

city of yes

city of solar
city of health
city of energy
city of carbon neutrality
city of resilience





city of yes
for Carbon
Neutrality

Adopted Dec. 6, 2023



city of yes
for Economic
Opportunity

Awaiting City Council Vote



city of yes
for Housing
Opportunity

Referral This Spring

Updating our zoning to support decarbonization

A citywide zoning text amendment to **remove impediments** to, and **help support**, ongoing decarbonization of:



our grid

supporting the greening of our grid by broadly allowing for wind, solar, and storage



our buildings

supporting the retrofitting of NYC's buildings to become energy-efficient and electrified



our vehicles

supporting EV adoption, biking, and e-mobility, by broadly allowing for charging



our waste

supporting other City efforts to grow composting and rainwater collection

...in order to reduce New York City's operational carbon emissions 80% by 2050, in line with the Paris Agreement.

Goal 1

Decarbonize our energy grid

By 2040, the New York energy grid must be 100% renewably-based

see: [2019 NYS CLCPA](#)



To meet demand, we need to generate energy everywhere; we've set a goal of 1000 MW of rooftop solar by 2030.

see: [2016 Climate Week NYC](#)

The grid of the future will be less centralized with 'distributed resources' spread across the city

see: [2015 NYS Reforming the Energy Vision](#)



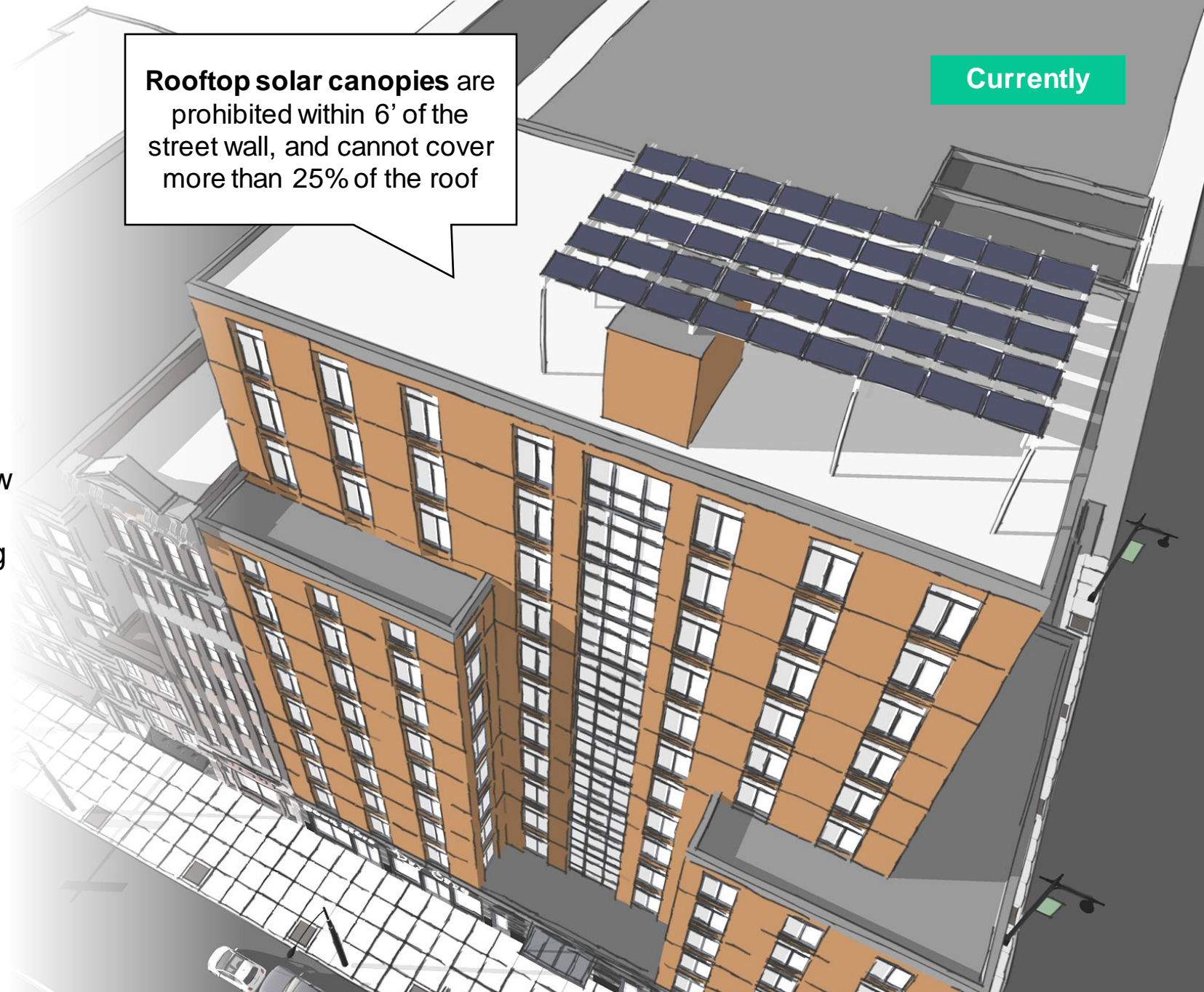
To store clean energy, and respond to demand, gigawatts of local energy storage will be crucial.

see: [2022 State of the State](#)

Proposal 1

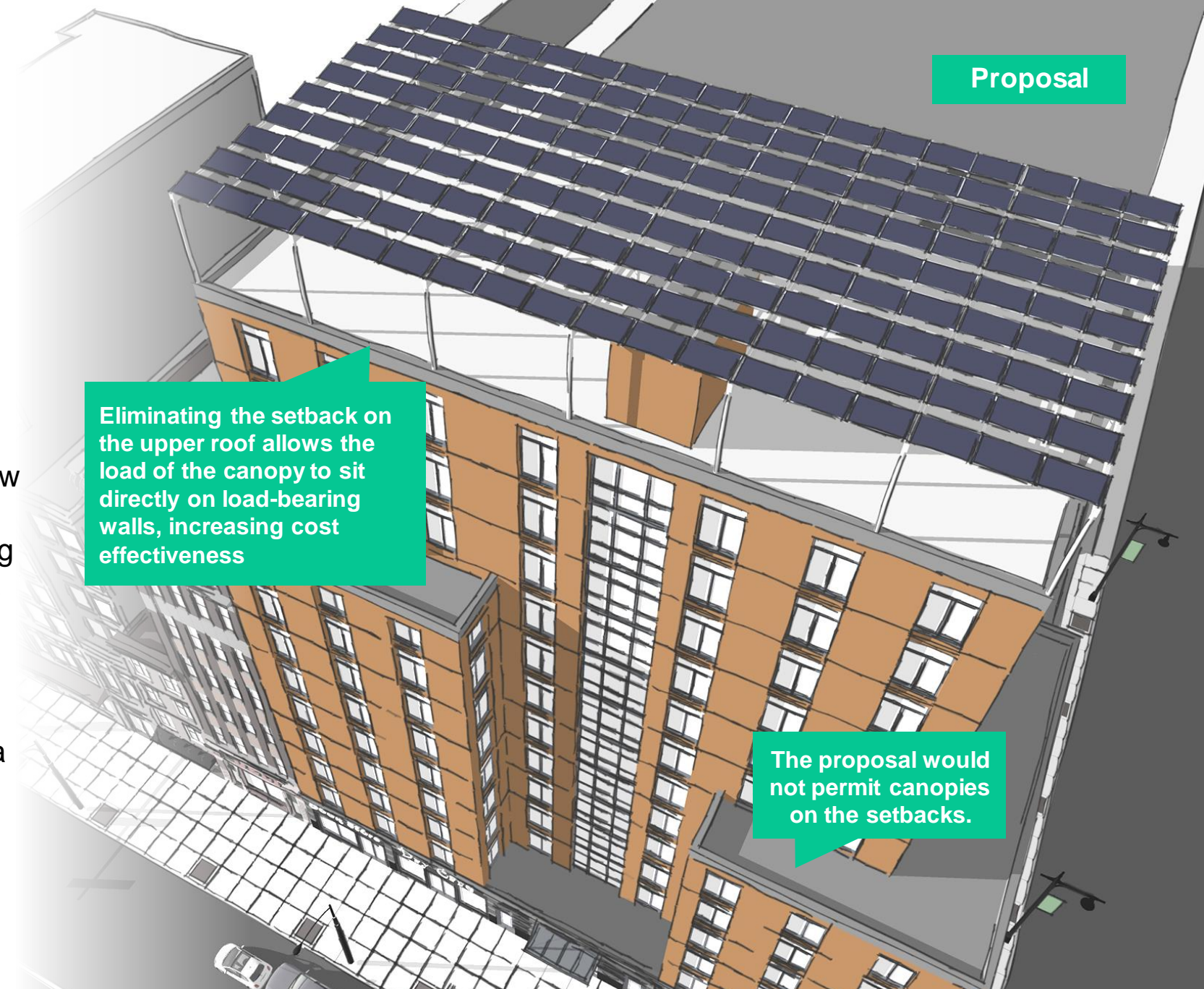
Solar on building rooftops (flat)

- **Previously:** Zoning allowed solar panels to be added to flat roofs, above the height limit – but when elevated to these heights, strict limitations applied.
- **Issue:** These zoning rules curtailed how much solar a home/building owner realistically can install, artificially limiting solar potential and making installations infeasible – and conflicted with FDNY headroom requirements.
- **New regulations:** Eliminate coverage and setback requirements, and apply a 15' maximum height limit to all flat-roof solar installations, regardless of zoning district.



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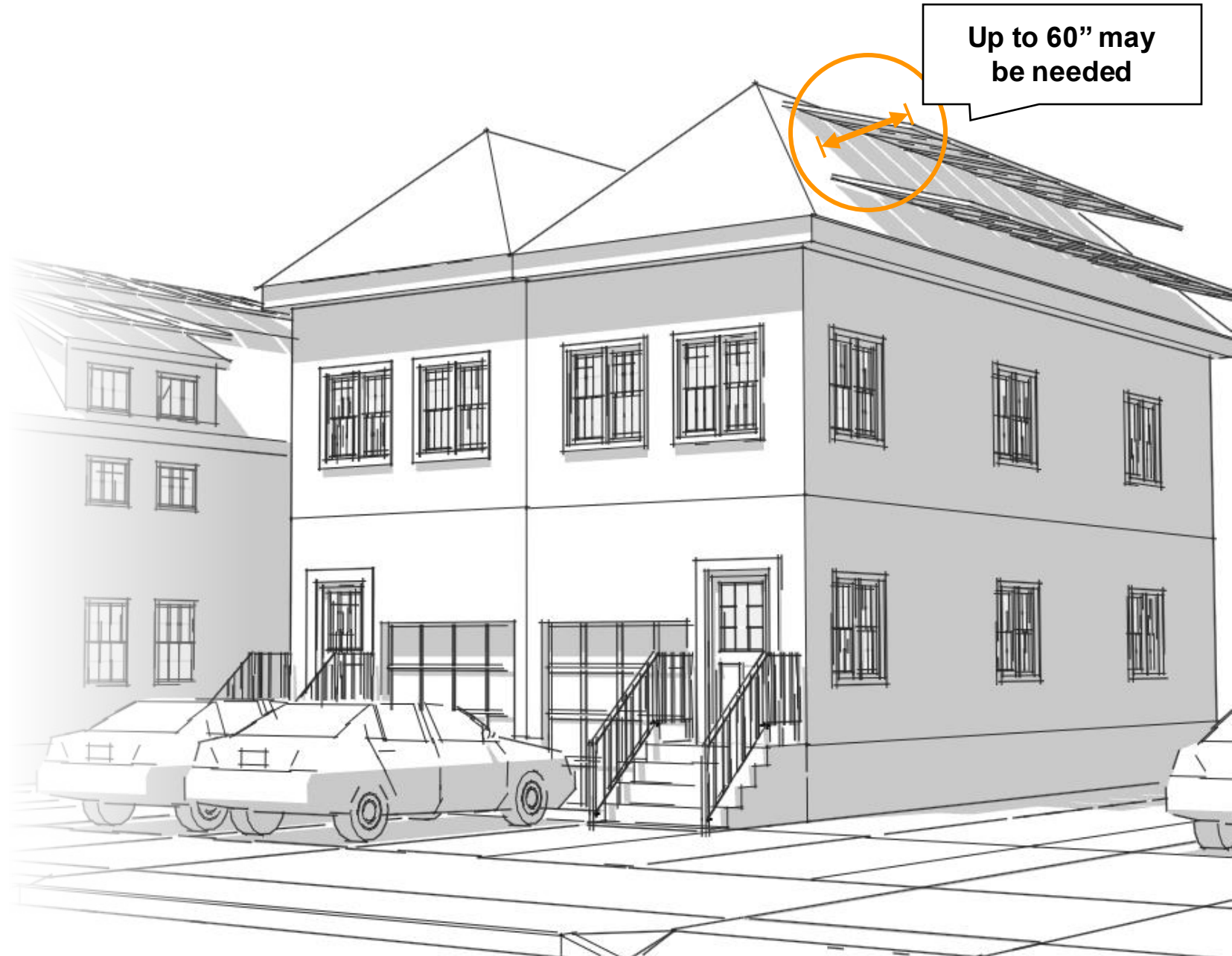
Eliminating the setback on the upper roof allows the load of the canopy to sit directly on load-bearing walls, increasing cost effectiveness

The proposal would not permit canopies on the setbacks.

Proposal 1

Solar on building rooftops (sloped)

- **Previously:** Zoning allowed solar panels to be added to sloped roofs, above the height limit, up to a maximum of 18 inches.
- **Issue:** This requires panels to hug the roof, even on roofs with poor solar orientations. Without the ability to “tilt” the installation to catch more sun, the installation is infeasible.
- **New regulations:** Provide greater flexibility for rooftop solar on pitched roofs, by expanding the 18” allowance to **60”**.



Proposal 2

Solar canopies over parking areas

- **Previously:** Zoning allowed parking spaces to obstruct a number of required open spaces, required front yards, required rear yards, etc.
- **Issue:** “Solar awnings/canopies” are not always permitted in the same areas as parking, preventing their installation.
- **New regulations:** Allow solar awnings / canopies (pictured at right) to always cover the entirety of a parking area by aligning varied permitted obstruction regulations.



Proposals 3 + 4

Community solar / renewable energy and Energy storage systems (ESS)

- **Previously:** The Zoning Resolution (ZR) previously classified “non-accessory” solar generation as a commercial use.
- **Issue for solar:** Large parts of the city are off-limits to crucially-needed, grid-supporting solar arrays. To locate here, solar and storage systems need to be kept small so that they can be considered “accessory” – precluding grid-supporting installations.
- **Issue for ESS:** The ZR previously does not have clear regulations governing energy storage. By interpretation, such uses can qualify as “electric utility substations” and thus must obtain a BSA special permit to locate in Residence Districts.

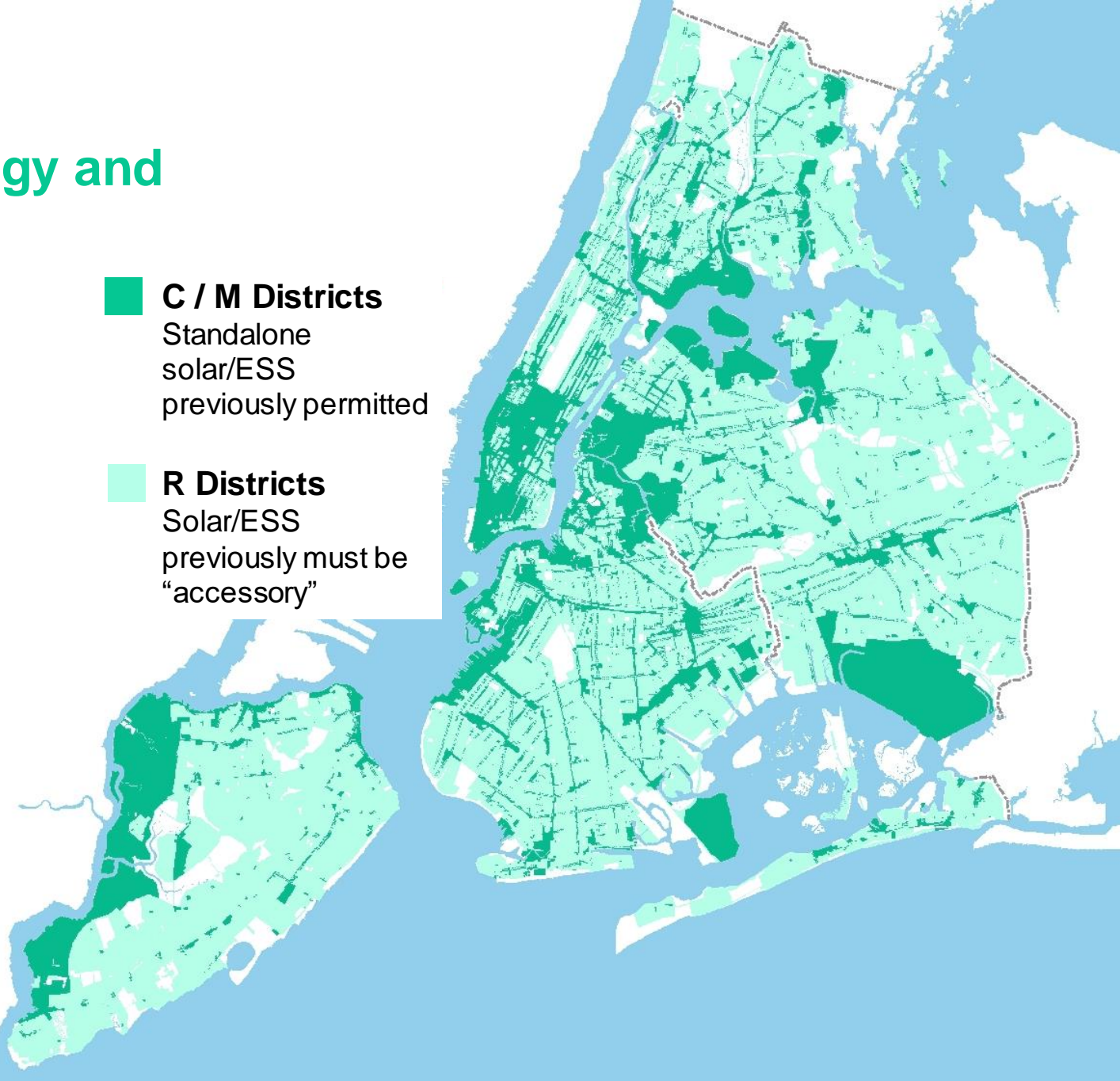


ESS at the Barclay Center

Community solar / renewable energy and Energy storage systems (ESS)

- **New regulations:** Create new uses within Use Group 4 and Use Group 6 to accommodate grid-supporting **#energy infrastructure equipment#**:
- **Use Group 4 (22-14)** for **smaller installations**, in which the aggregate footprint of the equipment is smaller than 10,000 ft², is permitted as-of-right in Residence Districts.
- **Use Group 6 (32-15)** for **larger installations**, with footprints larger than 10,000 ft², would still require BSA review before locating in Residence Districts. They would be allowed as-of-right in Commercial + Manufacturing Districts.

- **C / M Districts**
Standalone solar/ESS previously permitted
- **R Districts**
Solar/ESS previously must be “accessory”

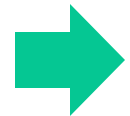


Proposal 4

Summary of changes for standalone solar and ESS

Previously

	R Districts	C Districts	M Districts
Accessory solar / wind Accessory ESS	Permitted AOR	Permitted AOR	Permitted AOR
Solar energy systems (UG 6 primary use)	Not permitted	Permitted AOR	Permitted AOR
Electric utility substation <10k sf	BSA permit needed	Permitted AOR	Permitted AOR
Electric utility substation 10k-40k sf	BSA permit needed	BSA permit needed	Permitted AOR
Electric utility substation >40k sf	CPC permit needed	CPC permit needed	Permitted AOR



New regulations

	R Districts	C Districts	M Districts
Accessory solar / wind Accessory ESS	Permitted AOR	Permitted AOR	Permitted AOR
Energy infrastructure equipment ≤10k sf	<u>Permitted AOR</u>	Permitted AOR	Permitted AOR
Energy infrastructure equipment >10k sf	BSA permit needed	<u>Permitted AOR</u>	Permitted AOR
Electric utility substation regs will remain for actual substations	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>

+ Clarifications that accessory energy storage, as well as accessory electrical equipment serving non-accessory energy storage, is considered accessory mechanical for (1) floor area exemption and (2) rooftop obstruction purposes.

Goal 2

Decarbonize our building stock

Our buildings are NYC's biggest source of CO₂ emissions

see: **2019 NYS CLCPA**



To decarbonize our building stock, virtually every one of our city's 1,000,000+ buildings will need to be retrofit.

2015 Roadmap to 80x50

Boilers and furnaces will need to be replaced with all-electric heat pumps

see: **NYC 80x50**

Windows and walls will need to be improved or replaced with new efficient ones.

see: **NYC 80x50**



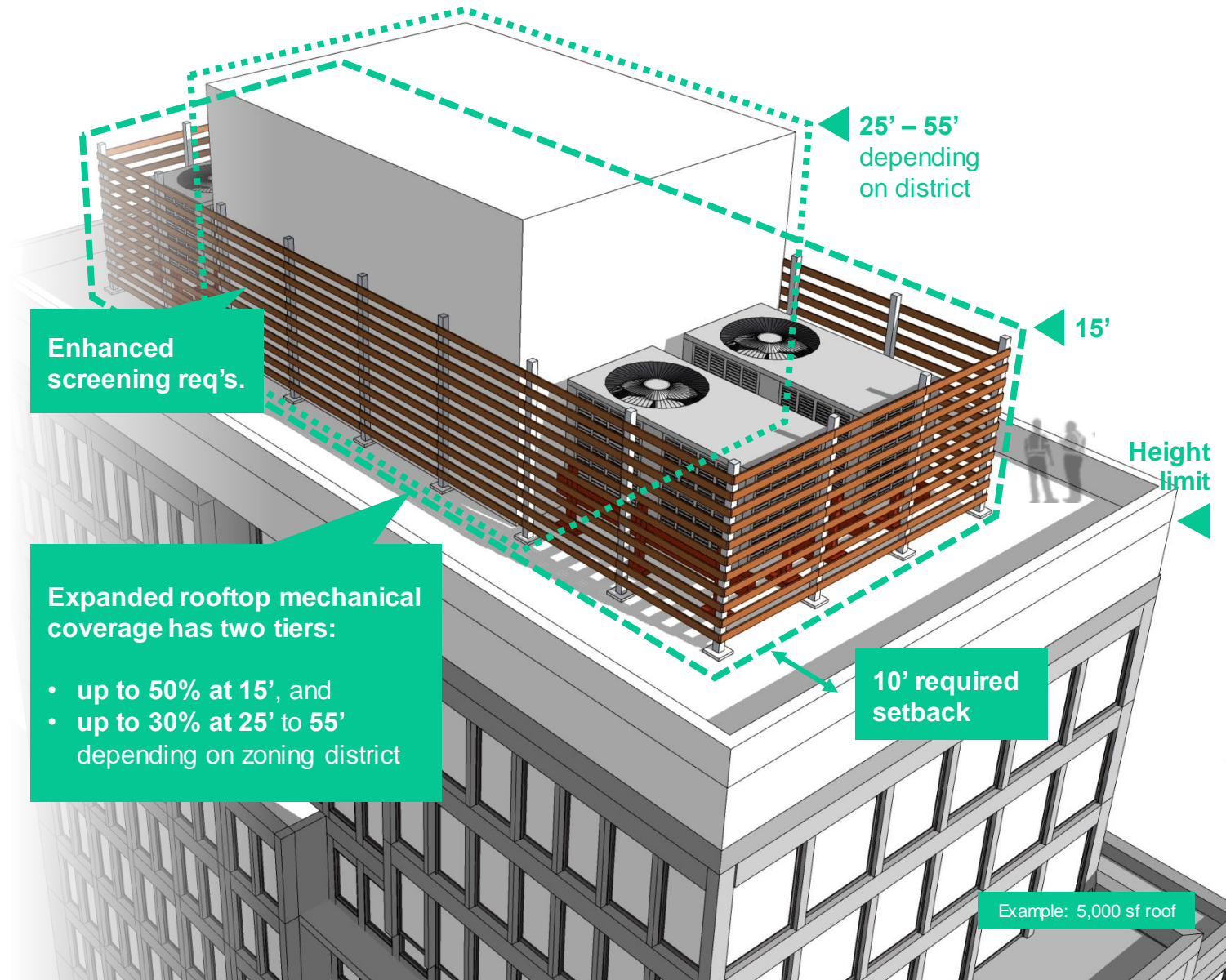
Large buildings (> 25,000 sf) that fail to cut their CO₂ emissions will face steep fines

2019 NYC Climate Mobilization Act (Local Law 97)

New buildings will be prohibited from installing fossil-fuel equipment
Local Law 154

Retrofitting mechanical equipment for electrification

- **Previously:** Zoning regulates how much rooftop mechanical equipment is permitted above the zoning height limit. This takes the form of a coverage cap, and separate height limit, on the rooftop mechanical equipment.
- **Issue:** Buildings which are retrofitting to all-electric systems often need to replace boilers in their basement with heat pumps that are outdoors, typically on their roof – sometimes running into zoning limitations.
- **New regulations:** To provide greater flexibility for electric equipment like heat pumps, zoning allowances that previously applied only within the floodplain are now available citywide.



Proposal 8

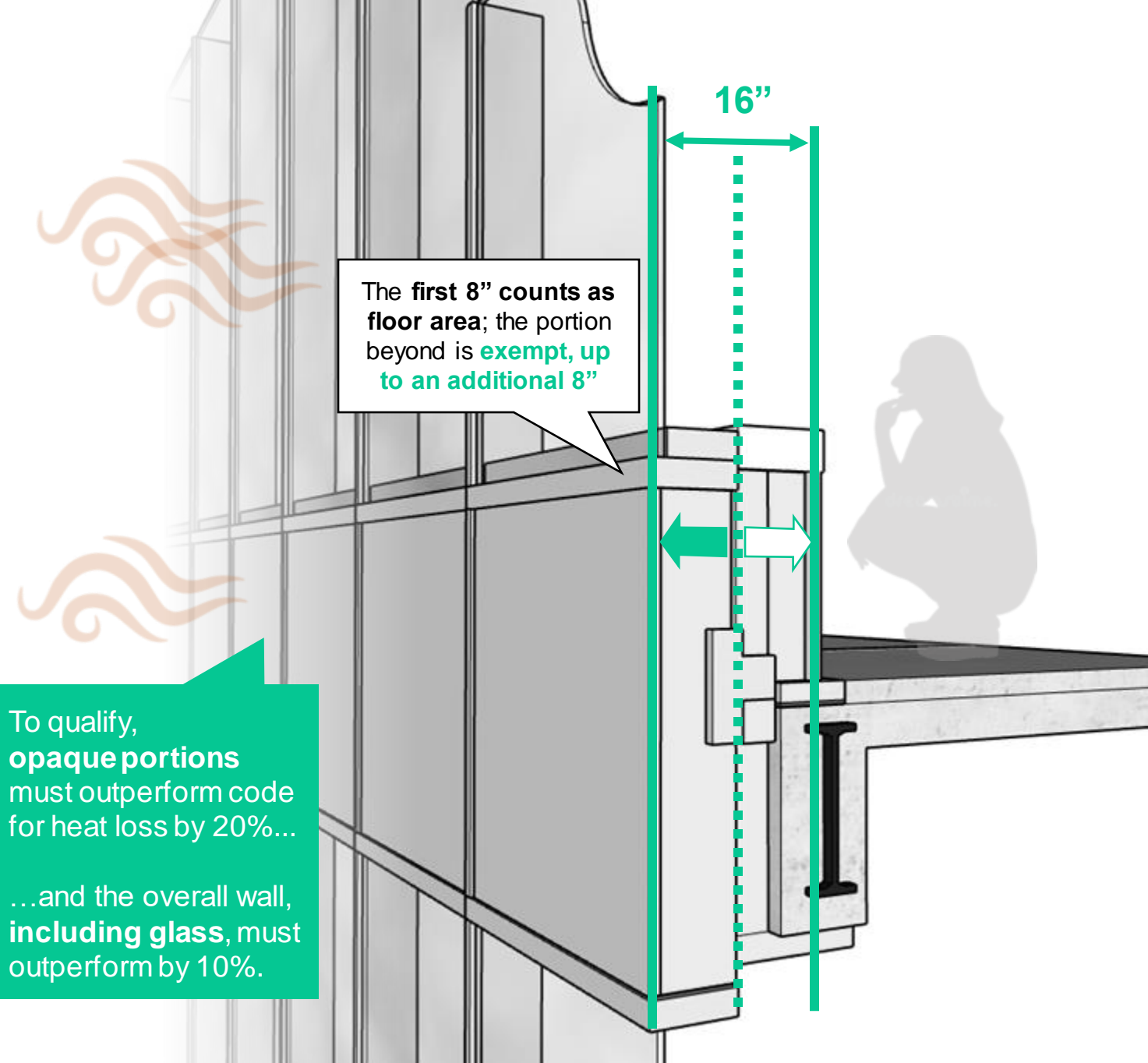
Promoting envelopes that perform better-than-code

Previously: Zoning allows a 'wall thickness floor area exemption' (the "Zone Green bonus") for portions of walls that exceed Energy Code.

Issues:

- The current exemption focuses on the **heat transmission (u-factor)** of a wall. This misses other key criteria, such as air leakage.
- Code's "u-factor" has been heavily revised since Zone Green. It is very difficult to outperform today's u-factor, and **nearly impossible** to outperform future u-factors.
- Administering this "up to 8 inch" wall exemption is **complex + prone to issues**.
- It is impractical for **existing buildings** to take advantage of this exemption.

To qualify, **opaque portions** must outperform code for heat loss by 20%...
...and the overall wall, **including glass**, must outperform by 10%.



Proposal 8

Promoting buildings that perform better-than-code

New regulations:

We simplified the deduction from “up to 8 in. beyond the first 8 in. of wall thickness” into a **flat 5% exemption** from a building’s floor area.

This aligns the exemption with Local Law 97 by promoting newer performance criteria:

- **existing buildings** which retrofit to become **#fully electrified buildings#** would be eligible for the exemption
- **new buildings**, which are already required to be fully electric (LL 154) would be eligible for the exemption if they design to **#ultra low energy building#** design standards.
- (Note: existing buildings are not precluded from retrofitting to ultra low energy building standards if so desired.)

fully electrified
or ultra low energy
buildings:

-5%
floor area
exemption



Key ZR sections: 12-10
for definitions of “floor area”,
“fully electrified building” and
“ultra low energy building”

Topic 6

Retrofitting mechanical equipment for electrification

Height & setback	coverage	height
R3-2, R4, R5	20%* (varies based on use and district)	+25' * (varies based on use and district)
R6 – R10, C, M where permitted height < 120'	20%	+25'
R6 – R10, C, M where permitted height > 120'	20%	+40'



Height & setback	coverage	height
R3-2, R4, R5 residential	50%	at +15'
	up to 30%	at +25'
R3-2, R4, R5 community facilities R6 – R10, C, M where permitted height < 120'	50%	at +15'
	up to 30%	at +35'
R6 – R10, C, M where permitted height > 120'	50%	at +15'
	up to 30%	at +55'

Yards, Courts & Open Space

All **accessory power systems** are permitted obstructions up to 25% of area, up to 10'/15' high

Yards, Courts & Open Space

All **accessory mechanical equipment (incl. power sys.)** are permitted obstructions up to 25% of area, up to 10'/15' high

Summary of proposal



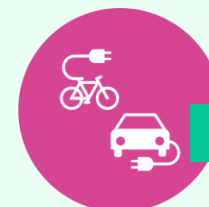
ENERGY

1. **Rooftop solar:** removing zoning impediments.
2. **Solar parking canopies:** remove zoning impediments to allow.
3. **Solar:** ensure standalone generation is allowed
4. **On-shore wind:** add a new tool for the CPC to consider future applications
5. **Energy storage (ESS):** add new rules to allow grid-supporting ESS in a wide range of zoning districts



BUILDINGS

6. **Electrification retrofits:** expand rooftop and yard allowances to accommodate increased need for outdoor electrified equipment like heat pumps
7. **Building exterior retrofits:** fix rules to ensure that the widest range of exterior retrofits are allowed.
8. **Fix Zone Green:** update and improve this floor area exemption to ensure it continues to promote better-than-code performance.



TRANSPORTATION

9. **Vehicle charging:** expand allowance to all Commercial Districts
10. **Charge-sharing:** allow a % of residential spaces to be shared w/ the public
11. **Parking flex:** streamline car-sharing, car rental, and commercial parking rules
12. **Automated parking:** expand rules to encourage more automated facilities
13. **Bike parking:** add rules for storage and charging



WASTE & WATER

14. **Porous paving:** clarify language to ensure permeable paving is allowed.
15. **Street Trees:** update rules to accommodate new raingarden prototypes
16. **Organics:** add new use regulations clarifying when composting and recycling are allowed.
17. **Rooftop greenhouses:** simplify the process to allow them as-of-right

For more:

For supporting materials:

nyc.gov/YesCarbonNeutrality

To review the zoning regulations:

zr.planning.nyc.gov

With questions or issues:

Nilus Klingel, AICP – nklingel@planning.nyc.gov

... thank you!