The Energy Efficiency Landscape: Commercial and Multi-family Buildings

Exploratory Meeting: ANSI Energy Efficiency Standards Panel

April 25, 2012

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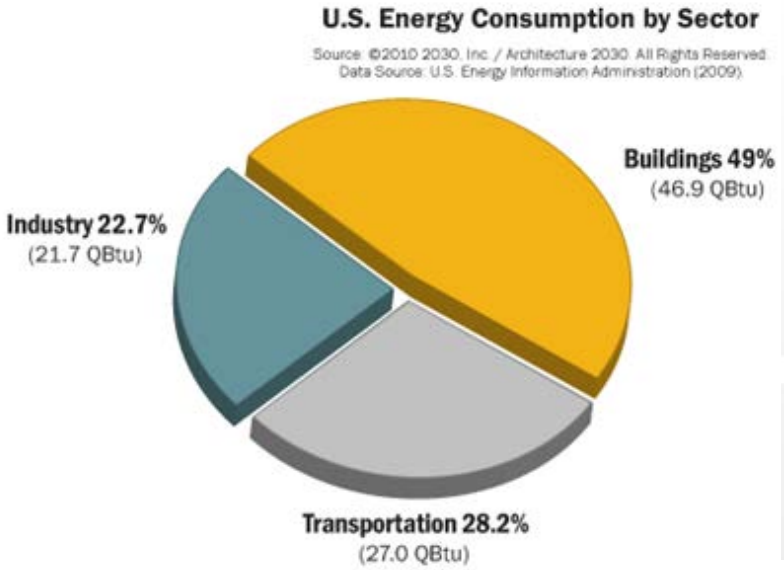
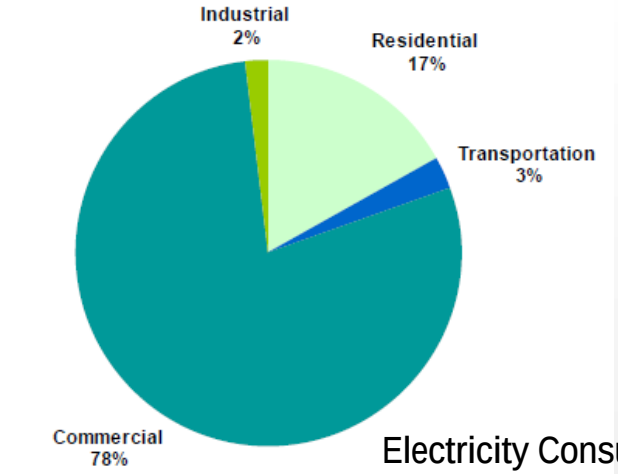
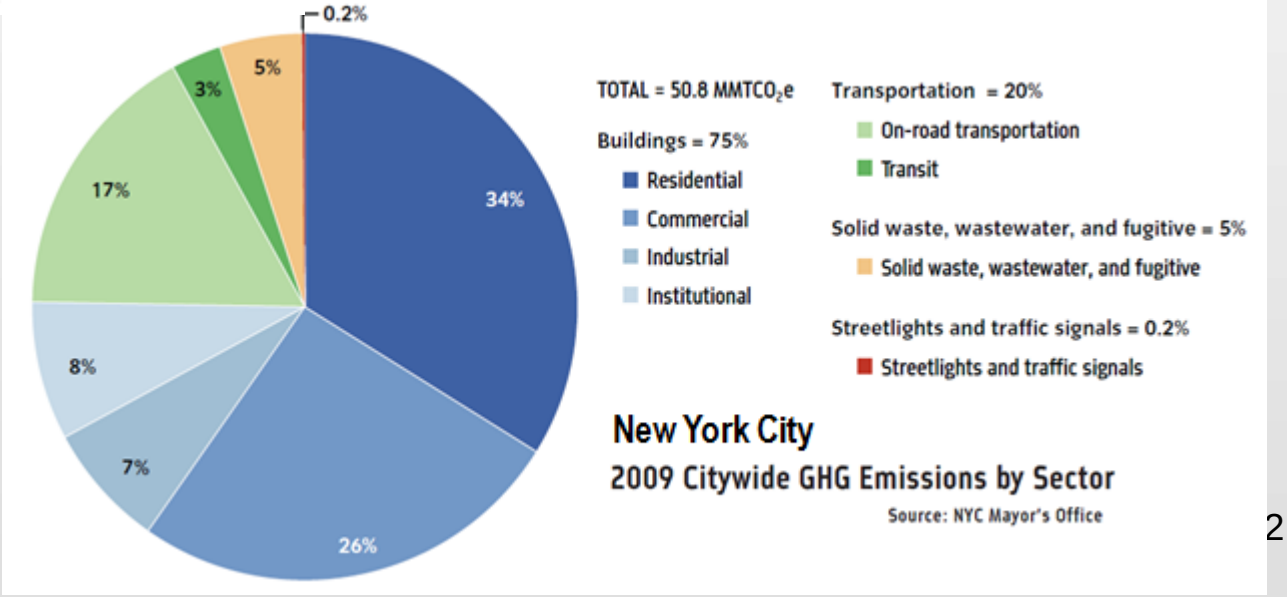
Impact of Buildings: Energy & Carbon



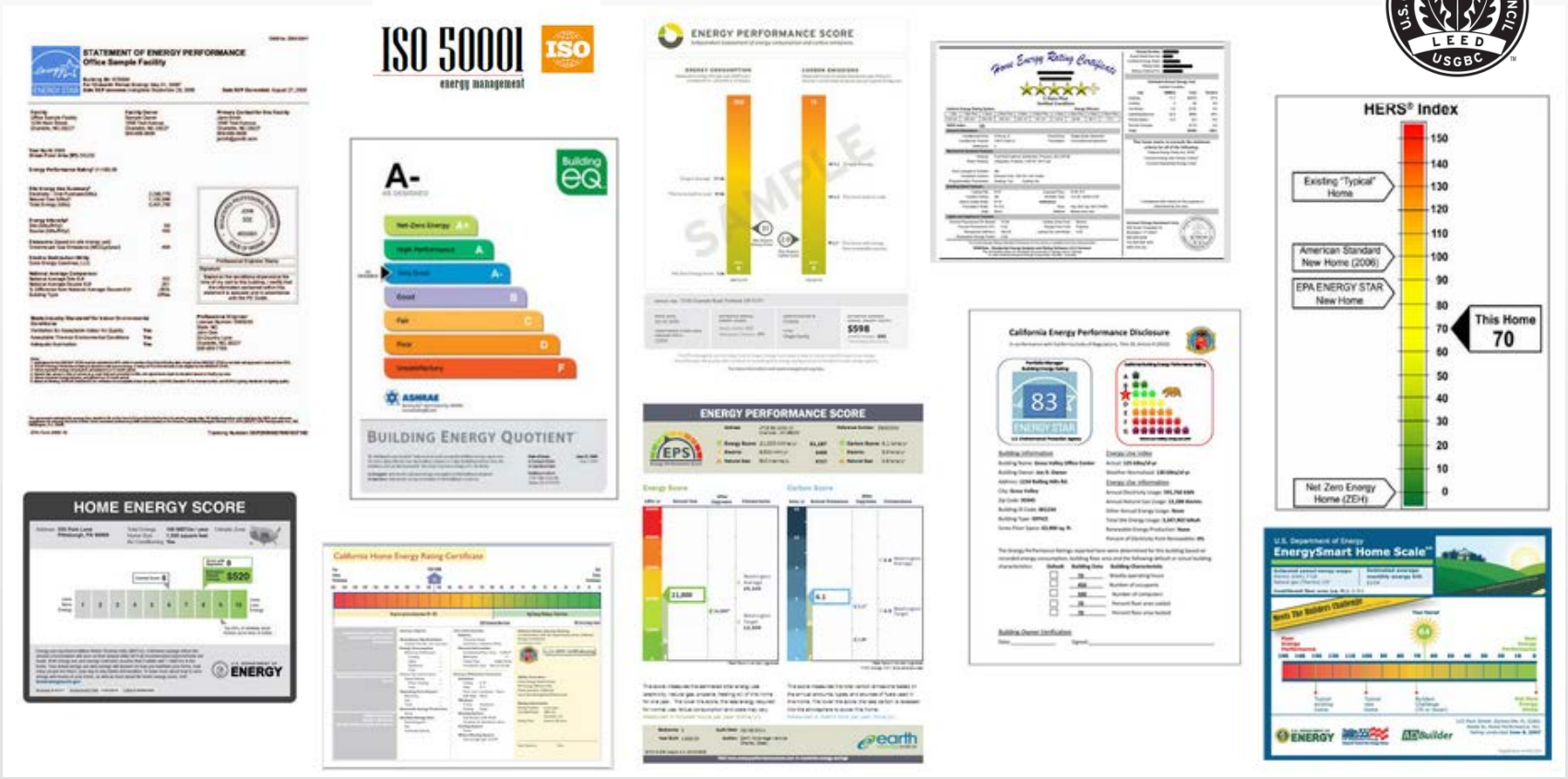


Electricity Consumption in DC



Rating & Disclosure

Rating and Disclosure: (ˈrā·ting ænd disˈklo·ʒər) **noun**.
"The practice of evaluating the relative energy efficiency of a home or building and making this information known to consumers."



A Familiar Concept

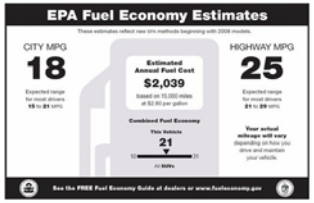
THE WALL STREET JOURNAL.

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

AP

The New York Times

Calorie Data to be Posted at Most Chains



Building Energy Rating and Disclosure

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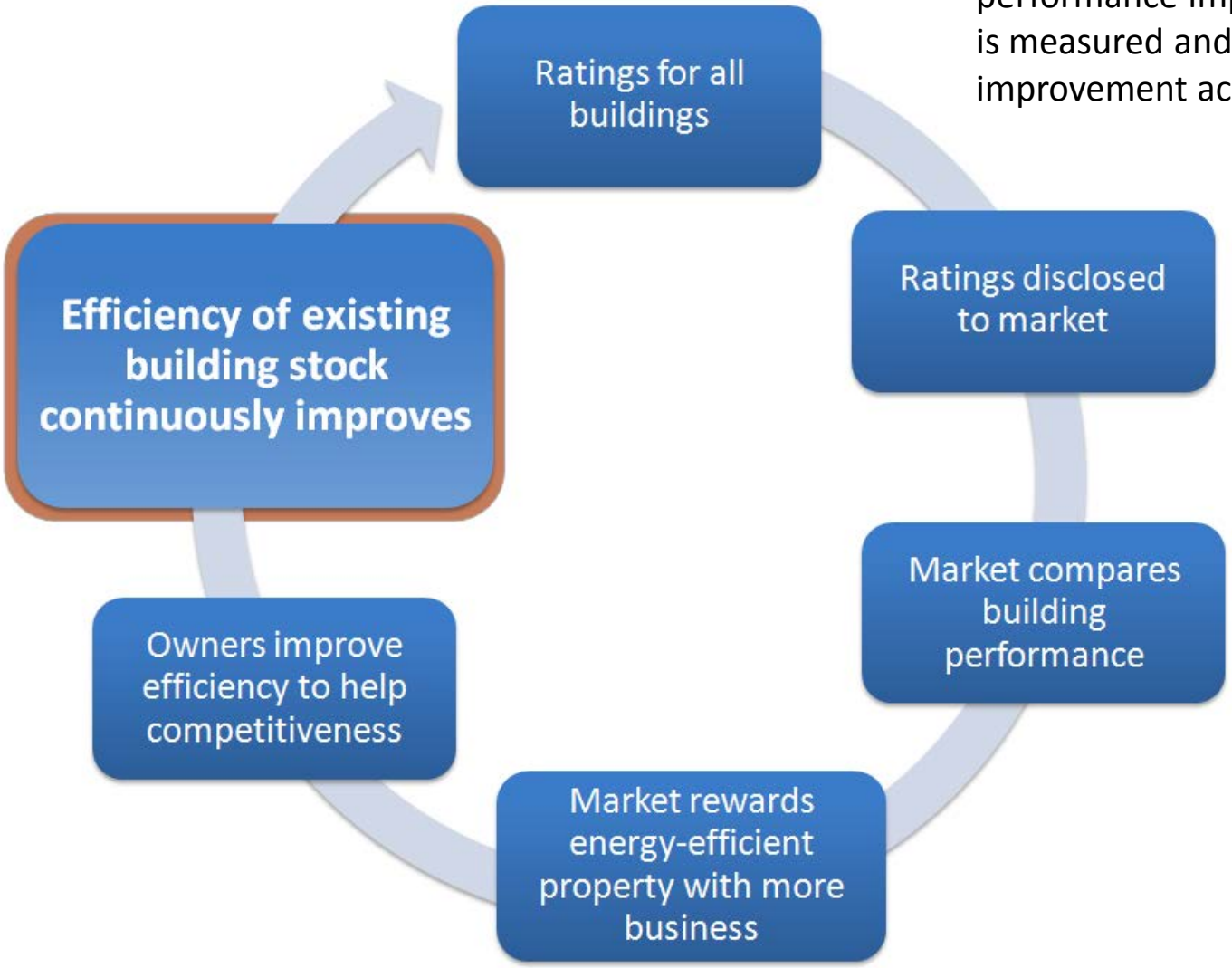
A Virtuous Cycle

When performance is measured, performance improves. When performance is measured and reported back, the rate of improvement accelerates.



One result: Exceptionally cost-effective peak load reductions

Rating Laws: International Timeline

1997: Denmark requires energy certification for homes and buildings

2004: Norway, part of the European Economic Area, formally agrees to implement the EPBD and building certification requirements

2007: Brazil adopts voluntary building rating regulations that become mandatory in 2012

2010: EPBD Recast
The EPBD is recast to strengthen the energy performance requirements for all EU Member States and to clarify and streamline provisions from the original Directive

1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012

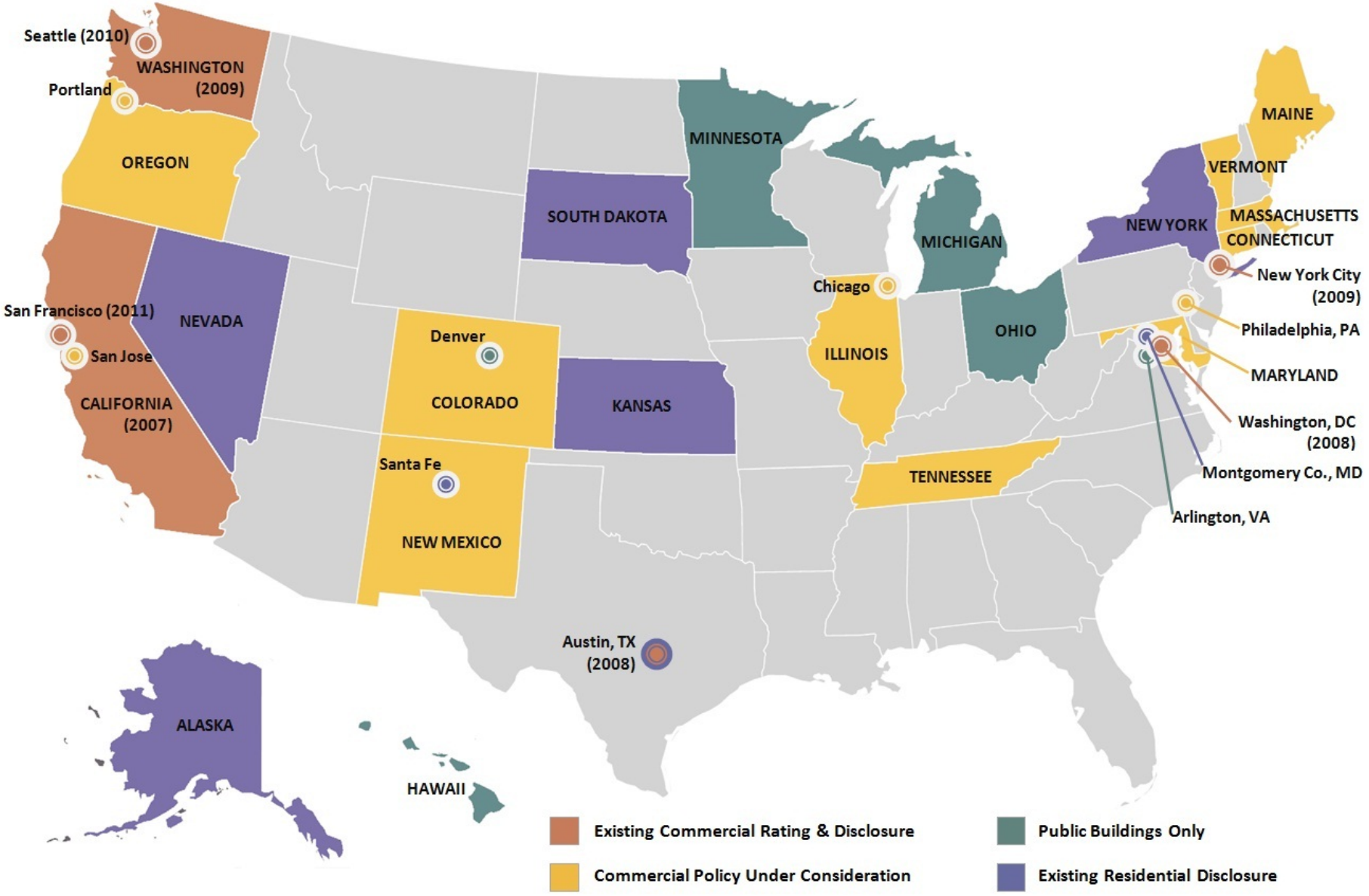
2002: Energy Performance of Buildings Directive (EPBD) EU Member States are required to establish mandatory energy certification schemes for all homes and buildings

2008: China adopts a mandatory energy rating program for government buildings.

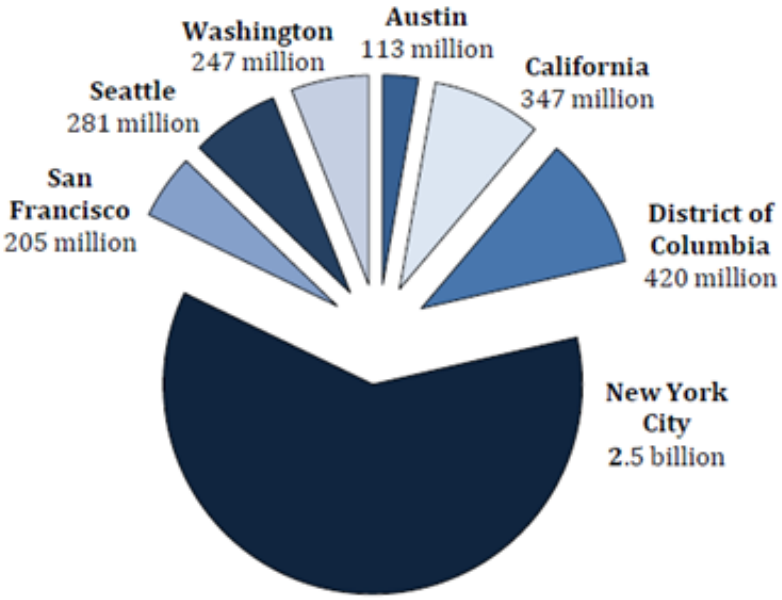
2008: Turkey adopts a mandatory certification scheme

2010: Australia passes the Building Energy Efficiency Disclosure Act requiring energy performance disclosure for commercial buildings at point of sale or lease

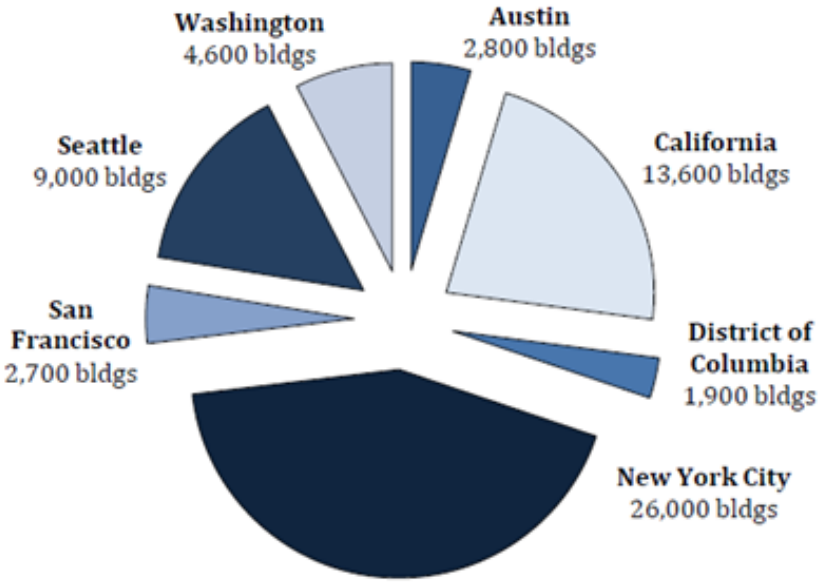
Policy Map


Seattle (2010)
WASHINGTON (2009)
Portland
OREGON
MINNESOTA
SOUTH DAKOTA
MAINE
VERMONT
NEW YORK
MASSACHUSETTS
CONNECTICUT
MICHIGAN
Chicago
New York City (2009)
San Francisco (2011)
NEVADA
OHIO
Philadelphia, PA
ILLINOIS
Denver
San Jose
MARYLAND
CALIFORNIA (2007)
COLORADO
KANSAS
Washington, DC (2008)
Santa Fe
TENNESSEE
Montgomery Co., MD
Arlington, VA
NEW MEXICO
Austin, TX (2008)
ALASKA
HAWAII
Existing Commercial Rating & Disclosure
Public Buildings Only
Commercial Policy Under Consideration
Existing Residential Disclosure

Policy Impact Projections



Annual Policy Impact Projection on Building Area (in Square Feet) by Jurisdiction



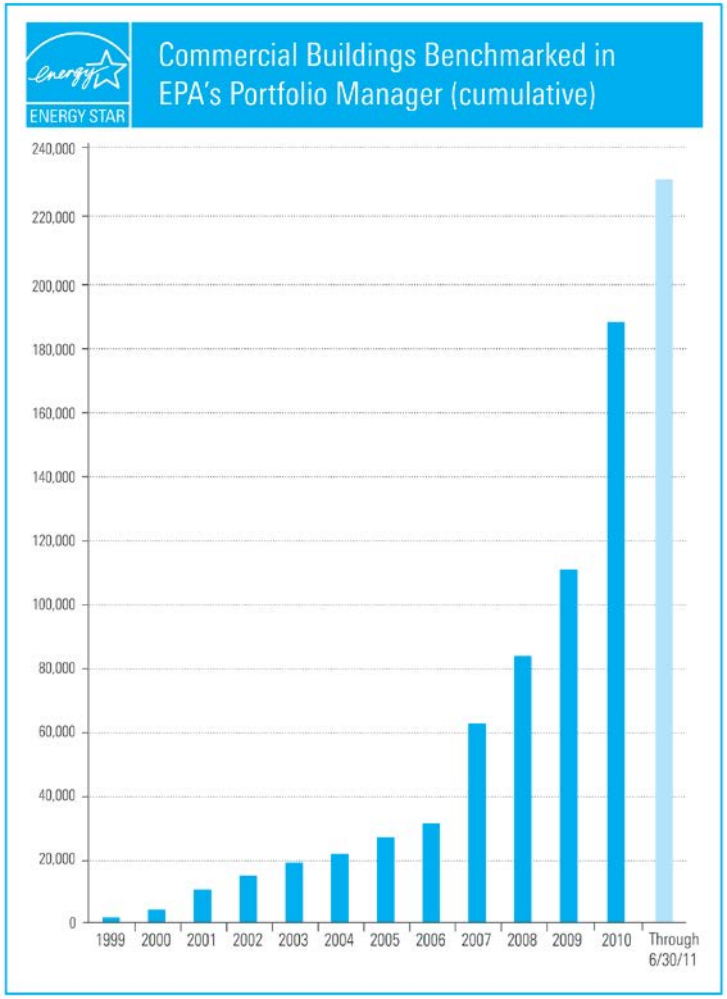
Annual Policy Impact Projection on Number of Buildings by Jurisdiction

- Approximately 4 billion square feet
- More than 3x the floor area of every Walmart, Target, Home Depot, Barnes & Noble and Costco store in America

Why ENERGY STAR Portfolio Manager?

Nearly 270,000 buildings benchmarked in Portfolio Manager

- Economies of scale; already widely used among building owners for energy tracking
- Free, readily available online, relatively easy to use
- Delivers energy performance metrics based on utility data
- Supported by the EPA
  - Trainings and materials, as well as direct support
  - Automated Benchmarking System
  - Customized reporting forms for jurisdictions with mandates



Energy Star Buildings Command Market Premiums

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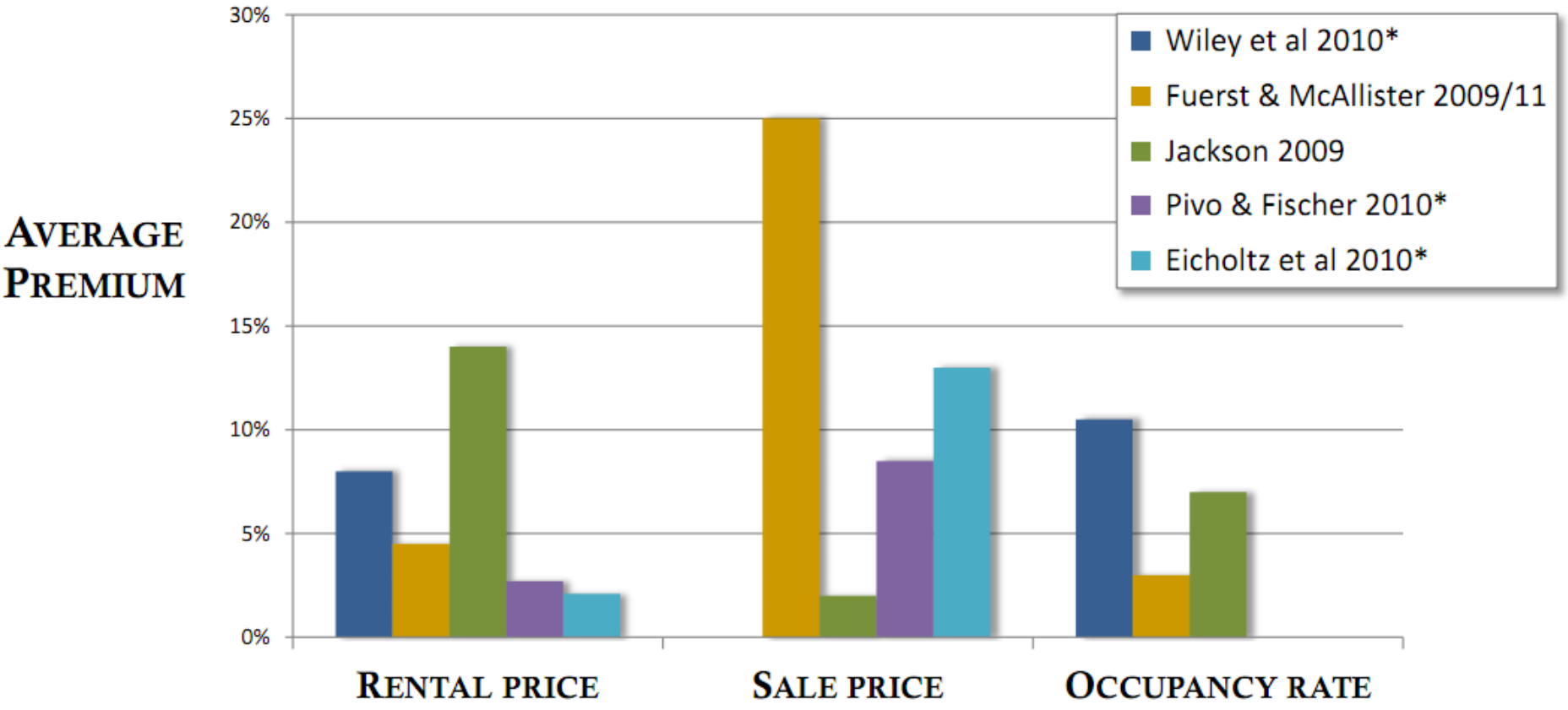
ENERGY STAR

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



Building Energy Efficiency Professionals

www.imt.org/credentialing

Commercial Building Training Programs

- Operating Engineer (**11 known programs**)
- Facility Manager (**5**)
- Energy Modeler (**11**)
- Energy Manager (**17**)
- Commissioning/Retro-commissioning (**16**)
- Energy Auditor (**7**)

www.imt.org/credentialing

Commercial Building Professional Certifications

- Operating Engineer (**1 known program**)
- Facility Manager (**2**)
- Energy Modeler (**2**)
- Energy Manager (**5**)
- Commissioning/Retro-commissioning (**11**)
- Energy Auditor (**5**)
- Energy Assessor (**3**)
- Multifamily Energy Assessor (**1**)
- HVAC Technician (**10**)

www.imt.org/credentialing

Commercial Building Certification Programs

US DOE recently led development of draft baselines (job/task analyses) for:

- Commercial Building Energy Auditor
- Commercial Building Energy Modeler
- Commissioning/Retro-Commissioning Authority
- Energy/Sustainability Manager
- Facility Manager
- Operating Engineer/Building Technician

www1.eere.energy.gov/buildings/commercial_initiative/workforce_task.html

Building EE SDOs and Forums: A Crowded Field

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