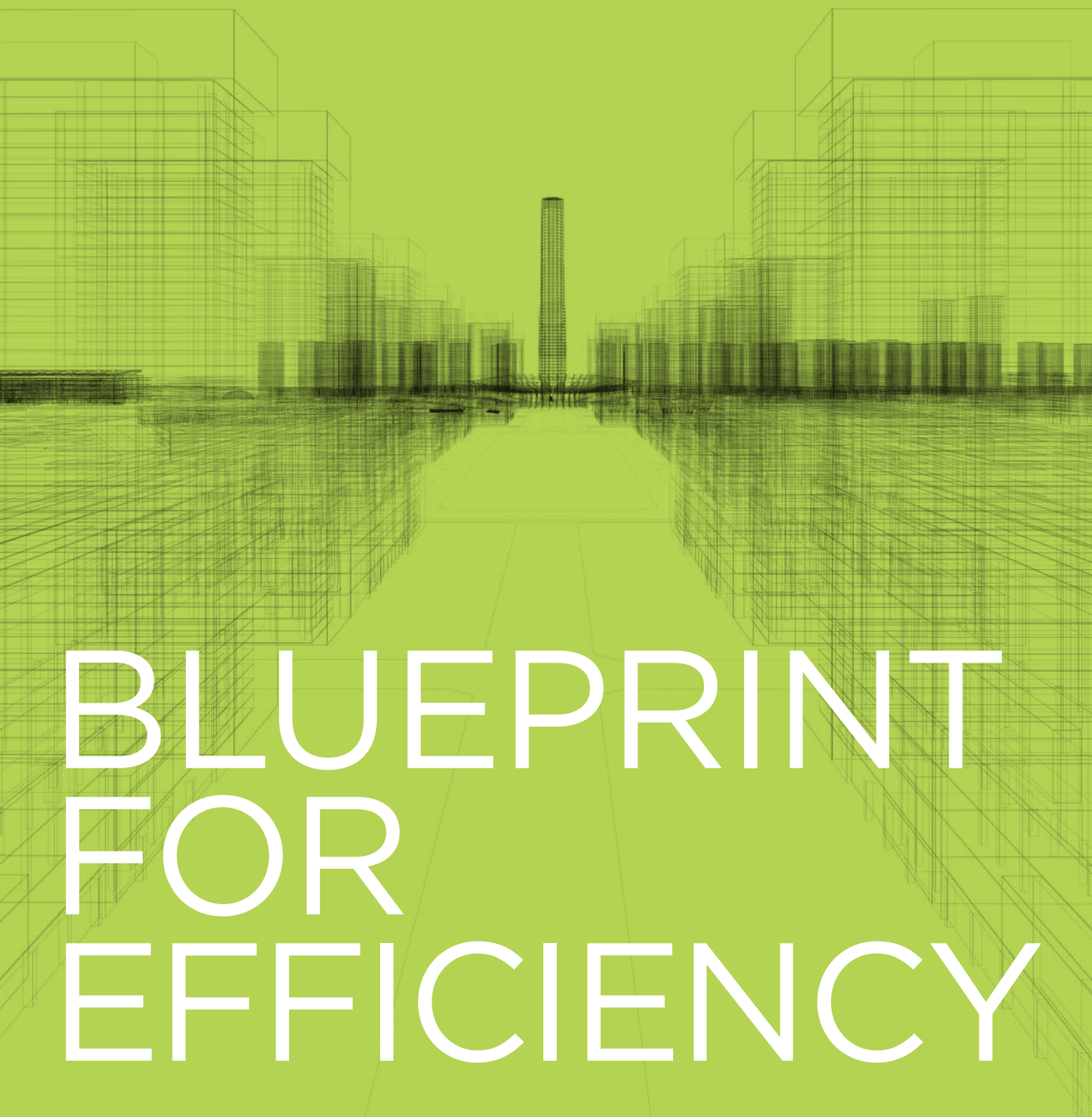# urban green

80x50 BUILDINGS PARTNERSHIP

August 2018

BLUEPRINT FOR EFFICIENCY

We thank the following foundations for their generous support of the 80x50 Buildings Partnership:

THE NEW YORK
COMMUNITY TRUST
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Buildings over 25,000 square feet account for nearly 60 percent of the city's building area. With the right planning and support, upgrades over the next 10 years will put them on track for 80 percent carbon savings by 2050.

ABOUT THIS REPORT

We know how to dramatically reduce carbon pollution in New York City. We'll need to make major efficiency upgrades to our buildings. We'll eventually need to transition our heating and hot water systems from burning fossil fuels to using electricity. And we'll need to develop a greener electrical grid, with much more solar, wind and other sources of carbon-free electricity.

The stakes couldn't be higher: Sea levels along the coast have risen a foot in the past century. Spring begins a week earlier. Heat waves and superstorms—like Sandy and Irene—are becoming more frequent. And scientists project increasing impacts in the decades ahead, bringing enormous costs, heat waves, blackouts and floods that put vulnerable populations at greater risk.

Fortunately, New York City has made great progress. The green skyscraper was conceived by NYC developers, born on NYC drafting boards, and built with NYC labor. So much innovative policy was born here. New York was the first city to legislate LEED for city-funded construction, and now requires that new city-owned buildings be designed to use 50 percent less energy than used today. The city also recognized the importance of large buildings in solving climate change and developed groundbreaking policies for lighting upgrades, building tune-ups, and data-gathering under the Greener Greater Buildings Plan. Our energy codes continue to break new ground. The result? Even while the city's population has grown, emissions from large buildings have dropped 14 percent since 2010.

But the pace of these efforts must accelerate to achieve the city's goal of reducing greenhouse gas emissions 80 percent by 2050 (80x50). Getting there will require more than what existing regulations and voluntary, market-driven decisions will deliver. We need a bigger down payment on this transformation: a world-leading energy performance policy to drive efficiency in our large buildings.

Collaboration is key for a policy of this scale, with a multi-decade horizon and far-reaching implications for about 50,000 buildings. Mayor de Blasio laid a thoughtful climate planning foundation in *One City Built to Last* (2014) and *New York City's Roadmap to 80x50* (2016). The City Council galvanized action with Local Law 66 of 2014, committing NYC to 80x50. The vision took further shape with a bold efficiency proposal in fall 2017 for NYC's large buildings, carried forward by legislation sponsored by

Environmental Protection Committee Chair Costa Constantinides. And it continues with the 80x50 Buildings Partnership, an unparalleled collaboration of building and energy stakeholders convened by Urban Green.

This report is the result of a consensus-based process involving more than 70 participants from the real estate, labor, energy efficiency, nonprofit and government sectors. The varied knowledge and experience—and, ultimately, the buy-in—of these stakeholders was crucial to creating *Blueprint for Efficiency*.

This plan addresses New York City's large buildings (those over 25,000 square feet), which represent 57 percent of the city's built area. Upgrading these buildings takes time and money, but it also brings great opportunity. With the right financing and schedule, many efficiency improvements are highly cost effective. And this transformation will usher in new jobs, industry expertise and building technology to make New York City a healthier, more sustainable city in the years ahead.

Blueprint for Efficiency provides a workable policy **framework** to reduce emissions by 2030 and keep us on the path to reaching 80x50. It addresses **special cases**, like affordable housing and nonprofits, that will require unique treatment. It explores ways to allow **flexibility** for building owners to find the lowest-cost path to compliance. And it outlines the need for a major expansion of support services and financing to **make efficiency easier**.

The result is an ambitious but achievable plan to deliver 20 percent energy savings in large buildings from 2020 to 2030, with recommendations to guide future phases. Together with reductions made to date, this strategy will take NYC buildings a third of the way to 80x50. Equally important, New York City will have an infrastructure to deliver building energy improvements at scale. Finally, the hard work of the Partnership shows that consensus climate solutions are within reach, paving the way for other cities.

*Note: This report contains brief summaries of the proposals. Additional details on each are available at **urbangreencouncil.org/BlueprintForEfficiency.***

STATEMENT OF SUPPORT

The organizations listed below participated in a collaborative stakeholder process leading to the recommendations in this summary report. These organizations accept the core ideas expressed here, even though some may not agree with the specifics of certain recommendations. For many, consent to certain recommendations is contingent on other recommendations. Whether an organization will ultimately support a new law depends on many issues that will be determined during the legislative process.

32BJ SEIU

AIA New York

ALIGN: The Alliance for a Greater New York

American Council of Engineering Companies of New York

ASHRAE New York

Bright Power, Inc.

Brookfield Properties

Catholic Community Relations Council

CodeGreen Solutions

The Community Preservation Corporation

Council of New York Cooperatives & Condominiums

The Durst Organization

Edison Energy

Empire State Realty Trust

EnergyWatch Inc.

Enterprise Community Partners

Environmental Defense Fund

JLL

Jewish Community Relations Council of New York

Local Union No. 3 I.B.E.W.

Natural Resources Defense Council

New York League of Conservation Voters

New York University

New York Working Families

New York Communities for Change

Partnership for New York City

Real Estate Board of New York

Realty Operations Group

Related Companies

Rent Stabilization Association

Rudin Management Company, Inc.

SL Green Realty Corp.

Steven Winter Associates

Sustainable Energy Partnerships

UA Plumbers Local Union No.1

Vornado Realty Trust

Together with other leading world cities, NYC has pledged to cut its greenhouse gas emissions

80% BY 2050

2005   2050
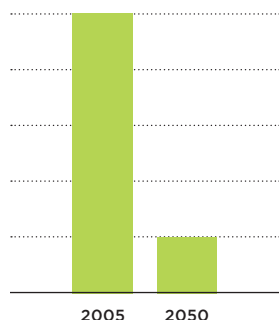
Two-thirds of citywide carbon emissions come from buildings, so they are central to achieving this goal.

67%
EMISSIONS FROM BUILDINGS

REPORT HIGHLIGHTS

Major Impacts

20%
BUILDING ENERGY REDUCTION BY 2030

Balancing current costs with future uncertainties, these proposals will set large buildings on a realistic path to 80x50.

36%
PROGRESS TO 80x50

NYC buildings will be a third of the way to their 2050 CO_2 goal.

Key Proposal Elements

PROPOSAL 2:
Use a made-in-NYC metric to set realistic emissions targets for individual buildings.

PROPOSAL 5:
Focus fixes where needed most by requiring more of less-efficient buildings.

PROPOSAL 10:
Leading by example, city-owned buildings must hit 20% savings five years earlier.

Government Support

PROPOSAL 16:
Make efficiency easier by expanding services for building owners.

PROPOSAL 18:
To help tenants use just what they need, align energy use with energy bills.

50K
BUILDINGS AFFECTED

All buildings over 25,000 square feet will be included.

42
ORGANIZATIONS

joined together to form the 80x50 Buildings Partnership, a collaboration of key building and energy stakeholders.

70
EXPERTS

contributed time and ideas to these recommendations, lending insight from fields as diverse as real estate, labor, energy efficiency, government and nonprofit.

PROPOSAL 7:
Require less of rent-stabilized housing to limit rent hikes in these buildings.

PROPOSAL 11:
Let owners trade efficiency credits to deliver carbon savings at the lowest cost.

PROPOSAL 13:
Encourage beneficial electrification to reward early adopters of efficient solutions.

8
MONTHS

of discussions and over 1,300 meeting hours went into shaping these recommendations.

PROPOSAL 19:
Shorten the NYC heating season to match warmer spring temperatures.

PROPOSAL 20:
Speed up upgrades by facilitating access to tenant spaces for retrofit work.

PROPOSAL 21:
Lower the burden of façade inspections for buildings with good track records.

Steam is used in 80 percent of large multifamily buildings. Many older steam systems are inefficient and offer abundant opportunities for energy savings.

CREATE A SMART FRAMEWORK

Building efficiency policies are becoming the norm. Many cities now have laws directing owners to measure annual energy use. A few, like New York and Los Angeles, mandate building system inventories and tune-ups. The energy code requires better boilers and more insulation when equipment is replaced or a building is renovated. Under NYC's Carbon Challenge, over 100 participants have volunteered to cut building emissions 30 percent over ten years.

But there is no playbook for an efficiency policy of the magnitude proposed here. The right framework must drive cost-effective carbon savings that will ultimately reach the city's 80x50 goal. It needs to align these goals with the practical realities of buildings and their management. It should balance present knowledge with future uncertainty, including changes to technology and the electrical grid. It must be fair to the many owners who have already made efficiency upgrades, while not penalizing buildings for density or other features that cannot or should not be changed. It must work across a great variety of buildings and make sense on a 30-year time horizon.

So, we built a novel policy structure from the ground up.

This chapter outlines the key elements of the policy framework: Start with ambitious but feasible sector-wide energy savings targets, measuring energy from its source in order to deliver the greatest carbon reductions. Develop a new performance metric that gauges the relative efficiency of similar buildings, based on NYC data. Assign building-level reduction targets that get smaller as performance scores increase, so that less-efficient buildings do more. And allow an initial ten-year compliance timeline so upgrades can align with financing, equipment replacement, and tenant turnover.

1
Cut Citywide Building
Energy 20 Percent by 2030

ISSUE
Reaching 80x50 means making major reductions in building energy in the coming decades. We must balance the need to act soon with cost, the limits of existing practice and technology, housing affordability, and the uncertainty of more-distant timelines.

RECOMMENDATION
Require large buildings to save 20 percent from 2020 to 2030 in aggregate, with each building sector contributing its proportional share. By 2020, establish default targets for 2040 and 2050 consistent with achieving 80x50, with review and update every 5 years.

2
Use a Made-in-NYC Metric

ISSUE
Buildings use energy differently because of differences in construction, operations and occupancy. To accurately compare buildings, an energy metric must account for these variations.

RECOMMENDATION
Develop a metric based on EPA's Energy Star rating tool that is calibrated with NYC building data and reflects the downstate grid.

3
Measure Energy at its Source

ISSUE
Energy is measured either solely at the building level (site energy) or by also including energy used to generate and transport power to the site (source energy). Site energy is what owners control directly but source energy reflects energy's full environmental impact and is used for benchmarking. Source energy changes as the grid changes, which could mean a shifting metric for owners.

RECOMMENDATION
Use source energy to measure energy consumption. Base the source energy calculation on the local grid composition in 2020 so owners don't face a moving target in 2030. Adjust that calculation for future compliance periods based on the changing grid.

4
Combine All Building Energy
in One Requirement

ISSUE
Buildings use many sources of energy, including electricity from the grid and oil and gas burned on site. Separately regulating each source would increase certainty about future emissions but add red tape and reduce flexibility for owners.

RECOMMENDATION
Regulate all energy sources together in a single, whole-building requirement. In the alternative, supplement with a cap on fossil fuels burned by the least-efficient multifamily buildings.

Together, the framework proposals outline a fair and effective approach to setting building energy reduction requirements.

Each building receives a unique relative efficiency score using an NYC-calibrated metric.

5

50

95

Based on this score, each building receives a different reduction target. Lower scores mean larger reductions.
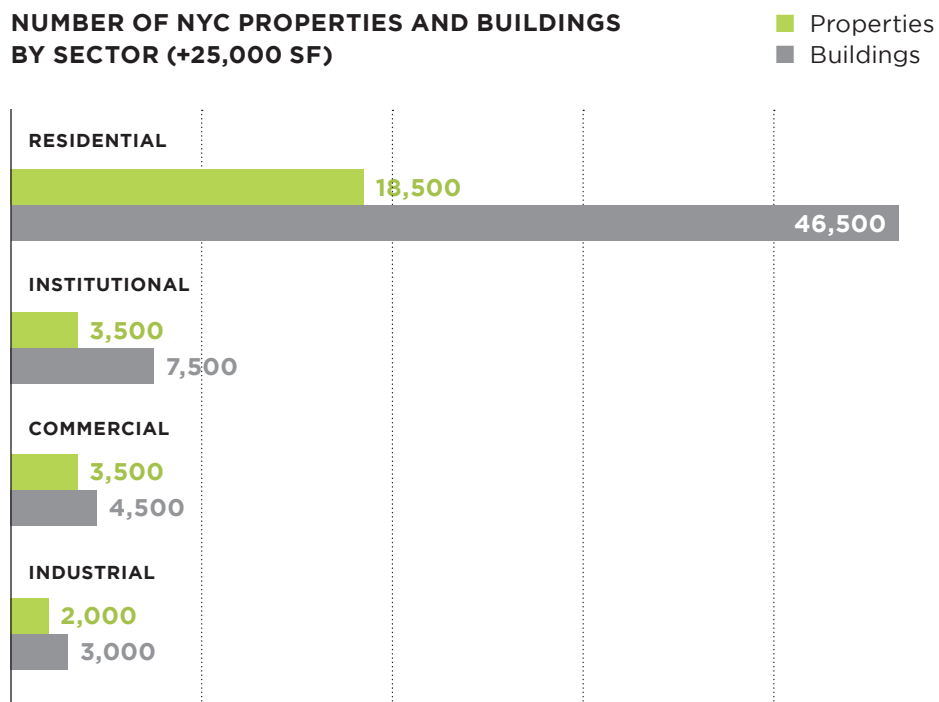
Together, the reductions add up to 20% energy savings in large buildings citywide.

20%

The most efficient buildings, like PS 62, a Net Zero school on Staten Island, would be exempt from compliance in 2030.

**NUMBER OF NYC PROPERTIES AND BUILDINGS
BY SECTOR (+25,000 SF)**

■ Properties
■ Buildings

Many NYC properties have more than one building. Some smaller buildings on large properties may not be affected by this policy. Ultimately, the number of buildings covered will depend on legislative definitions.

RESIDENTIAL
- 18,500 (Properties)
- 46,500 (Buildings)

INSTITUTIONAL
- 3,500 (Properties)
- 7,500 (Buildings)

COMMERCIAL
- 3,500 (Properties)
- 4,500 (Buildings)

INDUSTRIAL
- 2,000 (Properties)
- 3,000 (Buildings)

5
Require Less-Efficient Buildings to Reduce More

ISSUE

Two core reduction strategies were considered for most buildings: cap a building's energy use, or require all buildings to reduce energy by a percentage. A one-cap-fits-all approach doesn't account for how different buildings use energy, while leaving those under the cap untouched. But using the same percentage reduction for all buildings may require too much from top performers and not enough from the least efficient.

RECOMMENDATION

Require most buildings to meet percent reductions that are smaller the more efficient a building is.

6
Avoid a Compliance Pile-up

ISSUE

A distant compliance date could delay upgrades. That means less carbon saved in the interim and a potential rush near 2030 that could overwhelm the workforce.

RECOMMENDATION

Develop a phased timeline to avert a 2030 pile-up. Options include multiple compliance years, an interim capital plan, and incentives for early compliance.

After a recent lighting upgrade, 160 LED bulbs illuminate the sanctuary at Our Lady of Mount Carmel, a Romanesque Revival church in the Bronx.

ADAPT FOR SPECIAL CASES

No two buildings and no two owners are the same. Some sectors face greater challenges than others when implementing efficiency upgrades and will require more support or tailored solutions. Proposals in this chapter focus on identifying these sectors and adapting the framework accordingly.

Perhaps the toughest nut to crack in developing this policy is the rent-stabilized multifamily sector. Housing affordability is a critical issue for NYC. Complicated state rules allow the costs of many major building upgrades to be passed on to tenants through permanent rent increases. Owners need to find a way to pay for upgrades, but efficiency requirements shouldn't drive rent increases on low- and moderate-income tenants. Until state rules are changed, this sizable sector requires a different path, one that spurs action but avoids affordability impacts.

Owners of other affordable housing—and there are many types—often struggle with thin margins and have difficulty accessing financing. So, too, do many nonprofit organizations, like houses of

worship and social service organizations, or schools that may have limited staff and no experience with energy management. With a public-interest mission, these sectors warrant a bigger helping hand: dedicated financing, technical support and streamlined access to incentives or subsidies.

On the other hand, city-owned buildings can do more. The city should lead the way by upgrading public buildings sooner rather than later. Doing so will provide a critical place for industry to learn and innovate, encourage the development of a qualified workforce, and drive demand for energy efficiency products and services.

7
Keep Affordable Housing Affordable

ISSUE
The cost of "Major Capital Improvements" (MCIs), like boiler replacements, can often be passed on to tenants in rent-stabilized apartments, who may not be able to afford the resulting permanent rent increases. Nonetheless, owners need a way to pay for efficiency improvements. The rent-stabilized sector accounts for about 40 percent of large multifamily building space, so it's essential to get it right.

RECOMMENDATION
Require low-cost, energy-saving measures that don't qualify as MCIs for the rent-stabilized sector, instead of the percent reductions applicable to other sectors. Require adjustments to this approach if MCI rules or their interpretations change. And provide support and incentives so that the rent-stabilized sector can achieve the same efficiency gains as market-rate buildings.

How are MCIs approved?

Owners apply to New York State to raise rents based on the costs of MCIs. To qualify, an improvement must be building-wide, benefit all tenants, and typically replace an item past its "useful life."

8
Lend a Bigger Hand Where It's Most Needed (Part 1)

ISSUE
Affordable housing owners often face thin margins, financing challenges, and a backlog of upgrades to implement. Without help, they may struggle to achieve required energy savings.

RECOMMENDATION
Help affordable housing owners by expanding support programs, improving access to financing, and coordinating with NY State programs to achieve energy savings on par with market-rate buildings.

9
Lend a Bigger Hand Where It's Most Needed (Part 2)

ISSUE
Efficiency upgrades may be challenging for many nonprofit organizations. They often have constrained finances, limited staff, difficulty accessing available resources, and minimal experience with energy management.

RECOMMENDATION
Provide dedicated financing and technical support for nonprofits and religious organizations, including streamlining access to incentives.

10
Lead the Way with City Buildings

ISSUE
Scaling retrofits in NYC requires a proving ground so designers and contractors can experiment, shedding light on costs, risks, and solutions. City buildings have long paved the way for green building innovations.

RECOMMENDATION
Require city-owned buildings over 10,000 square feet to reduce energy consumption 20 percent by 2025 (twice as fast as private sector buildings) and reduce fossil fuel consumption. Publish case studies with lessons learned on deep retrofits and new technology pilots.
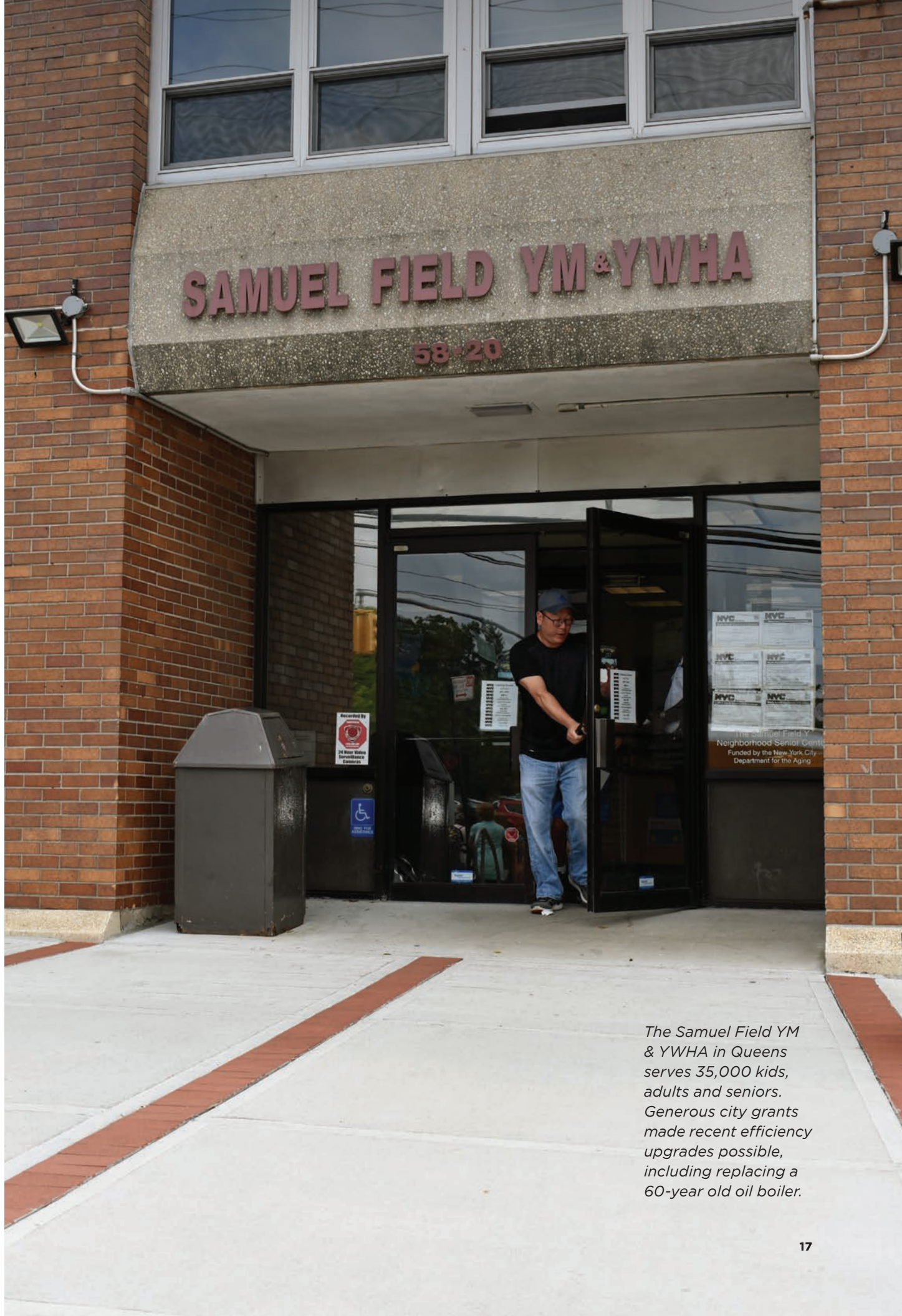
The Samuel Field YM & YWHA in Queens serves 35,000 kids, adults and seniors. Generous city grants made recent efficiency upgrades possible, including replacing a 60-year old oil boiler.

Building management systems can help maximize efficiency. At One Battery Park Plaza, ventilation and cooling automatically adjust to the number of occupants, avoiding energy waste.

ALLOW FLEXIBILITY

The ideal building retrofit policy will deliver the largest carbon savings at the lowest cost. That doesn't just make sense for building owners. It also makes sense for everyone who lives and works in New York City, as we will ultimately benefit when energy efficiency is reflected in real estate prices. Proposals in this chapter explore ways to allow—and place reasonable limits on—flexibility in compliance to achieve that end, including adjustments that advance long-term carbon goals.

The cost of efficiency upgrades varies across sectors, building types and owners. And efficiency work is most cost-effective when aligned with equipment life, tenant turnover and normal financing cycles. Allowing owners to trade efficiency credits and purchase green power to achieve some portion of compliance would introduce flexibility, including some breathing room if retrofits underdeliver. But both options need more analysis and planning to advance.

From a policy perspective, two long-term 80x50 goals require some flexibility.

First, how can we encourage early adopters to replace fossil-fuel based heating and hot water systems with highly efficient electric systems? Doing so will help the market learn what works over the next decade and be ready to scale beyond 2030.

Second, what's the right balance to strike on credit for efficiency achieved through new, gas-fired cogeneration plants? Placing a limit will ensure that this policy drives the on-site efficiency improvements that are critical to reaching 80x50.

11
Let Owners Trade Efficiency

ISSUE
Every building has a different cost for energy savings. Allowing buildings to bundle together or trade efficiency "credits" would give owners flexibility and reduce the cost of cutting carbon.

RECOMMENDATION
Develop an optional efficiency trading program, enabling owners to reach their energy reduction targets by buying energy savings from upgrades in other buildings. Consider providing greater credit for efficiency improvements in the nonprofit and affordable housing sectors.

Tokyo Cap-and-Trade

In 2010, Tokyo became the first city in the world to use a cap-and-trade program to reduce CO_2 emissions. The program covers about 1,300 large buildings and has driven more than 25 percent emissions savings to date. Lessons learned in Tokyo should inform a New York efficiency trading program, including the importance of strict third-party verification and strategies for addressing high credit prices.

12
Include Flexibility to Buy Green Power

ISSUE
Financing cycles, equipment life and tenant turnover may make 2030 compliance especially challenging for some buildings. Allowing owners to defer some energy savings by buying green electricity would provide helpful flexibility. But not all green power is created equal. If used, it must not undercut efficiency as the top priority.

RECOMMENDATION
Allow owners to buy new, additional green power to defer a small portion of their required energy savings. Limit the option in quantity and duration, and prioritize New York green power.

13
Encourage Beneficial Electrification

ISSUE
To achieve 80x50, buildings must reduce their fossil fuel consumption and eventually begin using electricity for heating and hot water. Electric heat pumps are a likely solution. High electricity prices make them more expensive to operate now, but early adopters can help pave the way for taking them to scale.

RECOMMENDATION
Encourage heat pump pilots and installations by reducing the energy savings requirement for buildings that convert to high-efficiency electric heat or hot water systems.

**UPSTATE
ENERGY PROFILE**

88%
9%

**DOWNSTATE
ENERGY PROFILE**

27%
70%
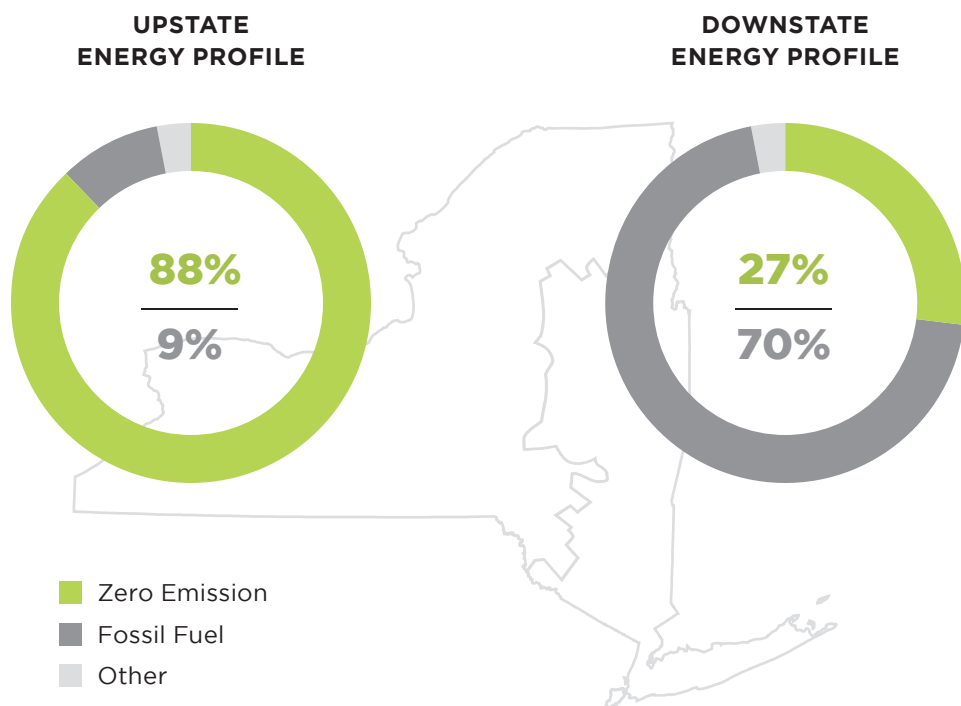
Although New York state generates a lot of carbon-free electricity, constraints in transmission limit how much clean energy makes it to New York City.

- Zero Emission
- Fossil Fuel
- Other

14
Cap the Efficiency Credited to New Cogeneration

ISSUE

Cogen plants generate electricity from natural gas and then use exhaust heat that is normally wasted. It's a carbon benefit whenever the downstate grid is "dirty." Once the grid is clean, burning gas on site will mean more emissions than electricity from the grid. Investment in new cogen should be valued now, but not at the expense of building efficiency.

RECOMMENDATION

Limit the amount of new cogen that counts toward reduction requirements. Develop rules that require metering for new cogen and a transparent calculation for the efficiency credit. If a fossil fuel cap is included, exempt gas burned in cogen plants in the near term. But end that exemption once gas no longer dominates the downstate grid.

15
Reward Peak Demand Savings

ISSUE

The electrical grid is sized to meet a very small number of hours of maximum demand each year. A kilowatt-hour saved at 3AM in winter is worth much less for reducing carbon and air pollution than a kilowatt-hour saved at the peak of a hot summer day, when the least efficient power plants are firing.

RECOMMENDATION

Evaluate options to account for the carbon benefits of peak demand savings without undercutting permanent energy reductions.

From centrally cooled Manhattan highrises to six-story Brooklyn co-ops with window ACs, NYC's large buildings and their owners are immensely diverse. City support must address this wide range of needs.

MAKE EFFICIENCY EASIER

Construction in New York City is no cakewalk. It's more expensive to build here than anywhere else: 50 percent above the national average and 20 percent higher than major cities like Chicago, Los Angeles and Boston. In New York City, a typical project may require approvals from half a dozen city agencies, all important but adding time and cost.

Urban density places limits on noise and working schedules and makes it hard to deliver and store materials. And the high cost of living and a tight market for skilled labor translate to higher soft costs.

Given these high costs, building owners need support to comply with this plan. Many buildings—like most co-ops and condos—have minimal experience integrating efficiency upgrades into capital planning. They will need help doing so.

About 50,000 buildings are covered under the policy. Currently, big retrofit consulting firms might complete 50 large-building retrofits annually, while the city's Retrofit Accelerator targets 1,500 "projects" over three years (whether stairway lighting upgrades or full retrofits). We will require a support infrastructure more than ten times larger than what exists now.

Proposals in this chapter focus on providing owners with the technical and financial resources to make implementation easier. We need a huge expansion of programs to help owners with upgrades, prioritizing assistance to those with fewer resources and less technical ability. We also need to streamline existing financing options, better integrate efficiency in conventional lending, and enact new funding streams like commercial PACE. Some proposals also focus on lightening the regulatory burden for owners. As we add expenses through a major new policy, it makes sense to look for feasible ways to reduce costs elsewhere.

16
Make Efficiency Easier through Expanded Services

ISSUE
The proposed policy would impact about 50,000 buildings. Yet, most building owners are not proficient in energy efficiency or accessing financing for retrofits. Owners will require a lot of help for the policy to be successful, including engaging tenants whose energy use drives the energy profile of many buildings.

RECOMMENDATION
Dramatically expand the scope and capacity of the city's Retrofit Accelerator or other entities and approaches to support owners undertaking retrofits. Prioritize assistance to owners with fewer resources and less technical ability, including smaller buildings and nonprofits. Assist owners with strategies to reduce tenant energy use. Align with state and utility efficiency initiatives to maximize impact.

17
Bolster Financing Initiatives

ISSUE
Many buildings will require specialized financing to undertake energy retrofits, including on schedules that don't align with mortgage refinancing. And straightforward efficiency financing is not yet readily available through the traditional lending process.

RECOMMENDATION
Align and streamline existing financing resources. Simultaneously, enact C-PACE financing legislation, opening a new funding stream at attractive terms and rates. Encourage support for efficiency in conventional underwriting, while advancing other financing options to support retrofits.

18
Align Energy Use with Energy Bills

ISSUE
People tend to waste things that are free. When electricity is included in rent, apartment dwellers use about 20 percent more than when the tenant foots the bill. And metering and billing for water has saved 35 percent in some buildings. While more direct billing is possible now, regulatory hurdles mean it's cumbersome. Any change must be equitable for tenants in affordable housing.

RECOMMENDATION
Convene a task force with NY State to implement electric and cold water submetering and simplify regulatory requirements. When metering occurs in rent-stabilized units, ensure it is cost-neutral for tenants through rent reductions. Experiment with heat submetering, and later assess the potential to mandate.

19
Shorten the NYC Heating Season

ISSUE
NYC classifies October 1 to May 31 as the "heating season," when owners must maintain certain indoor temperatures. This means heating systems can only be upgraded or repaired during four months of the year. Over the last 20 years, the temperature has stayed above 50 degrees for 70 percent of days in May.

RECOMMENDATION
Reduce the heating season by four weeks, shifting it to October 1 to April 30.

20
Facilitate Access for Retrofits

ISSUE

Many efficiency improvements require work within tenant apartments, like upgrading radiators or insulating exposed pipes. Owners need predictability, while building service workers need clear access guidelines. Skipping work in just a few apartments can have an outsized impact on the cost, timeline and energy savings of a retrofit. But any changes must continue to protect tenant rights.

RECOMMENDATION

Explore the feasibility of facilitating access to tenant spaces for legitimate efficiency upgrades, while balancing the need to protect tenants. Options include developing a form letter from the city and guidelines for service workers to clarify the rules for access.

21
Lower the Burden of Façade Inspections

ISSUE

Since 1980, the façades of buildings affected by Local Law 11 have been thoroughly inspected eight times. Regulations and industry customs make these inspections the single largest expense for many buildings.

RECOMMENDATION

Require less-frequent inspections for buildings with clear track records. Reduce other cost factors by creating a role for drones or cameras, allowing reports to be filed despite open permits and clarifying rules for site-safety inspectors.

The Partnership held over 85 meetings and will continue to convene during the legislative process to advance our recommendations.

ABOUT THE 80x50 BUILDINGS PARTNERSHIP

The 80x50 Buildings Partnership is a collaboration between NYC's leading building and energy stakeholders to develop smart climate change policies. First convened by Urban Green Council in November 2017, the Partnership included more than 70 individuals from over 40 organizations representing the real estate, labor, energy efficiency, nonprofit and government sectors.

This report is the Buildings Partnership's inaugural project. In developing our recommendations, we followed the successful approaches of Urban Green's prior major convenings, the Green Codes Task Force (2008-2010) and Building Resiliency Task Force (2013).

Buildings Partnership participants were organized into five Working Groups, each led by a chair or co-chairs and focused on a different aspect of the policy: Framework, Requirements, Affordable Housing, Alternate Compliance, and Red Tape & Optimization. The Working Groups identified key issues and questions. Subgroups then analyzed and developed answers and potential solutions, collaborating on detailed proposals. The full Buildings Partnership reconvened throughout to review and comment on high-priority issues and finalize the ultimate recommendations.

Over the course of eight months, we held 85 meetings, with participants donating 1,300 pro bono hours of meeting time—and that doesn't include tremendous additional volunteer time

spent drafting and reviewing detailed proposals. The substantial time and effort contributed by partnership members, all experts in their fields, was essential to the outcome. Urban Green is grateful for the knowledge, experience and dedication of all those who made this report possible.

The work of the Buildings Partnership will continue. Details of many proposals must be worked out during the legislative process, and we will continue to convene and help shape the final policy. Then there will be rulemaking. Beyond the legislation, we will work to ensure the development of the support services that will be essential for successful implementation.

In addition, entirely new 80x50 policy challenges await, such as addressing energy use in buildings under 25,000 square feet. Stakeholder input is critical to a successful policy, and the 80x50 Buildings Partnership will continue to drive consensus solutions to NYC's energy and climate challenges.

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NOTES & CREDITS

Notes

Report Highlights
Analysis of CO_2 impact based on NYC energy benchmarking data and Property Land Use Tax Lot Output (PLUTO) data, using Energy Star scores in place of an NYC-calibrated metric. Baseline electric grid fuel mix adapted from New York City's Roadmap to 80x50 with accelerated closure of Indian Point Energy Center.

Analysis of number of buildings affected based on NYC's 2017 Primary Land Use Tax Lot Output (PLUTO) dataset and calculated using the definition of "covered building" from the NYC Benchmarking Law. Analysis excludes buildings likely to be under 25,000 square feet on large properties.

Create a Smart Framework
Analysis of number of NYC properties and buildings based on NYC's 2017 Primary Land Use Tax Lot Output (PLUTO) dataset.

Allow Flexibility
Upstate energy profile and downstate energy profile based on the New York Independent System Operator (NYISO) *2018 Power Trends*.

Photography & Design

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