



DANE COUNTY SUSTAINABILITY SUCCESSES

SHARON CORRIGAN, CHAIR,
DANE COUNTY BOARD OF SUPERVISORS

WISCONSIN COUNTIES ASSOCIATION
21 SEPTEMBER 2015

WHAT IS SUSTAINABILITY?

“Meeting the needs of the present generation without compromising the ability of future generations to meet their own needs.”

(Brundtland Commission, 1987)

“Enough – for all – forever”

(African delegate to Johannesburg


Rio + 10 Summit, 2002)

“The possibility that human and other forms of life on earth will flourish forever.”

(John Ehrenfeld, Professor Emeritus, MIT)

“Living securely and justly within the limits of one single, vulnerable Earth.”

(Donald Worster,, author, *The Wealth of Nature*)



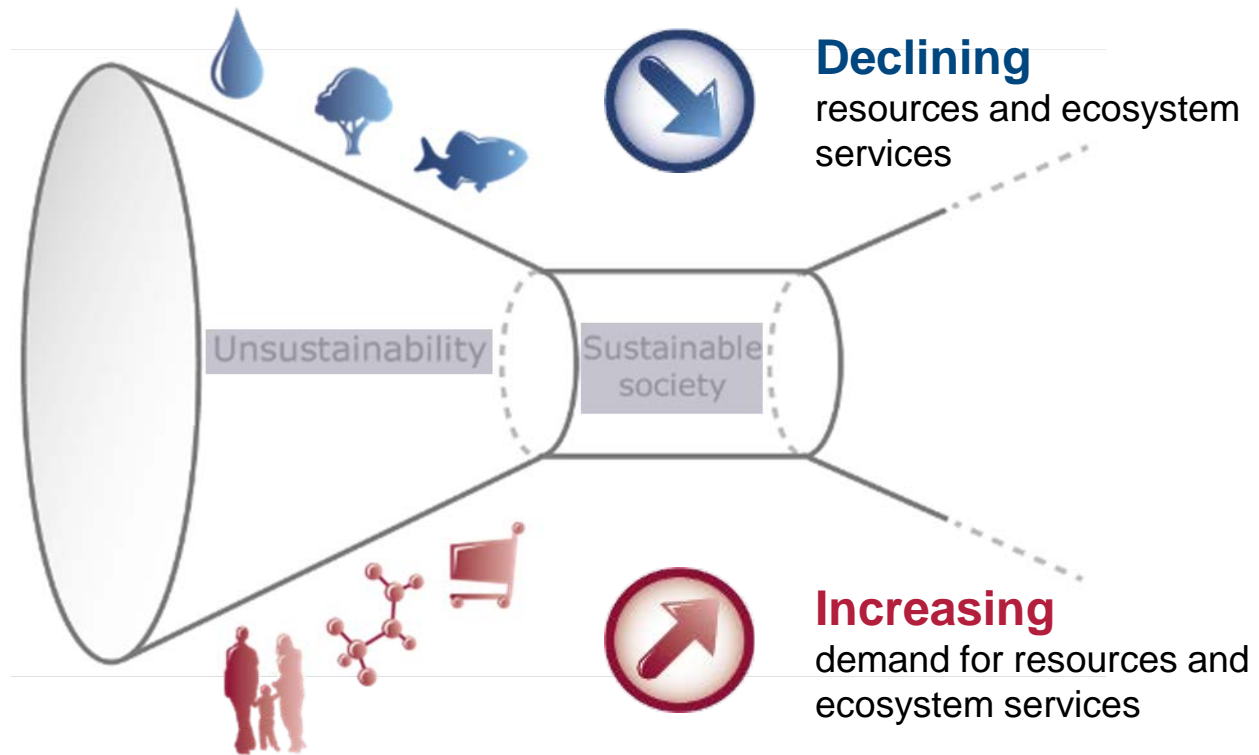
WHAT IS SUSTAINABILITY?

“A sustainable society is one that can persist over generations, one that is far-seeing enough, flexible enough and wise enough not to undermine either its physical or its social systems of support.”

~ Donella Meadows, *Beyond the Limits*, 1992.

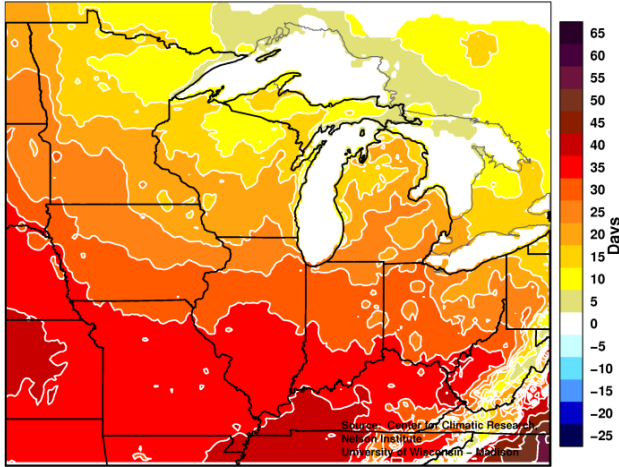


METAPHOR OF THE FUNNEL: OUR CURRENT REALITY



IMPLICATIONS OF “THE FUNNEL”, OR WHY IS IT CRITICAL FOR COUNTIES TO ADVANCE SUSTAINABILITY?

Projected Change in Days > 90°F
from 1980 to 2055 (SRESA1B)



- Increased operational costs (energy, waste disposal, infrastructure & building maintenance, health care, policing, water treatment, insurance, etc.)
- Increased demand for social services
- Public health issues
- Regulation & compliance challenges
- Deteriorating sense of public trust
- Increased security demands



Sauk County farmstead June 2008 -AP

DANE COUNTY'S GOAL

Become more environmentally, socially, and economically sustainable in our county government's operations, management, and policymaking.



DANE COUNTY'S SUSTAINABILITY PRINCIPLES

- Reduce and eventually eliminate Dane County government's contribution to fossil fuel dependence and to wasteful use of scarce metals and minerals;
- Reduce and eventually eliminate Dane County government's contribution to dependence upon persistent chemicals and wasteful use of synthetic substances;
- Reduce and eventually eliminate Dane County government's contribution to encroachment upon nature and harm to life-sustaining ecosystems (e.g., land, water, wildlife, forest, soil, ecosystems); and
- Reduce and eventually eliminate Dane County government's contribution to conditions that undermine people's ability to meet their basic human needs.

Adopted by the County Board in October 2012.



WHAT WE'VE DONE

Hired Sustainability and Program Evaluation Coordinator

- In 2012 the County Board of Supervisors created a position in the Office of the County Board and hired a Sustainability and Program Evaluation Coordinator to lead and manage various efforts to **improve the sustainability of the county's operations, management, and policymaking**.
- The Sustainability Coordinator serves as a **resource** to all County Board supervisors on sustainability-related policy development, program review, and budgetary analysis with a sustainability lens. She also works extensively with all county departments and offices to **advance and facilitate initiatives and projects that improve the sustainability of county operations and management**.
- Program Evaluation Role: Diverse topics but often also **directly connected** to implementing our sustainability principles (e.g., Racial Equity Analysis, Land and Water Resources Department Assessment, Contracting Equity, etc.)

WHAT WE'VE DONE

SMART Fund

- In 2012 the County Board of Supervisors created the SMART Fund (Sustainable Management and Renewable Technologies) to assist departments with capital projects that improve efficiency and cut costs.
- The SMART Fund started with a \$100,000 cap but now invests **up to \$2 million annually** in qualifying departmental capital projects that improve the county's sustainability.
- **Benefits of this fund:**
 - Alignment of departments and staff toward a **common understanding of sustainability**
 - **Clarity and consistency** in assessing and organizing actions and programs for sustainable government operations
 - **Enhanced policies and programs** incorporating a sustainability perspective
 - Enhanced reputation as a proactive contributor to a **more sustainable community**
 - **Reduced operating costs**

WHAT WE'VE DONE

SMART Fund

- **Examples of projects funded:**
 - Lighting upgrades – all types of systems changed to LED systems
 - Replacement of laundry machines in juvenile detention facilities
 - Solar PV pathway lighting at the Henry Vilas Zoo
 - Office desktop scanners for the Veterans Services Office
 - Renovation of facilities to be code compliant for CNG vehicle storage
 - Insulation of highway maintenance facility
 - Energy and water conservation upgrades at county park facilities



WHAT WE'VE DONE

SMART Fund

2012 through 2015 Round 3

- Total Projects Funded : **43**
- Total Funding Awarded to projects: **Over \$2.3 million**
- Smallest award: **\$644** (refrigerator replacement)
- Largest award: **\$460,000** (AEC parking lot LED lighting)
- ***Estimated* operational cost savings from 2012- 2015 projects**:**
approx. \$500,000 annually ** Note: not all projects estimated cost savings
- Operational savings costs are based on energy and other resource reductions, as well as maintenance cost reductions, calculated for some projects. This is a minimum operational cost savings estimate as not all projects provided initial cost savings estimates up front.



WHAT WE'VE DONE



SMART Fund

- Greenhouse Gas emissions reductions: **2,521 metric tons of CO₂ equivalent annually**
- Estimated emissions avoided by implementation of just a portion of the 2012-2015 projects.

This is the equivalent of:

- Taking 531 passenger vehicles off the road annually
- Reducing passenger vehicles miles driven by 6 million miles annually
- Not burning 283,673 gallons of gasoline annually
- Not burning 2.7 million pounds of coal annually
- The average annual energy use of 230 homes

(Source: the EPA emissions calculator

<http://www.epa.gov/cleanenergy/energy-resources/calculator.html>.)

WHAT WE'VE DONE

Building Commissioning / Retrocommissioning

- **Commissioning**: When a building is initially commissioned it undergoes an intensive systematic quality assurance process that begins during design and continues through construction, occupancy, and operations. Commissioning ensures that the new building operates initially as the owner intended and that building staff are prepared to operate and maintain its systems and equipment.
- **Retrocommissioning** is the application of the commissioning process to existing buildings. Using a whole-building systems approach, retrocommissioning seeks to identify operational improvements that will increase occupant comfort and save energy.

WHAT WE'VE DONE

Building Commissioning / Retrocommissioning

2010

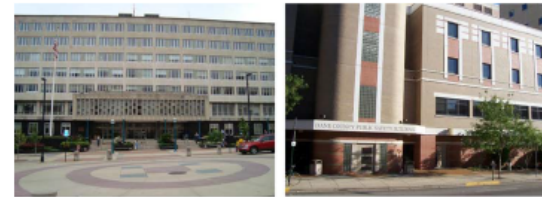
- Estimated **savings of \$193,000 annually** (or a 10.8% reduction in utility costs) by implementing all low-cost and priority capital projects identified by the commissioning agent
- Approx. Cost to implement: **\$500,000**
- Estimated **Payback: 2.6 years**

2014

- **All building projects over \$1 million** (new or remodel) now require retrocommissioning or commissioning to reduce county operating costs through energy conservation and efficiency, and optimization of building system performance.
- **5-year contract** with a commissioning agent
- Working on: New Medical Examiner's facility, Veterans' Memorial Coliseum, and Alliant Energy Center upgrades
- Will realize **significant operational savings** from energy and mechanicals design and retrofits

Dane County Initial Retrocommissioning Report Project Executive Summary

- City County Building
- Public Safety Building
- Dane County Courthouse



Submitted By:



November 2010

LANDFILL GAS TO ELECTRICITY

Converted county landfill gas to electricity, generating \$3.5 million in electricity annually, enough to meet the electricity needs of 4,000 homes in the county.

Rodefeld - History/Timeline

- Active Landfill opened in 1985
- April 1996 - installed 31 gas wells
- Additional 16 wells installed 2000-2012

Decomposing waste produces landfill gas

- Landfill Gas Components
 - ✓ Methane – 50-55%
 - ✓ Carbon Dioxide – 40-45%
 - ✓ Nitrogen – 5%
 - ✓ Oxygen – 0.5%
 - ✓ Trace Organics – 0.5%



LANDFILL GAS TO ELECTRICITY

Costs

- \$500,000 annual operating cost

Renewable Power

- Electricity for 4,000 homes

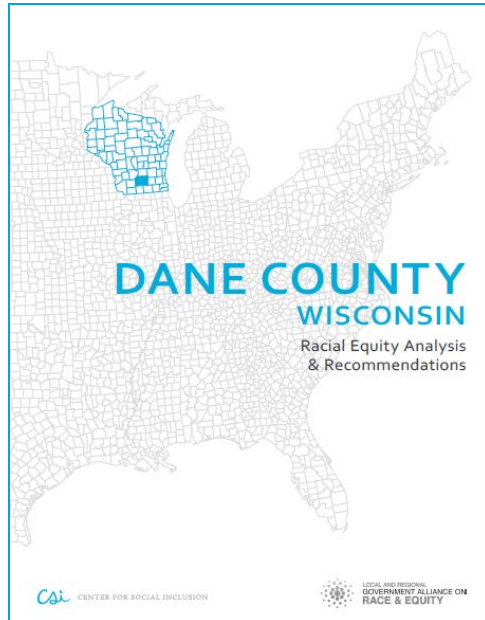
Revenue

- \$3.5 million / yr



RACIAL EQUITY ANALYSIS

To build a racial equity framework and organizational capacity around racial equity and social justice throughout Dane County Government



2014

Established a Racial Equity and Social Justice Initiative (RESJ) and cross-departmental RESJ team

2015

County Board contracted with national experts—Center for Social Inclusion and Government Alliance on Race and Equity—to conduct a Dane County government-wide Racial Equity Analysis that identified:

- **Current status of racial equity**
- **Key performance measures and community indicators**
- **Key areas for improvement**
- **Short and long term next steps**
- **Process and plan to measure progress**

See report at:

<https://dane.legistar.com/View.ashx?M=F&ID=4012553&GUID=C834CA04-2DA8-4F67-A197-CC306A7AFD5B>

No state worse than Wisconsin for black children, says new national study

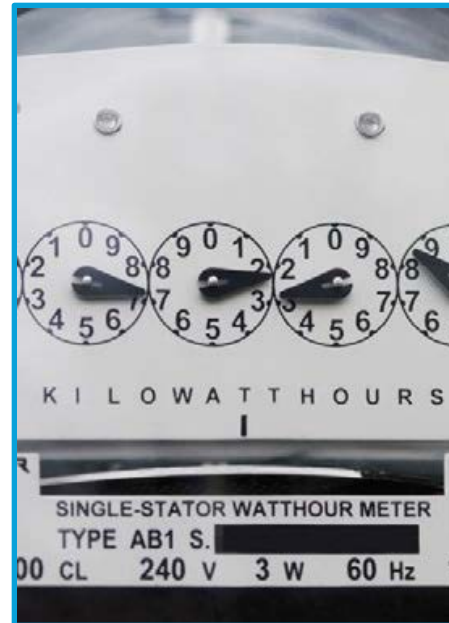
MIKE IVEY | The Capital Times | mivey@madison.com Apr 1, 2014 □ 89



WISCONSIN FOCUS ON ENERGY REBATE\$\$\$

Between 2012 and mid-2015

- 25 FOE rebate-eligible projects
- Includes 13 SMART Fund projects
- 1,850,246 kWh electricity saved
- 296,138 therms of natural gas saved



- Total rebates to Dane County (of 21 completed projects): \$166,655 (Additional estimated \$88,168 of rebates slated)



BUSINESS PROGRAMS

SUMMARY OF SERVICES & INCENTIVES

Effective through March 31, 2014

Last updated April 1, 2013

EFFICIENCY INCENTIVES SUMMARY

The Focus on Energy Business Programs offer both custom and prescriptive incentives for efficiency projects. These incentives are designed to motivate customers to upgrade equipment, or implement energy efficiency projects that they would not have done otherwise. The following custom and prescriptive incentives are available to all customers in the Business Incentive Program, Chain Stores and Franchises Program, and the Large Energy Users Program.

- Focus on Energy only offers incentives for customers of qualifying electric and natural gas providers. Other heat sources such as propane and district steam do not qualify for gas measures.
- Customers of a participating electric utility, but not a participating natural gas utility, will be eligible for electric savings technology incentives only.
- Customers of a participating natural gas utility, but not a participating electric utility, will be eligible for natural gas savings technology incentives only.
- Customers who have both a participating electric and a participating gas utility will qualify for all technology incentives.

1 CUSTOM

Current custom incentive levels are calculated based on estimated first year energy savings associated with a project/technology. Custom incentive levels are subject to change.

- Custom incentives
 - \$0.04/kWh
 - \$125/peak kW*
 - \$0.40/Therm + \$0.40/Therm bonus for a limited time.

* These kWh are determined by the average kWh load reduction occurring between LPM and 4PM on weekdays during June, July and August.

Other custom incentive requirements:

- Customers do not have to fill out additional paperwork to receive the \$0.40/Therm bonus. The bonus rate will be calculated automatically while it is available.
- Projects are limited to a maximum simple payback of ten years. Industrial process projects may be limited to a maximum simple payback of four years, depending on project type and technology.
- Custom incentives are limited to no more than 50% of a project's cost without special approval. Large Energy Users projects may be limited to no less than 10% of the project cost.
- The maximum incentive for a custom project is \$200,000 for Business Incentive Program and Large Energy Users Program customers and \$50,000 for Chain Stores and Franchises Program customers.
- The maximum total of all incentives an individual customer may receive per calendar year is \$400,000 for Business Incentive Program and Large Energy Users Program customers and \$50,000 for Chain Stores and Franchises Program customers.
- To apply for custom incentives, customers must work with a Focus on Energy Advisor prior to project initiation (ordering equipment or processing purchase orders). Incentive approval will be contingent upon receipt of necessary documentation, such as energy savings

OVERVIEW

The goal of the Focus on Energy Business Programs is to help Wisconsin's non-residential energy utility customers (businesses, nonprofits, and governments) save energy and money while protecting the environment. Focus on Energy provides information, resources and financial incentives to help implement energy efficiency projects that otherwise would not be completed.

To view all of the Focus on Energy offering details, visit www.focusenergy.com/business

Focus on Energy also has special offerings that are updated frequently and are not reflected in this summary. To explore the special offerings, visit www.focusenergy.com/business/efficient-equipment/special-promotions

calculations and an indication that funds are needed to get the project implemented.

2 PRESCRIPTIVE

The following prescriptive incentives are available for products purchased and installed between April 1, 2013 and March 31, 2014. Incentives are subject to change without notice. For the most up to date information, visit www.focusenergy.com/business


- Focus on Energy prescriptive incentives offer specific dollar amounts for completing the qualifying energy efficiency measure. The customer completes a project, and then submits an application form specific to the technology installed or replaced. Technology qualifications and incentive amounts are found on the application form. **Projects must meet all of the requirements listed on the prescriptive form. This summary does not list all requirements.**
- Applications must be submitted within 60 days of project installation. Last day to submit applications is March 31, 2014.

focus on energy
Partnering with Wisconsin utilities


WHAT WE'RE DOING – ONGOING WORK

Sustainable Operations Plan for Dane County Government Operations

Addresses eight key county operational categories. Each category represents an operational aspect of county government that spans all departments and divisions, and for which numerous staff share some level of responsibility.

1. Climate Change Mitigation & Adaptation
 2. Transportation / Vehicle Fleet
 3. Water
 4. Waste
 5. County Buildings & Facilities
 6. Purchasing
 7. Education and Outreach
 8. Employee Experience
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WHAT WE'RE DOING – ONGOING WORK

- Ongoing retrocommissioning /commissioning of new building projects and remodels
 - Ongoing SMART Fund projects
 - Ongoing renewable energy and energy conservation upgrades at county facilities
 - Development of a Dane County Air Emissions Inventory
 - Ongoing development of racial equity and social justice strategies and actions across Dane County government
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QUESTIONS?

Sharon Corrigan

Chair

Dane County Board of Supervisors

Corrigan@countyofdane.com

Lisa MacKinnon

**Sustainability and Program
Evaluation Coordinator**

Office of the Dane County Board

MacKinnon@countyofdane.com

ADDITIONAL PROJECTS

WHAT WE'VE DONE

Fleet Conversion to Compressed Natural Gas (CNG)



- The renewable CNG the county generates from decaying garbage at its Rodefild landfill costs the county the gasoline equivalent of \$1.25 a gallon.
- Continuing investments in compressed natural gas (CNG) fleet vehicles, offsetting the use of approximately 20,000 gallons of fossil-fuel gasoline and saving county taxpayers roughly \$40,000 in 2013– the first year of implementation;
- Using the first-in-Wisconsin CNG snowplow
 - The average county plow consumes 2,400 gallons of diesel fuel per year. With diesel prices topping off at nearly \$4 a gallon locally, that amounts to over \$6,000 in fuel savings per CNG plow per year.



DANE

COUNTY REGIONAL AIRPORT
Madison, Wisconsin

MSN

