The District of Columbia: A Policy Leader in Green Building, Energy Efficiency and Transparency

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December 2, 2011

A Familiar Concept

THE WALL STREET JOURNAL.

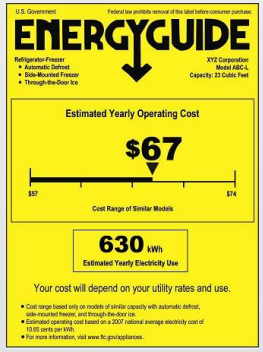
Menu Labeling to Go National, Thanks to Health Bill's Passage

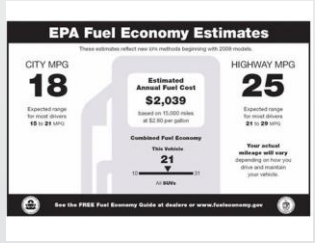
The New York Times

Calorie Data to be Posted at Most Chains

AP

US Law to Make Calorie Counts Hard to Ignore



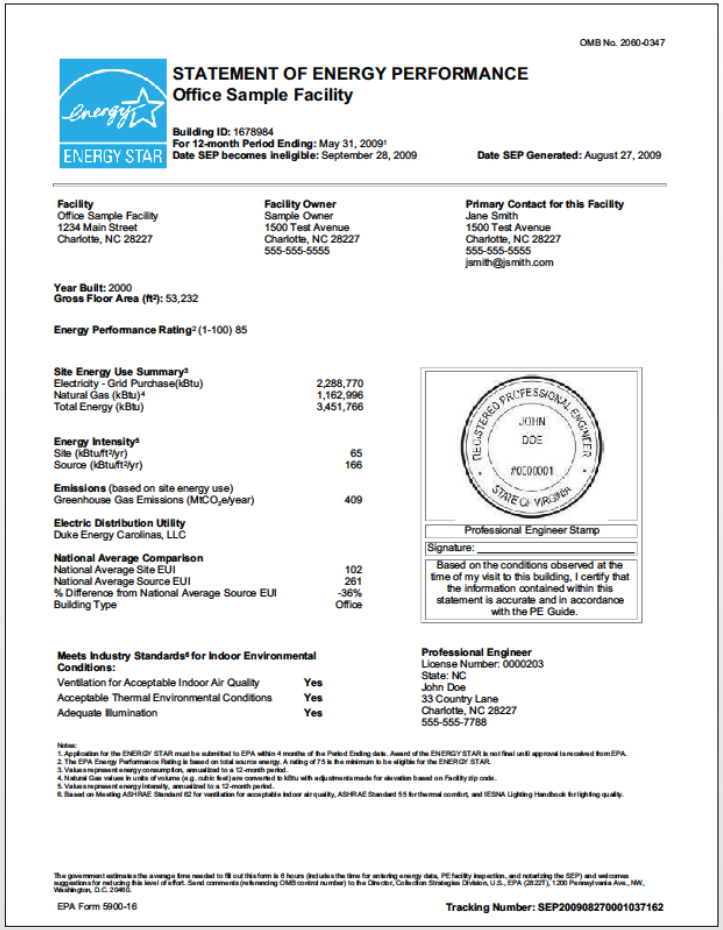


Building Energy Rating and Disclosure

IMT Institute for Market Transformation

Energy Star Benchmarking Overview

- **All major policies reference Energy Star Portfolio Manager**
  - Portfolio Manager is nation's most popular benchmarking tool
  - Levering billions of square feet of property that is already benchmarked
- **Provides simple analysis**
  - Facilities personnel input building info (size, address, operating hours, % of building heated and cooled, etc.) and utility bills
  - Software is free and available online
- **Generates "1" to "100" score**
  - "Apples to apples" comparison – software normalizes for climate zone and building characteristics
  - Score is relative based on efficiency of similar buildings nationwide from DOE data
  - Recognition for top achievers



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
Office Sample Facility
1234 Main Street
Charlotte, NC 28227

Facility Owner
Sample Owner
1500 Test Avenue
Charlotte, NC 28227
555-555-5555

Primary Contact for this Facility
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 6 hours (includes the time for entering energy data, PE facility inspection, and notarizing 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: SEP200908270001037162

Voluntary Energy Star Benchmarking

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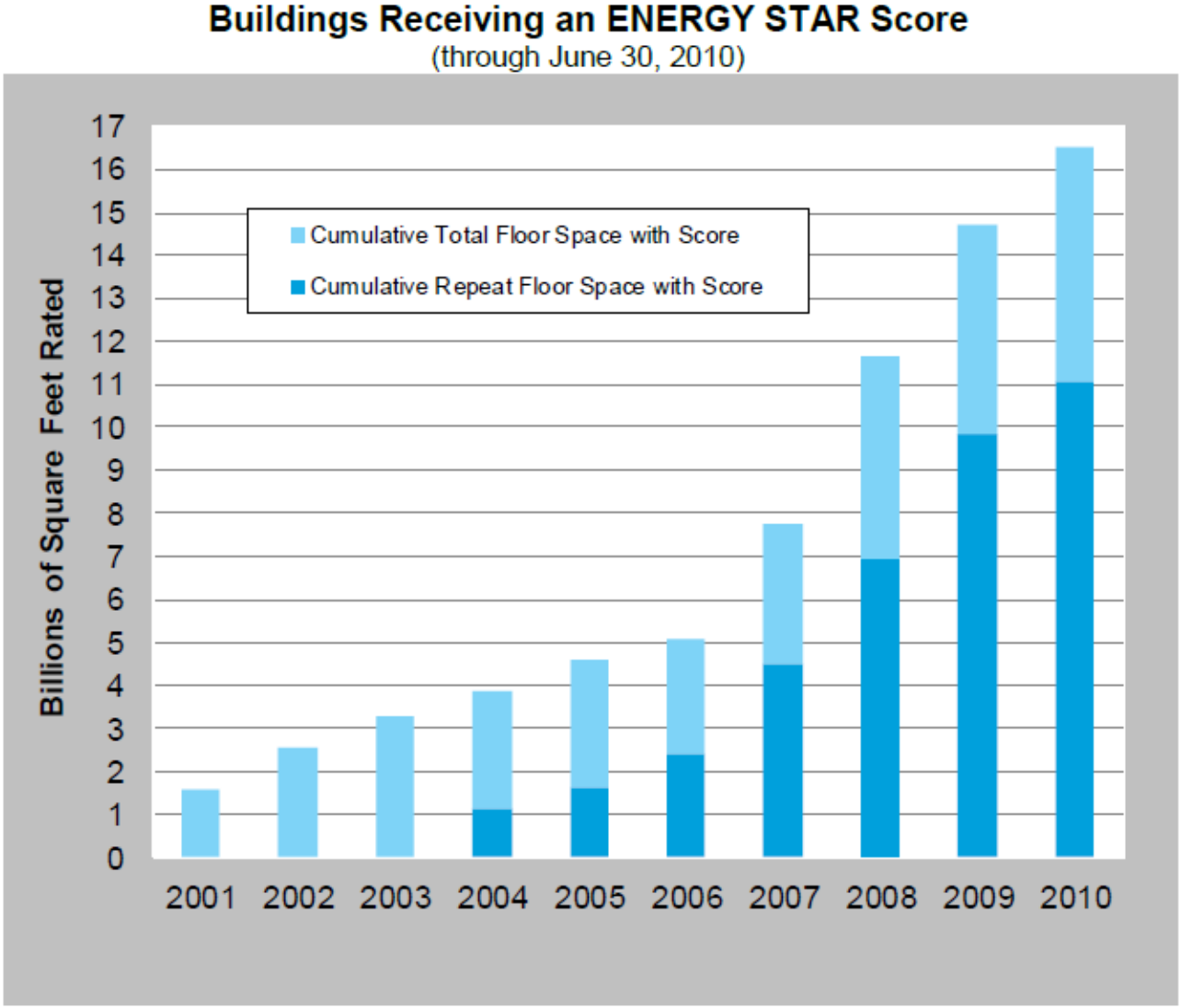
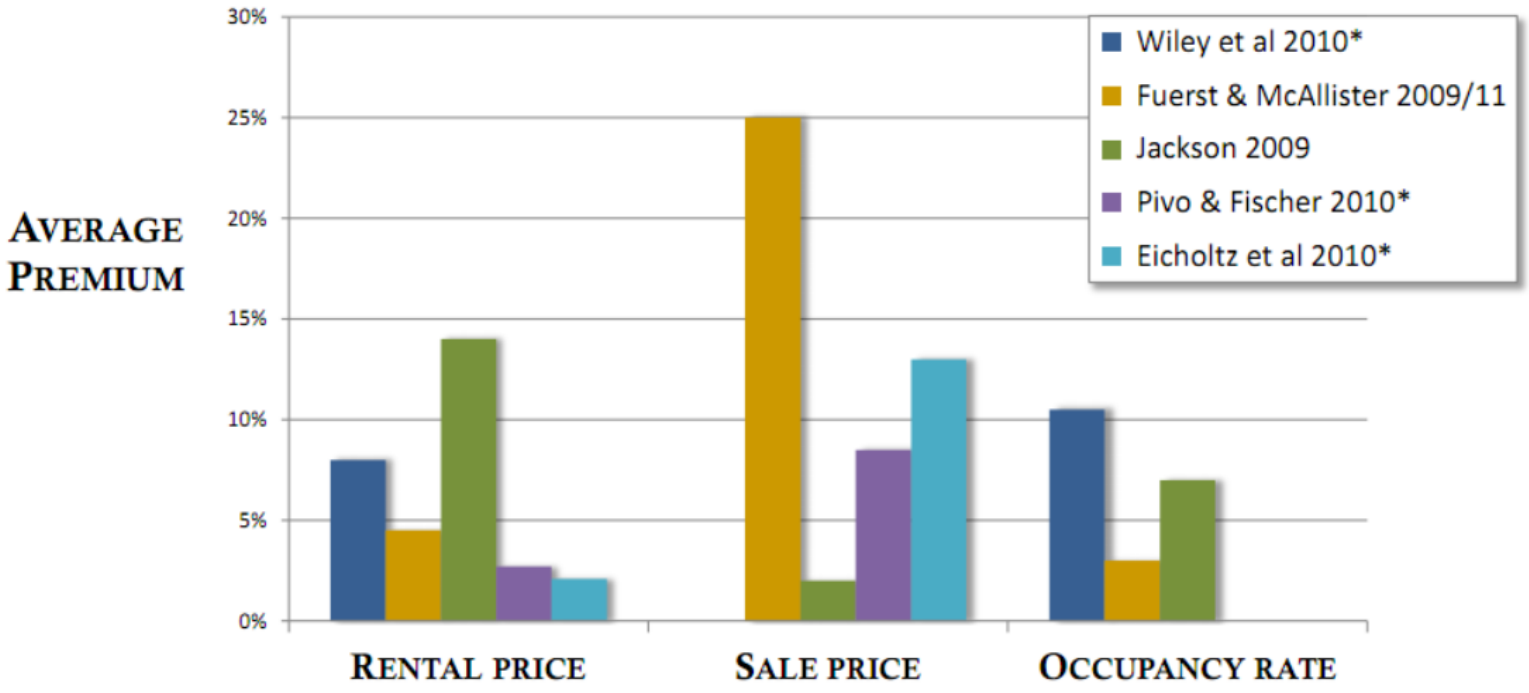


Energy Efficiency Profits Building Owners

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



*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.

Building Energy Rating and Disclosure Laws

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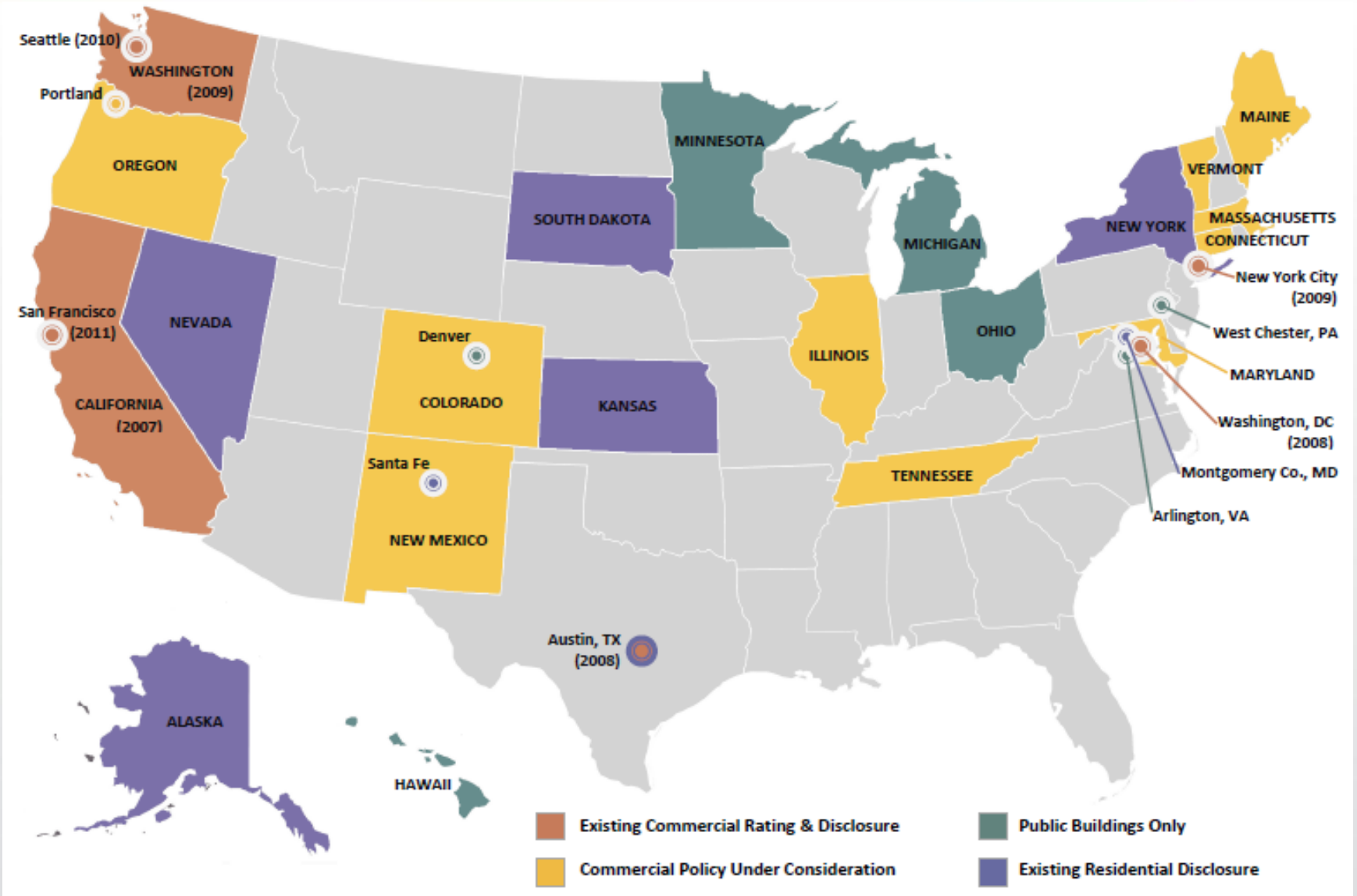

A Virtuous Cycle

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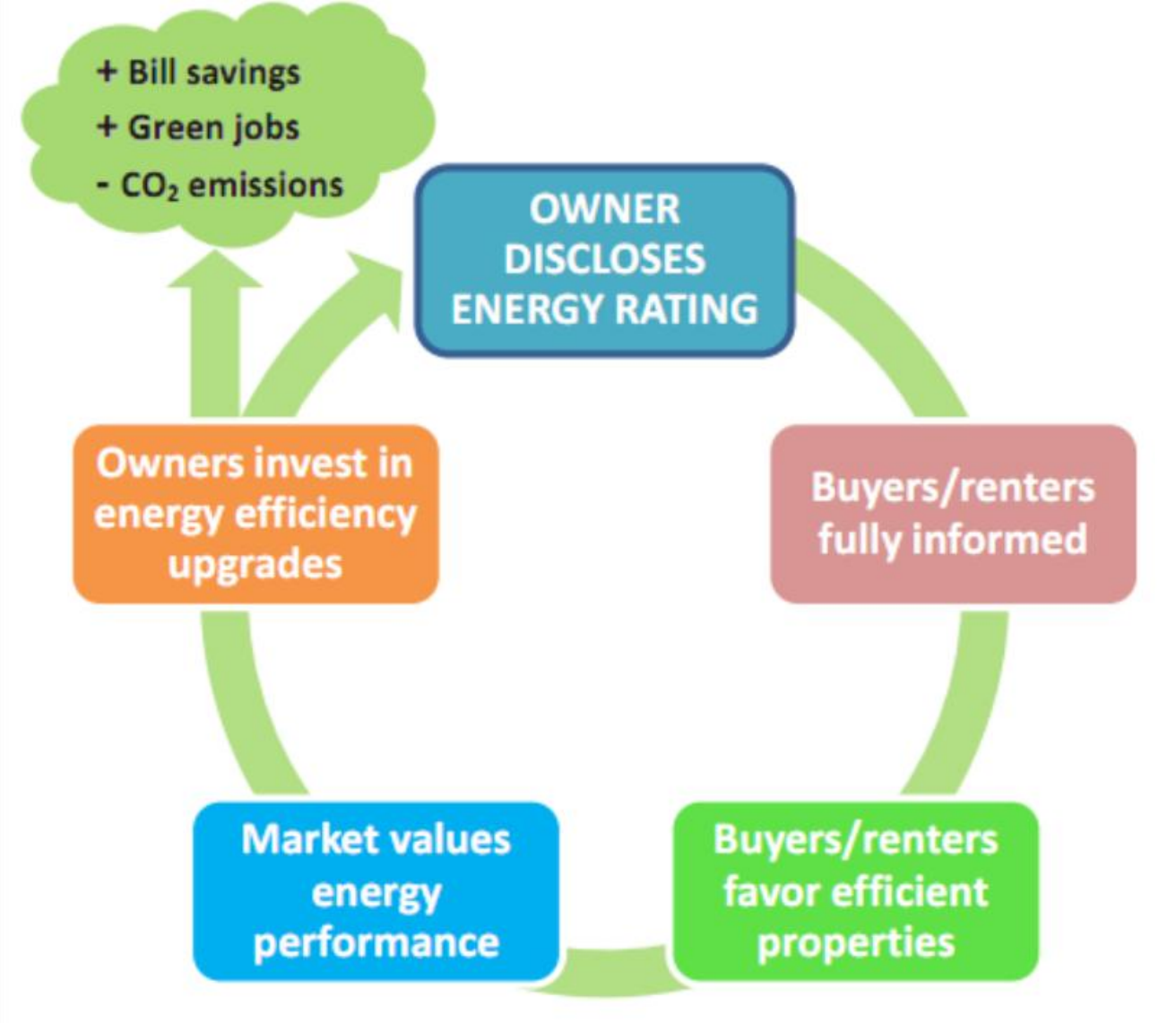

District of Columbia buildings profile

75% **Buildings produce ¾ of the District's greenhouse gas emissions.**

32% **Energy costs are the single largest operating cost for office buildings in downtown.**
Next largest is only 22% (Source: BOMA)

DC Leads with Trail Blazing Green Laws

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2006 **Green Building Act**

- Green Building Task Force
- LEED-certified new construction
- Green Communities certification for projects with public funds
- Greener building code

2008 **Clean and Affordable Energy Act (CAEA)**

- Benchmarking and Disclosure
- Sub-metering
- Efficiency and renewables
- Sustainable Energy Utility (SEU)

DCSEU
DISTRICT OF COLUMBIA SUSTAINABLE ENERGY UTILITY

sustainable.dc

CAEA Benchmarking and Disclosure

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Provisions:

Building energy benchmarking with Energy Star's Portfolio Manager (ESPM) online tool.

- *Publicly-owned and –operated ≥ 10,000 square feet*
- *Commercial and multifamily ≥ 50,000 square feet*

Annual disclosure to the District government.

- *DDOE will post scores on public website*
- *No financial or sensitive data is collected or made public*

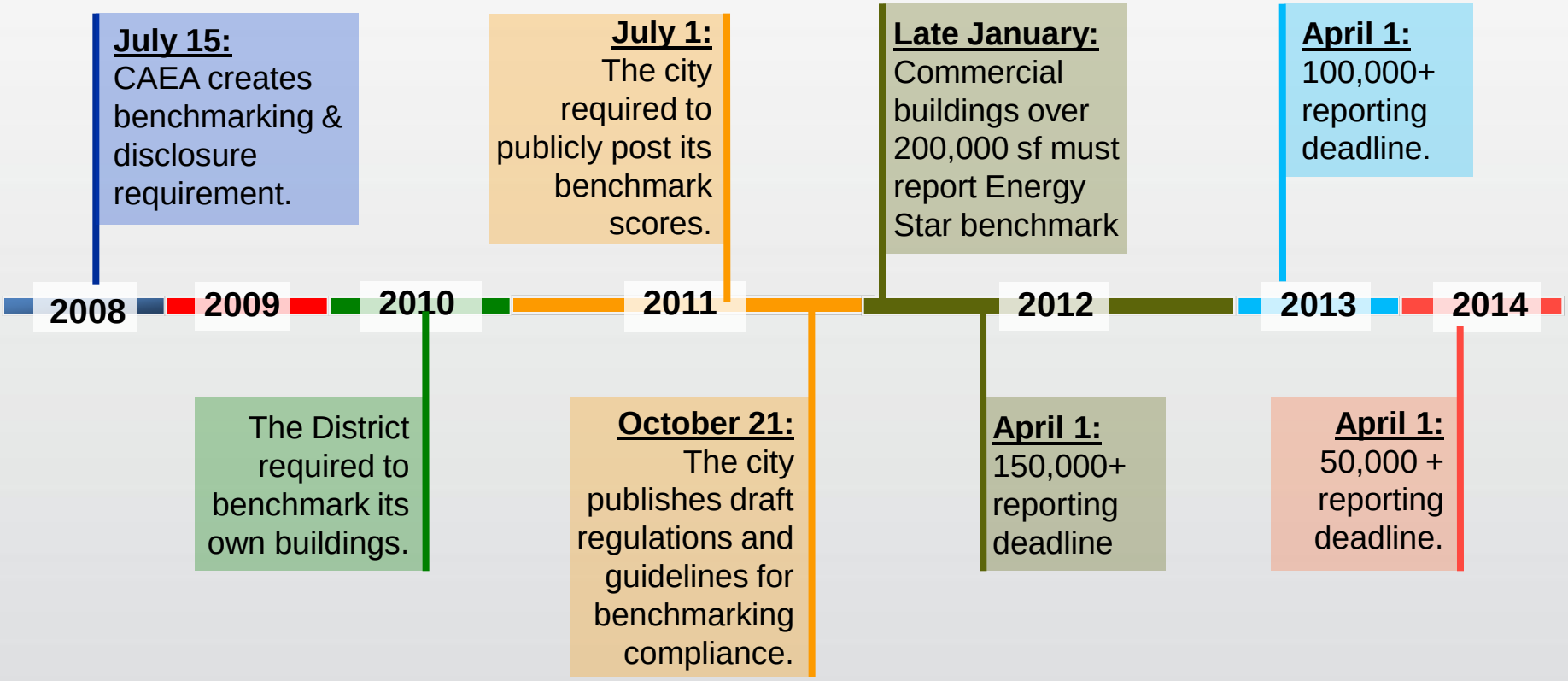
DISTRICT DEPARTMENT OF THE ENVIRONMENT *green forward*

Energy Star Target Finder scores for new construction and renovation.

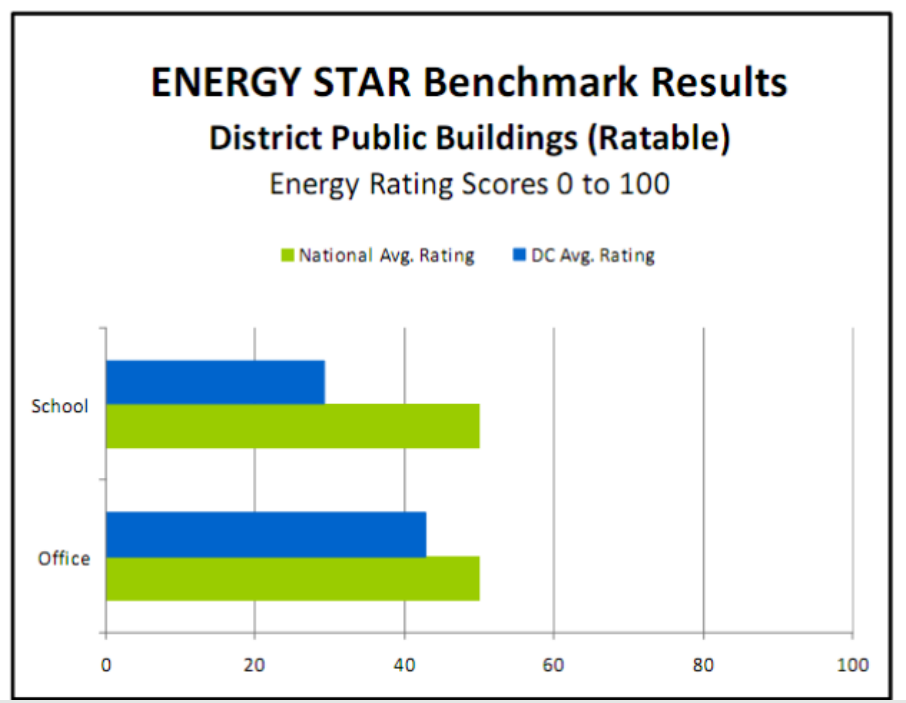
- *Which costs ≥ 50% of value*

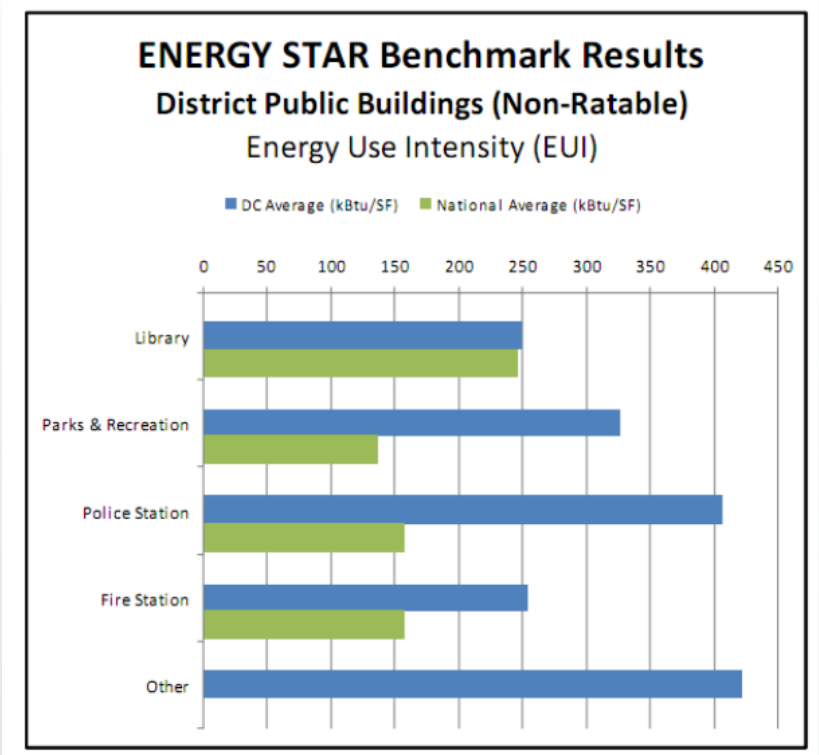
Policy Timeline

- CAEA laid out timeline for compliance.
- Regulations were late (still unfinished).
- Public sector leads by example.



DC Government Building Benchmarking Scores





DC Sustainable Energy Utility (SEU)

Efficiency and Economic Goals

- *Job creation milestones*

Budget

- *$15 million/year and growing*
- *Generated from utility surcharge*

Contract award

- *VEIC and local partners →*

Fiscal Year 2011 success

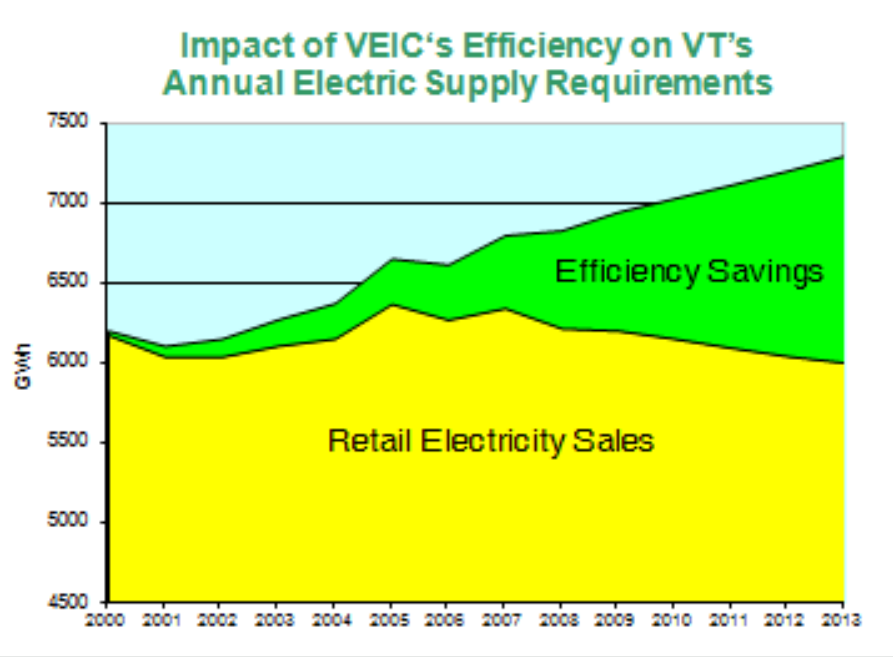
- *Exceeded every milestone (energy savings, jobs, retrofits, etc.)*

Role in codes

- *$1 spent on code enforcement yields $6 in savings*

Role in benchmarking

- *Quality Assurance (QA)*
- *Outreach*



DCSEU
DISTRICT OF COLUMBIA SUSTAINABLE ENERGY UTILITY

District of Columbia – A Success Story

IMT Institute for Market Transformation

75% **Buildings produce ¾ of the District's greenhouse gas emissions.**

32% **Energy costs are the single largest operating cost for office buildings in downtown.**
Next largest is only 22% (Source: BOMA)

1st **Most LEED-certifications per capita among U.S. cities**
Also 2nd in number (to Chicago, which is 5x's larger)

2nd **Second-highest ENERGY STAR certifications among U.S. metro areas**
Total of 301 (156 of which are in DC)

Thanks!

Questions?

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Utility Data

- **#1 barrier to benchmarking: Owners lack whole-building data access**
  - Getting monthly consumption data in some multi-tenant buildings is nearly impossible
  - Some utilities and state commissions are piloting solutions
    - Aggregated, whole-building data

- **Data Access and Transparency Alliance**
  - www.energydataalliance.org

- **National Association of Regulatory Utility Commissioners**
  - Resolution passed at summer meeting calling on state commissions to provide better data access to commercial owners and encourage benchmarking