

Building Decarbonization Policy Landscape

AEG Decarbonization Summit

April 20, 2023

CODE GREEN



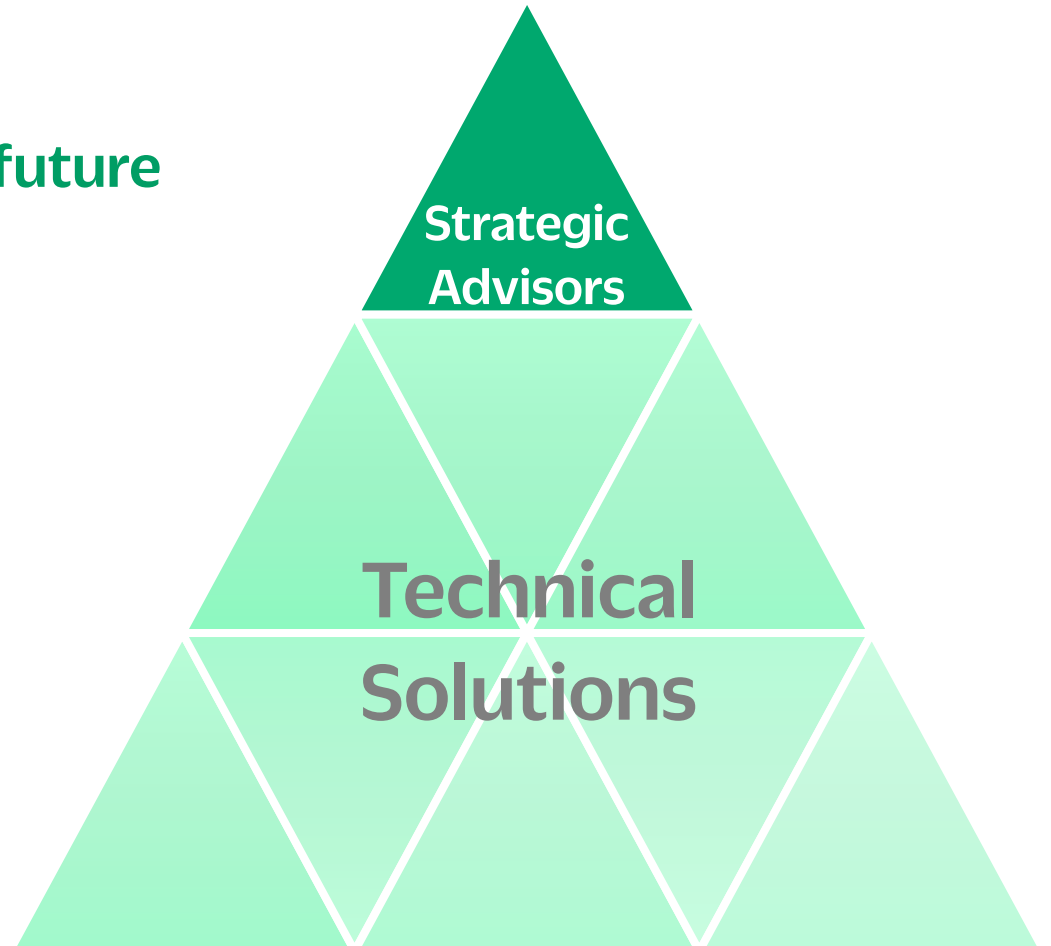
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leading the real estate industry to a low carbon future

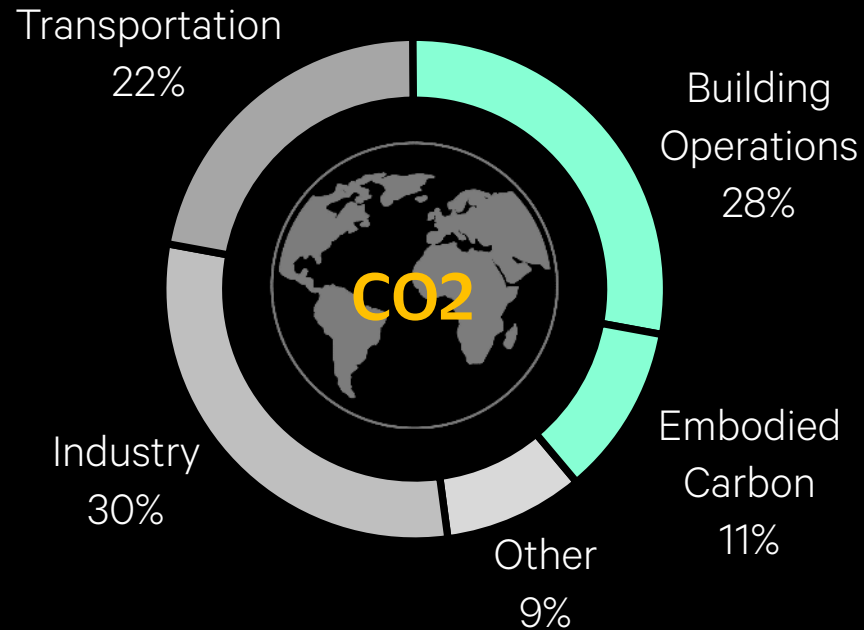


Christopher Cayten

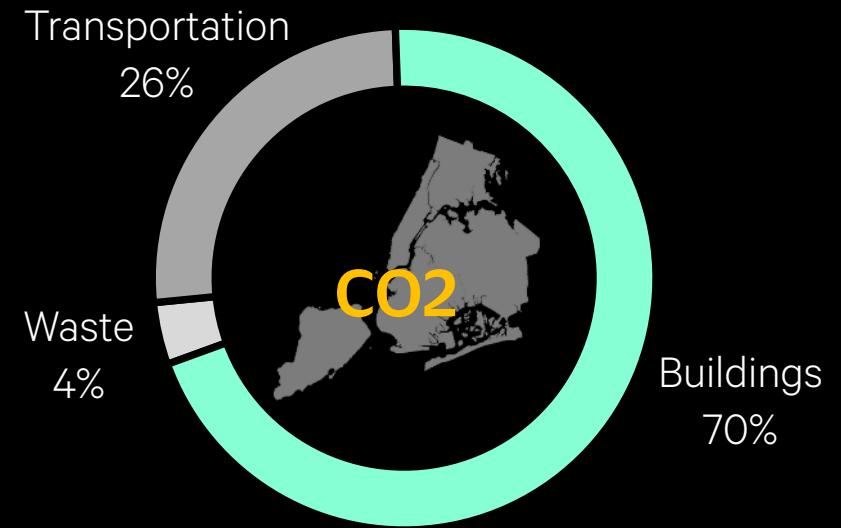
Partner, Managing Director



Carbon Emissions: Why Buildings Matter



Buildings = **40%** of global GHG



Buildings ≈ **70%** of GHG in most major cities

NZC

CNB

NZB

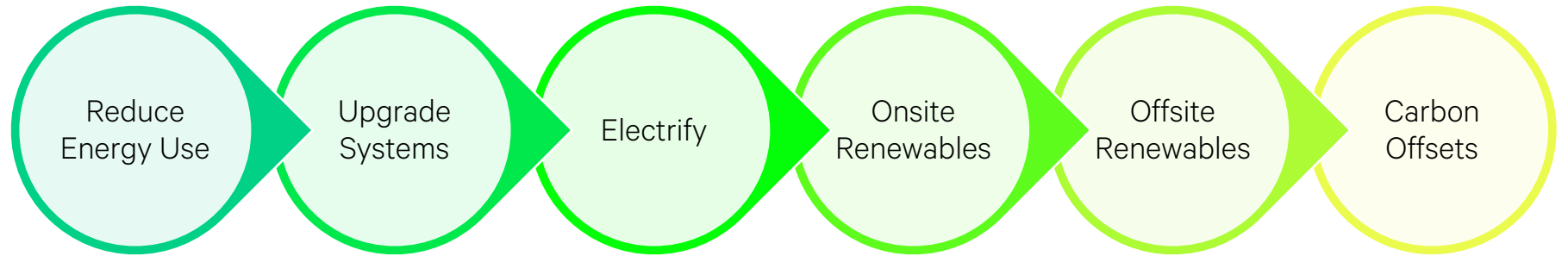
ZEB

ZNC

ZCB

Pathways to Net Zero Carbon

Standard Components



Additional Components



Voluntary Carbon Programs

Asset Level Net Zero / Low Carbon Certifications



Offset imbedded carbon
Offset refrigerant leaks



Includes commuter travel
Requires existing LEED certification



Maximum EUI Requirements
Offset imbedded carbon



Targeting 2024 Launch
Maximum EUI Requirements
Maximum Scope 1 vs HDD
Renewable Energy Requirements

Voluntary Programs

Portfolio Net Zero Carbon Commitments



**NET ZERO
ASSET MANAGERS
INITIATIVE**



Net zero carbon by 2050
Not limited to Real Estate
Includes Scope 3

\$10.4T AUM

Net zero carbon by 2050
Not limited to Real Estate
Scope 3 not included

\$57T AUM

Net zero carbon by 2050
Excludes tenants, fugitive
emissions and embodied carbon

1.7B SF
\$1T AUM

Net zero carbon by 2050
Includes Scope 3

4,000+ companies

1.5-degree aligned
decarbonization pathway

\$1.3T AUM

Mandates: Energy and Carbon Regulations – Performance Standards

Current Jurisdictions

Building Performance Standards Coalition

34+ additional cities to have BPS by April 2024



New York City

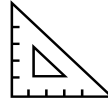
STATUS
Passed 2019

Citywide GHG
from Buildings



70%

Metric Used



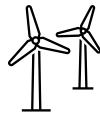
GHG/SF/YR

Timeline



2024 (annual)

Offsite Allowances
(RECs/Offsets)



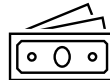
Local RECs;
Offsets (capped)

State Renewable
Electric Grid Target



70% by 2040
100% by 2050

Fine Structure



\$268/mt CO₂e/yr

Industry Engagement
Process



No official program
Was run by private sector

NYC
Mayor's Office
of Sustainability



Washington, DC

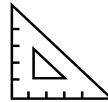
STATUS
Passed 2021

Citywide GHG
from Buildings



74%

Metric Used



Energy Star

(2018/19 baseline)

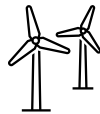
2023 evaluate GHG metric

Timeline



2021 (every 5yrs)

Offsite Allowances
(RECs/Offsets)



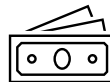
TBD

State Renewable
Electric Grid Target



100% by 2032

Fine Structure



Up to \$2/sf/yr

Based on % over the limit

Industry Engagement
Process



12+m public meetings



CLEAN ENERGY DC
OMNIBUS AMENDMENT
ACT OF 2018, TITLE III....

Boston

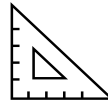
STATUS
Passed 2021

Citywide GHG
from Buildings



70%
50/50 fuel/electric

Metric Used



GHG/SF/YR
threshold limits vs %self improvement

Timeline



2025 (annual)

Offsite Allowances
(RECs/Offsets)



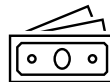
Local RECs only

State Renewable
Electric Grid Target



80% by 2050

Fine Structure

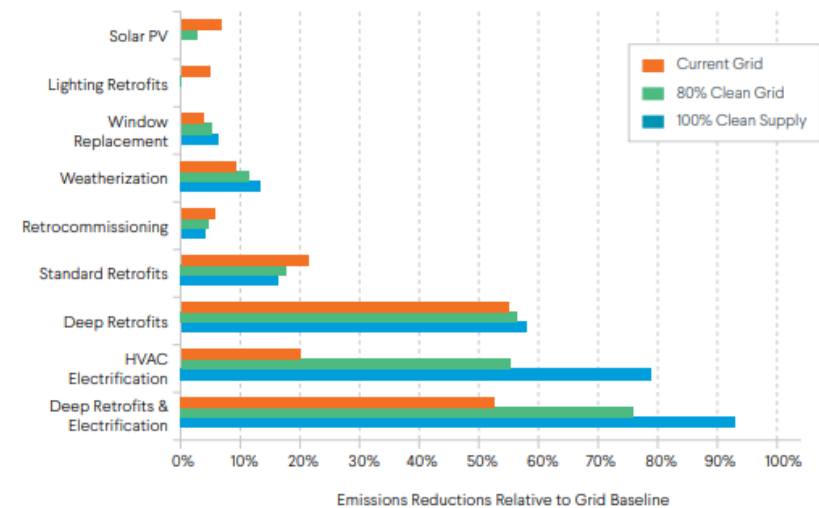


\$234/mt CO₂e/yr
“Alternative Compliance Payment”

Industry Engagement
Process



12+m
TAG+public meetings



Program Variations

Metric (Energy, Energy Star, GHG)

Target (relative vs. absolute)

RECs and Carbon Offsets

Onsite Combustion

Timeframe

Time of Use GHG

Key Compliance Challenges

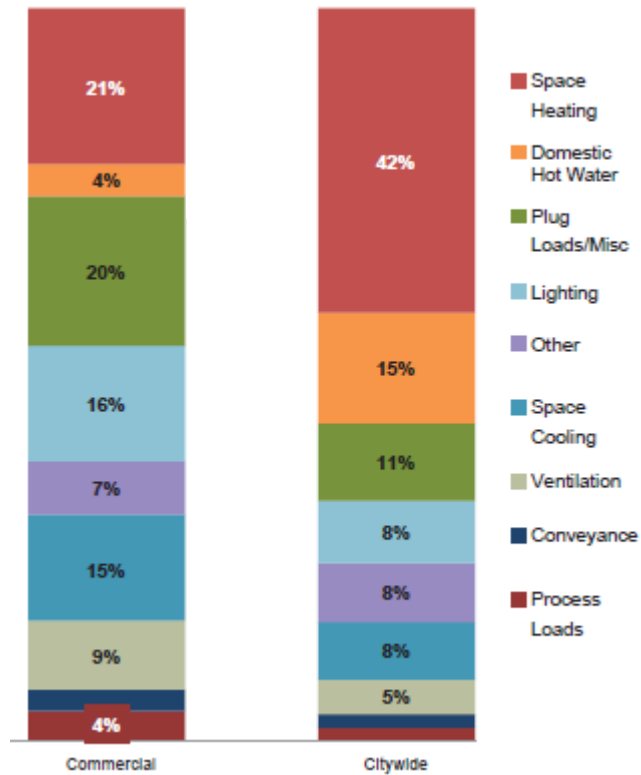
Electricity Grid – Renewable Deployment and Emissions Factors

Whole Building Energy Data Access, Control and Accountability (tenants, etc)

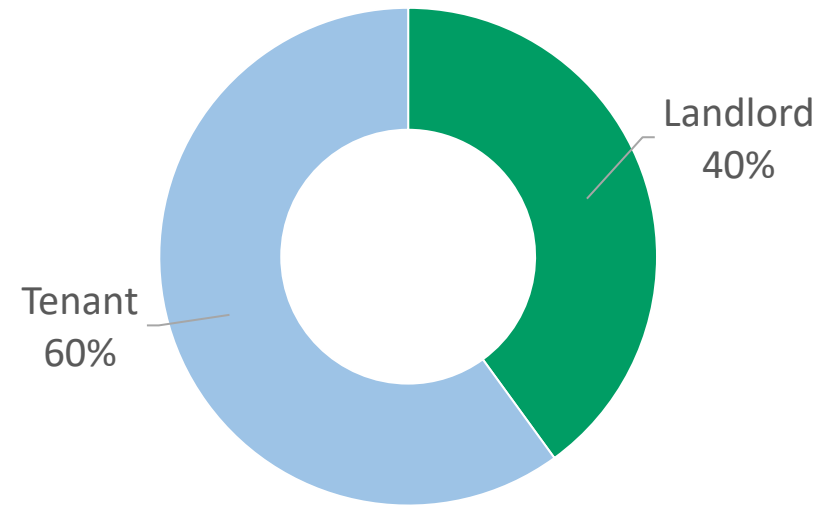
Physical Constraints and Technical Feasibility of Required Retrofits

Reducing Onsite Energy Use

Commercial Buildings
Energy Use by End Use



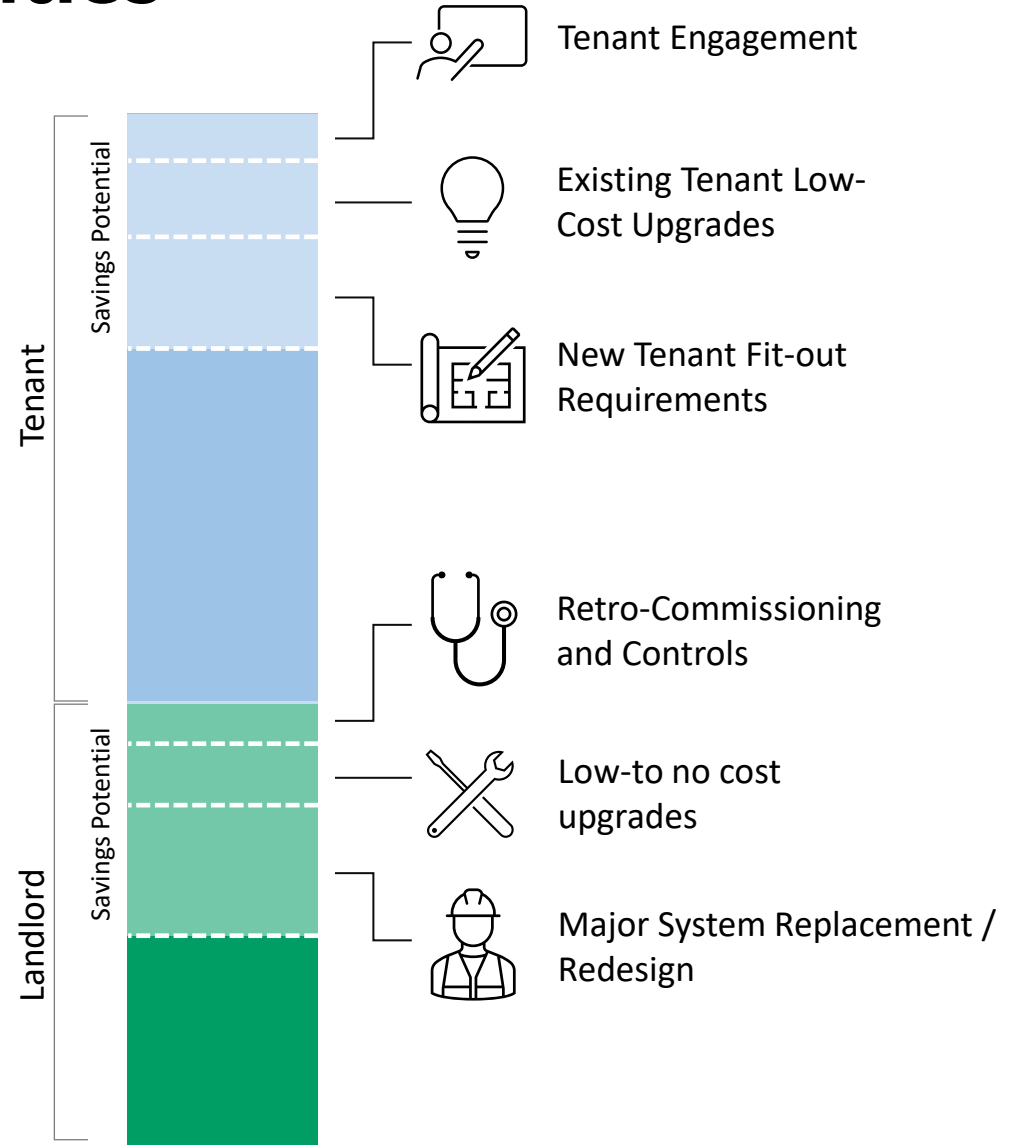
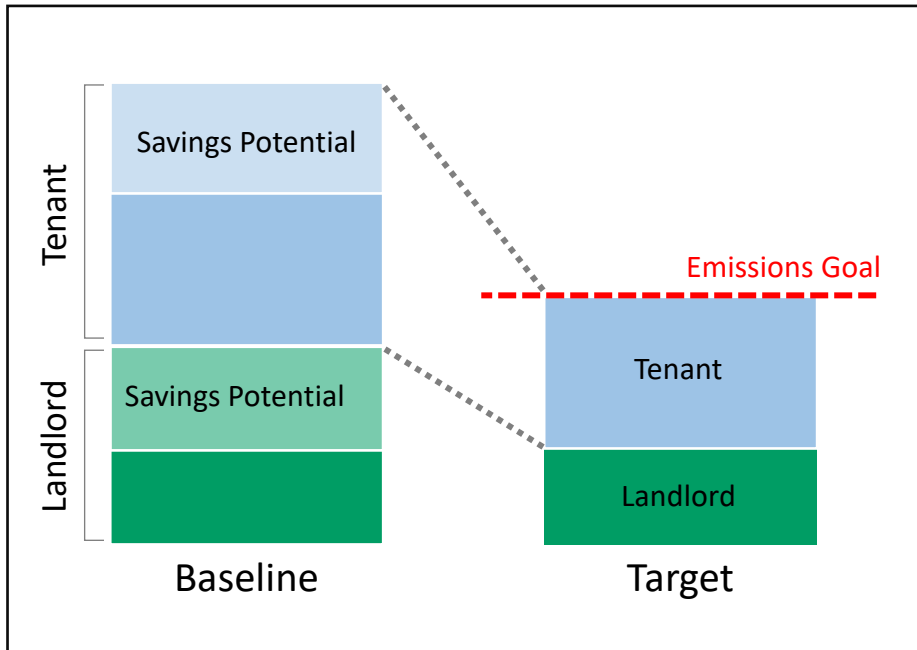
Typical Office Buildings
Energy Use by Control



Source: "One City Built to Last" Report -
New York City Mayor's Office of Sustainability

Energy Use Reduction Opportunities

Whole-Building Energy Use (and GHG)



Thank you

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