storage doesn't fit in the rate base. But it can give a transition model – PV and storage together acting as a distributed source – intersection of operational and

Infusing Energy into Economic Development - Jacqueline Ward, Executive Director Fondy North EDC

8th St -27 Walnut to Locust – where there were missing links with business owners. They called themselves a green bid but how does that operationalize. That was a hard sell. Business owners and property owners were not getting the message about how increasing energy efficiency could impact their bottom lines. If buildings are not filled, how will they focus on energy- they must survive as a business first. Fondy works with property owners and entrepreneurs. Businesses come in and ask how do we move in and work with you. Many old buildings in the area need rehab and upgrades. Fondy connected with ME2 to ask to deliver the energy message. When buildings got connected with ME2 and dollars, the companies that came in to upgrade the buildings weren't from the area. Didn't look like the folks that lived and worked there. Yet the area has a lot of contractors and local businesses that could do the work if trained. Some work with Big Step. Buildings are a low hanging fruit, how to connect with the businesses. Tim Hech ME2. As part of the WGBA board, Jacqueline increased conversation a notch as to How to marry economic development with the environment. With contractors, journey men and PMs – how to talk about entrepreneurship, ED and environmental improvement.

Create entrepreneurial mindset that wants to scale up from 2 to 10 employees. Training contractors and CMs to be LEED APs. Train them in the techniques, science and entrepreneurial mindset. Develop entrepreneurial stakeholders that represent the community they live in- those who work as subs; evaluate community's energy source and structures; establish EE and saving strategies that property and business owners understand; determine community's potential for generating energy locally. Advance Energy Independence plan that highlights job creation and entrepreneurial creation. Build up neighborhoods that are now considered liabilities. Develop a tool to address workforce that can make energy independence happen by 2025. How do we do that on a block by block level?

How many building contractors are there that represent underserved communities?

How many businesses and jobs do we create to address Energy Independence?

What impact will entrepreneurs have?

We have an opportunity to create a significant energy industry at a community level. Jacqueline is working on a mission and vision to help make this happen. Erick Shambarger from the City will commit to work with Jacqueline.

The ME2 program is designed to help. Brian says WECC provides training and could help – Tim Heck with WECC business program trade ally program is already working with Jacqueline.

Chris ZBB -what do you see of going to bldg. owners identifying low hanging fruit specific to a building? Connecting with each property owner to help them look at energy efficiency.

Christiana - Pan African community has some folks that are skilled but can use additional training

Utility – work with them as they want to address uncollected energy bills – would improve if the property is made Energy Efficient. The opportunity is there. How do we connect all the dots?

Erick – have behemoths and startups and need 1 step up from start ups. Those who have been around for a few years and helping them to scale up. The incubator accelerator network. Having a business model that affords revenue – cash flow. Maybe some from the utility. Have investor private market in central city.

Training with WECC that is scheduled with Fondy North will be contractors who've been in business 5 yrs.

Brian – how to create demand for the workforce to have jobs. Michael Harper relies on other businesses for the applied energy side. Need a fluid workforce that isn't just local but can move where the jobs are. Technology training by providers. Started with distressed properties. Training and technology. Creative cooperative or consortium model possibly.

A lot of purchasing power is in the low income areas due to the density factor. Demand is there but people can't find the services resources there.

Wisconsin's Largest Biogas Project, Greg Fritsch, President and Murray Sim, Executive VP, Clean Energy North America

Clean Energy North America is developing a three-or-four part $25 million dollar renewable energy project in Adams and Marquette County as follows:

- An anaerobic digestion biogas production facility located adjacent to the New Chester Dairy near Grand Marsh Wisconsin
- A 16-mile biogas pipeline to Brakebush Brothers Inc. chicken processing plant south of Westfield
- A biogas fueled combined heat and power plant located on Brakebush property. Brakebush will be the primary user of the project outputs – electricity and heat.

11 people- team of experts on regulatory, technology and economic issues

Energy engineer, banking exec, CPAs finance experts, mechanical engineers and other engineers. Look for win wins in green space- technology independent and will pick the best technology that fits their situation. Their clients have already improved EE. Look forward to get control of their own energy future and managing their waste stream.

Largest dairies in WI is New Chester Dairy – regulated in terms of waste source. Deal with state, local municipality and dairies – how to economically benefit their investors. Anaerobic digestion gas production at dairy. Process waste into methane. Best use for the gas - found Brakebush Brothers chicken processing plant but have to get the gas there 16 miles away to combined heat and power plant.

Anaerobic digester –Solving problems for these businesses - create gas, put in pipeline send it 16 miles to Brakebush chicken to convert for use as electricity, hot water and steam. Reduced odor at Dairy and fields where manure spread, lower utility and environmental impacts for Brakebush, and environmental benefits of methane destruction so not releasing greenhouse gases (GHG).

Working to do this behind the meter.

All subsidized utility rates are gone in WI. No other digesters around them. Many cheese and sausage making plants in the area. Will become largest digester project in US

DVO – Chilton company – supplying anaerobic digester tanks for gas production from co-digested manure plus food waste

- Hydrogen sulfide scrubbers and gas dryers
- One small generator (600kw)
- Inputs substrate into digester tanks
- 100% manure from 9100 animals 15 acres in each of 2 barns
- 100% BBB clean organic wastes (not cooking oil)
- Clean organic waste from other nearby food processors

Outputs
60/40 methane/ CO2 into pipeline to generators at BBI (7MW)
Potential for bioCNG semi-truck loads

The digester is 16 feet deep with top just above ground 2 huge lagoons, medium lagoons and a settling pit. They need 19,000 acres of land to field apply the manure their dairy generates. The manure is taken by Clean Energy NA then returned to them after it went through gas removal for 25 days. At their manure room, the phosphate is removed and separated into fiber for field amendment. So nutrients are lost. Corn requires phosphates. The liquid digestate goes into lagoons where rotten egg manure smell gone. Allows field applied material to be better for the environment. California digester mandate is met by this system. The cows are bed on sand and the sand is reclaimed. Efficiency of the system is likely to be high.

Economics
New Chester Dairy is not an investor. $25m project. Bank financing for 60% of debt. New market tax credits (difficult for rural projects) with bonus depreciation. $16m of tax credits. Tax advantaged investor who want to shelter $ from taxes is one investor group. Their first year ROI will be 25%. They must stay in the project for 5 yrs. After 5 yrs Clean Energy NA becomes the largest shareholder when it flips. Finance side required so that project moves forward.

Worked on Potowatomi digester at the Casino.

Reps. Joan Baldwig and Luther Olsen help get local govts who own the right- of-ways to allow the pipeline as an authorized user of the right away and a permitted purpose. It has gone through Supreme

Court in WI as authorized user. Allows them to look at route and the dairy farms surrounding and provide them with central lagoon system and the opportunity to grow rather than being declared CAFO. This is in a rural electric coop territory which supports it.

Start up and testing 2nd Q 2014

Energy Efficiency and Economic Development Strategy, Me2 Program Overview,

Erick Shambarger, Deputy Director of Environmental Sustainability, City of Milwaukee

Old building stock in MKE- to attract companies from around the world need low energy to reduce costs.

Investing in the environment means: local jobs, better environment, helps City compete and reserves character of old buildings

Mayor Barrett's original green team 2005 – 3 areas to focus on: Green jobs, smart energy policy and

City achieved more than 85% of what was in first report

Cut energy use in facilities by 25% by 2005. Completed projects saving taxpayers over $400,000

Better Bldgs. Challenge- national program to cut energy use 20% by 2020. This is a benchmarking program using EPA Portfolio manager and makes info transparent. BOMA is a partner from Obama admin 10 biggest bldgs. downtown have taken the challenge- US bank bldg., City center at 7 35Wells Bldg, BMO Harris

Me2 – homeowner and commercial program making EE understandable and do retrofits

Have financing and community workforce agreement in place with MKE residents to create good paying green jobs – 2 largest are minority owned firms. Have 300 foot smokestack from power plant in town. Campaign – ***don't let your energy dollars go up in smoke***. Use your money on something that adds value – your house. Have done 682 homes. Improved 135 business projects. Wells project is saving energy and more than 1m gallons of water.

PACE ordinance in MKE – property owner takes out loan and repays to investor long term on property tax. Also, promoting Focus on Energy for small business program through Me2. Focus on Energy is paying almost entire cost for energy retrofits.

Sell financing to customers – not just savings. Tough post economic crash to get folks to want to take out loan. Need to understand the monthly savings

Working with Summit Credit union for residential. Standardization in place for this

Standardization needed for commercial sector so final cost overruns and hidden costs are identified and controlled up front

MKE Shines

Working w River West neighborhood to do group buy for solar.

$2000 incentive for solar if gone thru Me2 for energy efficiency or if you've gone through Focus in past 3 yrs.

Since 2007, over 1.1 MW of solar energy have been generated in MKE

Solar installer workforce tripled in 3 yrs.

ME3 Sustainable Manufacturing program. In partnership with ME3 22 companies assisted to date 19:1 ROI $4million in stimulated economic development

New city sustainability plan

Green Team 2.0 – MKE will be the Fresh Coast Capital of North America

Top issues defined from extensive public engagement town halls and surveys

- Neighborhood focused.
- Relationship of Issue Areas
- Triangle base: conditions outcomes vision
- Energy chapter- 25x25 be intentional about our energy future, build off existing success

Key Principles-

- Think of WI an energy island. Clean energy and EE is good for the economy
- Energy reliability is also important – work with battery technology and push for distributed generation
- MKE industrial clusters of clean energy companies is a potent force
- Creative financing solutions can help re-allocate our existing energy budgets into better bldgs. that save energy
- Stability, expertise, growth, synergy are marks of good sustainability ideas

What can we learn from telecommunications companies? Public thinks they should have choices of where get telecommunications from and should be able to contribute – from resiliency standpoint more distributed systems important so infrastructure failures cascading in storm events can be somewhat avoided.

Align community and utility interest through effective community engagement with the Public Service Commission (PSC)

How can a smart grid transform energy market? How should utility model evolve? Promote MKEs clean energy cluster (doesn't have a name yet) eshamb@milwaukee.gov