



Building Performance Partnership

September 13, 2012

Lonny Blumenthal

Building Performance Partnership

Overview

Goals of BPP

What we are doing now

What we plan to do

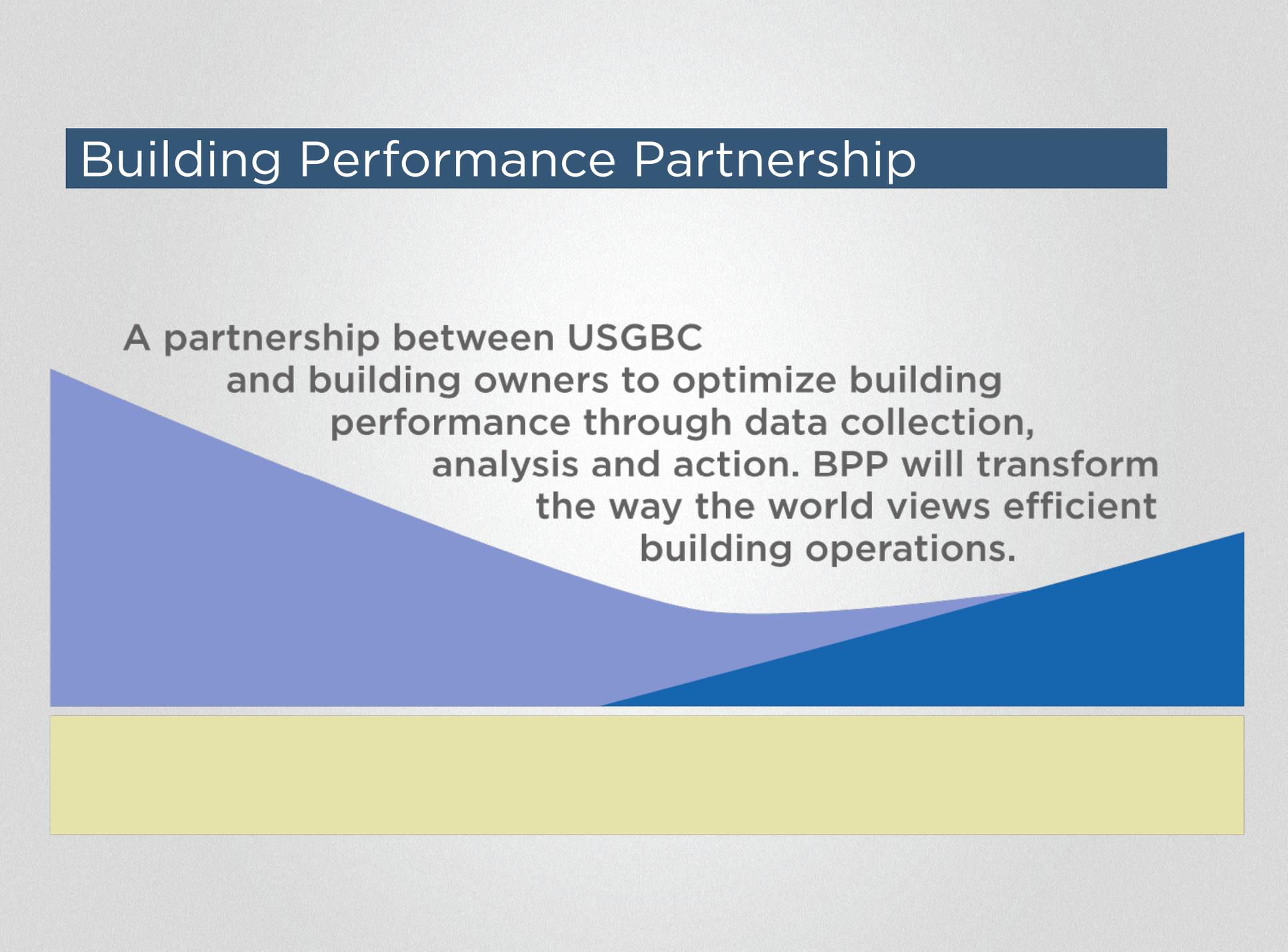
Resources

Importance of M&V

- Measurement aids in management.
- Identifies issues which may go unnoticed.
- Easier to understand and remedy problems.
- Bottom line impacts.
- Creates a “learning” system for continuous improvement.

Building Performance Partnership

A partnership between USGBC and building owners to optimize building performance through data collection, analysis and action. BPP will transform the way the world views efficient building operations.



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Goals

- Establish a comprehensive green building performance database
- Bridge the gap between design & construction and operational performance
- Make the connection between building performance and occupant behavior
- Inform the continuous improvement of LEED

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What we are doing now

- **Commercial and Residential energy and water data collection**
- **Annual performance reports**
 - Use monthly utility data
 - Three 12-month periods for comparisons



Top 10 States with BPP Projects

State	Number of BPP Projects
California	99
Texas	28
Washington	14
Florida	13
Minnesota	12
Oregon	11
Colorado	10
Pennsylvania	10
Wisconsin	10
New Jersey	9

337 Total BPP Projects (Aug. 2012)

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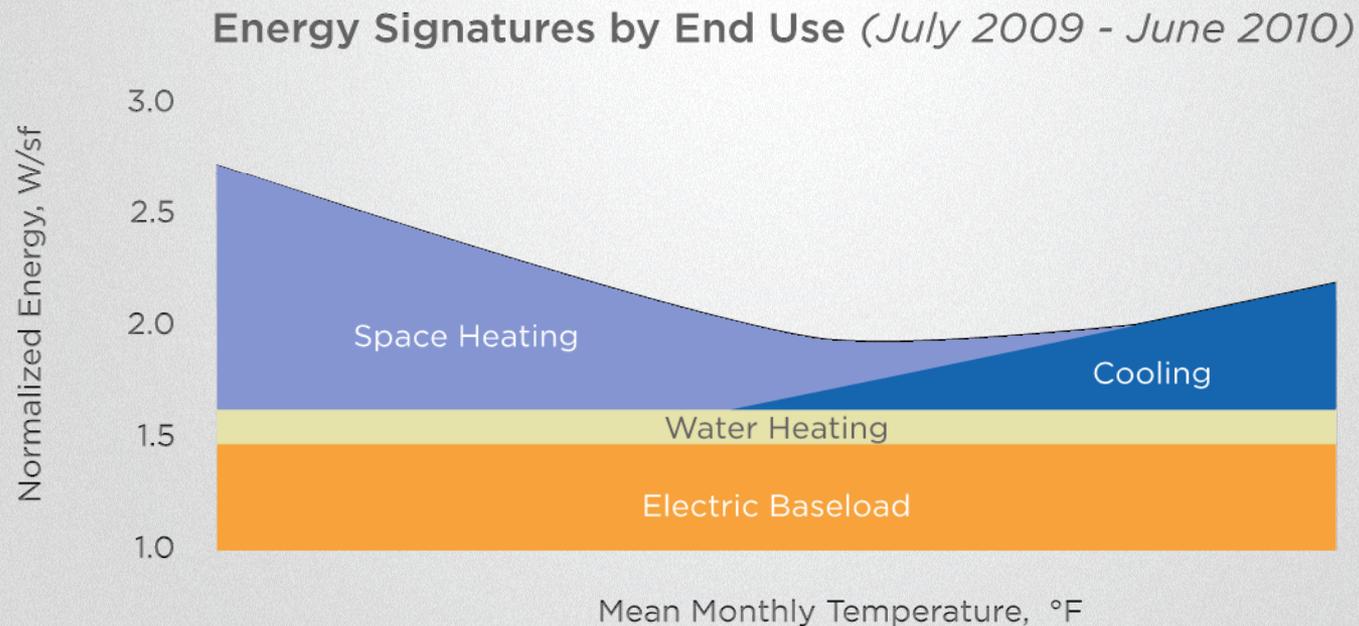
What we are doing now

- **2010 Performance Reports**
 - **36 participants received reports**
- **2011 Performance Reports**
 - **232 participants received reports**

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What we are doing now

Energy Signatures analyze the monthly measured energy use (vertical axis) in relation to the actual average outside temperature (horizontal axis). That perspective permits an effective first view of how energy is being used in the building and areas that may warrant further investigation.



2010 Performance Reports

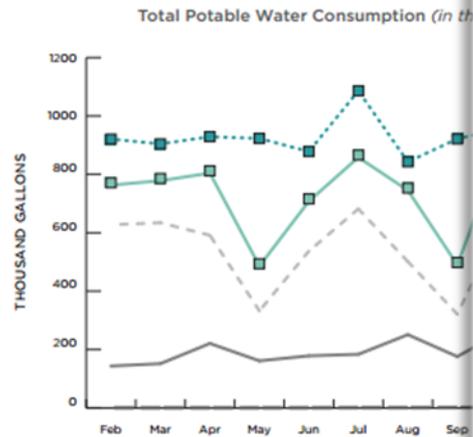
2010 PERFORMANCE

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Water Performance

Water Use Over Time

Sub-metered cooling tower and irrigation water use data was meter readings. An abnormally high or low meter reading could



Energy Performance

Site Energy Use Intensity (EUI)

This facility is currently using 51% less energy per square foot than similar facilities in the U.S. Total site EUI has decreased 2% from the baseline year.

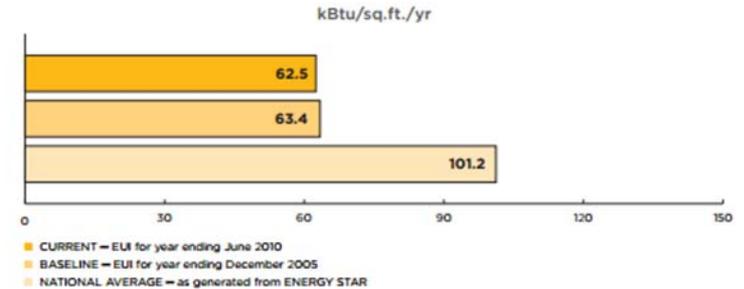
The ENERGY STAR Rating has increased indicating an improvement in energy performance relative to other similar buildings in the U.S.

Energy Use:
(Current EUI: 62.5 kBtu/sq.ft./yrs)

Current ENERGY STAR Rating:
(baseline is 87)

↓ 2%

88



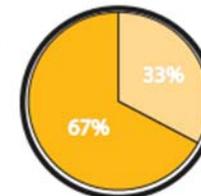
Total Greenhouse Gas Emissions

With the current fuel mixture in this facility, approximately 2.0 Btu's of energy are lost in transmission and distribution for every Btu used on site.

For the 12-month period ending June 2010, this facility was responsible for 5,918 MtCO₂e attributed to energy use. This is a 2% increase from the emissions from the baseline year ending December 2005.

Source EUI
(186.7 kBtu/sq.ft./yr)

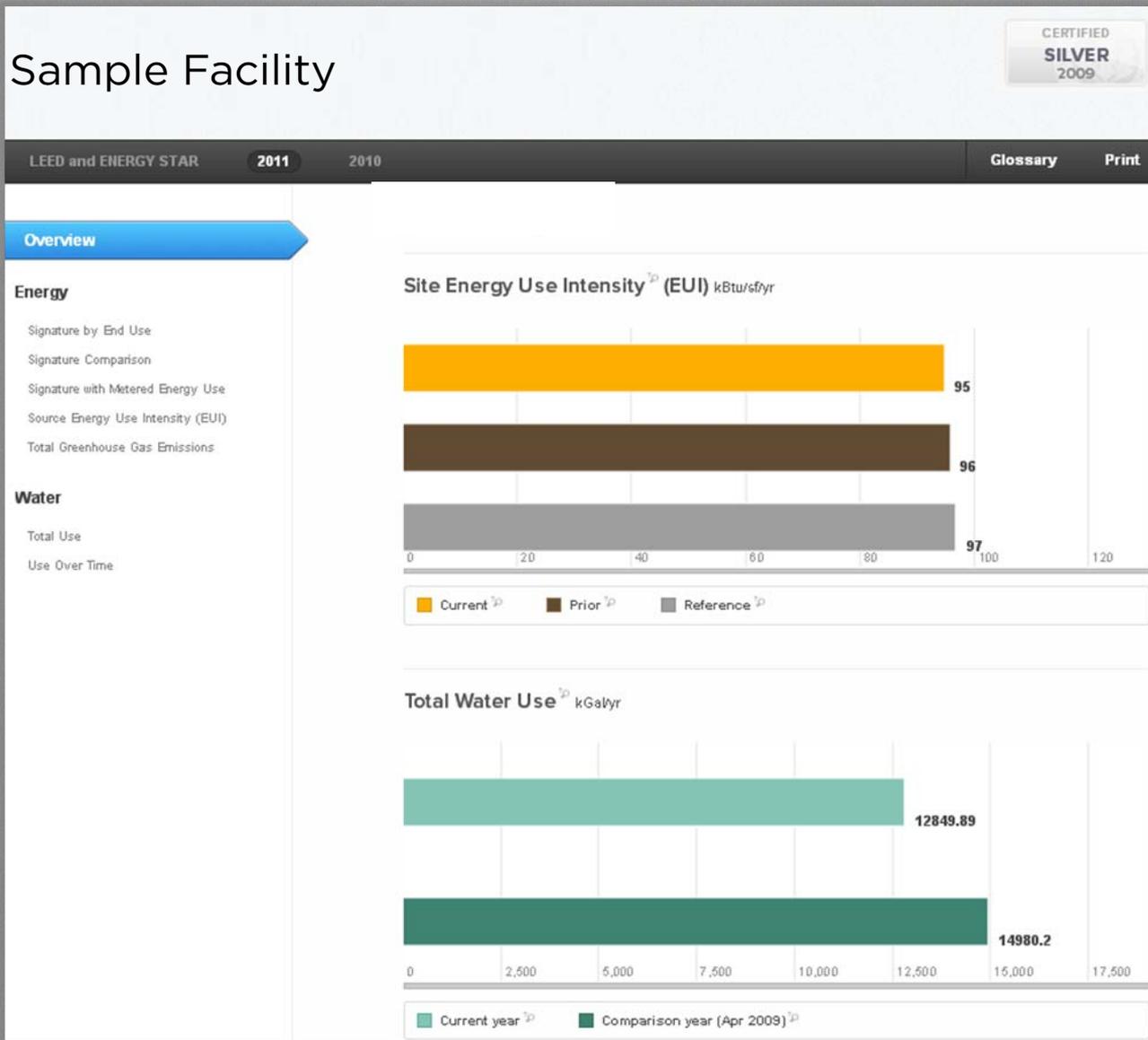
- Site EUI
- Generation & Distribution Losses



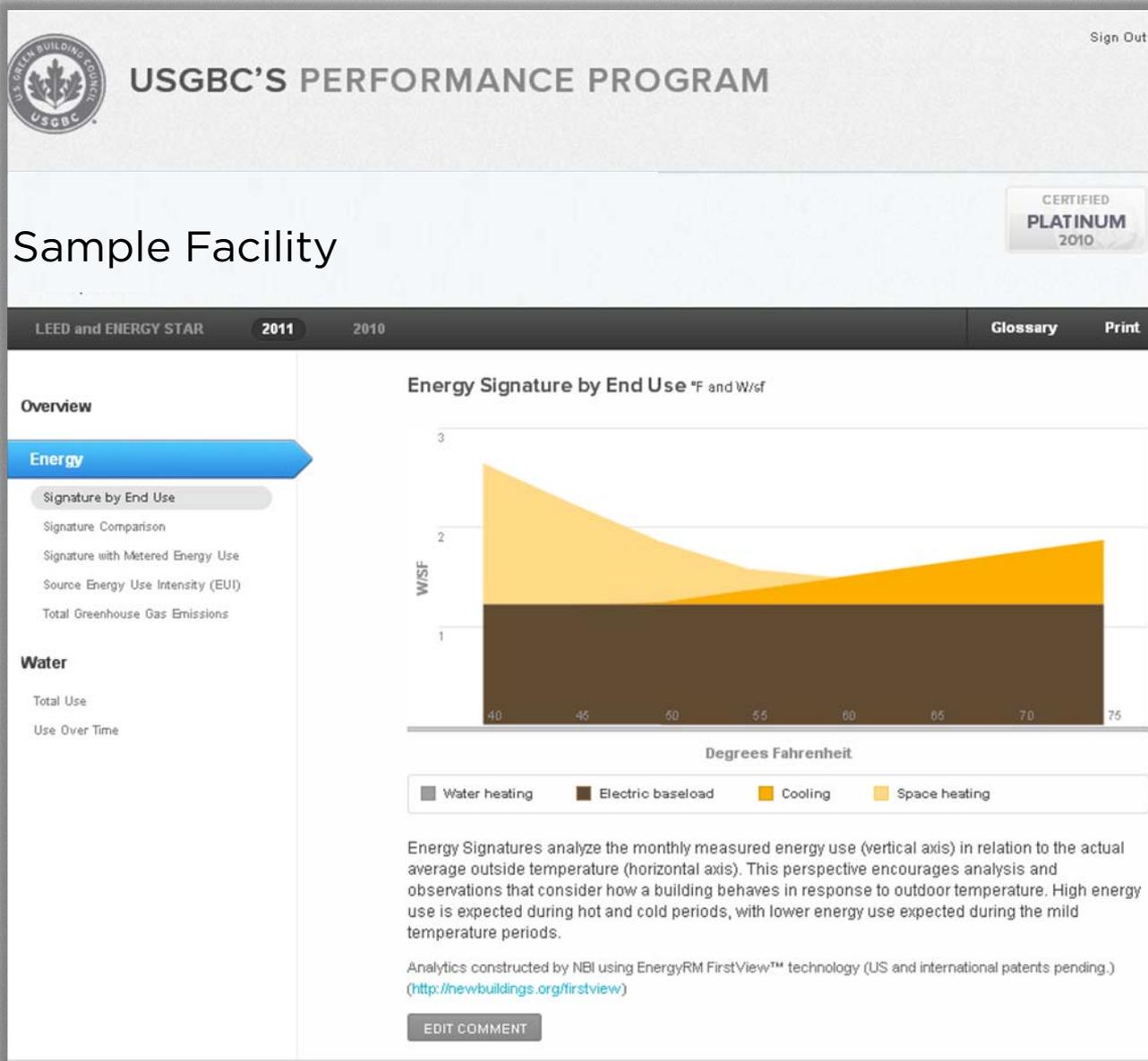
EMISSIONS:
(5,918 MtCO₂e for 07/09–06/10)

↑ 2%

2011 Performance Reports



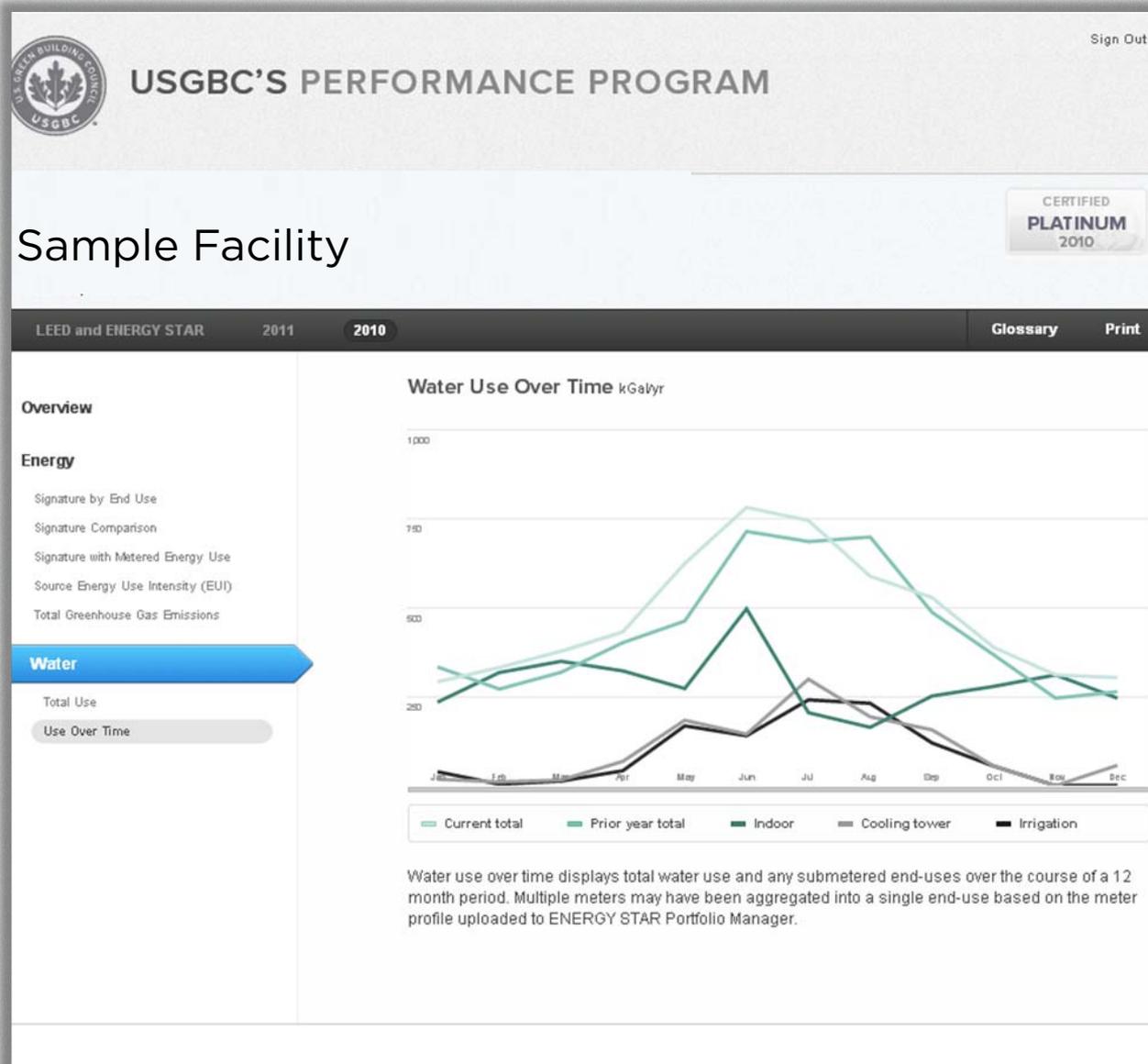
2011 Performance Reports



2011 Performance Reports



2011 Performance Reports



2011 Performance Reports



USGBC'S PERFORMANCE PROGRAM

Sign Out

Sample Facility

CERTIFIED
SILVER
 2009

LEED and ENERGY STAR
2011 2010
Glossary

ENERGY STAR metrics

Rating	83
Gross floor area	833,200.00 sf
Annual energy consumption (Weather)	79,384,581.00 KBtu
Annual energy consumption (Non-weather)	80,132,079.00 KBtu
Annual energy intensity (Weather)	95.00 KBtu/sf
Annual energy intensity (Non-weather)	96.00 KBtu/sf
Source energy Consumption (Weather)	198,241,159.00 KBtu
Source energy consumption (Non-weather)	200,737,802.00 KBtu
Source energy Intensity (Weather)	238.00 KBtu/sf
Source energy intensity (Non-weather)	241.00 KBtu/sf
Energy Star ID	1254430

Spaces

TITLE	SPACE TYPE	GROSS FLOOR AREA
707 Underground Parking Garage	Parking	
707 Office	Bank/Financial Institution	

Energy meters

TITLE	ENERGY TYPE
707 Interruptible Natural Gas Centerpoint	Natural Gas, therms





Transit Score:
100 (Rider's Paradise)
 258 nearby routes: 255 bus, 3 rail, 0 other

LEED Facts

for Existing Buildings (v2.0)
 Certification awarded April 2009

View scorecard

Silver	41
Sustainable Sites	4
Water Efficiency	13
Energy & Atmosphere	8
Materials & Resources	12
Indoor Environmental	12

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What we plan to do

LEED's KEY METRICS

TRANSPORTATION

WATER

ENERGY

WASTE

EXPERIENCE



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Benefits

- **Benchmark performance against similar buildings**
- **Quantify resource consumption changes over time**
- **Verify the building's ongoing operations**
- **Become a visible leader in sustainability**
- **Increase interest and value of energy and water data**

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Resources



HOW DOES BPP WORK

Once enrolled, LEED-certified commercial projects share their energy and water performance data with USGBC through ENERGY STAR's Portfolio Manager tool. LEED-certified homes participate through Earth Aid, a web-based utility tracking tool for single-family residential projects.

While automated energy and water data collection is a key component of BPP, the true story of building performance includes a much broader list of metrics. USGBC and the BPP participants will continue to grow the BPP infrastructure for data beyond the traditional measures of energy and water usage supplied by utilities. This includes delving deeper into energy and water use through sub-metering but also reaching beyond the utilities to look at waste management, alternative transportation use, occupant experience and other critical components of a high-performance building.

GOALS

- Encourage ongoing tracking and benchmarking of green building performance data
- Ongoing development of the LEED green building program
- Establish the world's first comprehensive green building performance database through a collaborative effort between LEED building owners, managers and USGBC

BENEFITS OF BEING A BUILDING PERFORMANCE PARTNER

Participating in BPP presents many benefits to both the owners and the marketplace.

- **Understand your building's operations.** You can't improve what you don't measure. BPP participants will receive annual performance reports about their green building projects.
- **See how you compare.** Your performance reports will compare your building's actual performance to the performance predictions from your LEED certification process and aggregated performance data of similar projects, providing benchmarks to measure your progress against.
- **Become an industry leader.** As a BPP participant, you will become a publicly visible leader, demonstrating your commitment to sustainable buildings and the environment.

For projects looking to pursue LEED 2009 for New Construction, LEED 2009 for Core & Shell, or LEED 2009 for Schools, participating in BPP can earn one point under Energy & Atmosphere credit 5.

Enrolling in BPP helps to satisfy Minimum Program Requirement 6: Must Commit to Sharing Whole-Building Energy and Water Usage Data.

BPP ANNUAL PERFORMANCE REPORT

BECOMING A PARTNER

For detailed instructions on how to participate, download the free BPP Handbook at usgbc.org/bpp.

SPREADING THE WORD

USGBC is calling all students, volunteers, emerging professionals and chapter members who are interested in helping to advocate for the importance of tracking and benchmarking building performance. Performance advocates will interact with local building owners and managers, raising awareness of BPP and encouraging enrollment into the program. To get started, visit usgbc.org/bpp/advocates.

FOR MORE INFO ON BPP VISIT: WWW.USGBC.ORG/BPP

"BPP IS THE FOUNDATION OF USGBC'S COMMITMENT TO A MEANINGFUL DEMONSTRATION OF THE VALUE OF BUILDING AND OPERATING GREEN." - SCOT HORST, SENIOR VICE PRESIDENT OF LEED, USGBC

usgbc.org/BPP

THANK_{you}

for your attention

CONTACT



Lonny Blumenthal

lblumenthal@usgbc.org

(202) 742-3805

www.usgbc.org