DCSEU

DISTRICT OF COLUMBIA SUSTAINABLE ENERGY UTILITY

The DC Sustainable Energy Utility: Helping Developers Reap the Benefits of Energy Efficiency

DCBIA Luncheon

January 27, 2012

The DC Sustainable Energy Utility is a project of the Sustainable Energy Partnership under contract to the District Department of the Environment.

DISTRICT DEPARTMENT OF THE ENVIRONMENT

Government of the District of Columbia
Vincent C. Gray, Mayor

ONE CITY

TED TRABUE
Managing Director
DC SEU

KIMBERLY HENDERSON
Manager of Commercial & Industrial Programs
DC SEU

CLIFF MAJERSIK
Director of Market Transformation
DC SEU

What is the Sustainable Energy Utility?

DCSEU

- Clean & Affordable Energy Act (2008)
- Ratepayer funded; Privately operated

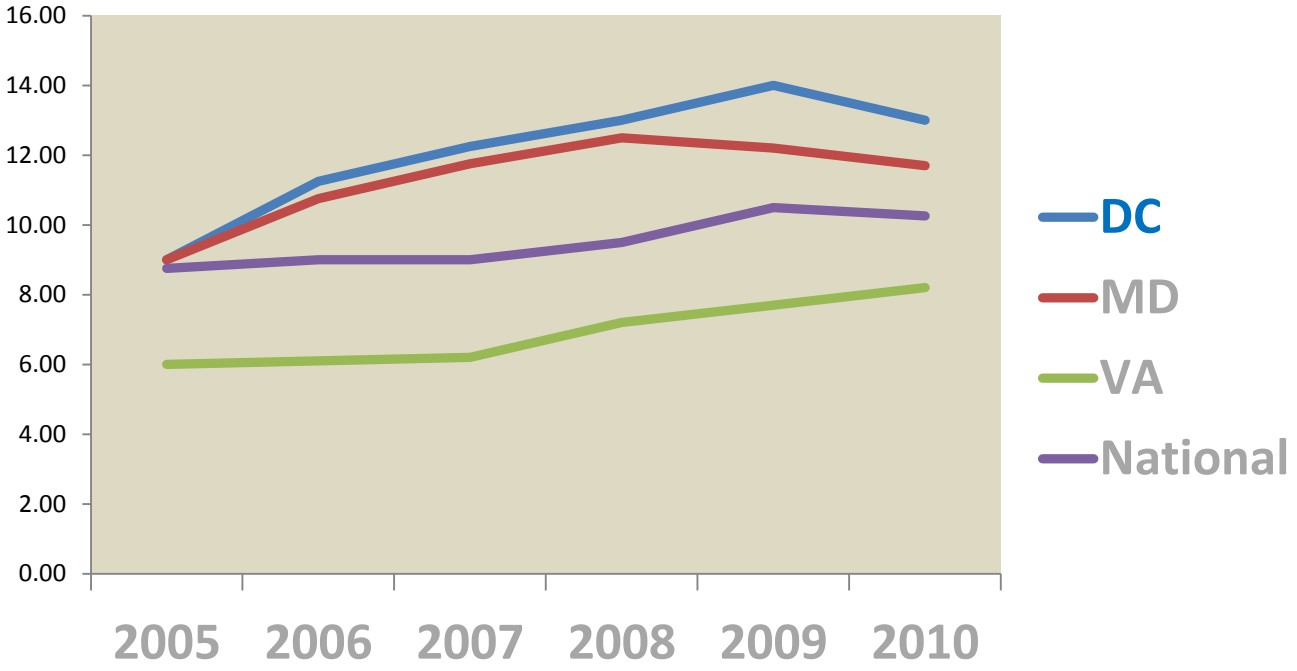
$7 million in FY-11
$15 million in FY-12
$17.5 million in FY-13
$20 million in FY-14

- Performance-based contract to DDOE
- Designed to help District households, businesses, and institutions **save energy and money** through **energy efficiency** and **renewable** energy programs.

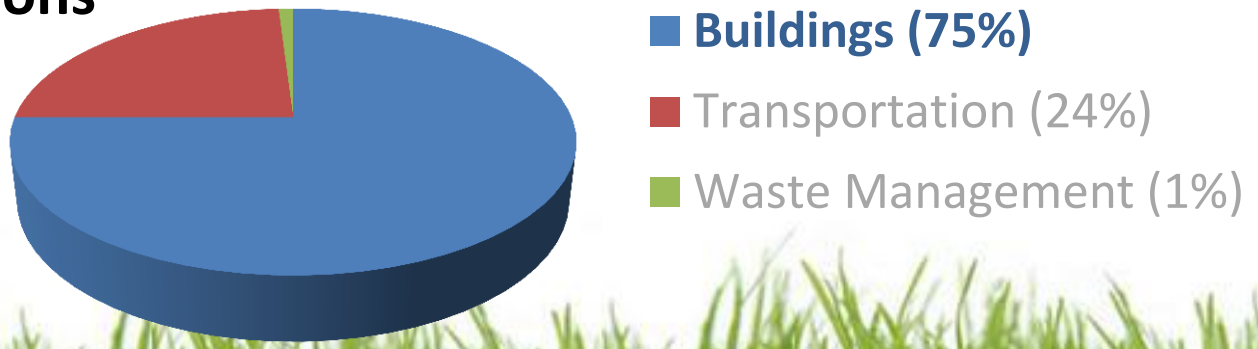
The Need for Building Efficiency

DCSEU

Commercial Electricity Prices



DC Greenhouse Gas Emissions



Sources: DC Greenhouse Gas Emissions Inventory for 2006 – green.dc.gov; EIA Energy Outlook Report 2010

Contract Goals of the SEU

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- Reduce **energy** use
- Reduce peak **demand**
- Increase **renewable** capacity
- **Jobs** for DC residents
- Create business for **CBE's**
- Spend 30% of funding on **low-income**

Who is the SEU?

DCSEU

VERMONT ENERGY INVESTMENT CORPORATION

IMT Institute for Market Transformation

LSC L. S. Caldwell & Associates, Inc.

PEER CONSULTANTS, P.C. Est. 1978

PES GROUP

SKYLINE INNOVATIONS

TAURUS DEVELOPMENT GROUP

weatherizeDC

GLN&A

- Sustainable Energy Partnership
- Office at 80 M St. SE
- 13 employees (will grow to ~25)

Source: dc.urbanturf.com

What Does the SEU do?

DCSEU

- **Unbiased technical advice**
- Make products more accessible
- Make retrofits easier
- Improve access to financing
- Contractor certification
- Incentives and rebates

- **What else helps YOU?**

FY-2011: the Beginning

DCSEU

Strategy: **Direct Installation and mini-retrofit projects**

Met or exceeded contract goals!

- **Low-Income Multifamily Direct Install**

  4,710 low-income multifamily residences served

- **Small Commercial Direct Install**

  745 small commercial and institutional facilities served

- **Single-Family Residential Retrofit**

  169 single-family homes served

FY-2012: New Programs, Same Goals

DCSEU

YEAR TWO GOALS

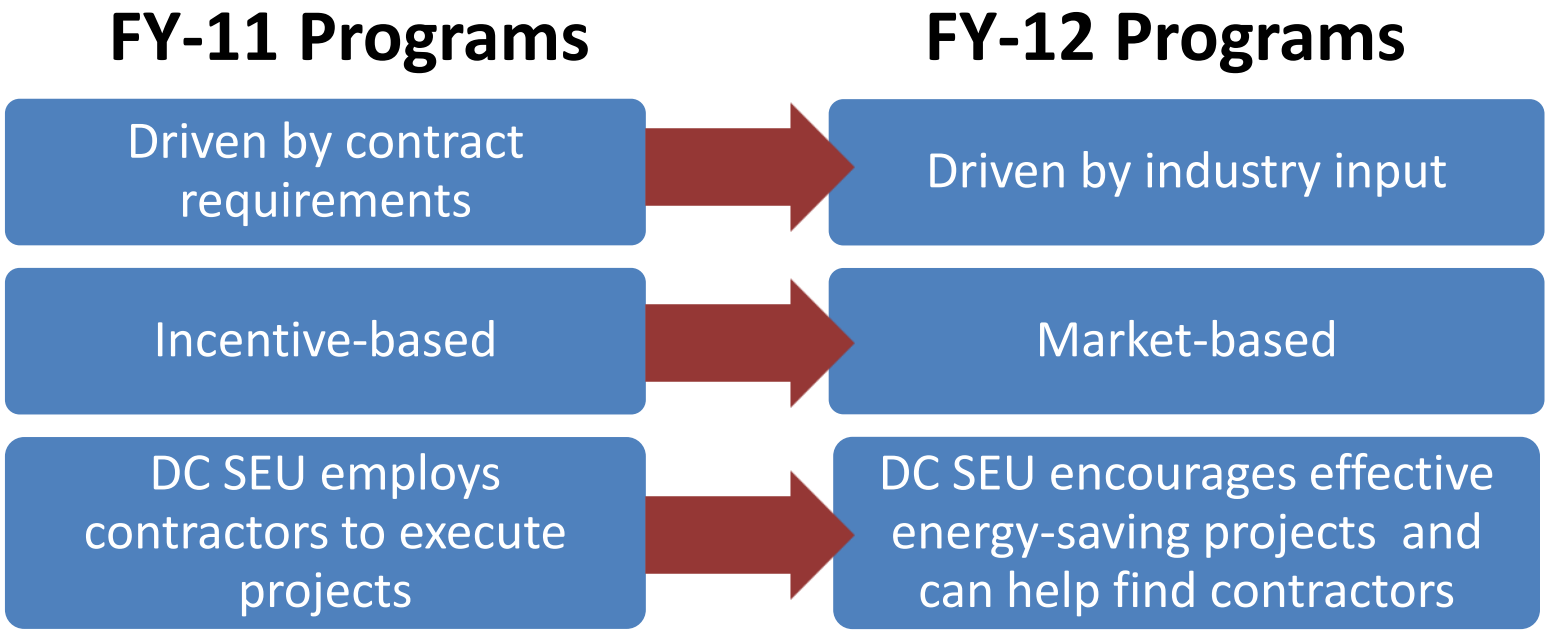
Strategy: **Support and develop the markets for energy efficiency**

Meet contract goals for energy savings and social equity

- Create green **jobs**
- Spending on **Certified Business Enterprises**
- **Renewable** energy programs
- Focus on DC's **largest energy users**
- Reduce the growth in **peak electric demand**
- Aggressive monitoring, quality assurance, and verification of savings claims

Transition into FY-12

DCSEU



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FY-2012 Eenrgy Savings Goals

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	Commercial & Institutional (C&I)	DC SEU Total
Mwh (electricity)	19,932	45,746
Mcf (gas)	57,925	73,656
“Green” Jobs	21	66

FY-2012 C&I Programs

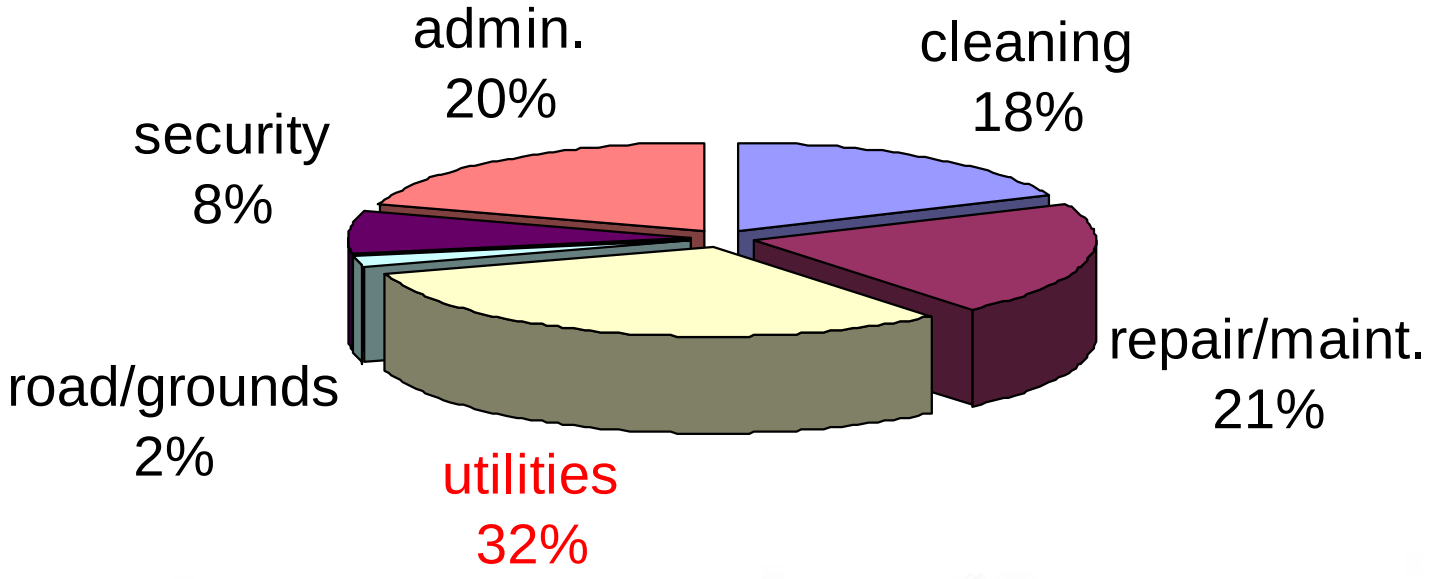
DCSEU

- Custom
  - Technical assistance
- Prescriptive
  - T-12 Replacement
- Market Rate Multifamily
- Small Commercial Direct Install

Energy is the largest operating cost for DC office buildings

DCSEU

Average Shares of Total Operating Cost, Downtown Washington Office Building



Source: 2005 BOMA Experience Exchange Report

Energy use in DC's C&I buildings

DCSEU

$800 million per year in electricity costs

70% of city-wide energy consumption

70% of city-wide natural gas consumption

38% of energy use in C&I is from lighting

Example: National Life Group

DCSEU

Project type: **Large commercial** (National headquarters)

Services: **Technical assistance** on lighting, heating, computer equipment, and other energy-saving projects

Savings: **More than 1.3 million kWh** and **$200,000 annually**

"Our partnership with Efficiency Vermont supports National Life's goal of reducing its electrical use by 15% over the next three years. Efficiency Vermont helps us find energy efficiency solutions that work with our business goals and provide long-term savings."

TIM SHEA
VICE PRESIDENT OF FACILITIES
NATIONAL LIFE GROUP

National Life Group®

Example: Georgia Market

Project type: **Small business**

Services: **Technical assistance** on energy-efficient lighting, air conditioning, refrigeration, and new construction plans.

Savings: **50% cost reduction** on electricity bills

"My experience with Efficiency Vermont was top of the line. We've done a lot, and everything presented to us totally made sense. We put in the most efficient equipment we could afford and I know it's going to pay off."

RAY BOUFFARD
OWNER, GEORGIA MARKET

Example: GE Aviation

DCSEU

Project type: **Large industrial** (Manufacturing plant)

Services: **Technical assistance** on comprehensive energy assessment, project planning, lighting and equipment replacement

Savings: **3.5 million kWh/yr** and **$1,000,000** to date

"GE Rutland just received our fourth consecutive eCO2 Award with special recognition. Efficiency Vermont's contribution to our energy efficiency program played a significant role in helping our site to achieve this award."

CHARLIE BARKER
FACILITY ENGINEER, GE AVIATION

GE Aviation

Example: UDC Campus

DCSEU

Project type: **Large commercial**
(Educational facilities)

Services: **Technical assistance**
on comprehensive energy planning, lighting and equipment upgrades

Savings: TBD

*"The **technical assistance** provided by the **DC SEU** has **helped tremendously** by introducing the University to new products and technologies. By expanding the number and quality of choices found in the market, the University can **maximize its capital investments** through the inclusion of higher performing equipment and building systems"*

HOWARD WAYS
DIRECTOR OF PLANNING & SUSTAINABILITY
UNIVERSITY OF THE DISTRICT OF COLUMBIA

UNIVERSITY OF THE DISTRICT OF COLUMBIA 1851

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Market Transformation initiatives

DCSEU

- **Green Leasing**
- **Benchmarking and disclosure**
- Education and assistance to appraisers
- Building energy codes
- Sustainability recognition program

Green (*Energy-Aligned*) Leasing

- **Free technical resources**
  - Reduce split incentive
  - Cost-recovery
  - Cost-sharing
  - Industry best practices
  - Lease language/templates
  - Resources for owners, tenants, brokers, & lawyers
  - www.imt.org/green-leasing

Source: www.whatisall.com

For leasing help contact…

DCSEU

Adam Sledd
adam@imt.org
202-525-7005

Rating and Disclosure: A Familiar Concept

DCSEU

THE WALL STREET JOURNAL.

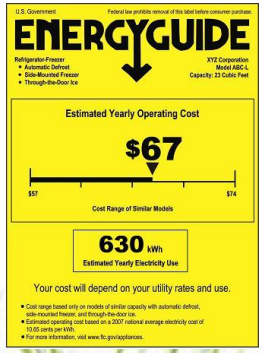
Menu Labeling to Go National, Thanks to Health Bill's Passage

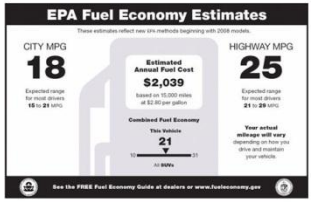
The New York Times

Calorie Data to be Posted at Most Chains

AP

US Law to Make Calorie Counts Hard to Ignore



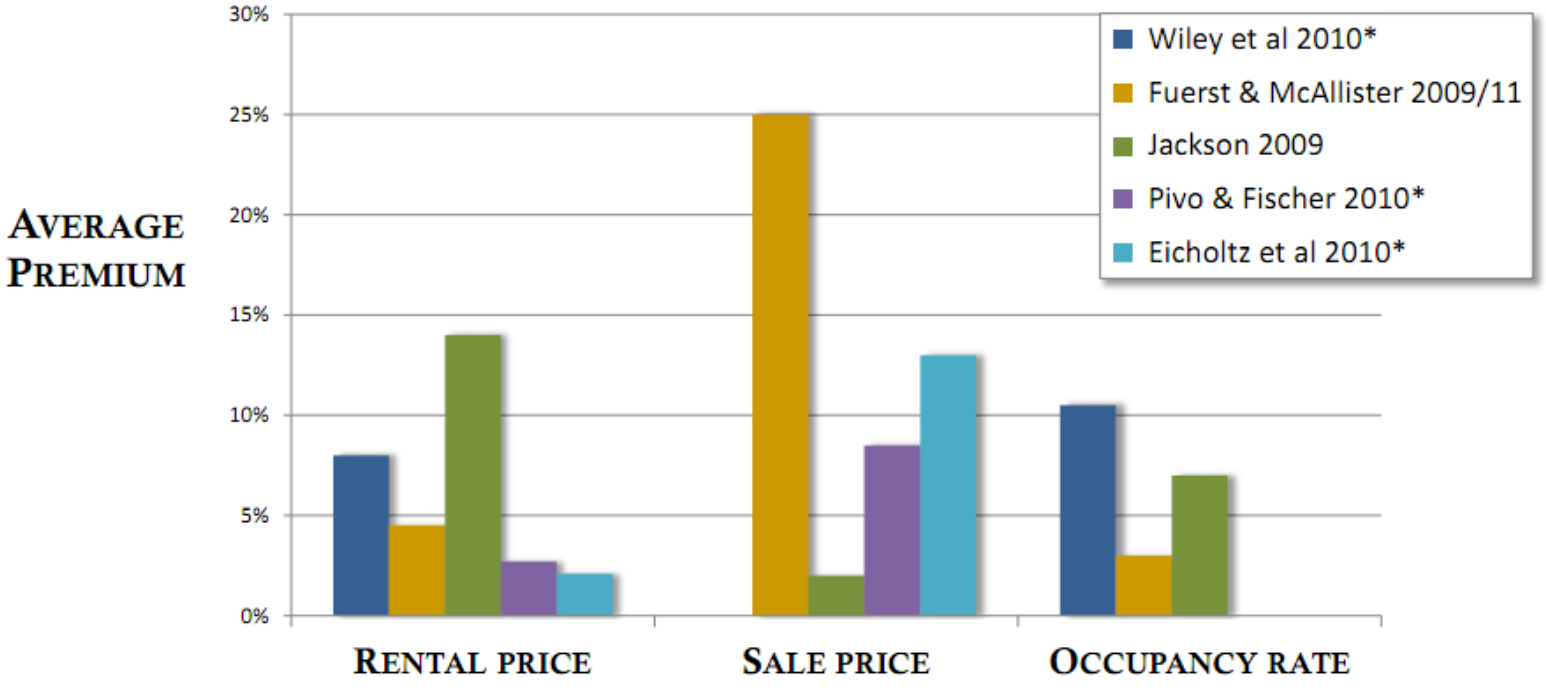


Benchmarking and Disclosure

Energy Efficiency & Property Value

DCSEU

Added Value of ENERGY STAR-Labeled Commercial Buildings in the U.S. Market



© Institute for Market Transformation, 2011.

*These studies only tracked two of the listed indicators.

All studies controlled for multiple factors, including building size and location.

For more information, please contact David Leipziger at david@imt.org.

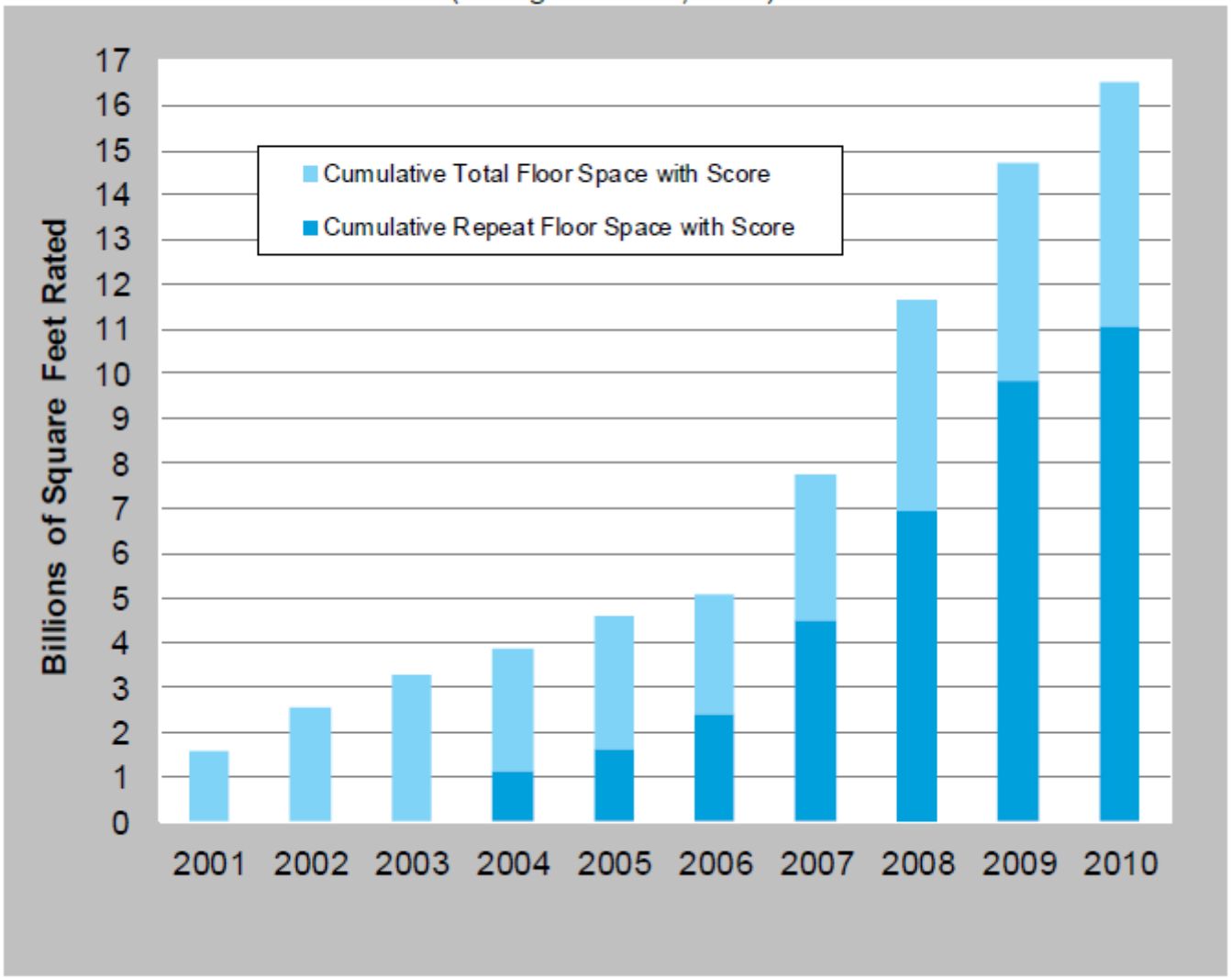
IMT Institute for Market Transformation

BuildingRating.org

DCSEU

Buildings Receiving an ENERGY STAR Score

(through June 30, 2010)



The DC Market

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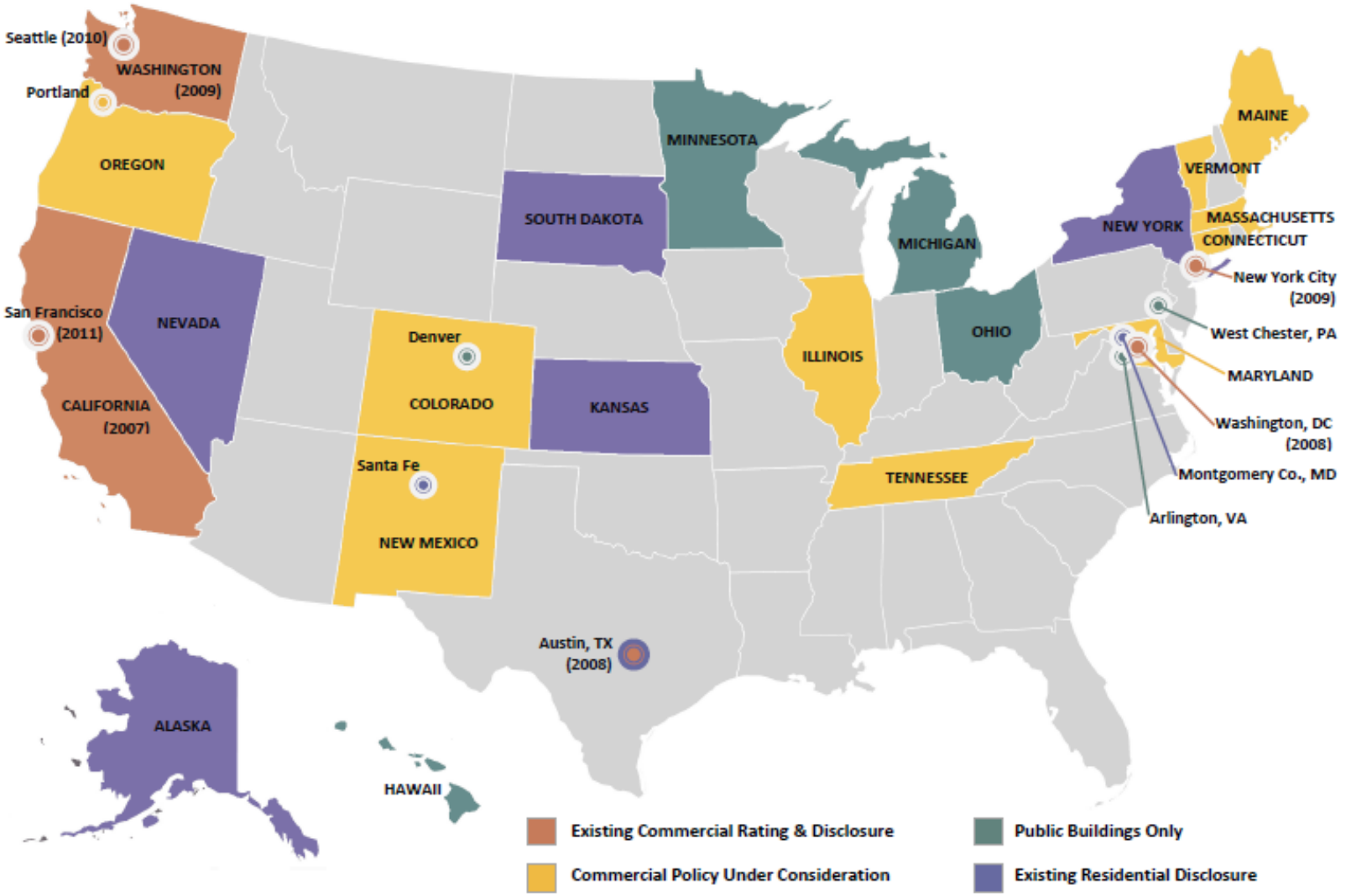
1,600 buildings subject to benchmarking law

#1 Certified LEED buildings per capita

#1 Certified ENERGY STAR buildings per capita

Benchmarking Legislation

DCSEU



DC Benchmarking Law

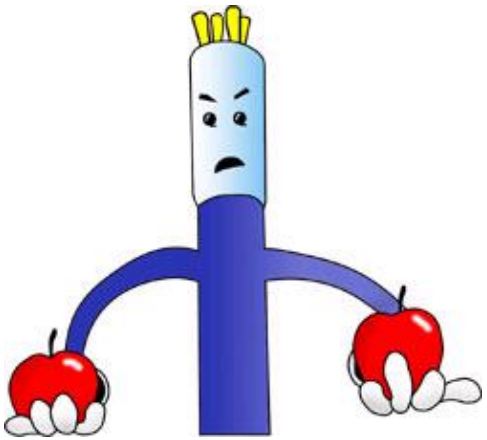
DCSEU

Clean & Affordable Energy Act (CAEA) 2008

- **New projects to use Energy Star Target Finder tool**
  - 10,000+ square feet
  - Renovation which costs ≥ 50% of value
- **Large buildings to annually report efficiency score using Energy Star Portfolio Manager**
  - Public buildings 10,000+ square feet
  - Private buildings 50,000+ square feet
- **Annual disclosure to DDOE**
  - Posted to public website in second year of reporting

Benchmarking

DCSEU



OMB No. 2060-0347

ENERGY STAR

STATEMENT OF ENERGY PERFORMANCE
Office Sample Facility

Building ID: 1678984
For 12-month Period Ending: May 31, 2009[1]
Date SEP becomes ineligible: September 28, 2009
Date SEP Generated: August 27, 2009

Facility	**Facility Owner**	**Primary Contact for this Facility**
Office Sample Facility 1234 Main Street Charlotte, NC 28227	Sample Owner 1500 Test Avenue Charlotte, NC 28227 555-555-5555	Jane Smith 1500 Test Avenue Charlotte, NC 28227 555-555-5555 jsmith@jsmith.com

Year Built: 2000
Gross Floor Area (ft²): 53,232

Energy Performance Rating[2] (1-100) 85

Site Energy Use Summary[3]	
Electricity - Grid Purchase(kBtu)	2,288,770
Natural Gas (kBtu)[4]	1,162,996
Total Energy (kBtu)	3,451,766

Energy Intensity[5]	
Site (kBtu/ft²/yr)	65
Source (kBtu/ft²/yr)	166

Emissions (based on site energy use)	
Greenhouse Gas Emissions ($MtCO_2e$/year)	409

Electric Distribution Utility
Duke Energy Carolinas, LLC

National Average Comparison	
National Average Site EUI	102
National Average Source EUI	261
% Difference from National Average Source EUI	-36%
Building Type	Office

REGISTERED PROFESSIONAL ENGINEER
JOHN
DOE
#0000001
STATE OF VIRGINIA

Professional Engineer Stamp

Signature:

Based on the conditions observed at the time of my visit to this building, I certify that the information contained within this statement is accurate and in accordance with the PE Guide.

Meets Industry Standards[6] **for Indoor Environmental Conditions:**	
Ventilation for Acceptable Indoor Air Quality	Yes
Acceptable Thermal Environmental Conditions	Yes
Adequate Illumination	Yes

Professional Engineer
License Number: 0000203
State: NC
John Doe
33 Country Lane
Charlotte, NC 28227
555-555-7788

Notes:
1. Application for the ENERGY STAR must be submitted to EPA within 4 months of the Period Ending date. Award of the ENERGY STAR is not final until approval is received from EPA.
2. The EPA Energy Performance Rating is based on total source energy. A rating of 75 is the minimum to be eligible for the ENERGY STAR.
3. Values represent energy consumption, annualized to a 12 month period.
4. Natural Gas values in units of volume (e.g. cubic feet) are converted to kBtu with adjustments made for elevation based on Facility zip code.
5. Values represent energy intensity, annualized to a 12 month period.
6. Based on Meeting ASHRAE Standard 62 for ventilation for acceptable indoor air quality, ASHRAE Standard 55 for thermal comfort, and IESNA Lighting Handbook for lighting quality.

The government estimates the average time needed to fill out this form is 5 hours (includes the time for entering energy data, PE facility inspection, and obtaining the SEP) and welcomes suggestions for reducing this level of effort. Send comments (referencing OMB control number) to the Director, Collection Strategies Division, U.S. EPA (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460.

EPA Form 5900-16

Tracking Number: SEP20090827000107162

ENERGY STAR Benchmarking

DCSEU

- 1-100 efficiency score
- 75 or higher earns Energy Star label
- Apples-to-apples comparison
- Required data:

  -12 months of utility bills

  - Zip code

  - Space type

ENERGY STAR

www.energystar.gov

SEU support for the benchmarking law

- Quality Assurance
- Benchmarking training
- Benchmarking assistance

Source: www.detroitvelo.com

For benchmarking help contact…

DCSEU

Marshall Duer-Balkind

info.benchmark@dc.gov

202-525-7036

http://green.dc.gov/energybenchmarking

Implementation schedule

DCSEU

(Estimated) Rulemaking Schedule

- Second comment period in late winter
- DDOE anticipates regulations in March

(Estimated) Reporting Deadline Phase-In

Spring 2012

- Buildings 150k+ square feet report

April 1, 2013

- Buildings 100k+ square feet report

April 1, 2014, (and each April 1 thereafter)

- Buildings 50k+ square feet report

Upcoming Events

DCSEU

JAN

ENERGY STAR Portfolio Manager Training
Webinar: Office Buildings
Tuesday, January 31, 12:00-2:00 PM
http://energystar.webex.com

FEB

ENERGY STAR Portfolio Manager Training
Webinar: Multifamily Housing
Thursday, February 9, 12:00-1:30 PM
http://energystar.webex.com

Commercial Lighting Energy Efficient Replacement (CLEER) Program RFQ
Pre-bid information session
Thursday, February 16, 11:00–1:00 PM
L.S. Caldwell & Associates
5427 14th Street, N.W., Washington, D.C

MAR

Building Energy Summit
Downtown BID
Thursday March 15th
http://www.dcenergysummit.com
Ronald Reagan Building and International Trade Center

EPA/DDOE/DC SEU – sponsored training on using Portfolio Manager to comply with DC law
In-person Portfolio Manager Training
March 21, 9:00-12:30 AM
Location TBD

DCSEU

DISTRICT OF COLUMBIA SUSTAINABLE ENERGY UTILITY

80 M St. SE | 202-479-2222

Thanks!

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