

Better Buildings Challenge for Local Governments

Washington Council of Governments
March 2014



Make municipal, commercial, and industrial buildings 20% more efficient by 2020; save more than \$40 billion annually for US organizations; create American jobs

- ▶ Demonstrate market leadership through high level partnership with DOE
- ▶ Partner with local leaders to better understand policy and technical opportunities
- ▶ Make portfolio wide commitment to continuous improvement
- ▶ Overcome persistent obstacles with replicable solutions
- ▶ Showcase real solutions; provide models for others to follow
- ▶ Celebrate leadership with recognition
- ▶ Measure success



Who are the Current Partners and Allies?

Over 175 public, private, and non-profit organizations:

- 40 Local Govt Partners
- 7 State Govt Partners
- 28 Commercial Partners
- 9 Industrial Partners
- 18 Education Partners
- 55 Multifamily Partners
- 15 Financial Allies
- 3 Utility Allies

Together, they represent:

- 3 billion sq. ft. of commercial and industrial space
- 300 manufacturing plants
- \$2 billion in private sector financing



Current Public Partners



Partnership Agreement

Partner Agrees to:

Commit

- Assign Senior Executive signature
- Entire building portfolio

Take Action

- Community outreach
- Showcase project

Report Results

- Share portfolio wide, facility level energy performance annually
- Share playbooks and solutions
- Quarterly updates on progress

DOE Agrees to:

Assist

- Technical assistance
- Development of playbooks

Connect

- Opportunities through Financial Allies
- Peer exchange forums

Recognize

- National and local recognition
- Showcase and highlight Partners who develop and share innovative and cost effective marketplace solutions



Performance Data

DOE will annually collect facility-level energy performance data to document and recognize significant, sustained energy savings.

- ▶ Energy consumption tracked in Portfolio Manager can be easily shared with DOE
- ▶ Metrics averaged over last 12 months for
 - Current total site energy use
 - Current total source energy use
 - Weather normalized energy intensity
 - Energy intensity adjusted for space attributes/operating characteristics
 - Total energy cost
 - Energy cost per square foot



Data Analysis to Assess Energy Performance

- ▶ Progress to date (both annual and cumulative)
- ▶ Portfolio performance
- ▶ Performance improvement by facility
- ▶ Identifying opportunities for high impact improvements

CITY OF MILWAUKEE
Energy Performance

GOAL
20% Reduction in Energy Intensity by 2020 from a 2009 Baseline

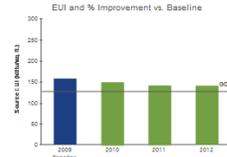
CHALLENGE COMMITMENT
5 Million Square Feet

PROGRESS TO DATE
Cumulative (vs. Baseline) **10%**
Annual (2012) **1%**



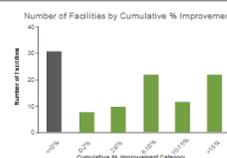
PORTFOLIO ENERGY PERFORMANCE

Better Buildings Challenge Partners strive to decrease portfolio-wide source energy use intensity (EUI) and to increase the percent improvement compared to a set baseline. Energy savings have been realized in City facilities by installing more efficient lighting across key facilities, installing occupancy controls to shut off lights in unoccupied spaces, installing digital controls and other HVAC upgrades in key facilities, adjusting thermostats, and removing unnecessary plug load devices. The City of Milwaukee has supported energy efficiency projects among privately owned buildings in the challenge through the Milwaukee Energy Efficiency program (MEEP).



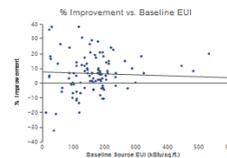
ENERGY PERFORMANCE BY FACILITY

Looking at the percent improvement in energy performance across all facilities can provide insight into how an organization is saving energy. Milwaukee has achieved energy performance improvement of greater than 6% at more than 55 of its facilities and 16% or greater improvement in 25 facilities. The City's Energy Reduction Team continues to evaluate opportunities for energy savings in all buildings, with an emphasis on projects that have the greatest return on investment.



IDENTIFYING OPPORTUNITIES FOR IMPROVEMENT

Facility-level performance metrics, including EUI and percent improvement to date, are critical to track progress over time and identify opportunities for additional energy savings. Milwaukee's portfolio consists of facilities with a wide range of EUI values, sizes, and uses. The Energy Reduction Team, comprised of City facility managers and chaired by the Office of Environmental Sustainability, uses Portfolio Manager and other energy analysis tools to identify opportunities for improvement, using both technology and behavioral approaches.





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Showcase Project

*A **discrete** retrofit project that addresses a specific building in your portfolio and produces measurable results in energy use and cost savings.*

- ▶ Great opportunity to highlight your commitment
- ▶ Demonstrate action and leadership and prove what is possible
- ▶ Inspirational stories that are opportunities for amplification of BBC messages and recognition
- ▶ Not exhaustive technical studies or white papers - market is flooded with case studies



U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy

Showcase Project

Example:

- ▶ Atlanta's showcase project features their Civic Center. The energy overhaul is saving 37% of their energy use and created nearly 90 construction jobs.

BETTER BUILDINGS CHALLENGE
Organizations Leading the Way to Greater Energy Efficiency

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BOISFEUILLET JONES - ATLANTA CIVIC CENTER
Showcase Project: City of Atlanta

LOCATION: Atlanta, GA PROJECT SIZE: 231,000 Square Feet FINANCIAL OVERVIEW: Project Cost \$2.1 Million

Annual Energy Use		Annual Energy Cost	
Baseline (2009)	443 kWh/sq. ft.	Baseline (2009)	180,000
Expected (2012)	284 kWh/sq. ft.	Expected (2012)	100,000
Actual (2012)	COMING SOON	Actual (2012)	COMING SOON

Expected Energy Savings: **25%** Expected Savings: **\$200,000**

BACKGROUND
By revitalizing the Boisfeuillet Jones - Atlanta Civic Center, the City of Atlanta had the opportunity to turn one of its largest energy-consuming and energy-intensive showcase facilities. The city is expected to save \$200,000 per year, or a total of \$1.8 million over the 10-year life of the Georgia Sustainable Environmental and Economic Development (SEED) contract.

SOLUTIONS
Prior to a complete energy overhaul, the Atlanta Civic Center was an energy-intensive building with electric resistance heat and domestic hot water. The equipment was unreplaceable to frequent repairs, and inefficient. (Some services and equipment upgrades were deferred for the Civic Center; the city also faced capital budget constraints.)

OTHER BENEFITS
Atlanta's largest energy efficiency project created 88 construction jobs. The energy efficiency upgrades at the Atlanta Civic Center will also decrease the city's carbon footprint by reducing annual CO₂ emissions by approximately 2.9 million pounds.

U.S. DEPARTMENT OF **ENERGY** Energy Efficiency & Renewable Energy

Implementation Models

A replicable process that an organization has used to achieve its energy reduction goals

- ▶ Replicable solutions from leaders in the marketplace
- ▶ Provides specific strategies and actionable tools that other organizations can adopt
- ▶ Can feature how outreach program was developed and implemented or organizational decision/process utilized by local government for their facilities

Implementation Models

Examples:

- ▶ Pittsburgh established a Green Initiatives Trust Fund through City Council legislation to set aside funds for energy conservation projects and to recycle project savings back into fund for further reinvestment
<http://www4.eere.energy.gov/challenge/implementation-model/city-of-pittsburgh>
- ▶ El Paso encouraged employee behavioral changes involving energy awareness and conservation by hosting a six-month Library Energy Challenge which achieved a ten percent energy use reduction in the City's 12 libraries
<http://www4.eere.energy.gov/challenge/implementation-model/el-paso>



BETTER BUILDINGS CHALLENGE Partners and Allies:

As of 6/19/12

Thank You

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