



# MILWAUKEE

## OFFICE OF ENVIRONMENTAL SUSTAINABILITY

### NEWSLETTER

Our semi-annual newsletter helps to update residents, businesses, and City employees on current and future Office of Environmental Sustainability programs, projects, and initiatives. Thanks to Mayor Tom Barrett for his nationally recognized leadership on sustainability issues and thanks to those Milwaukeeans who work to make the city a more sustainable place to call home. If someone you know would like to receive the OES Newsletter by e-mail, request a copy at [sustainability@milwaukee.gov](mailto:sustainability@milwaukee.gov).

## REFRESH MILWAUKEE

### HELP SHAPE MILWAUKEE'S FUTURE

At his 2012 State of the City address, Mayor Tom Barrett announced the creation of a new Green Team of community and City of Milwaukee members that he charged with developing a Sustainability Plan for Milwaukee.

The Plan will be a strategic document identifying a vision for a more sustainable and livable city, and will work to achieve that through a comprehensive set of goals and strategies focused on improving environmental quality, economic strength, and social equity.

The Green Team's mission is to create a Sustainability Plan that aligns Milwaukee's economic and environmental interests that improve our community's quality of life, benefiting residents, businesses and our natural environment by embracing smart, achievable sustainability principles. As a result, Milwaukee will be the Fresh Coast Capitol of North America!



The Green Team has begun outreach to residents, businesses and other Milwaukee-based organizations in order to gather critical input into shaping the Sustainability Plan.

Between now and October, Green Team members will be hosting a series of small group meetings and town halls to gather the public's input on high-level needs, challenges and priorities as it relates to improving Milwaukee's sustainability. The first outreach sessions were held in July: the first co-hosted by Alderman Zielinski took place at the Milwaukee Public Library Bay View Branch, and the second co-hosted by Alderman Witkowski combined gathering input on the sustainability plan with giving

residents resources to help improve their sustainability at home.

The Green Team will be hosting additional meetings this summer including three events at each of the Urban Ecology Center branches (see details on back page).

After the first round of public input ends in October, the Green Team will develop subgroups to begin identifying a core group of issues on which the Sustainability Plan will focus. The Green Team will then go back out for an additional round of public comments to further refine the issue areas, targets and initiatives in the Sustainability Plan.

*Continued on Page 8*

**About Us:** The Office of Environmental Sustainability (OES) was created by Mayor Tom Barrett to position Milwaukee as a leader in environmental sustainability and performance in the 21<sup>st</sup> Century. OES promotes economically viable and environmentally sound practices, projects, and initiatives. The Office works with City departments, businesses and residents to reduce material and natural resource consumption while promoting strategies that address the community's critical sustainability needs. OES is entirely grant funded. Since 2006, OES has successfully attracted more than \$20 million in grant funding to Milwaukee to help create a more sustainable community. OES is building a smarter city through sustainability.

# WIND TURBINE REPORT CARD

The statuesque gleaming white wind turbine on Milwaukee's south shore is viewed by thousands of people each day as they cross the Hoan Bridge or bike along the south leg of the Oak Leaf Trail. It is one of the first landmarks visitors see when they disembark from the Lake Express ferry. And for many, it has become a symbol of the Bay View community.

Located on the lawn of the Port of Milwaukee's Administration Building, 2323 S. Lincoln Memorial Dr., Milwaukee's wind turbine stretches 156 feet from its base to its blade tip. The turbine is generating more than aesthetic and symbolic value, it's also cranking out a lot of power.

## A SHORT HISTORY

The turbine was sited on Milwaukee's south shore since that site has one of the best wind profiles in southeast Wisconsin. Milwaukee's Office of Environmental Sustainability (OES) purchased the turbine to power the port's administration building and to sell the surplus energy it creates back to We Energies.



Wind turbine ribbon cutting

Although Vermont-based Northern Power manufactured the turbine, OES requested that they source parts and services from Wisconsin businesses. More than 10 state-based firms contributed including Bassett Mechanical (Kaukauna) who manufactured the tower and Kettle View Renewable Energy (Random Lake) who installed the tower and turbine. The two primary subcontractors were RL Davis (Milwaukee) and Arch Electric (Plymouth).

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# HIGHLIGHTS

## Mayor Chairs Great Lakes Initiative:










In June 2012, Milwaukee Mayor Tom Barrett was elected Chair of the Board of Directors for the Great Lakes and St. Lawrence Cities Initiative. The Initiative is a bi-national coalition of 90 mayors and officials that works with federal, state, first nations, and provincial governments to advance the protection, restoration and promotion of the Great Lakes and St. Lawrence River basin. Details: [www.glslcities.org](http://www.glslcities.org)

## Milwaukee Receives Coastal Management Grant:

Milwaukee was awarded \$60,000 from the Wisconsin Coastal Management Program to develop a *policy for systematically incorporating green infrastructure into street reconstruction projects*. Green infrastructure is the management of stormwater runoff through the use of natural systems, or engineered systems that mimic natural systems, to treat polluted runoff. OES and the Department of Public Works will develop a green infrastructure policy and manual that builds off of lessons from the various green pilot projects done to date. Milwaukee will assess the effectiveness of the pilot projects; create a "decision matrix" to help City engineers and planners; and develop a cost-effective maintenance plan. Final recommendations will be released in early 2013.

## Energy Secretary Visits Milwaukee:

U.S. Department of Energy Secretary Steven Chu visited Milwaukee in July, which included a tour of Ingeteam, a Spanish firm that chose Milwaukee's Menomonee Valley for its U.S. factory and headquarters. During the visit, Chu urged the extension of renewable energy production tax credits, and joined Mayor Barrett in announcing the City's participation in the U.S. Better Buildings Challenge. For details see Page 3.

|  |  |  |   |  |  |
|--|--|--|---|--|--|
|  <b>Milwaukee Wind Turbine Performance</b><br>Since February 27, 2012<br>For real time data visit<br><a href="http://milwaukee.gov/sustainability/WindProject">milwaukee.gov/sustainability/WindProject</a> |  |  |   |  |  |
| <b>Cost Savings</b><br> <b>\$8,826</b><br>Estimated avoided electricity cost based on \$0.13/kWh  | <b>Environmental Equivalent</b><br> <b>99,125 miles</b><br>The total amount of CO2 avoided is equal to this many miles driven in a family car | <b>Pollutant Offsets</b><br> <b>88 lbs</b><br>The total amount of NOx avoided since installation  |   |  |  |
| <b>Total Energy</b><br> <b>67,894 kWh</b><br>Total energy generated by system since installation  | <b>Environmental Equivalent</b><br> <b>73 houses</b><br>The total amount of energy generated is enough to power this many houses for one year | <b>Pollutant Offsets</b><br> <b>224 lbs</b><br>The total amount of SOx avoided since installation |   |  |  |

## COMMERCIAL Me<sup>2</sup> IS KEY TO BETTER BUILDINGS

On July 12, Mayor Barrett joined US Secretary of Energy Steven Chu to announce that Milwaukee is partnering with Downtown Milwaukee, and the Building Owners and Managers Association (BOMA) of Wisconsin to join the national **Better Buildings Challenge**.



Secretary Chu and Mayor Barrett visit Ingeteam

The **Better Buildings Challenge** is a U.S. Department of Energy program calling on corporate executives, building owners, university, state, local government and school district leaders to reduce their energy use 20% by the year 2020 while showcasing solutions and results.

Mayor Barrett's administration has been taking energy efficiency efforts seriously since 2004, saving City property taxpayers hundreds of thousands of dollars annually. The Mayor is now challenging each downtown business to do the same and join the **Challenge**. Making this commitment is an important step in the continued revitalization of downtown, economic competitiveness and environmental sustainability. City Center at 735 N Water Street has already accepted the Challenge.

For details on the Challenge, visit [milwaukee.gov/sustainability/BBC](http://milwaukee.gov/sustainability/BBC).



CityCenter joined Better Buildings Challenge

The City of Milwaukee also funds energy efficiency efforts in existing commercial buildings. The Me<sup>2</sup> Commercial Program **offers direct rebates to businesses** that make substantial energy saving improvements to their property, such as LED lights and modern heating, cooling and ventilation equipment. The rebates are based on the cost of the project, the size of the property, and the projected energy savings. The program also offers financing solutions to help the projects become a reality.

Major projects already completed or underway include Newport Co-op and Edgewater Condominium lead by Johnson Controls International. But Me<sup>2</sup> is not just for big buildings. Smaller buildings can also benefit. The Program has approved over twenty small projects so far, including the Charles Allis Museum, convenience stores, commercial laundries, and gas stations. Gas station owners have installed energy efficient LED canopy lights, which can save more than 60% over conventional lights. ●

## SIGN UP TODAY!

[smartenergypays.com/business](http://smartenergypays.com/business)

Contact us today to learn about incentives (as much as 30 or 60% of your project cost).

Take advantage of these limited time resources to make your building more efficient and cheaper to operate.

## SUCCESS STORY

*"When we took over our store, there had been no improvements in the equipment for 30 years. Our utility expenses were 60% of our operating revenue. Based on the projections from Me<sup>2</sup>, our new equipment would cut our utility bills by 29%. With our cash incentive from Me<sup>2</sup> we were able to quickly arrange financing over a matter of three weeks.*

*With the new equipment so far we have seen savings on our gas and electric bills of 34% and we're looking forward to seeing our savings on the fall water bill! The savings we've seen so far are being put toward further energy improvements in our store like new lighting and windows.*

*We're happy that instead of waiting several years to upgrade equipment, we were able to immediately make our store more efficient thanks to the Me<sup>2</sup> program.*

*This has attracted new customers, and kept prices down for our current customers which keeps with our motto: Low Price. Great Wash."*

- Too Clean Laundry owner  
Everet Kamikawa







**Milwaukee Energy Efficiency**  
*Smart energy pays.*

## Me<sup>2</sup> CELEBRATES 300 IMPROVED HOMES

In July 2012, the Milwaukee Energy Efficiency program, Me<sup>2</sup>, celebrated the 300<sup>th</sup> home in the City of Milwaukee that has been retrofitted with energy saving upgrades, like new insulation, furnaces, or boilers!

The map (on page 5) shows where these home upgrades occurred as well as the nearly 1,000 homes that have received home energy assessments through the program.

Now is the best time to make home energy improvements. Did you know that insulating your home and a new furnace can make your air conditioning work better and keep you cool all summer long, while saving you money on your energy bills?

Me<sup>2</sup> provides expert guidance, **thousands of dollars in rebates**, and low-cost financing to make energy efficiency improvements affordable.

It helps keep you and your family more comfortable in your home and is great for the environment.



*Me<sup>2</sup> Energy Advocate helps a Milwaukee homeowner discover energy savings.*

## BONUS REBATES

If you complete Me<sup>2</sup> energy efficiency work by **September 15**, you are eligible for up to **\$1,000 in bonus rebates**. You can also get a free award-winning LED light bulb for your home (valued at \$48) just for referring friends and family to Me<sup>2</sup>.

As a recent winner of the industry's L-Prize®, Phillips' new LED light bulb has the same lighting quality as an incandescent, last 30 times longer than a conventional bulb using 1/6 the energy, contains no mercury, and is assembled in Oak Creek, WI. Just click the "Refer a Friend" button at [smartenergypays.com](http://smartenergypays.com) to get started.

Join the hundreds of other Milwaukee homeowners who are improving their homes with Me<sup>2</sup>.

Visit [www.smartenergypays.com](http://www.smartenergypays.com) or call 877-399-1203 today! •



## HAPPY HOMEOWNERS

*At first I thought I didn't need this program because we had just got new windows a few years ago and we are pretty good at being energy efficient people. Boy was I wrong! It was fantastic!!!*

*We got about \$10,000 worth of work done for about \$6,000. We saw a dramatic change in our heating bill.*

*We could FEEL the difference when we went upstairs. Even now in the summer we can tell a difference because the house stays cooler.*

*Everyone from Me<sup>2</sup> was super nice, friendly and explained things in a very easy to understand way.*

*I love that after the 3 hour house evaluation, they give you a prioritized list of things to be fixed. After the work is done, Me<sup>2</sup> has to come back out and check the work of the contractors before the contractors get paid. This made me feel good to know the work was done correctly.*

*I would recommend Me<sup>2</sup> for every homeowner.*

*- Me<sup>2</sup> participant Amanda Dacio*

## SAMPLE Me<sup>2</sup> HOME PROJECT

*Where the energy upgrades cut the home's projected energy use by more than 25%.*

|          |   |
|----------|---|
| \$100    | Energy Assessment for Homeowner (normally \$400)  |
| \$ 9,500 | Energy Upgrades (insulation, new furnace, and air sealing)                                  |
| -\$2,475 | Focus on Energy Cash-Back Rewards <sup>(1)(3)</sup>   |
| -\$1,500 | Me <sup>2</sup> Energy Savings Incentive <sup>(2)</sup>                                     |
| -\$1,000 | Me <sup>2</sup> Summer Sale Bonus <sup>(3)</sup> (if project is completed by Sept 15, 2012) |
| - \$100  | Energy Assessment Rebate  |

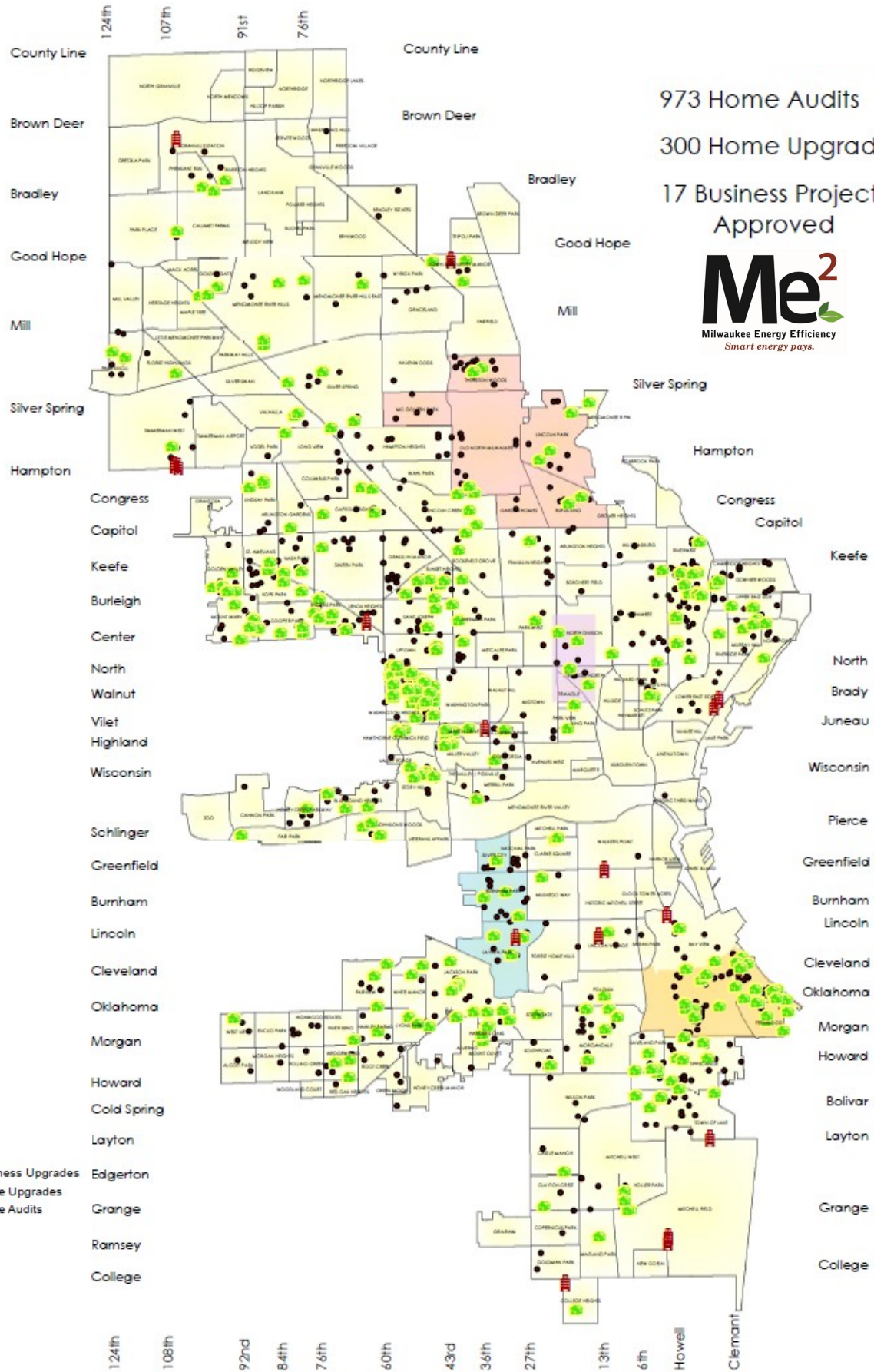
### **\$4,525 Final Project Cost After Incentives**

- <sup>(1)</sup> Must use Focus on Energy Trade Ally to receive these rewards, and achieve 25% or more in savings.
- <sup>(2)</sup> Must use Participating Me2 Contractors to receive incentive and achieve 25% or more in savings.
- <sup>(3)</sup> Must install Focus-qualified equipment.

*With Me2 financing, you pay just \$36.47 per month (180 months) while saving over \$40 per month or more on your energy bill. Check with Summit Credit Union loan officer for current rates.*

# RESIDENTIAL Me<sup>2</sup> SUCCESSES

973 Home Audits  
 300 Home Upgrades  
 17 Business Projects Approved



-  Business Upgrades
-  Home Upgrades
-  Home Audits





## Milwaukee SHINES

FOR A SUSTAINABLE SOLAR FUTURE

*Milwaukee Shines*, Milwaukee’s solar program, helps to increase the use of clean, energy on city facilities and for home and business owners.

### TWO LOCAL SCHOOLS ADD SOLAR POWER

Two Milwaukee Public Schools added solar to their facilities this spring as part of the *Milwaukee Shines Solar School Swap* project, funded through the U.S. Department of Energy’s Solar America Cities program.



*New solar install at Riverside High School*

Riverside High School installed a solar electric system, which included products made by local companies (Helios Solar Works solar panels and Ingeteam inverter).

Bay View High School received a solar hot water system which included components from Milwaukee’s Caleffi Solar.

The installs will not only reduce the schools’ energy use, but will also engage students in learning about clean energy, with classroom projects and online monitoring of the systems. Stay tuned for more information on these projects when school starts this fall.

### SOLAR MONITORING GOES ONLINE

Over the past few years, the City of Milwaukee has installed a total of eleven solar systems on city facilities. These solar electric and solar hot water systems reduce energy use at fire stations, libraries, and our city garages. See first hand how much energy is being produced at [www.MilwaukeeShines.com](http://www.MilwaukeeShines.com). Click on “Installations” to see data.

City installations were made possible through support from the City’s Energy Challenge Fund, U.S. Department of Energy, Focus on Energy, We Energies, and from a generous donation of panels and product from Caleffi Solar.



*Solar Hot Water at Engine House #23*

### SOLAR THERMAL ‘12 BACK IN MILWAUKEE

This December, Milwaukee will again host SOLAR THERMAL ‘12, which is the nation’s only solar heating and cooling conference. The Milwaukee Metro Solar Hot Water Business Council, a project of *Milwaukee Shines*, will co-host the conference and provide tours of solar thermal installations around the city. Details: [www.solarthermalconference.org](http://www.solarthermalconference.org)



*Solar thermal install at MSOE residence hall*

### MILWAUKEE MAKES GOING SOLAR EASIER

Milwaukee is part of a Wisconsin team awarded over \$450,000 to help make solar installations easier and more affordable. The Wisconsin team, *Grow Solar Wisconsin*, is led by the Midwest Renewable Energy Association (MREA), and includes cities of Milwaukee, Madison and Marshfield. The WI team is one of 12 awards given as part of the U.S. Department of Energy SunShot Initiative, which aims to bring down the cost of solar to be competitive with other forms of energy, without subsidies, by the end of the decade.

Milwaukee will create model processes making solar permitting, inspection and financing easier, and will be shared with other municipalities as solar *best practices*. For details visit: [www.growsolar.org](http://www.growsolar.org) and [www.MilwaukeeShines.com](http://www.MilwaukeeShines.com)

### PROGRAM OFFERS LOCAL SOLAR

In early 2012, *Milwaukee Shines* teamed up with the MREA



to launch a pilot solar purchase program called the *Milwaukee Power Pack*. The *Milwaukee Power Pack* offers quality solar products from Milwaukee companies, installed by local professionals, at a low cost for customers. Local companies provide special limited-time pricing: Solar panels from Helios Solar Works and inverter from Ingeteam. Installers buy product directly, so there are no shipping costs. Combine cost savings with low-interest solar loans through *Milwaukee Shines Solar Financing*.

The pilot project ended on July 31, but the Milwaukee Power Pack will re-launch in October 2012. Stay tuned!

Details: [www.MilwaukeeShines.com](http://www.MilwaukeeShines.com) ●

# WIND TURBINE REPORT CARD

*Continued from Page 2*

The turbine is a highly automated, sophisticated piece of machinery. The Northern Power 100 turbine is capable of producing up to 100 kilowatts per hour at peak performance. To produce the most energy, it automatically turns to face wind direction (yaw). It is designed so that its blades cease spinning in extreme weather.



*Wisconsin-made tower being craned into place*

The turbine's price tag was \$590,000 that OES paid for through grants. Federal Stimulus Funds were acquired that were specifically earmarked for local renewable energy and energy efficiency projects. We Energies and Focus on Energy contributed \$100,000 each with renewable energy incentives and grants. The tower is rated to last for 100 years. The turbine, with regular maintenance and recommended service upgrades, is rated to operate for 40 years or longer.

Conservative estimates originally projected that the turbine's annual electricity production would be between 109,000 and 152,000 kilowatt hours (kWh). However, since it began operating February 27, the turbine already generated approximately 68,000 kWh as of August 1.

Based on the electricity produced since start up, it is projected that the turbine may generate about 165,000 kWh annually. This metric is subject to change since wind conditions *will* vary from season to season.

In the first billing period (March 22-April 24), the turbine produced \$2,088

worth of power, based on We Energies rates for port building. But the port only consumed \$1,500 of that power, which resulted in a \$588 check from We Energies to the port. (The port administration building uses about 100,000 kWh per year; the average home uses about 9,000 kWh per year.)

There are two electric meters that assist We Energies with the energy accounting process each month, both located on the port administration building. A traditional meter measures the building load. Building load refers to the electrical demand/total usage for a building.

The second meter measures the electricity generated by the turbine. The wind turbine sends excess electricity to the grid when the electricity output from the turbine exceeds the electricity being used by the building.



*Wind turbine provides more than enough power for the Port Admin building*

## OTHER BENEFITS

Just as important as the energy and cost savings metrics are the positive environmental impacts. Wind is a clean energy source. It doesn't produce carbon dioxide (CO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), or nitrogen oxides (NO<sub>x</sub>), the pollutants created by fossil-fuel generated electricity.

To put this in perspective, consider 45,000 kWh produced by the wind turbine. If a fossil-fuel based generator (like coal, for example) produced 45,000 kWh of electricity, it would take 1,200 mature trees to absorb the CO<sub>2</sub> produced by burning the fossil fuel.



Milwaukee's wind turbine is not the answer to all of the questions and concerns regarding fossil fuel use, but it is a first step and certainly a step in the right direction.

The turbine is producing more energy than the original projections. It is quiet, unlike some older models of this wind turbine; there is no negative sound impact on area residential and commercial neighbors.

However, despite the early success of the turbine, the city is not considering constructing more: they are expensive and it is difficult to find quality wind sites in an urban environment.

Instead, the city and OES are focusing on energy efficiency through the Me<sup>2</sup> program ([smartenergypays.com](http://smartenergypays.com)) and renewable energy through the Milwaukee Shines program ([milwaukee shines.com](http://milwaukee shines.com)).

Mayor Barrett, who played a central role in making the turbine a reality, has observed that the wind turbine demonstrates the City of Milwaukee's commitment to clean energy. It represents an intelligent use of renewable energy, it is a symbol of Milwaukee's resurgence, and it is an example of city leaders living up to Wisconsin's state motto: *Forward* ●

*Written by Office of Environmental Sustainability Director Matt Howard.*

*Reprinted with permission from BayView Compass (June 1, 2012) [www.bayviewcompass.com](http://www.bayviewcompass.com)*

# HELP SHAPE THE SUSTAINABILITY PLAN

Continued from Page 1

For instance, if an issue area identified by the public is the need for more strategic stormwater mitigation and management, the Green Team might choose as an initiative the reduction of impervious surface area in the city. The public may then want to weigh in on what types of incentives or educational materials would be needed to encourage residents and businesses to reduce impervious surface area.

The Green Team anticipates the second round of comment will begin in January 2013, with the goal of having a final plan by June 2013.

It's vital to have all Milwaukeeans involved. Your participation will make the sustainability plan stronger. There are multiple ways to stay involved and informed. Most importantly, please take a quick survey and sign up for e-Notify. Find details on Green Team website: [milwaukee.gov/sustainability/SustainabilityPlanGreenTeam.htm](http://milwaukee.gov/sustainability/SustainabilityPlanGreenTeam.htm).



## HOW TO PARTICIPATE

### *The Milwaukee Green Team wants to hear from you!*

During the summer and fall of 2012, there will be in-person meetings and online opportunities to provide your input.

How to get involved:

- Take the Green Team Survey at [www.milwaukee.gov/GreenTeamSurvey](http://www.milwaukee.gov/GreenTeamSurvey). Tell us what you think are our needs and challenges for the City.
- Sign up for the City's **E-notify** on environmental issues. Sign up at [www.milwaukee.gov/sustainability](http://www.milwaukee.gov/sustainability)
- Check our website and Facebook page for updates and events. [www.milwaukee.gov/sustainability](http://www.milwaukee.gov/sustainability) [www.facebook.com/SUSTAIN](http://www.facebook.com/SUSTAIN)
- Send us your comments. [sustainability@milwaukee.gov](mailto:sustainability@milwaukee.gov).
- Contact Mayor Barrett or your local alderperson for more information or to provide input.
- Attend upcoming events (see right).

## UPCOMING EVENTS

### *Give us your input in person!*

We want your suggestions for Milwaukee's Sustainability Plan. Attend any of these upcoming events to share what is important to you!

#### **Sustainability Planning Event**

Thursday, August 9  
5:30-7 pm  
Urban Ecology Center  
Riverside Park  
1500 E. Park Place  
Milwaukee, WI 53211

#### **Sustainability Planning Event**

Wednesday, August 29  
5:30-7 pm  
Urban Ecology Center  
Washington Park  
4145 W. Lisbon Ave  
Milwaukee, WI 53208

#### **Sustainability Planning Event**

Thursday, September 20  
5:30-7 pm  
Urban Ecology Center  
Menomonee Valley Branch  
3700 W. Pierce St  
Milwaukee, WI 53215



## Contact Us

- |                                      |  |
|--------------------------------------|--|
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| Amy Heart,<br>Solar Program Manager  | Email: <a href="mailto:ahheart@milwaukee.gov">ahheart@milwaukee.gov</a><br>Phone: 414-286-5593 |
| Tim McCollow,<br>Grant Monitor       | Email: <a href="mailto:tmccol@milwaukee.gov">tmccol@milwaukee.gov</a><br>Phone: 414-286-3748   |

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[www.milwaukee.gov/sustainability](http://www.milwaukee.gov/sustainability)  
[sustainability@milwaukee.gov](mailto:sustainability@milwaukee.gov)  
[www.facebook.com/SUSTAIN](http://www.facebook.com/SUSTAIN)



Advertise your green event on the OES website!  
Call 414-286-8317 or send an email to [sustainability@milwaukee.gov](mailto:sustainability@milwaukee.gov)