National Policy Landscape: Energy Benchmarking and Disclosure in U.S. Cities

Local Government Energy Networking Quarterly Meeting
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IMT Institute for Market Transformation

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Institute for Market Transformation

- National best practices center for the design, adoption and implementation of building energy performance policies in cities.
- Policy advisor to state and local governments, federal agencies, the Administration, and industry groups
- Hands-on experience assisting cities in preparation and execution of policies (close partners with NYC and DC)
- Serves as the U.S. hub for the Global Buildings Performance Network, an international best practices network for building energy efficiency, and DATA Alliance, partnership with large building owners

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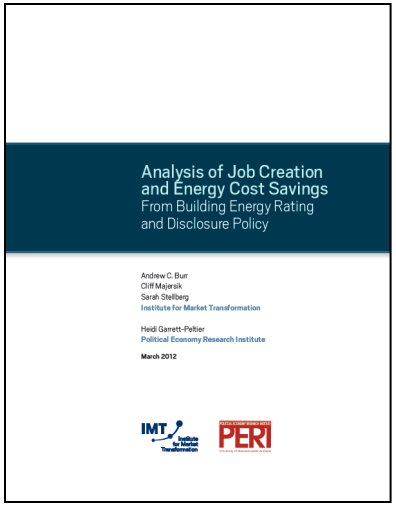
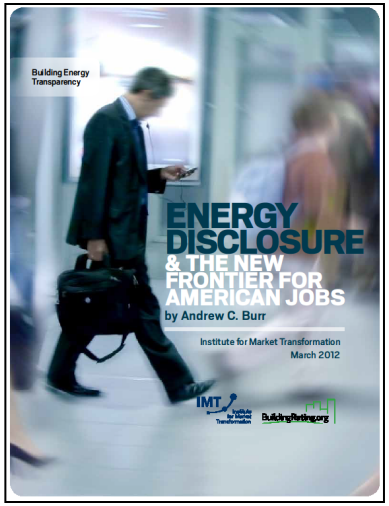
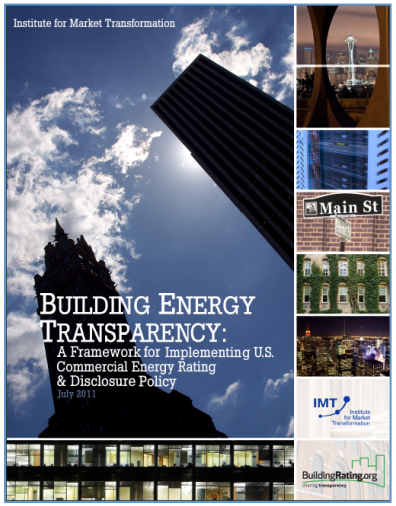
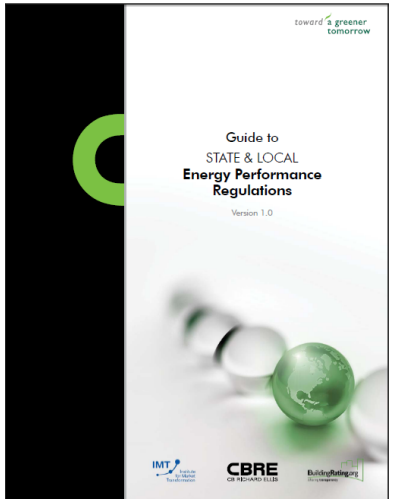


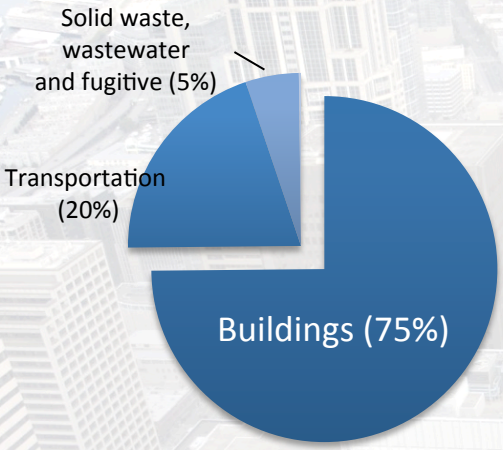




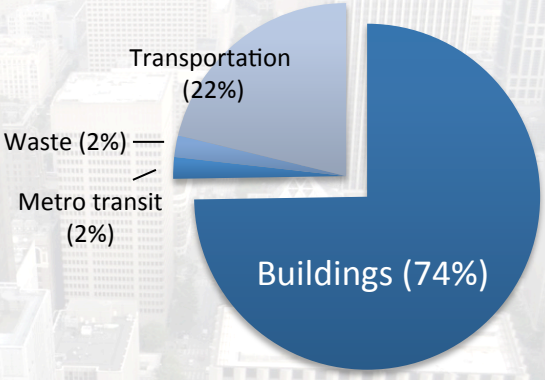


Greenhouse Gas Emissions in Major Cities

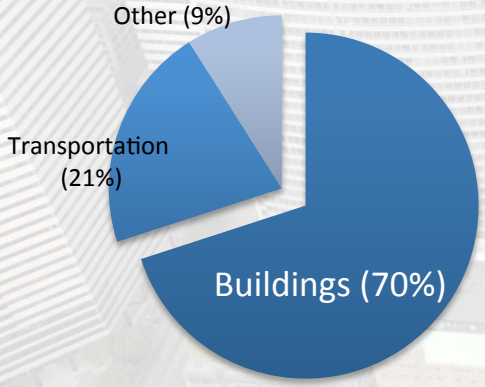
NEW YORK CITY



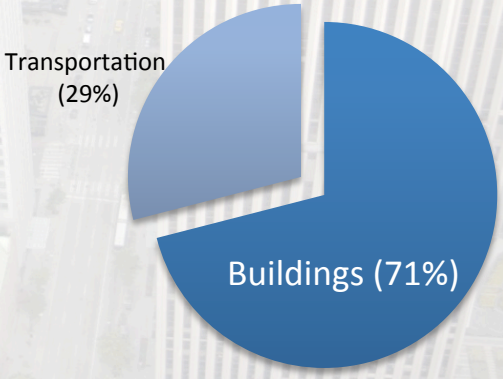
DISTRICT OF COLUMBIA



CHICAGO

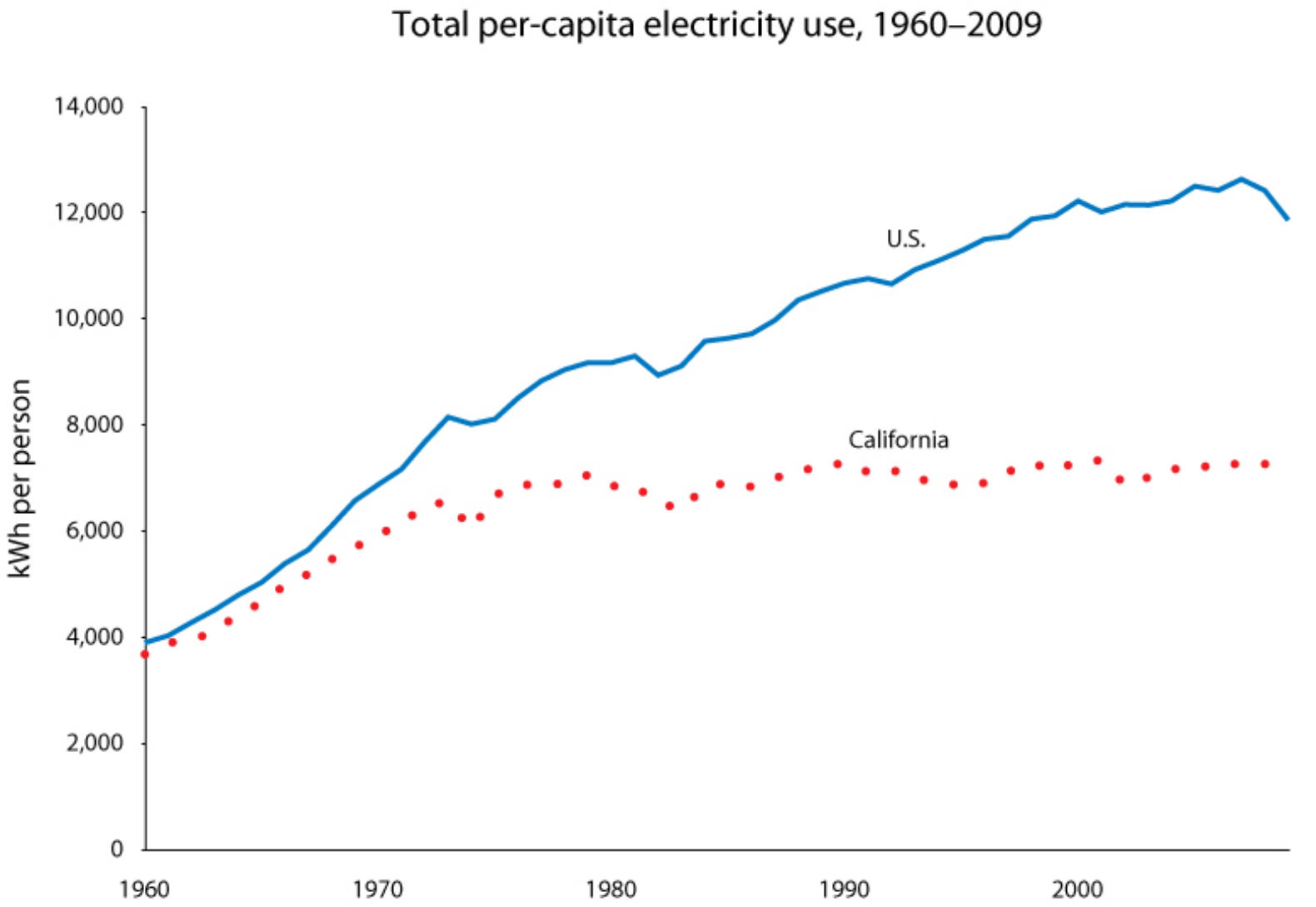


BOSTON

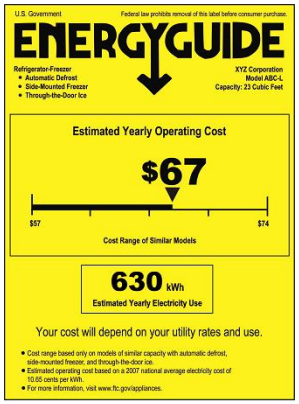


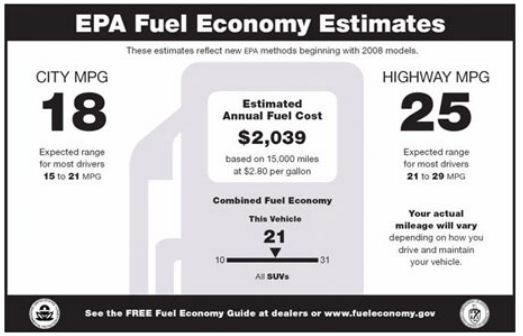
In large cities with significant public transportation, buildings typically account for 70% or more of CO_2 emissions and energy usage.

Even the most aggressive codes and incentive programs have only managed to flatten per capital energy usage.



Rocky Mountain Institute © 2011. For more information see www.RMI.org/ReinventingFire.





Governments are assessing what drives demand and competition in other industries

- How can markets work more effectively?
- How can demand for energy efficiency increased?
- How can policy help reduce energy costs for businesses and consumers and create jobs?
- How can greenhouse gas reductions be achieved in existing buildings?

International Policy Timeline

1997: Denmark requires energy certification for homes and buildings

1999: Australian Capital Territory requires energy certification for homes

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

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

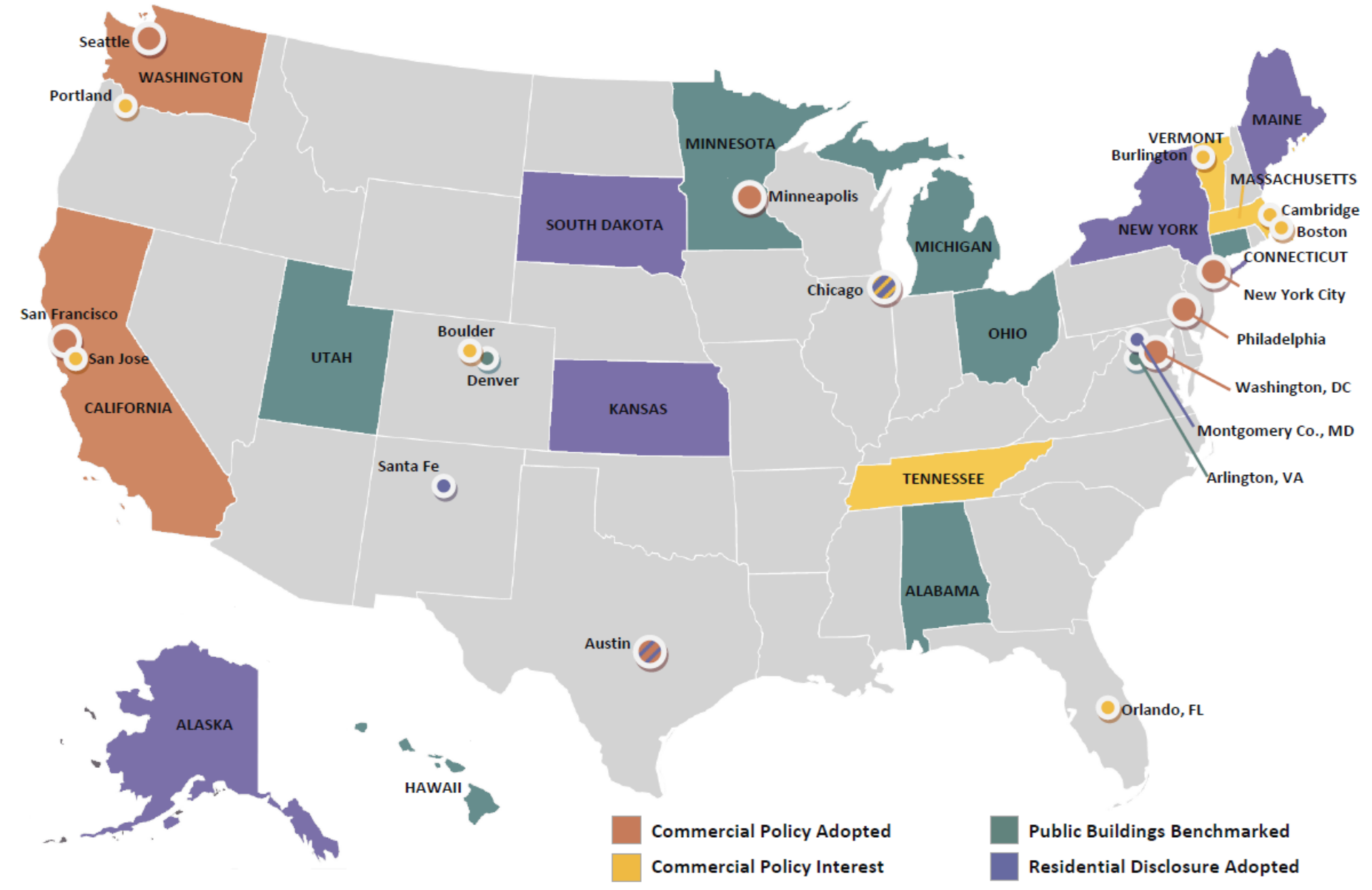
2002: The European Parliament adopts the Energy Performance of Buildings Directive (EPBD), requiring all **EU Member States** to establish mandatory energy certification schemes for homes and buildings

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

2008: Turkey adopts a mandatory certification scheme

2010: Australia enacts mandatory energy rating for commercial structures.

U.S. Benchmarking Policy Landscape



Commercial Building Policy Elements

Jurisdiction	Benchmarking (Building Type and Size)		Reporting	Disclosure					Audits	RCx
	Non-residential	Multi-family	To local gov't	On public website	To tenants	To transactional counterparties				
						Sale	Lease	Financing		
Austin	10k SF+	5+ units	✓	-	-	✓	-	-	✓	-
District of Columbia	50k SF+	50k SF+	✓	✓	-	-	-	-	-	-
Minneapolis	50k SF+	-	✓	✓	-	-	-	-	-	-
New York City	50k SF+	50k SF+	✓	✓	-	-	-	-	✓	✓
Philadelphia	50k SF+	-	✓	✓	-	✓	✓	-	-	-
San Francisco	10k SF+	-	✓	✓	✓	-	-	-	✓	-
Seattle	20k SF+	20k SF+	✓	-	✓	✓	✓	✓	-	-
California	5k SF+	-	✓	-	-	✓	✓	✓	-	-
Washington State	10k SF+	-	-	-	-	✓	✓	✓	-	-

Under Consideration	Boston, Boulder, Burlington, Cambridge, Chicago, Orlando, Portland, Santa Monica
Pilot program in progress	Illinois, Massachusetts
Previous legislative effort	Connecticut, Colorado, Maryland, New Mexico, Oregon, Tennessee, Vermont

Existing policies will impact more than

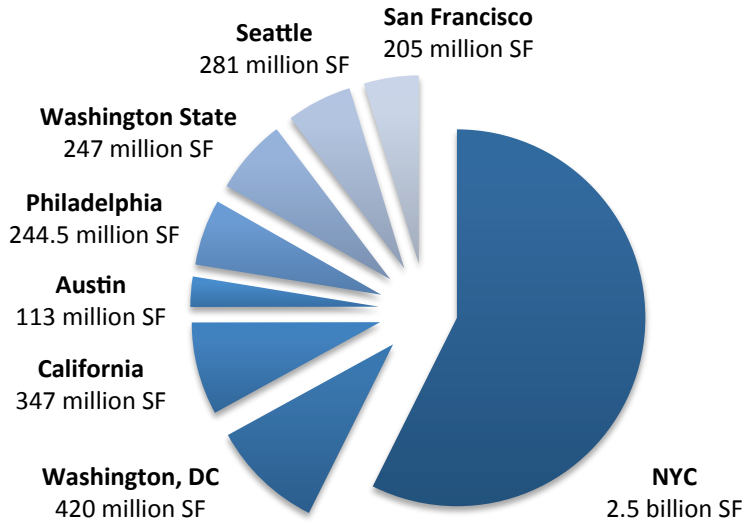
60,000 buildings

totaling more than

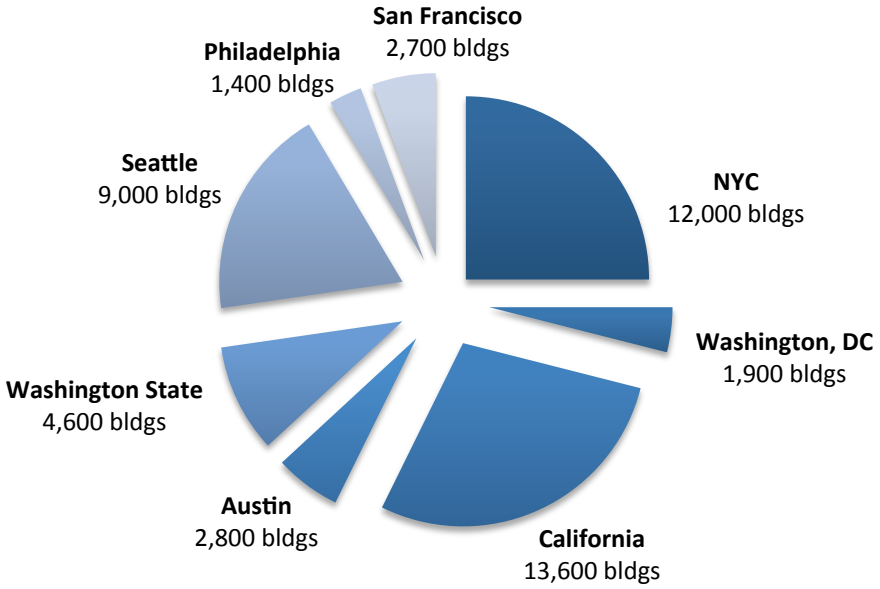
4 billion SF of

floor space in major real estate markets over the next few years

Building Area (in Square Feet) Covered Annually



Number of Buildings Covered Annually

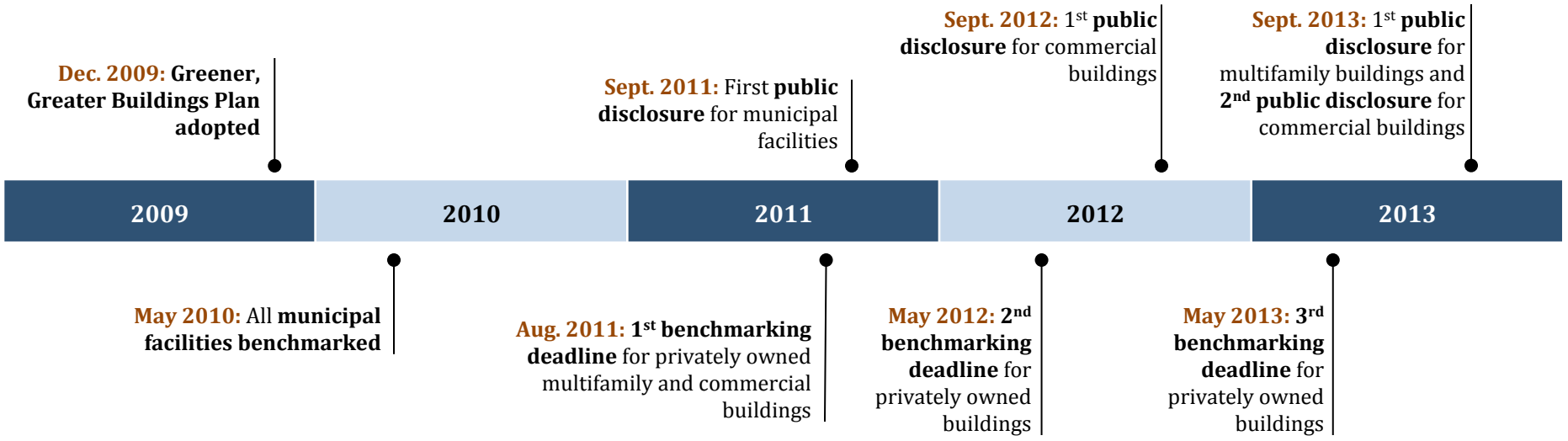


New York City Greener, Greater Buildings Plan

- NYC set a greenhouse-gas (GHG) reduction target of 30 percent by 2030
- Energy benchmarking and public disclosure for large buildings, + mandatory audits, RCx, lighting upgrades and tenant sub metering
- NYC buildings account for $15 billion annually in energy costs and 94% of electricity usage
- Properties over 50,000 SF account for ~2% of building stock by number, but 50% of floor area
- 85% of existing buildings will still exist in 2030

YEAR 1 RESULTS: NEW YORK CITY

- Approximately 75% overall compliance, 10,000+ buildings reported
  - Major outreach and training effort
  - Benchmarking help center by CUNY/NYSERDA
  - Data supplied by ConEd
- Significant participation by energy efficiency services vendors and consultants
- More than 2,300 city buildings benchmarked and disclosed
- City-wide aggregate analysis of building energy data published in 2012
- Year 2 compliance deadline was May
- Benchmarking data for commercial buildings published in Sept. 2012
- More cities and states looking to replicate "integrated" policy suites



Early Energy Intensity Findings

Figure 24: Median Energy Use Per Sq Ft by Building Type and Age Group

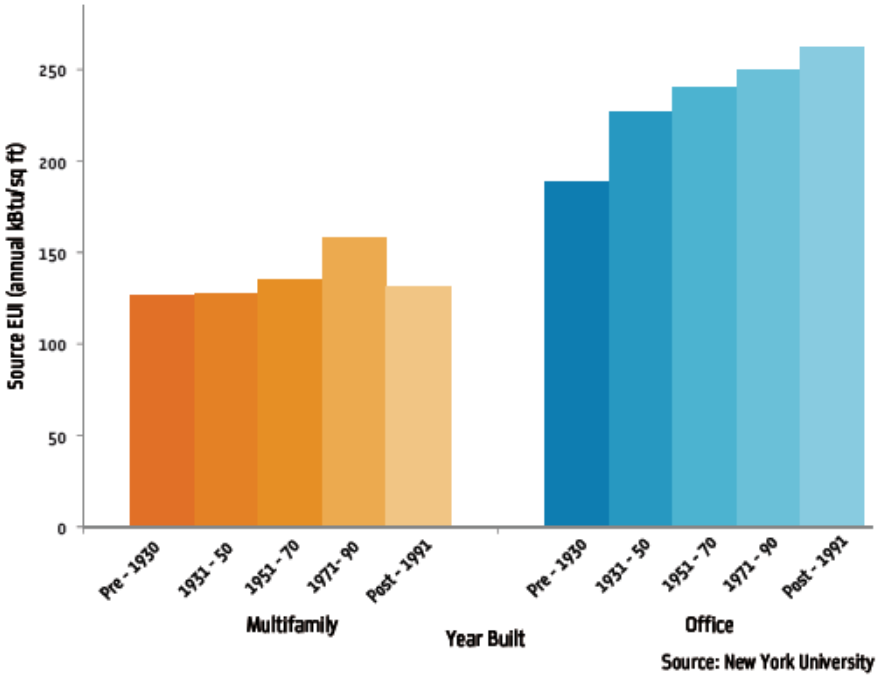
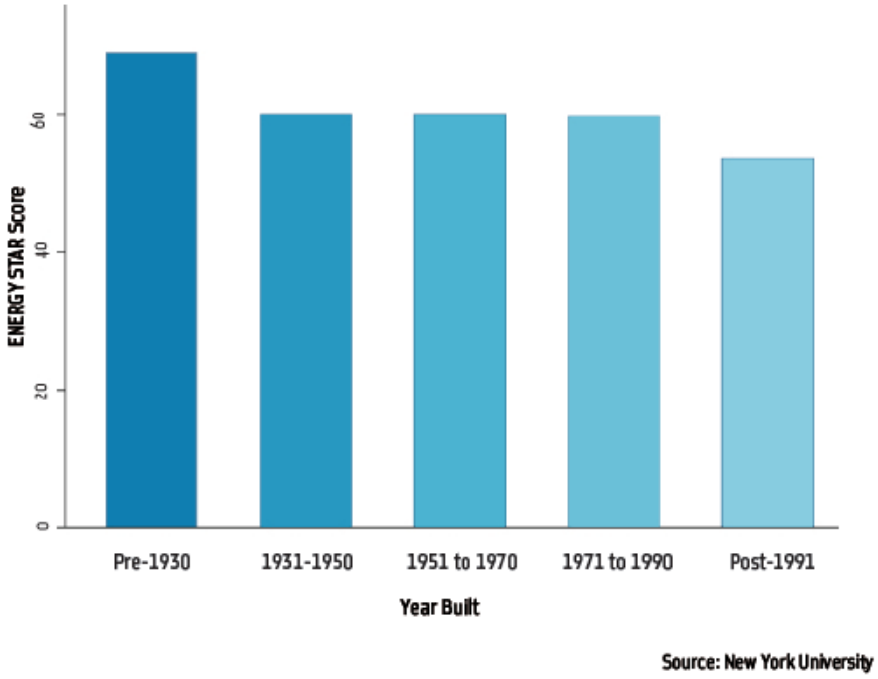


Figure 25: ENERGY STAR Score for Office Buildings Based on Year Built



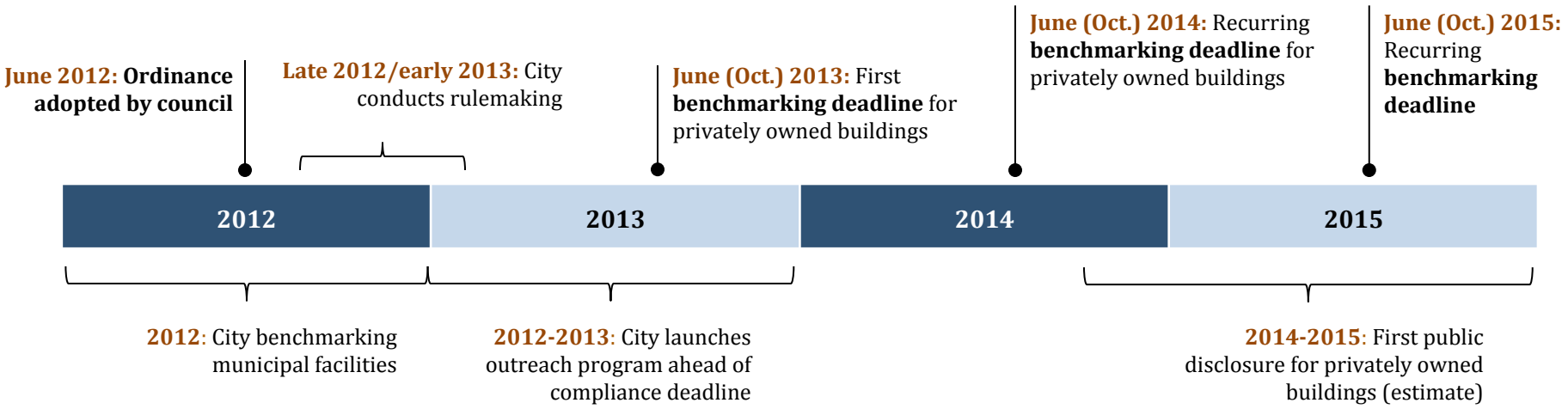
- Energy intensity is greater in newer buildings than older buildings
- ENERGY STAR scores are higher in older buildings than newer buildings
- If all large NYC properties were brought up to the median performance, the overall energy consumption from large properties would be reduced by 18%; if they reached the top quartile, consumption would decline by 31%

PHILADELPHIA BENCHMARKING ORDINANCE

- Philadelphia set a goal to reduce overall greenhouse gas (GHG) emissions 20% by 2015, and citywide building energy consumption by 10%
- The city saw an increase in energy consumption between 2008-2010, mostly driven by commercial buildings
- Passed June 2012: Energy and water benchmarking and public disclosure for nonresidential buildings 50,000 square feet and greater
- Modeled after requirements in other jurisdictions
- City finished benchmarking municipal buildings in November 2012

KEY REQUIREMENTS

- Portfolio Manager benchmarking of energy performance and water
- Disclosure elements:
    1. Upon request of prospective tenant/buyer
    2. Public disclosure online
    3. Reporting to city
- Disclosure metrics TBD in rulemaking (late 2012)
- Year 1 compliance likely in Oct. 2013
- Owners may be fined for noncompliance
- Utilities may automate energy consumption data upload to Portfolio Manager



Complementary policies can address split incentives and lack of access to capital

In many commercial leases, owners cannot profit from energy investments

- Often tenants are not billed according to their consumption
- Many buildings cannot access capital for cost-effective energy efficiency upgrades

Complementary policies can help align incentives and provide capital:

- Promote the Energy Aligned Lease Clause
- Encourage commercial tenant sub-metering
- Create local financing structures and/or PACE financing

DATA | Data Access and Transparency Alliance

- BOMA, RER, IMT, USGBC form DATA Alliance to work with utilities and regulators to secure better access to utility data
- July 2011: NARUC approves resolution calling on regulators to provide better data access to commercial owners
- USGBC Existing Authorities memo identifies data access as key EE barrier and calls for increased federal involvement
- Collaboration with administration on expanding Green Button initiative to include commercial data access

IMT Institute for Market Transformation · BOMA International · The Real Estate Roundtable · Enterprise · U.S. Green Building Council · NRDC The Earth's Best Defense

Thank you!
Questions?

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