

Benchmarking New York City's Buildings



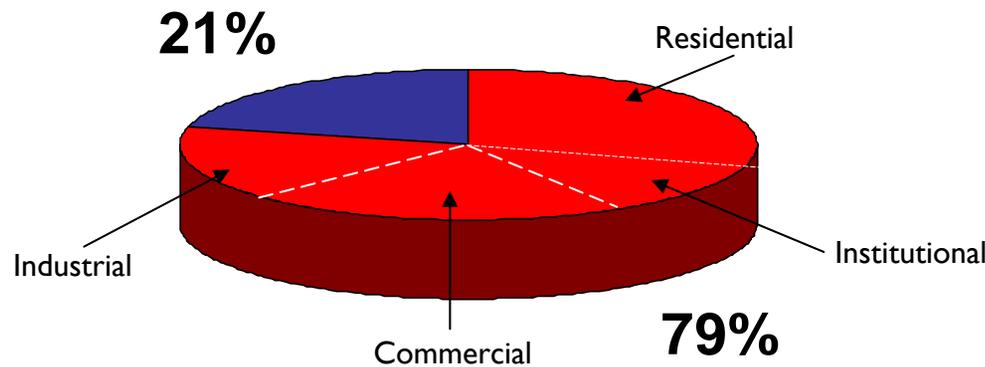
Laurie Kerr, Mayor's Office of Long Term Planning + Sustainability

Dec. 9. 2010

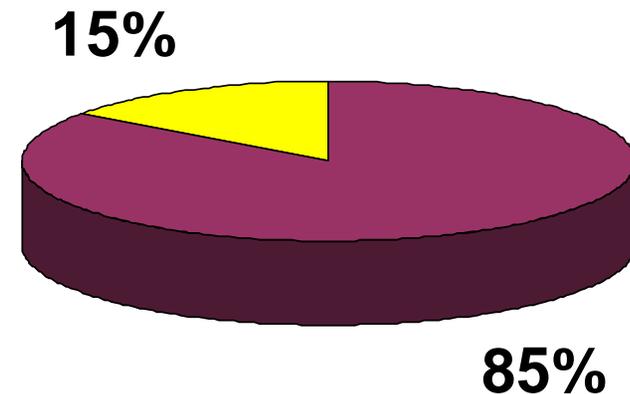
PlaNYC has ten goals for 2030

- **Land**
 - Create enough housing for our growing population
 - Ensure all New Yorkers have parks within a 10-minute walk
 - Clean up all contaminated land in New York City
 - **Water**
 - Develop water network back-up systems
 - Open 90% of our waterways and protect natural areas
 - **Transportation**
 - Improve travel times by adding transit capacity for millions
 - Achieve “State Of Good Repair” on our transportation system
 - **Energy**
 - Upgrade our energy infrastructure to provide clean energy
 - **Air**
 - Achieve the cleanest air of any big city in America
 - **Climate Change**
 - Reduce global warming emissions by 30%
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Most of NYC's emissions come from existing buildings...

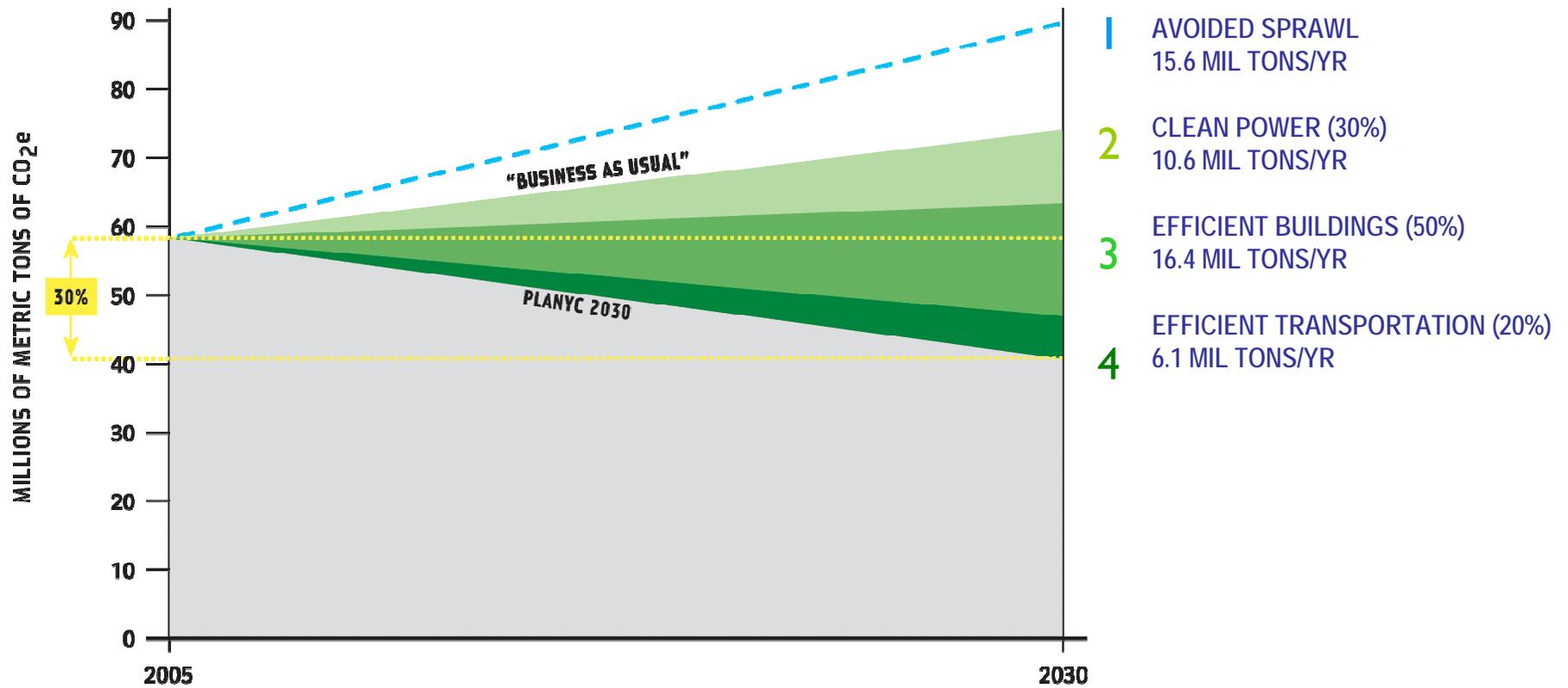


79% of all NYC emissions come from existing buildings...



And it is estimated that by 2030, 85% of emissions will come from buildings we already have

Half of our CO2 reduction will come from buildings



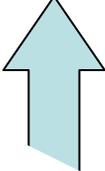
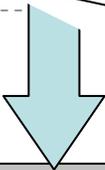
Efficiency - Five key areas were targeted

		Incremental monthly residential (HH) charge*	Average cost to participant	Payback to avg. participant
1	Institutional & Governmental <ul style="list-style-type: none"> City to lead by example: 30% reduction in energy use by 2017 (retro-fits, lighting upgrades, O&M) All major institutional buildings (medical, spiritual, educational) challenged to match the city's targets 	\$0.18	<ul style="list-style-type: none"> School: \$400k Hospital: \$265k 	<ul style="list-style-type: none"> 10 yrs 4-6 yrs
2	Commercial & Industrial <ul style="list-style-type: none"> Large commercial buildings – efficiency upgrades to centralized systems and upgrade lighting Small commercial and retail – upgrade lighting at change of occupancy or major rehab 	\$0.61	<ul style="list-style-type: none"> Large: \$340k Small: \$7k 	<ul style="list-style-type: none"> 3 yrs 3 yrs
3	Residential <ul style="list-style-type: none"> Efficiency upgrades to centralized systems in large residential buildings with >50 units Direct install program of compact fluorescent lights in all residential units 	\$0.32	<ul style="list-style-type: none"> Large: \$50k Small: \$0 	<ul style="list-style-type: none"> 3-4 yrs Immediate
4	New construction <ul style="list-style-type: none"> New buildings required to be 20% better than Energy Code Graduated rewards system for applying ambitious energy efficiency standards in new buildings 	\$0.12	Cost neutral	Immediate payback
5	Appliances <ul style="list-style-type: none"> Market transformation through incentives along supply chain Work at state and federal level to steadily improve standards for appliances and electronics 	\$0.45	Cost neutral	Immediate payback
*	Outreach, training and quality control <ul style="list-style-type: none"> Education of the public Training for building professionals Certification of energy efficiency professionals 			

* Assumptions: ratepayer funds spread over 8.5 yrs; contribution to SBC funds from residential segment at 31%; ~18% funding overlap of existing DSM programs and new initiatives

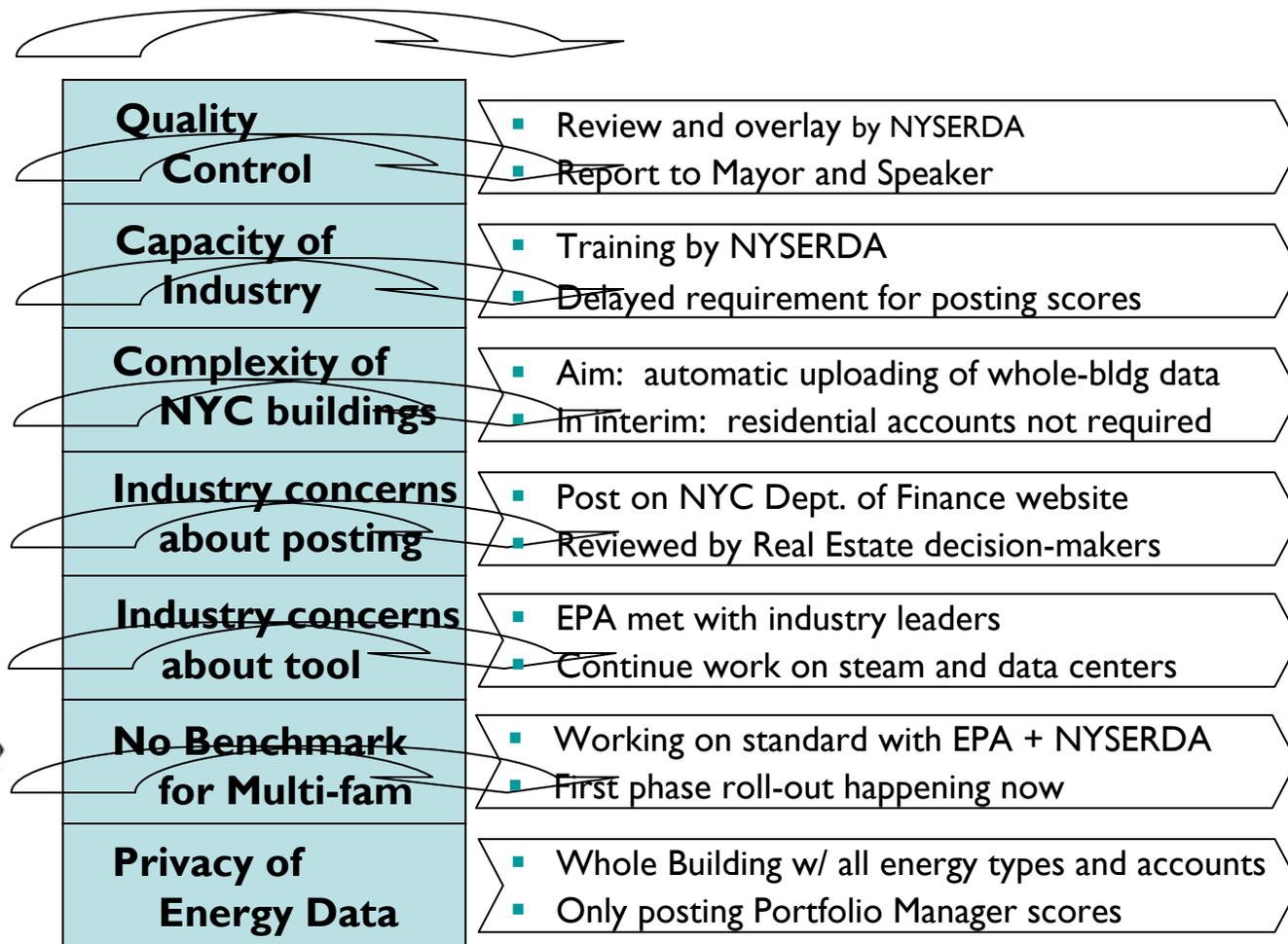
Source: NAESCO, team analysis

Package of Proposed Existing Building Legislation

	Initial Proposals:	Expected Impact
<div style="border: 1px solid black; padding: 5px; background-color: #e0e0e0; text-align: center;">Transparency</div> <div style="text-align: center;">  </div>	<ul style="list-style-type: none"> • Benchmarking of all large buildings • Disclosure of energy bills at time of sale for residential units 	<ul style="list-style-type: none"> • Move the market • Provide information to building owners and operators • Allow city and state to target inefficient buildings
<div style="border: 1px solid black; padding: 5px;"> <p>No major linkage anticipated, except perhaps an exemption</p> </div> <hr style="border-top: 1px dashed black;"/>		
<div style="border: 1px solid black; padding: 5px; background-color: #e0e0e0; text-align: center;">Continuous Improvement</div> <div style="text-align: center;">  </div>	<ul style="list-style-type: none"> • Remove loophole that exempts renovations that are less than 50% • Central System Improvements: Audits and Retrofits • Improvement of spaces: Lighting upgrades to code 	<ul style="list-style-type: none"> • Garner efficiency improvements during normal cycles of renovation • Counter market failure by requiring cost-effective improvements • Benefit from rapid improvements in lighting quality and efficiency

Initial outlines of the benchmarking proposal

	Initial Proposals:	Rationale
Which Buildings?	<ul style="list-style-type: none">• All private buildings > 50,000 sq. ft.• All municipal buildings > 10,000 sq. ft.	<ul style="list-style-type: none">• This is 2% of the buildings but 50% of the space (and energy)• Multi-families constitute 2/3 of the large buildings
What benchmarking tool?	<ul style="list-style-type: none">• EPA Portfolio Manager with NYSERDA overlay	<ul style="list-style-type: none">• Nationally recognized standard with frequent upgrades• NYSERDA overlay allows us to work with NYS for local specificity
Where to post?	<ul style="list-style-type: none">• Initial proposal to post in building lobbies or public areas	<ul style="list-style-type: none">• Highly visible for maximum impact
What will trigger	<ul style="list-style-type: none">• Annual benchmarking required	<ul style="list-style-type: none">• Regular feedback for building owners and city• Rewards immediate upgrades



Public Sector

- With EPA's help, we are completing the benchmarking of NYC's 1300 public schools

Private Sector

- Finalizing legislation for benchmarking to be introduced early in the new year
- Working with IT departments and EPA to develop data set and transfer protocols
- Working at State level to develop back-up systems

