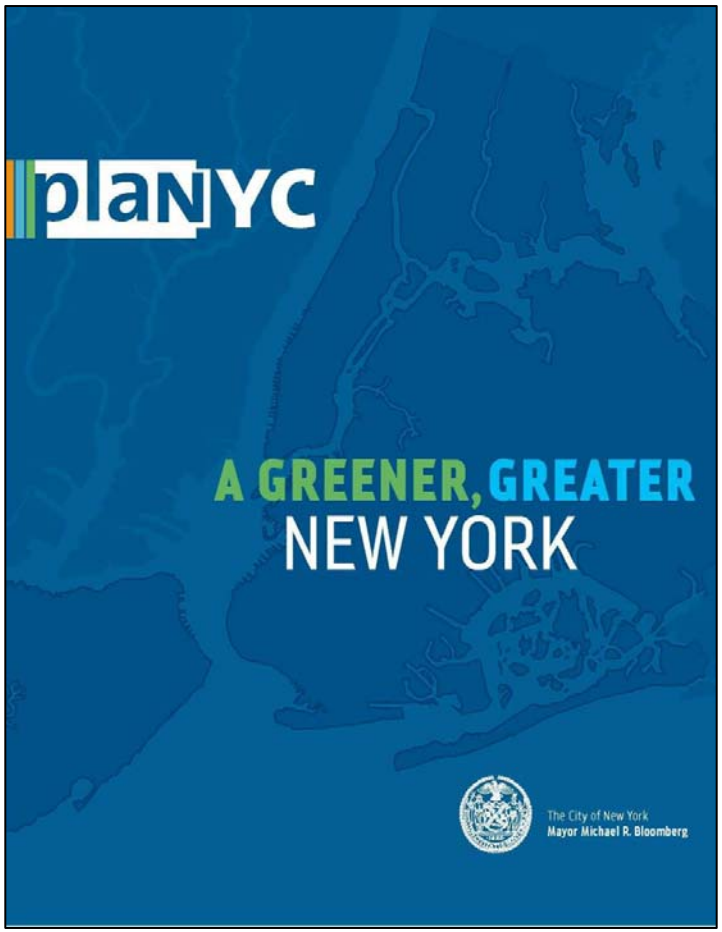
PlaNYC

A GREENER, GREATER NEW YORK

The City of New York
Mayor Michael R. Bloomberg

In 2007, Mayor Bloomberg released a comprehensive sustainability plan to create a greener, greater city



PlaNYC is a roadmap to achieve 10 goals:

1. Create enough housing for our growing population
2. Ensure all New Yorkers have parks within a 10-minute walk
3. Clean up all contaminated land in New York City
4. Develop water network back-up systems
5. Open 90% of our waterways and protect natural areas
6. Improve travel times by adding transit capacity for millions
7. Achieve “State Of Good Repair” on our transportation system
8. Upgrade our energy infrastructure to provide clean energy
9. Achieve the cleanest air of any big city in America
10. Reduce global warming emissions by 30%

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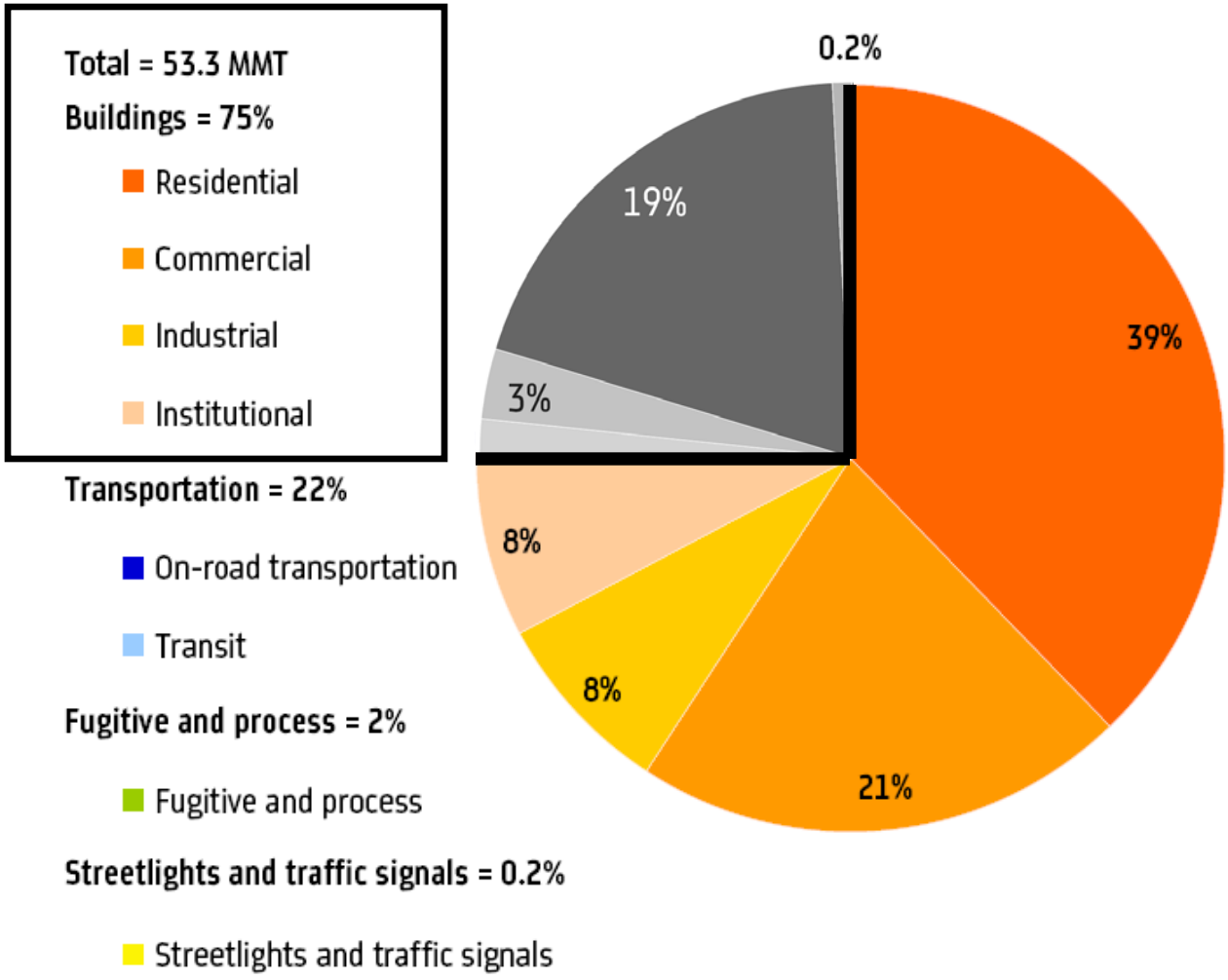
Buildings: nearly 80% of NYC's GHG emissions



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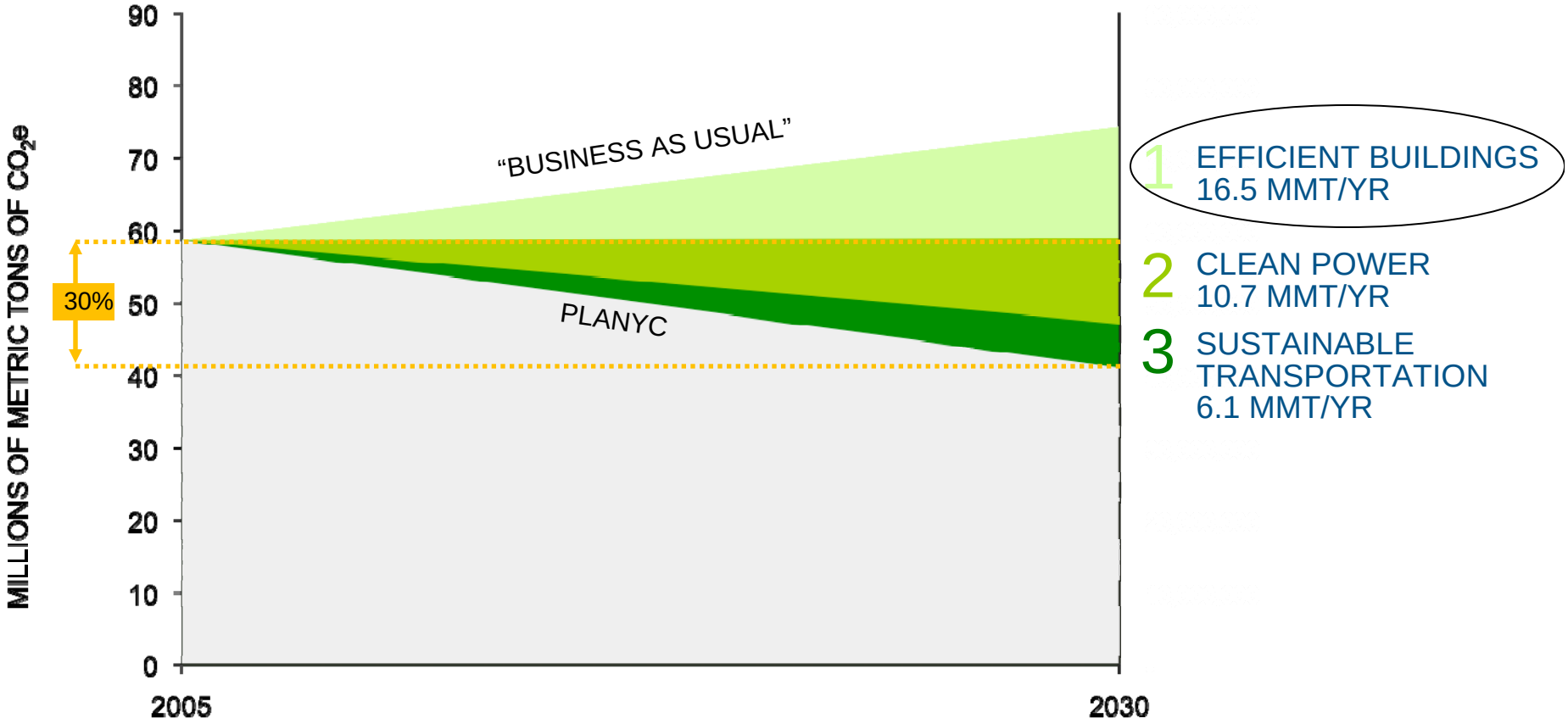
Projected GHG Reductions in PlaNYC



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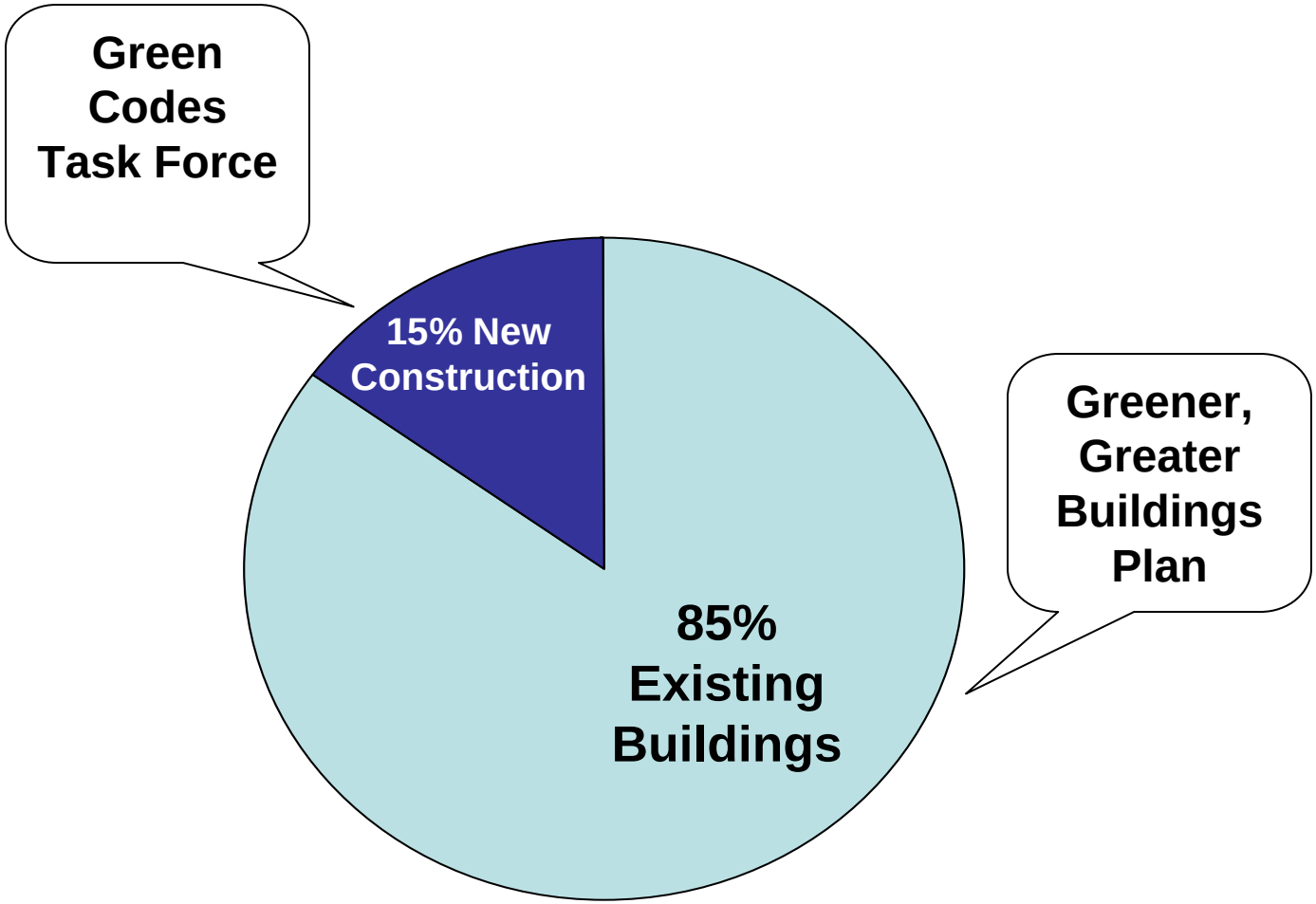
By 2030, 85% of buildings will be buildings that already exist



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THE NEW YORK CITY
GREENER, GREATER BUILDINGS PLAN
1 New York City Energy Code
2 Benchmarking
3 Audits & Retro-commissioning
4 Lighting Upgrades & Sub-metering
5 Green Workforce Development Training
6 Green Building Financing

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1. New York City Energy Code

LL 85

•Creates a New York City Energy Conservation Code, which is the NYS Energy Code minus a loophole that allows renovations of less than 50% to install non-compliant equipment

Covered Buildings

•All building types and sizes

•Applies to renovations which impact energy systems will need to comply with the provisions of the energy code

Effective Date

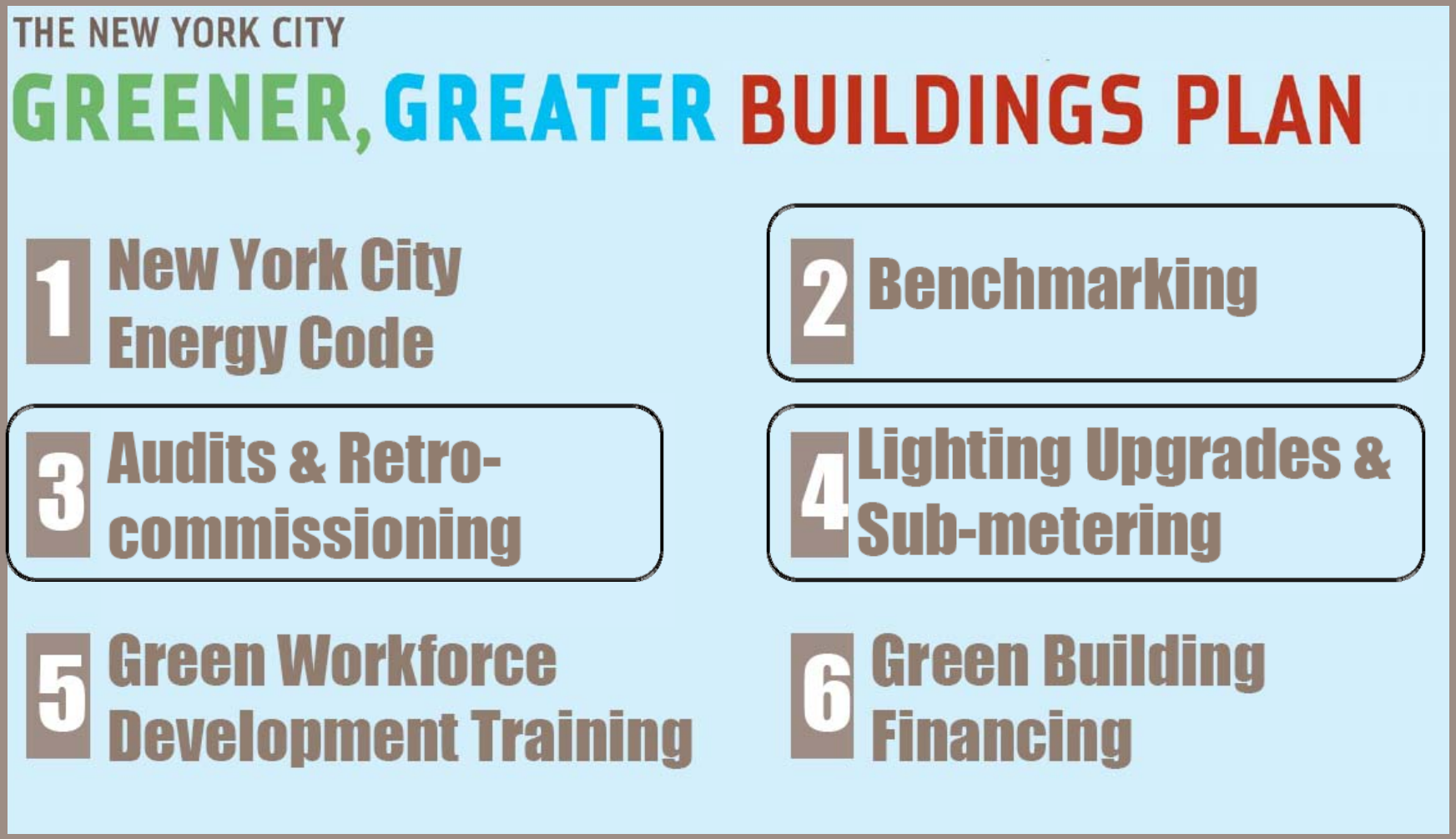
• July 1, 2010

Implementation

• DOB will develop rules for implementation

• See DOB's website for documentation and filing requirements

These 3 bills impact large buildings



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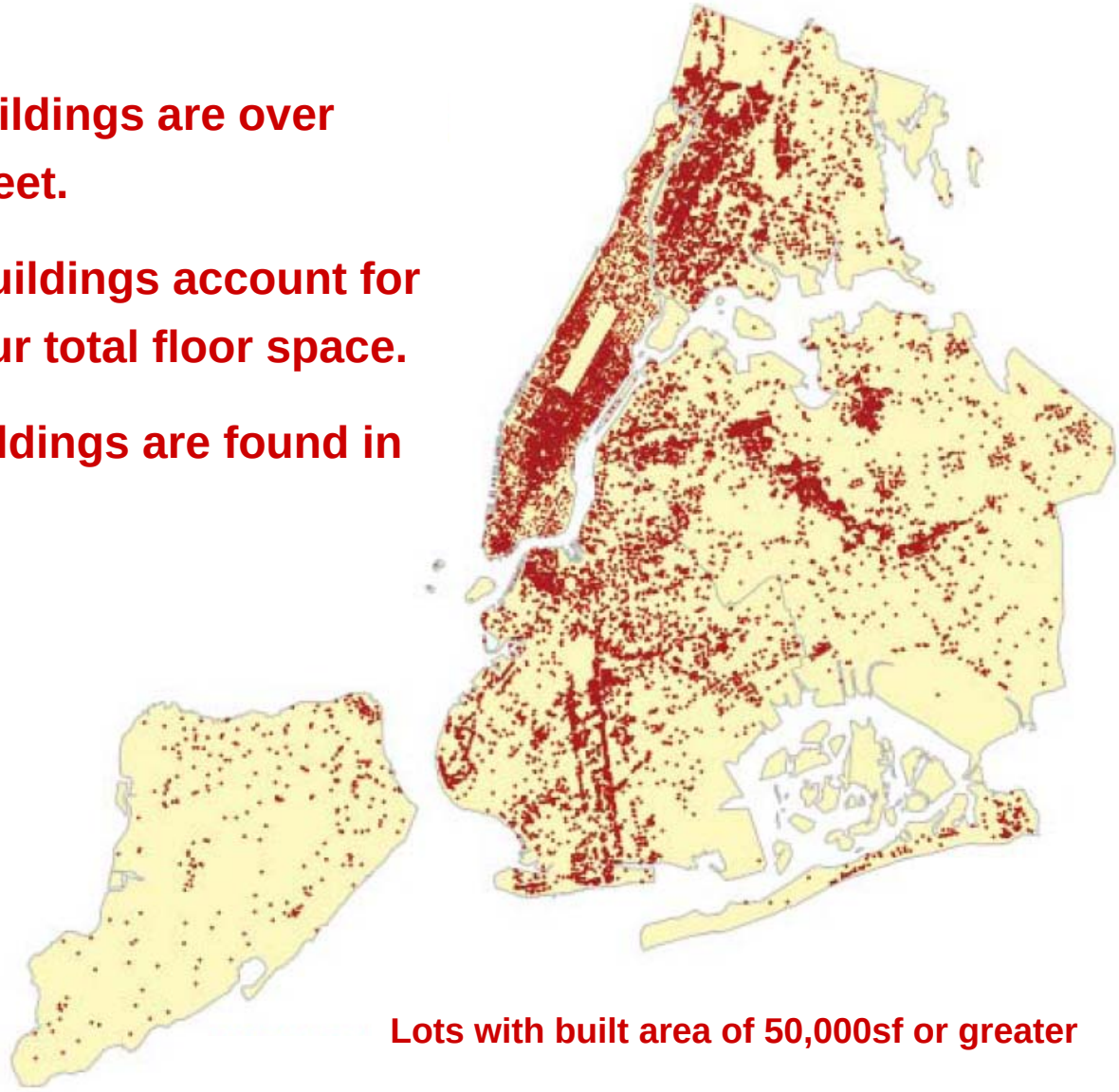
New York's built area is concentrated in relatively few buildings

2% of NYC's buildings are over 50,000 square feet.

These 22,000 buildings account for nearly half of our total floor space.

These large buildings are found in every borough



Lots with built area of 50,000sf or greater

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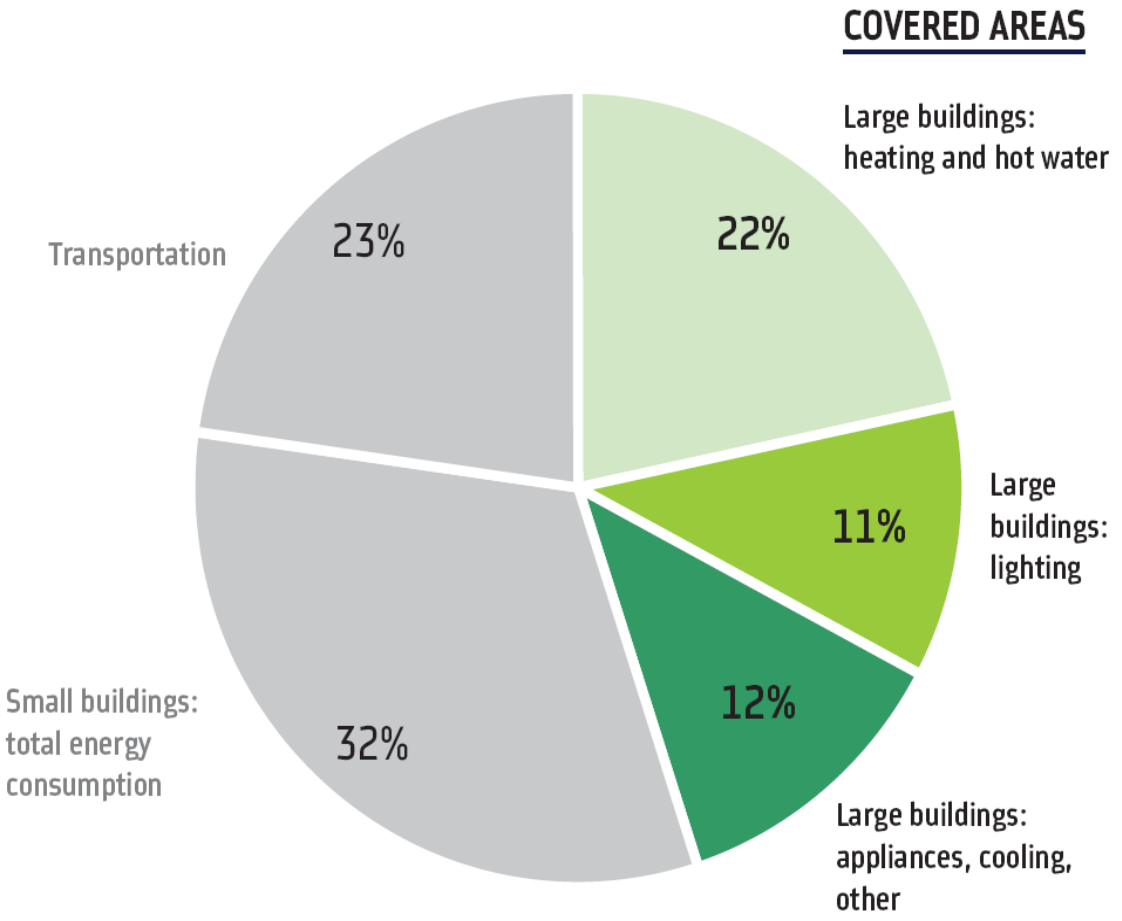
NYC's Largest Buildings

The same group of buildings also accounts for 45% of NYC's total energy consumption



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2. Benchmarking

LL 84

•Building owners must input data on energy and water consumption using EPA's Portfolio Manager tool

• Output metrics will be posted on DOF's Assessment Roll

• September 1, 2011 for municipal buildings

• September 1, 2012 for non-residential buildings

• September 1, 2013 for residential buildings

Covered Buildings

• Buildings on a lot with 50,000sf or more of built area

• Building owners will not be required to enter residential tenant data

• Municipal buildings greater than 10,000sf

Effective Date

• May 1, 2010 for municipal buildings

• May 1, 2011 for all covered buildings

Implementation

• Input through web-based tool

• Upcoming trainings by the EPA

• Note: DOF square footage ≠ EPA Portfolio Manager square footage

3. Audits and Retro-commissioning

LL 87

•Requires that every ten years, large buildings perform an energy audit of their base building systems and undertake a retro-commissioning process outlined in a checklist of energy efficiency operations and maintenance practices

Covered Buildings

• Buildings on a lot with 50,000sf or more of built area
•Exemption from audit requirement for exemplary energy performance or by performing a set of energy upgrades

Effective Date

•Rotating schedule every 10 years beginning in 2013
•Pre-compliance option for work done prior to a building's due date
•Deferrals available for financially distressed buildings

Implementation

•Explicit qualifications for auditors and retro-commissioners outlined in bill
•Audit and retro-commissioning to be documented in an Energy Efficiency Report (EER) submitted to the Department of Buildings (DOB)
•Rules to be developed by DOB

Low cost measures typically found in audits

IMPROVEMENT	FREQUENCY[1]	COST PER SQ FT[2]	PAYBACK[3]
Efficient faucets and showerheads	56%	$0.04	1.3 years
Lighting fixture upgrades	46%	$0.06	2.5 years
Exterior weather-stripping and sealing	41%	$0.07	2.5 years
Domestic hot water controls	39%	$0.01	1.1 years
Exhaust fan timers	31%	$0.03	0.8 years
Lighting controls	20%	$0.06	2.3 years
Pipe insulation	19%	$0.02	2.0 years
Energy management systems	19%	$0.23	2.0 years
Boiler cleaning and tuning	17%	$0.07	1.0 years
Lightbulb upgrades (e.g. CFLs)	15%	$0.04	1.0 years

Sample of items found on the retro-commissioning check-list

Operating protocols, calibration and sequencing

- Properly calibrate heating, ventilation, and air conditioning (HVAC) controls and sensors
- Ensure ventilation rates are appropriate for the current facility requirements
- Check domestic hot water systems to ensure proper temperature settings
- Ensure light levels are appropriate and controls are functioning properly

Cleaning and repair

- Clean HVAC equipment, filters, and light fixtures
- Replace steam traps as required to maintain efficient operations
- Tune boilers for optimal efficiency
- Insulate large pipes for hot and chilled water and steam

Training and documentation

- Ensure all permits for HVAC, electrical and plumbing equipment are in order
- Provide operations and maintenance staff with appropriate training
- Implement operational and maintenance record-keeping procedures
- Ensure manuals and maintenance contracts are on-site and accessible to operators

4. Lighting Upgrades and Sub-metering

LL 88

•Lighting systems in large buildings must be upgraded to meet the Energy Code
•Sub-meters must be installed in all commercial tenant spaces ≥ 10,000sf and for all floors ≥ 10,000sf
•Owners must provide a monthly statement of electricity consumption and charges to covered tenants

Covered Buildings

• Buildings on a lot with 50,000sf or more of built area
• Excludes dwelling units or spaces serving dwelling units

Effective Date

• All installations must be complete by January 1, 2025
• This enables work to be done at the time of tenant turnover

Implementation

• DOB will develop rules for record keeping and filing

5. Green Workforce Development Training

Working Group

•Consists of the City, NYSERDA, REBNY, the Central Labor Council, 32BJ-SEIU, and others

•Working to define the skills, training programs and certifications needed to implement the Greener, Greater Buildings Legislation

Needs

•Skills training is necessary for an adequate supply of energy auditors, lighting technicians, pipe insulators, and other construction-related workers

Timeline

•Working group developed list of certifications in the audits and retro-commissioning legislation with the help of the Institute for Market Transformation (IMT)

• Winter 2010: Develop a strategy to ramp up workforce

6. Green Building Financing

Revolving Loan Fund

•The City received $16 million from federal stimulus to create a revolving loan fund to help building owners make efficiency improvements

•Will assist large buildings that face financing challenges and large "shovel-ready" buildings that have completed energy audits but lack financing for retrofits

•Anticipated to be ready by the end of the year

PACE Financing

• **P**roperty **A**ssessed **C**lean **E**nergy bonds

• November 16, 2009 New York State passed legislation enabling municipalities to issue this type of bond

• The bond allows building owners to pay for energy efficiency improvements over time through an increase in their annual property taxes

Overall Impact of the Greener, Greater Buildings Plan

Creates Jobs: 17,800 construction-related jobs

Saves Money: $700 million in energy costs

Stimulates the Economy: Early adoption encouraged

Improves our Environment: 4.75% citywide carbon reduction

“By seeking efficiencies in existing buildings, New York can make a real difference in carbon emissions, and hopefully bring us a step closer to solving the climate crisis.” Al Gore

Next Step: Green Codes Task Force

Rationale: Need to address broader issues, including new construction, smaller buildings, and issues beyond energy

Strategy: New York City decided to "green" its codes rather than adopting a LEED standard – more enforcable: large scale impact; can address all the codes; utilize unique NYC knowledge base; be NYC specific

Process: At the request of the Mayor and the Speaker, Urban Green convened a Task Force, which eventually included over 200 participants and worked for over 18 months

Result: 111 proposals addressing energy, water consumption, sites, etc., but also new categories, such as building resilience and design for physical activity

Next Steps: Work with Industry Advisory Committee, Agencies and other stakeholders to determine which proposals should move forward and when.

NYC Green Codes Task Force

The 111 proposals were broken into ten chapters:

	Total Proposals	Sample Proposal
Overarching Code Issues	7	OC 6: Streamline Approvals for Green Technologies & Projects
Health & Toxicity	17	HT 7: Reduce Mold in Bathrooms
Energy & Carbon Emissions: Fundamentals	17	EF 3: Limit Heat Loss Through Exterior Walls EF 4: Promote Super-Insulated Exterior Walls
Energy & Carbon Emissions: Energy Efficiency	28	EE 14: Limit After-Hours Retail Lighting
Energy & Carbon Emissions: Operations & Maintenance	6	EO 3: Train Building Operators in Energy Efficiency

NYC Green Codes Task Force

The 111 proposals were broken into ten chapters:

	Total Proposals	Sample Proposal
Building Resilience	9	BR 2: Safeguard Toxic Materials Stored in Flood Zones
Resource Conservation	5	RC 1: Recycle Construction Waste
Water Efficiency	7	WE 5: Reduce Use of Drinking Water to Clean Sidewalks
Stormwater	7	SW 3: Reduce Stormwater Runoff from Construction Sites
Urban Ecology	5	UE 5: Protect Street Trees From Construction Activities

NYC Green Codes Task Force

Next Steps