



# ANNUAL PARTY & LEADERSHIP AWARD CEREMONY





## ANNUAL PARTY & LEADERSHIP AWARD CEREMONY

### Kristen Trovillion

President of USGBC West Michigan



### ANNUAL PARTY & LEADERSHIP AWARD CEREMONY

### board of directors



Kristen Trovillion,
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Sarah Latta Rainero Vice President *MEDC* 



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Steelcase

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John Rumohr *ignYte design* 



Peter Skornia *Bazzani* 



Andrew Longcore

The Business Law Group

(General Council)



DeVon Miller Past President Western Michigan University

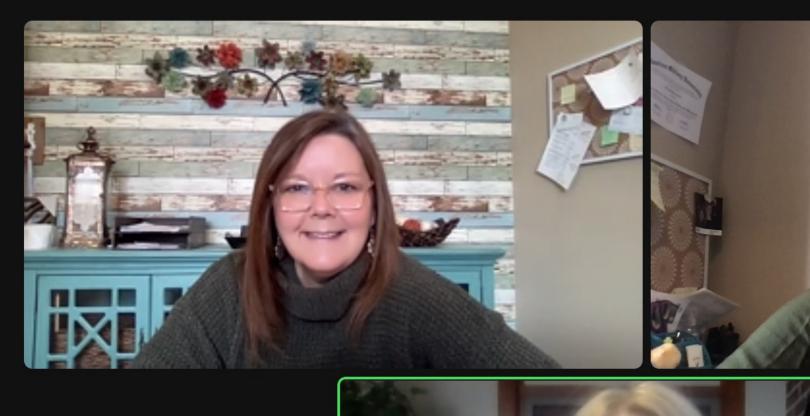




## ANNUAL PARTY & LEADERSHIP AWARD CEREMONY

### Cheri Holman

Executive Director of USGBC West Michigan





















### Thank you, Visionary Supporters









MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

THE KRESGE FOUNDATION



### Thank you, Platinum Supporters









Steelcase®

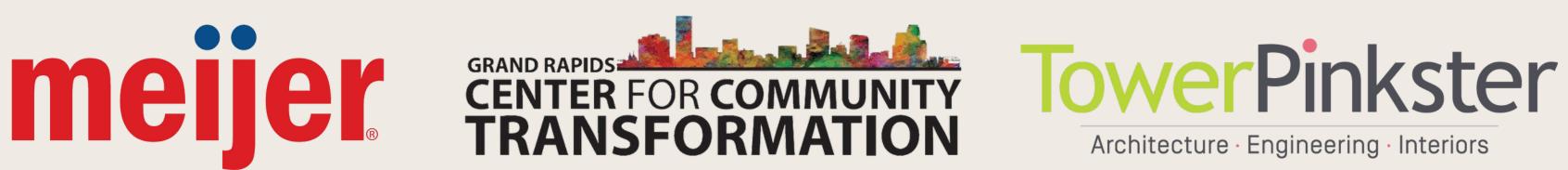
### Thank you, Gold Supporters





### Thank you, Silver Supporters













Thank you, to our Supporter:





"Our mission is to educate and advocate for an equitable transition of the design & operation of buildings that improve the quality of life, health, and vitality of our community."







## HEALTHY BUILDINGS WEBINAR SERIES









### 7 YEARS OF IMPACT

## **\$57 MILION**

in energy savings back into the local economy

### 345/

metric tons of CO2e avoided

### 258 MILLION

Square footage participating in Battle in 2021









### MICHIGAN ENERGY SUMMIT



& BIGGEST LOSER
AWARD CEREMONY

JUNE 15, 2022

City Flats Hotel

www.michiganbattleofthebuildings.com



### Detroit Energy Challenge Award Ceremony

June 14, 2022

Net Zero Energy Center | Detroit, MI

brought to you in partnership by:









# GRAND RAPIDS 2030 DISTRICT®

GRAND RAPIDS

2030 DISTRICT®

### DISTRICT ADVISORY COUNCIL



Sarah Chartier Spectrum Health



Eddie Tadlock SMG DeVos



Gillian Giem
GR2030 District



Nate Carver Consumers Energy



Alison Waske Sutter City of Grand Rapids

GRAND RAPIDS

2030

### A NET ZERO FUTURE

272

Buildings participating in the Grand Rapids

2030 District

5

**Building Owners** 

16.8 MILLION

Square Footage participating





GRAND RAPIDS

2030
DISTRICT®



### zero cities project accomplishments

- Collaborative and innovative partnerships rooted in equity and environmental justice
- GR Equity Assessment tool
- Neighborhood of Focus (NOF) resident survey on myriad of housing obstacles
- Communitywide baseline building assessment
- Building policy modeling scenario
- Commercial building stakeholder education on zero carbon buildings

- Development and implementation of the environmental sustainability requirements of the cannabis licensing ordinance
- National recognition as a model for leading with equity in building policy development







### E.H.Zero

### Policies and Programs for Equitable, Healthy, Zero Carbon Buildings

The E.H.Zero initiative is a partnership of



GRAND RAPIDS

2030
DISTRICT®









Residential and commercial building policies and programs co-created and supported by community (residents and commercial building stakeholders) focused on equitably achieving increased affordability, beneficial health outcomes and resilience while reducing energy consumption and carbon emissions.

### educational opportunities





March 24, 2022

Building Performance Standards: A Win-Win

April 21, 2022

Renewable electricity for Large Commercial Buildings

April 7, 2022

Point of Sale: Energy & Operational Disclosure Requirements for Investor Decision Making

May 5, 2022

Compliance Pathways for Carbon Neutral Buildings - Zero Code



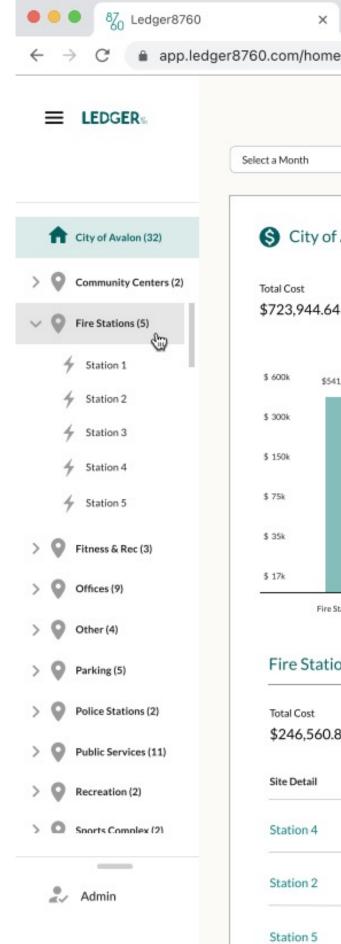
### INTRODUCING NZERO

### nZero powered by Ledger8760

Member building owners and managers can measure their carbon in real time through the Grand Rapids 2030 District.

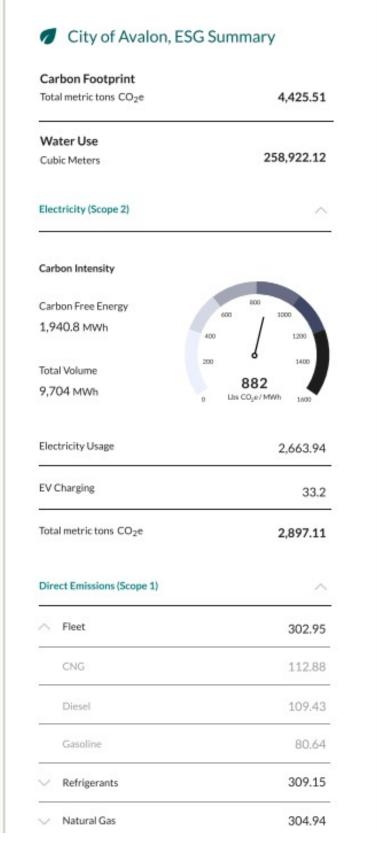
Using the nZero platform, building owners can measure their dynamic scope 1 and 2 emissions in real time. This GR2030 District tool streamline carbon reporting for ESG reporting, compliance, and measuring progress of sustainability pledges.





Select a Month







### Congratulations, Leadership Awardees

**GREEN SCHOOLS CHAMPION** 

**VOLUNTEER OF THE YEAR** 

CERTIFIED GREEN BUILDING

Higher Education

CERTIFIED GREEN BUILDING Multifamily

CERTIFIED GREEN BUILDING Sustainable Sites

CERTIFIED GREEN BUILDING Commercial

2030 LEADERSHIP AWARD

**INNOVATIVE PROJECT** 

Grand Rapids Public Schools

Hedrick Associates

Aquinas College's Albertus Magnus Hall of Science

LINC Up's Garfield Park Lofts

John Ball Zoo's Meerkat Habitat

Tanger Outlets Grand Rapids

Bazzani Building Company

WMU's Business Technology & Research Park, Phase 2





# ANNUAL PARTY & LEADERSHIP AWARD CEREMONY





## ANNUAL PARTY & LEADERSHIP AWARD CEREMONY

### Erin McDade

Senior Program Director of
Architecture 2030



**BLOG** 

### Climate Change Mission Control

NASA's administrator announces a climate resilience design center that can help state, local, tribal, and territorial governments develop their climate resilience strategies.

**FULL STORY** 

"There is a brief and rapidly closing window to secure a livable future on the planet."

- Hans-Otto Portner, co-chair of the IPCC, February 2021

CARBON DIOXIDE

 $\uparrow$   $\downarrow$   $\downarrow$   $\uparrow$   $\uparrow$  parts per million

**GLOBAL TEMPERATURE** 

1 18°C since 1880

ARCTIC SEA ICE EXTENT

130 percent per decade

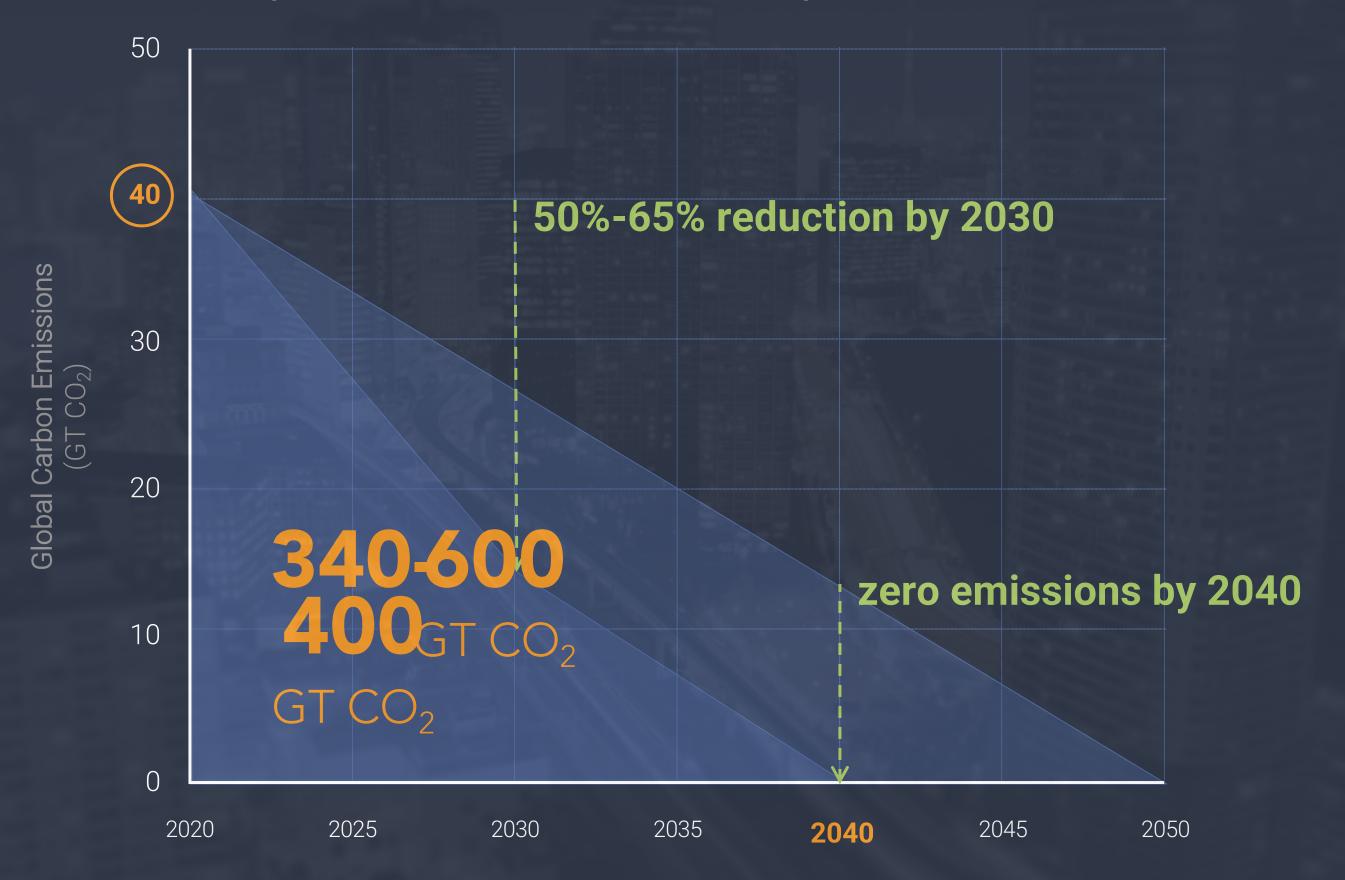
**ICE SHEETS** 

 $\downarrow$  427 billion metric to



### GLOBAL CARBON BUDGET: 340-400 GT CO<sub>2</sub> 67%+ CHANCE OF MEETING 1.5°C

Intergovernmental Panel on Climate Change 6<sup>th</sup> Assessment Report

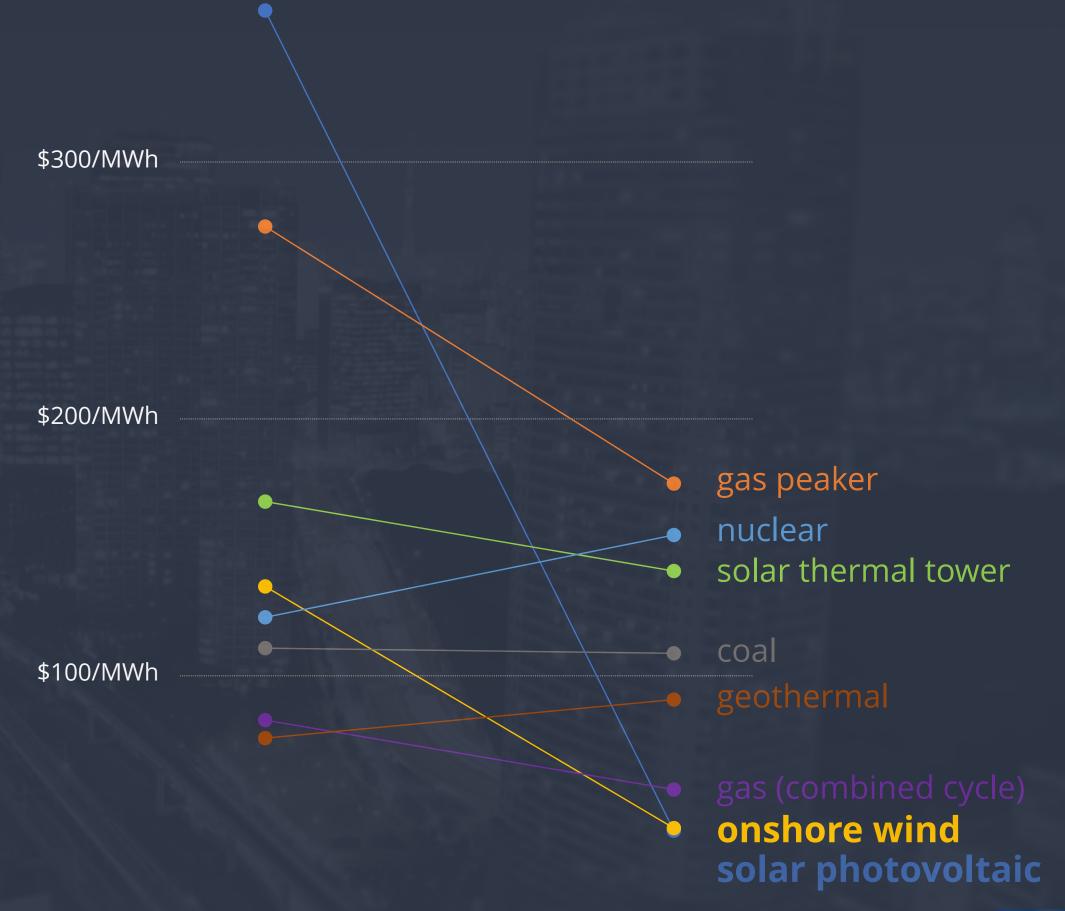






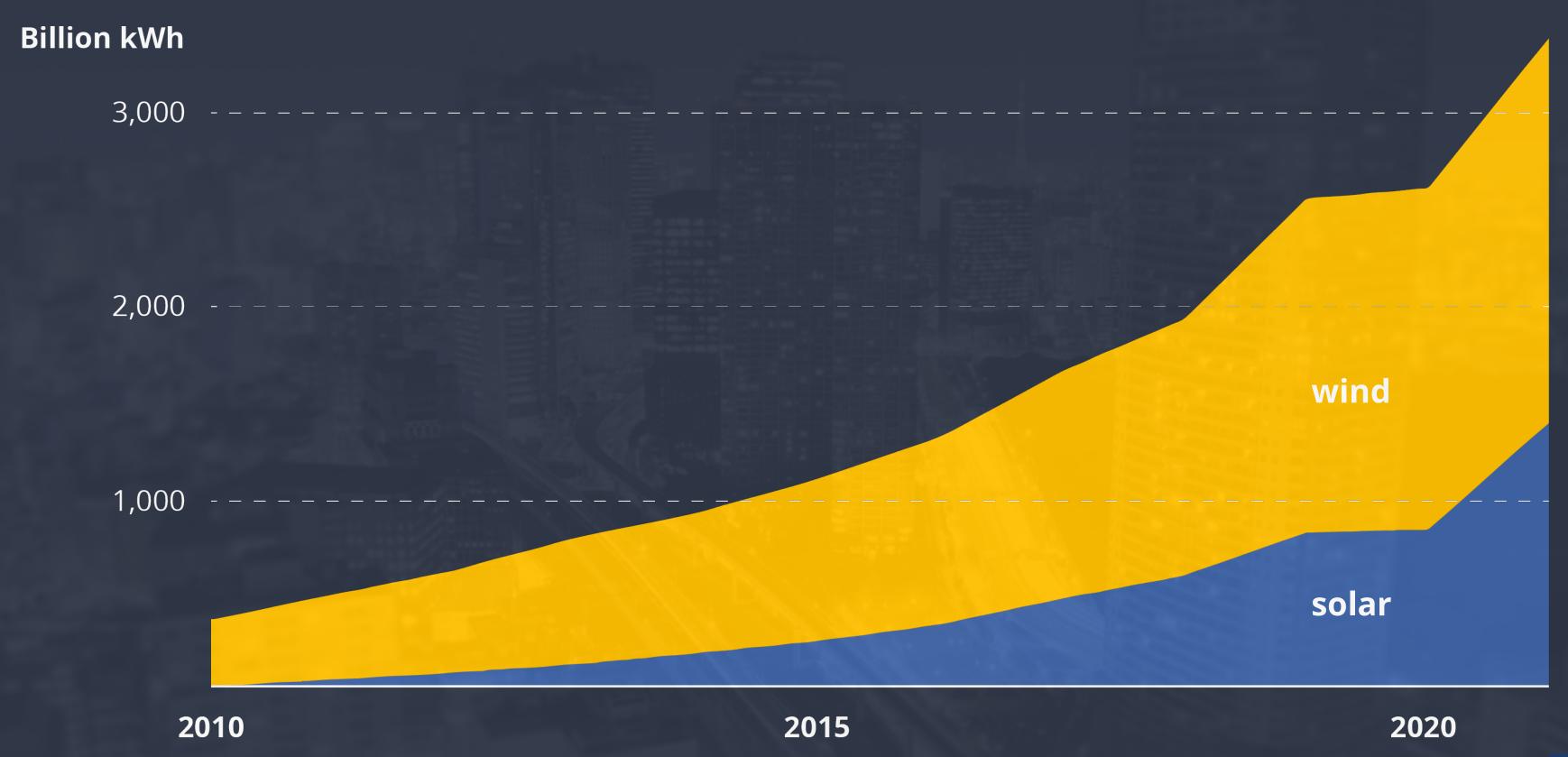
### ELECTRICITY PRICES FROM NEW POWERPLANTS

Showing Levelized Cost of Energy (LCOE) which includes cost of building power plants, ongoing costs for fuel, and lifetime operating costs





### **World Wind and Solar Electricity Generation**





#### the climate crisis is an energy crisis is a national security crisis





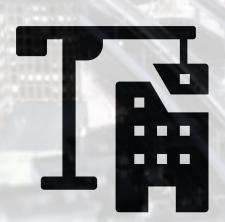
#### the climate crisis is an energy crisis is a national security crisis

The Ukraine crisis has given rise to calls for more drilling, fracking, and fossil fuel infrastructure to combat escalating oil and gas prices as a way to achieve geopolitical stability. But the hard and cold facts are that these projects would take years to have any discernible impact and would lock in even more carbon emissions, disregarding the catastrophic consequences outlined in the latest IPCC report.

- Edward Mazria, March 2022



## DECARBONIZING the Building Sector



NEW BUILDINGS



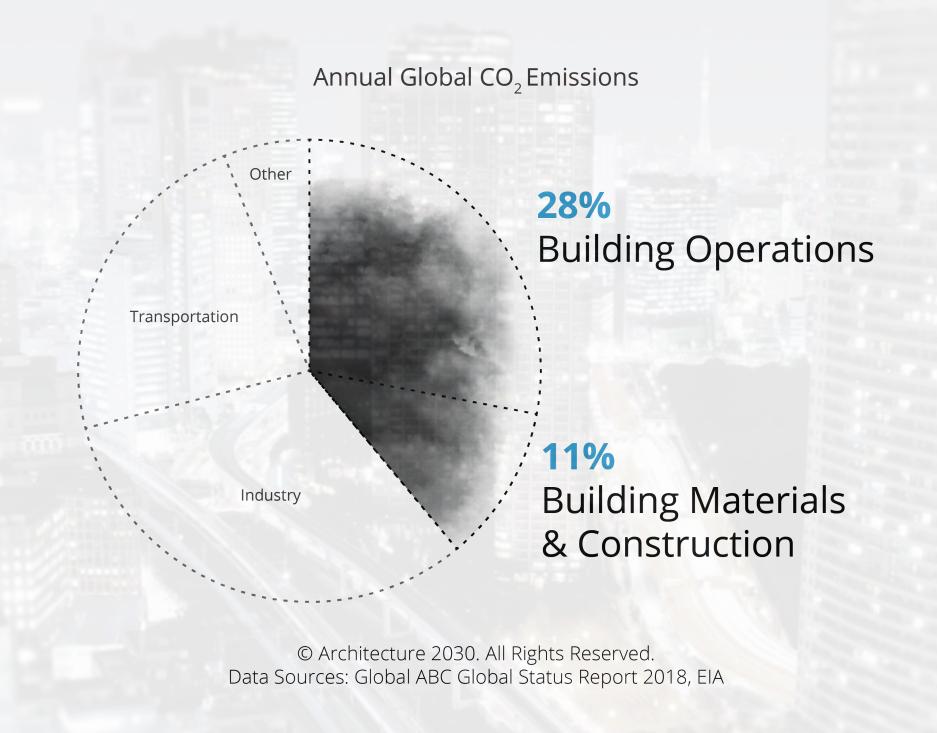
EXISTING BUILDINGS



EMBODIED CARBON



#### Total Annual Global Fossil Fuel Emissions by Sector





By 2060, global building floor area is expected to increase by

## 2.4 triblionst?

or double the current worldwide building stock.

Most of this construction is expected to take place in urban areas.



In 2040, **2/3 of the global building stock** will be buildings that exist today. Without upgrades, they will still be emitting GHGs.





## DECARBONIZING Building Materials and Construction embodied carbon



NEW BUILDINGS



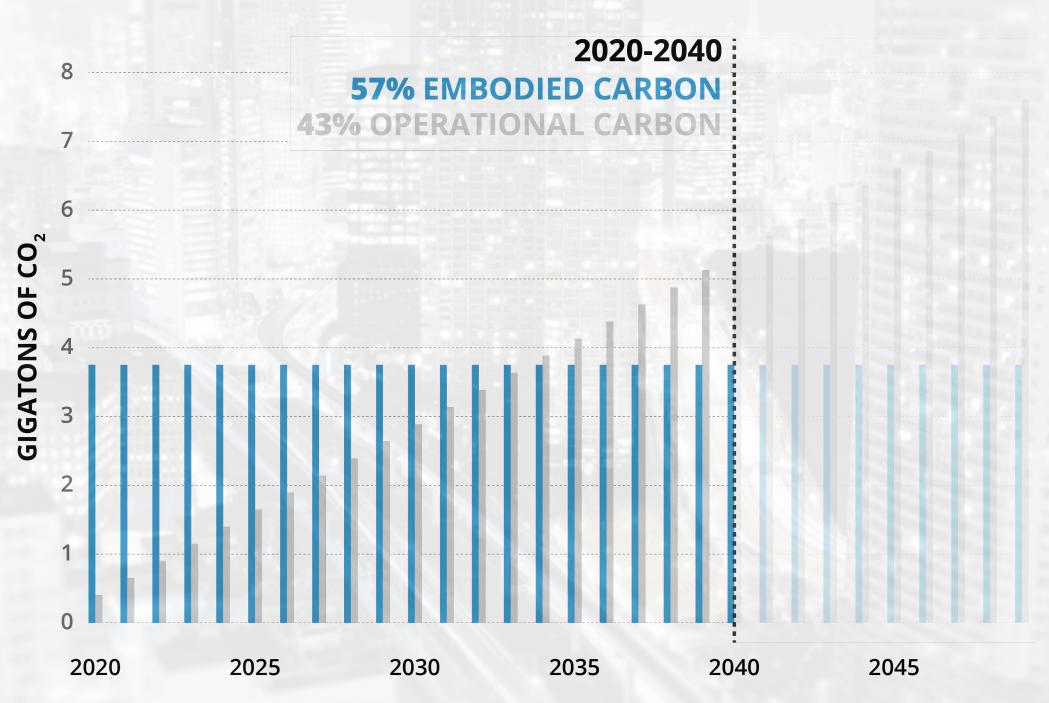
EXISTING BUILDINGS



EMBODIED CARBON



Total Carbon Emissions of **Global New Construction** with no building sector interventions











The greenest building, development, or neighborhood is the one that is already built.



**Urban areas:**Repurpose & upgrade



Existing buildings:
Renovate, adaptive
reuse, & use local or
recycled materials



New buildings:
Design to deconstruct
& reuse materials



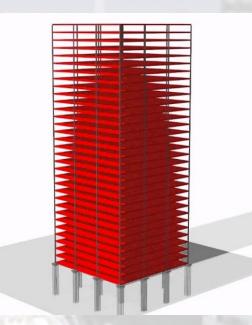




Land use
Growth
boundaries



Infill / densification



Structure optimization



Specify low to zero carbon materials min. 40% reduction 65% x 2030

Zero x 2040





#### Sequester



Sustainable cross/glue laminated wood & bamboo



Carbon positive aggregate



CO<sub>2</sub> concrete injection



**Biomaterials** + renewable energy



Landscapes / soil **Urban agriculture** 





embodiedcarbonpolicies.com



















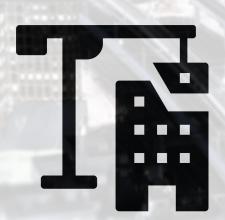








## DECARBONIZING Building Operations



NEW BUILDINGS



EXISTING BUILDINGS

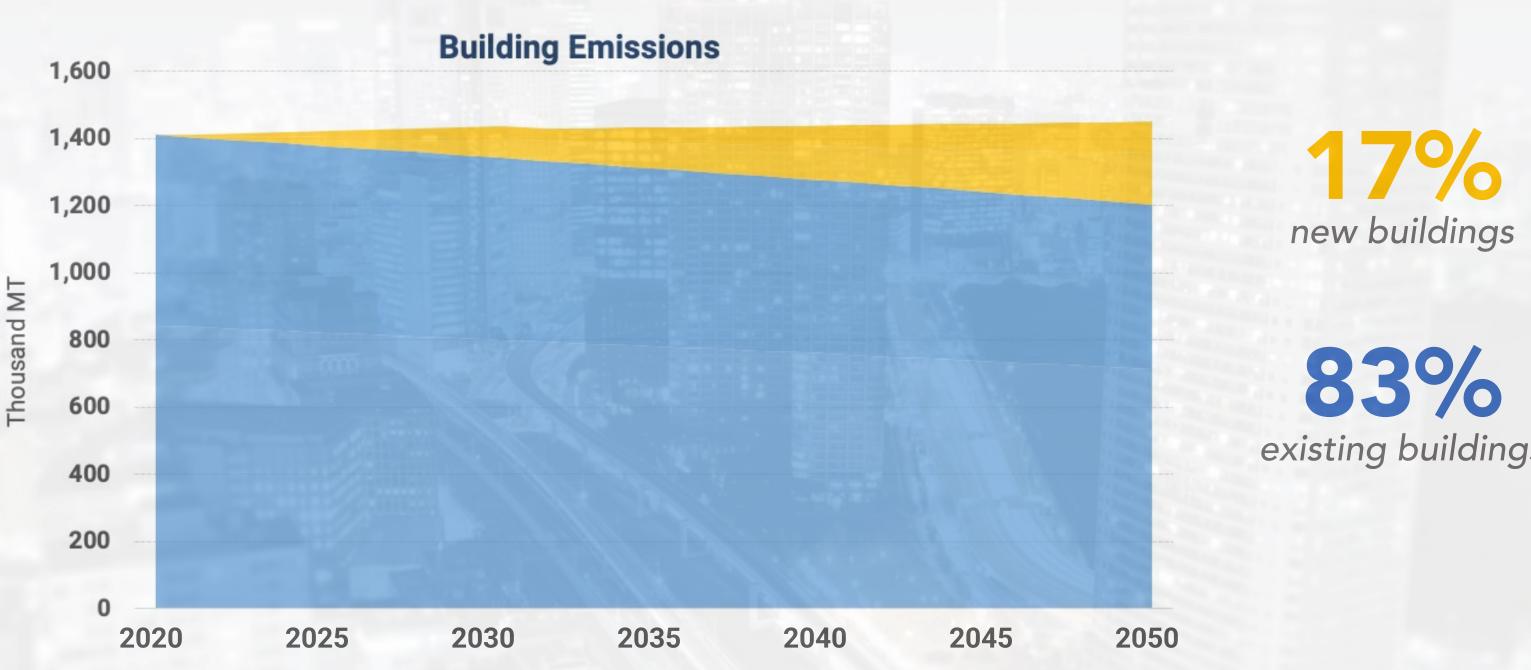


EMBODIED CARBON



#### **Example City Building Stock**

GHG Emissions Trend - BAU

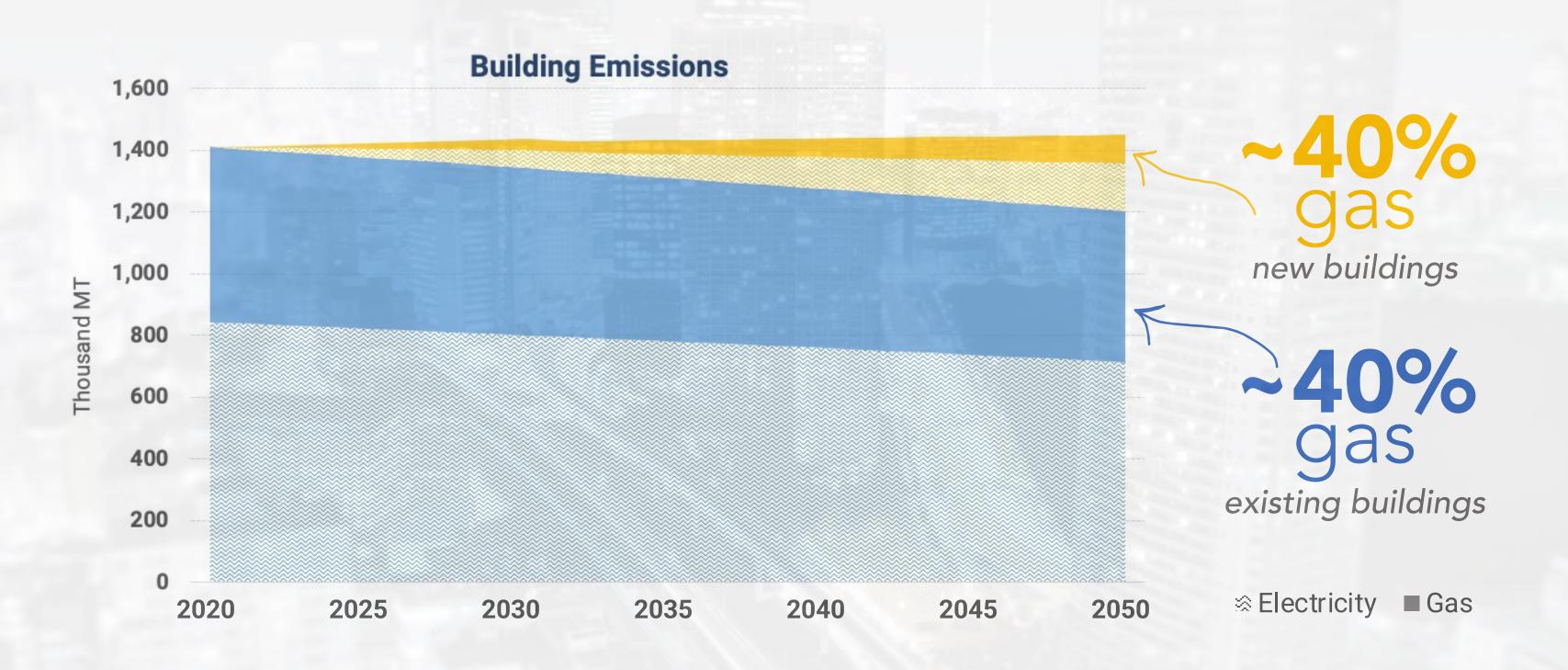






#### **Example City Building Stock**

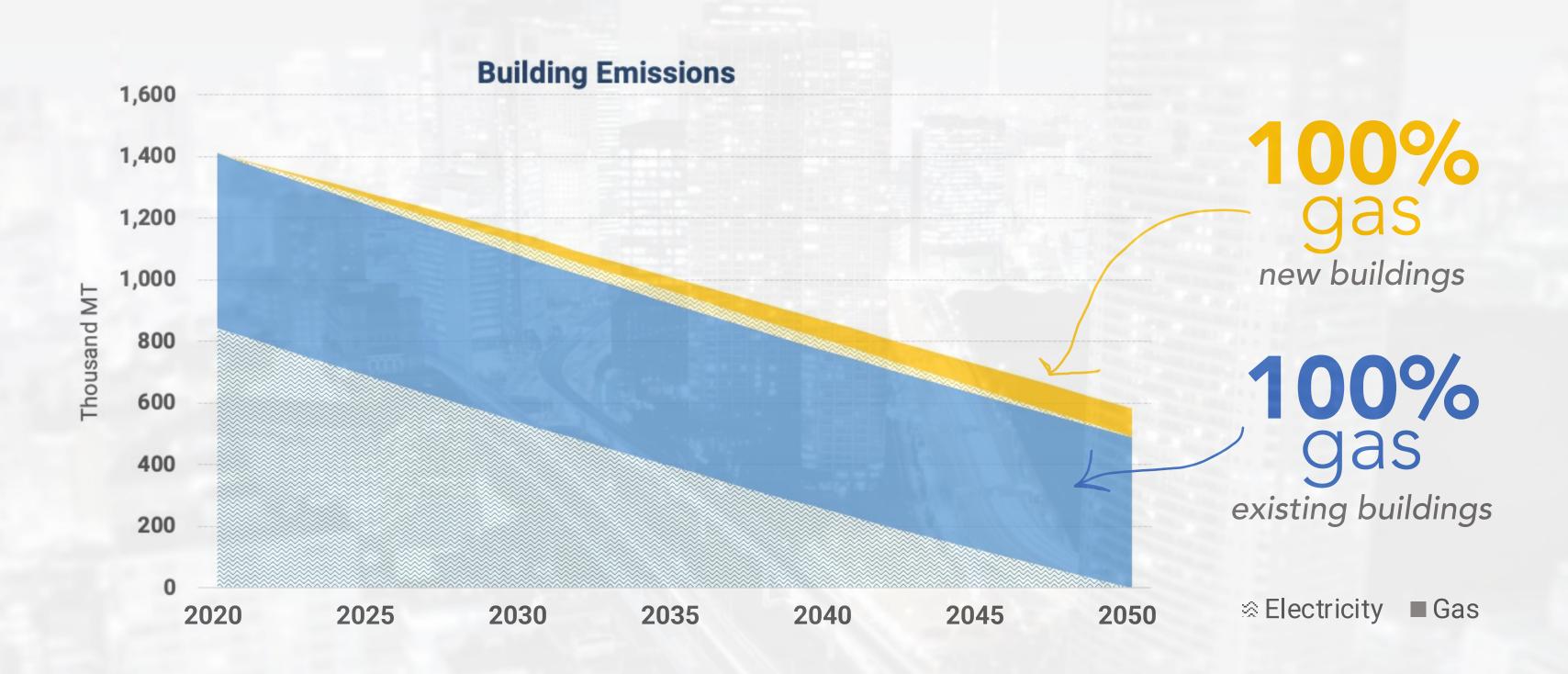
GHG Emissions Trend - BAU





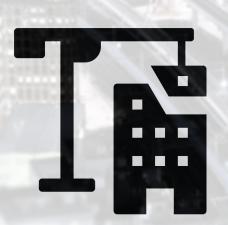
#### **Example City Building Stock**

GHG Emissions Trend – Carbon Free Grid





# DECARBONIZING Building Operations new buildings



NEW BUILDINGS



EXISTING BUILDINGS



EMBODIED CARBON



#### Decarbonizing New Buildings will require







**Energy efficient** new construction



meet latest model energy codes such as IECC 2021

No on-site fossil fuels



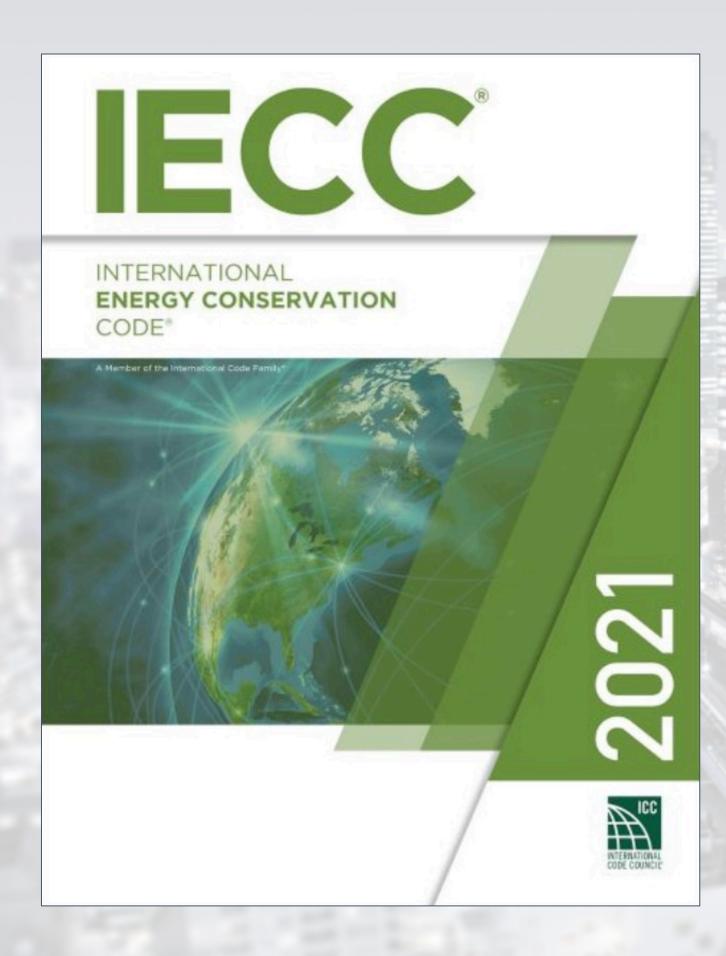
no fossil fuel-based systems for heating, cooking, etc.

Generate/procure carbon free renewable energy



IECC 2021 Appendix CC (Zero Energy Commercial **Building Provisions**)



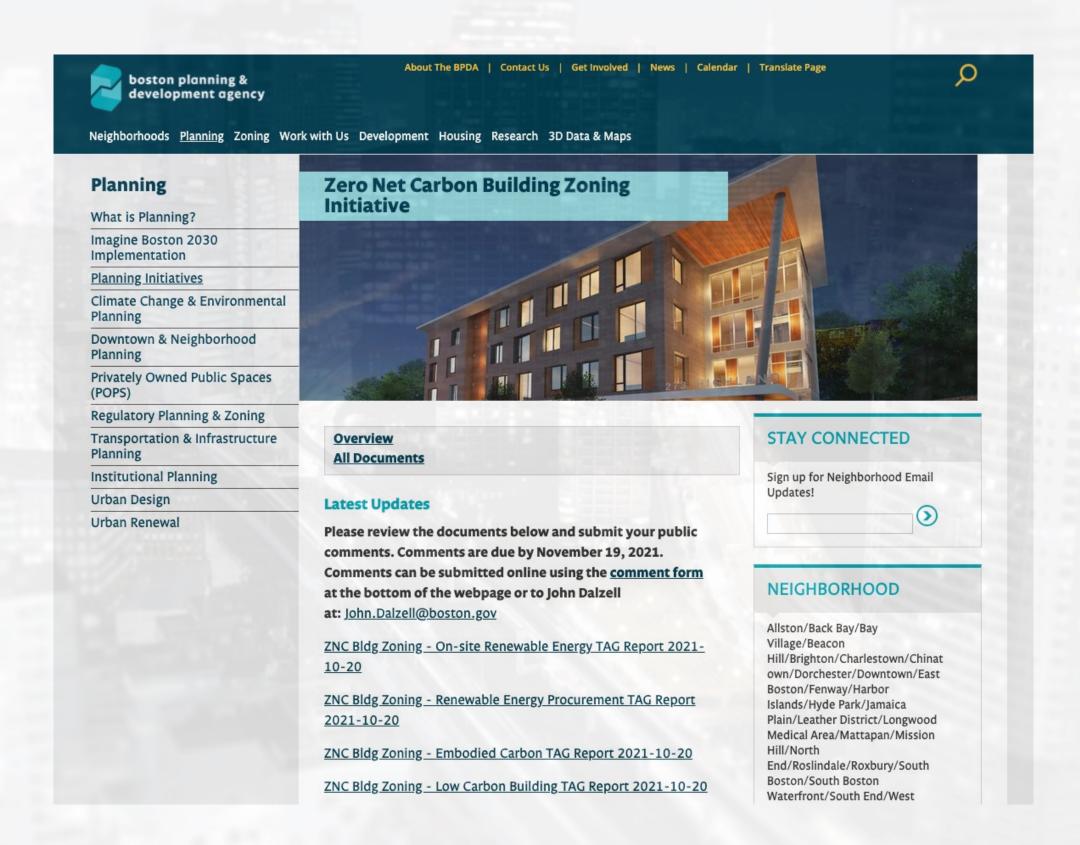


## Appendix CC addresses emissions from new buildings by:

- requiring all electric buildings that use of carbon-free renewable energy
- ensuring the addition of new renewable energy to electricity grids



## Decarbonizing New Buildings policy example





# DECARBONIZING Building Operations existing buildings



NEW BUILDINGS



EXISTING BUILDINGS



EMBODIED CARBON



## Decarbonizing Existing Buildings Will Require

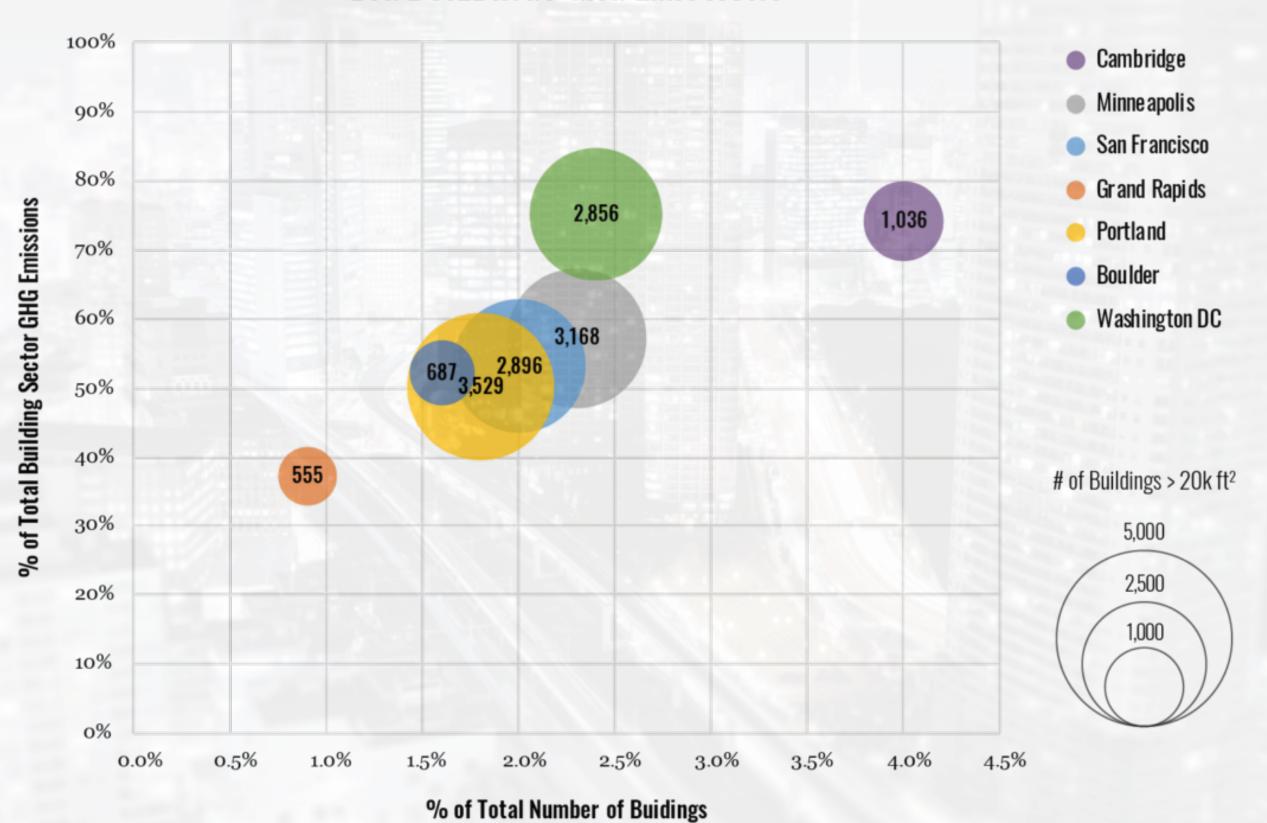


but, successful decarbonization policies for existing buildings are not one size fits all

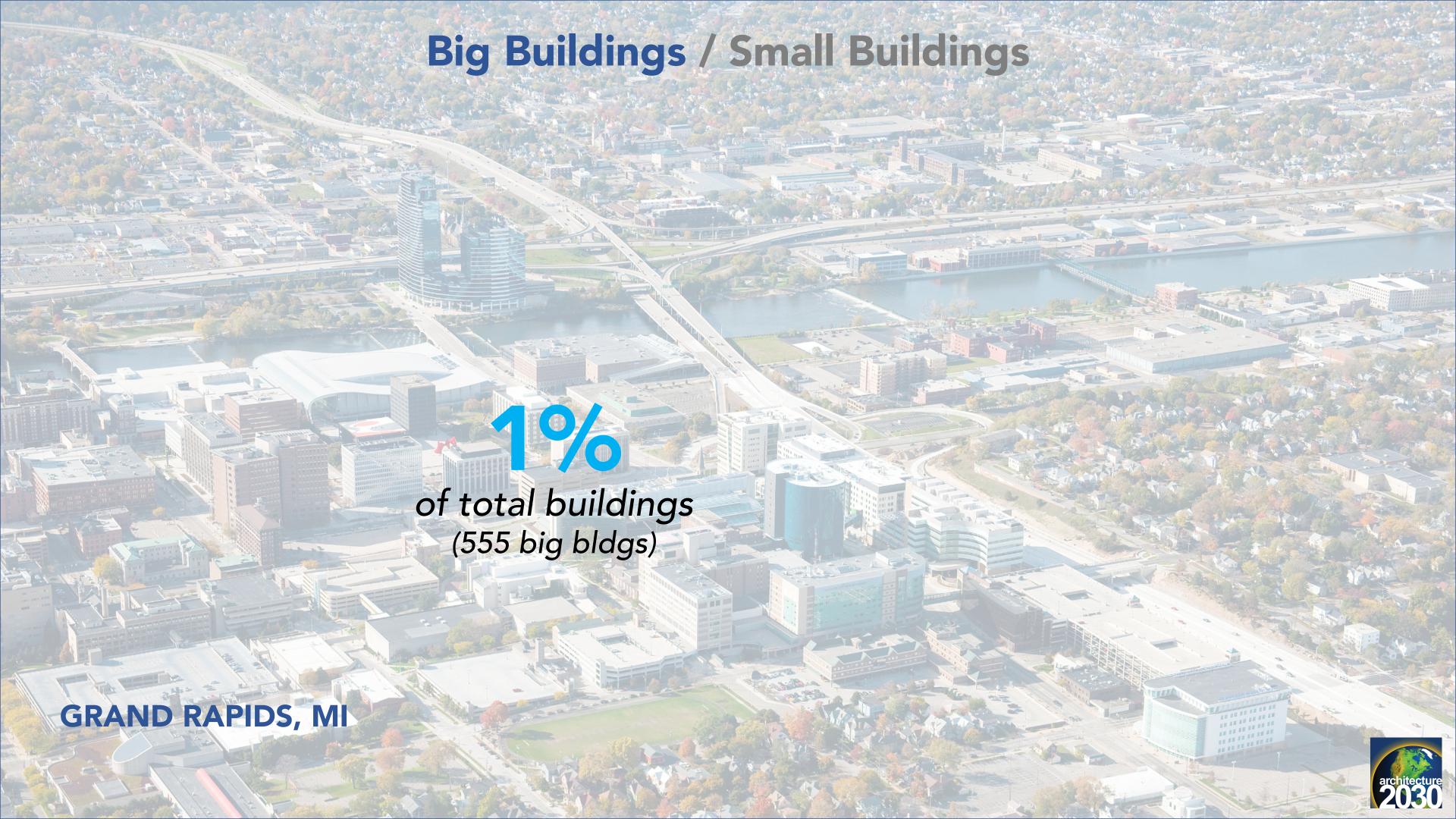


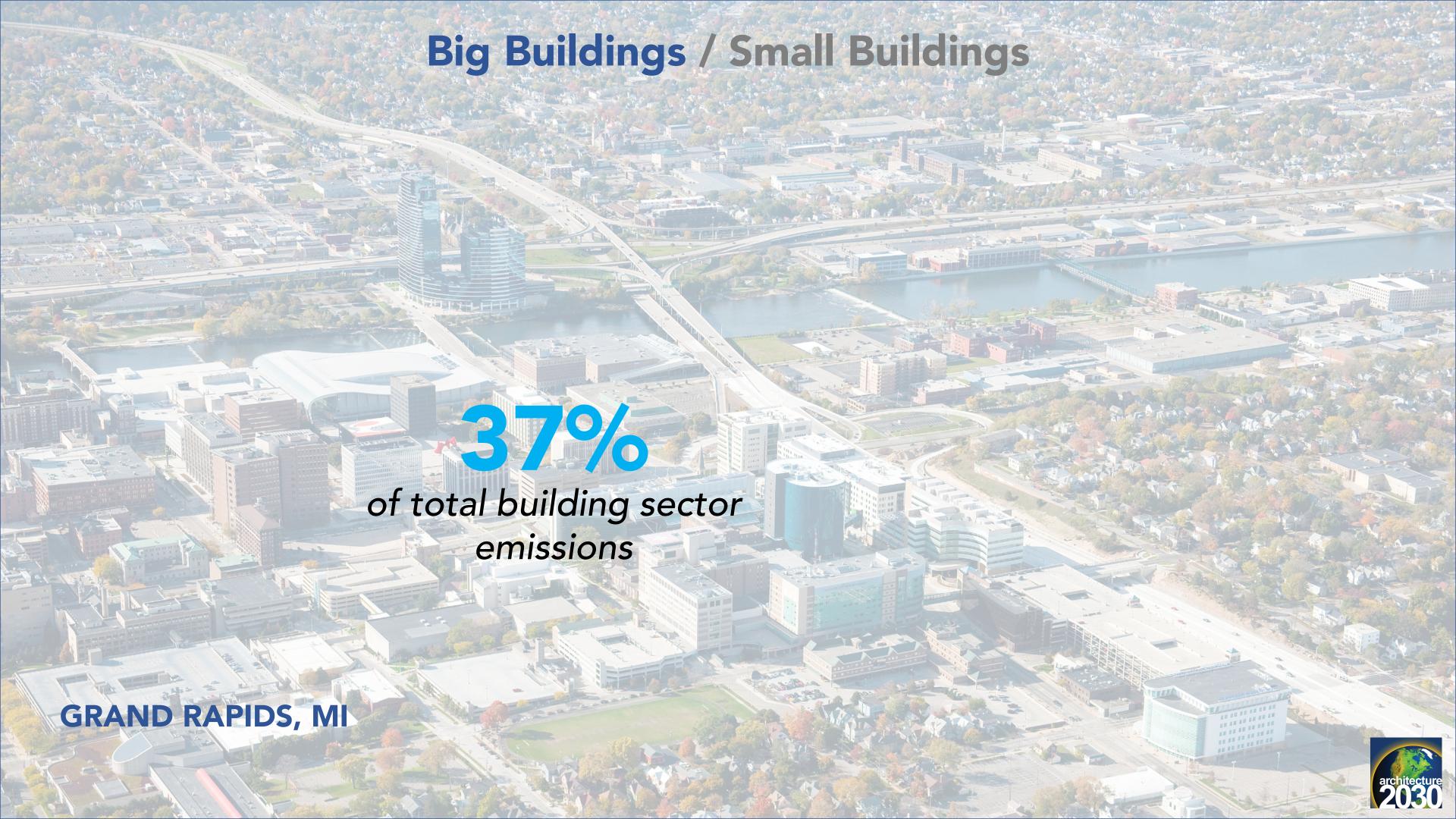
#### Big Buildings / Small Buildings

#### **BIG BUILDINGS GHG EMISSIONS**

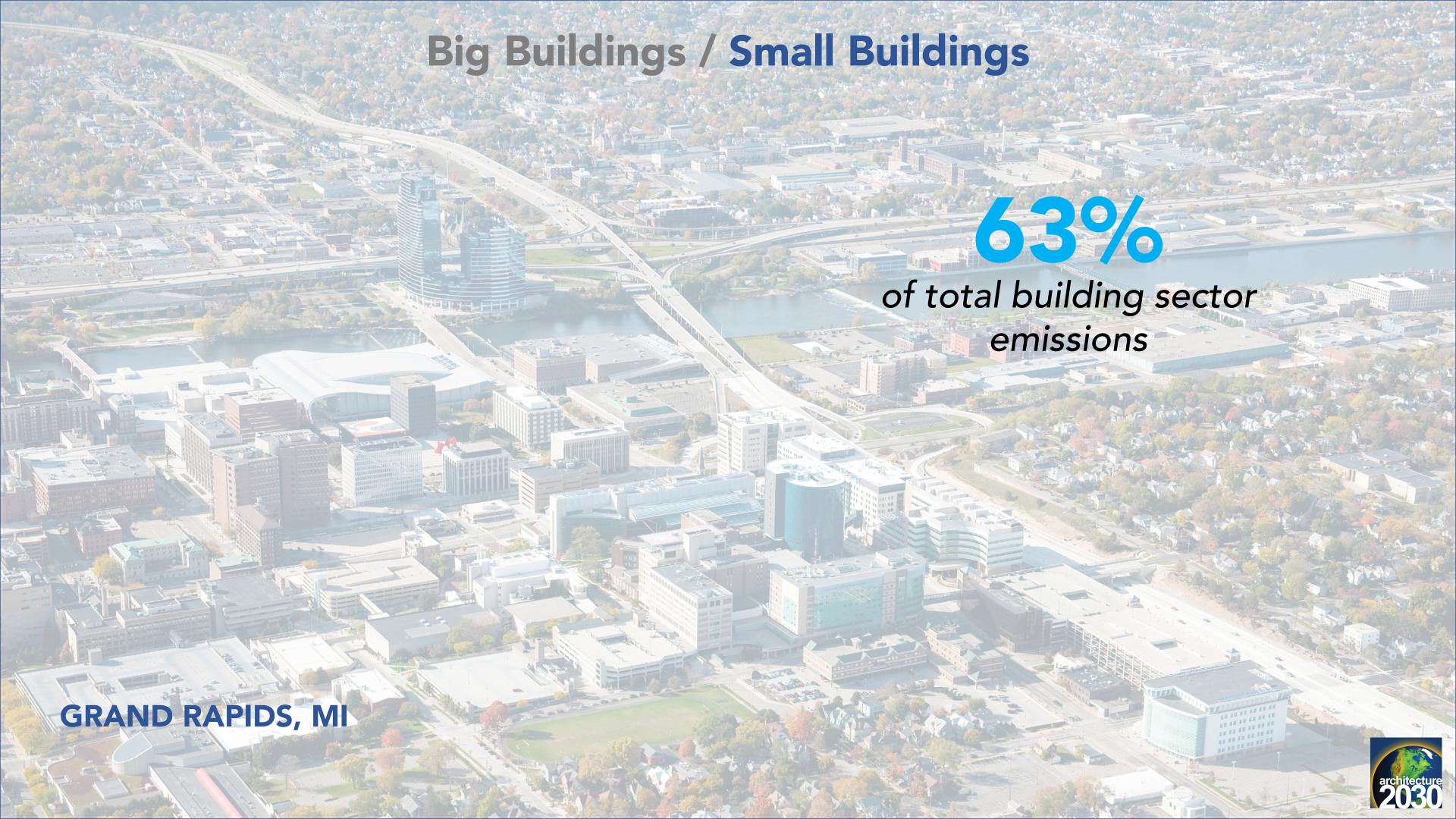












#### **Existing Buildings Decarbonization Framework**



### What buildings will be affected by the policy?

building type?

building size? (big or small)

Owner-occupied or leased?



### How will they be decarbonized?

#### prescriptive upgrades:

- specific energy efficiency improvements
- equipment electrification
- o renewable energy generation/procurement

#### or

#### performance targets:

- emissions targets
- o full electrification
- energy efficiency targets (optional)



## When will the upgrades occur?

align with building intervention points

or

date-certain requirements



#### Why Intervention Points?

#### Intervention points include:

- Planned Capital Improvement Cycles
- Point of Sale

Lease

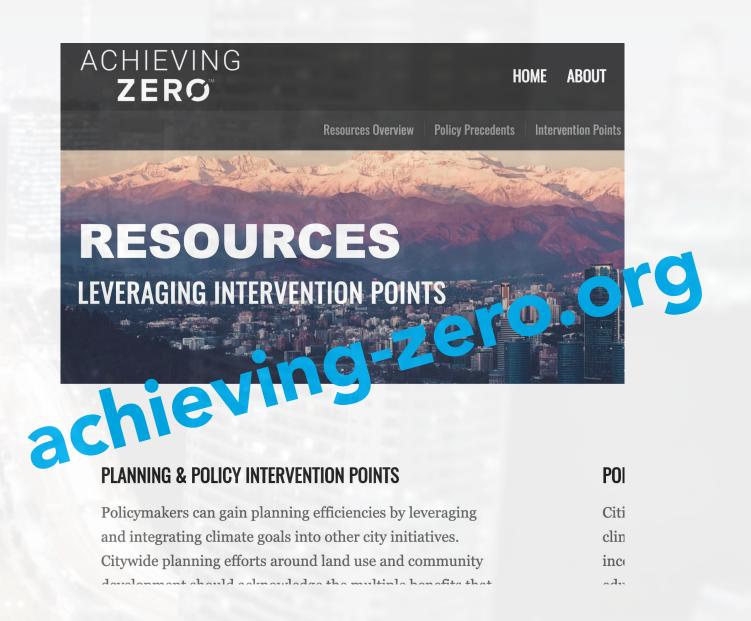
Renovation

**Equipment Replacement** 

Life-Safety and Resiliency Upgrades

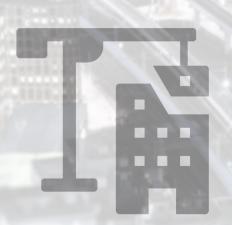
### Benefits of aligning policy requirements with intervention points include:

- Can reduce upgrade costs
- Increases financing options
- Reduces disruption to occupants
- Establishes and ensures long-term energy upgrade workforce and market





# DECARBONIZING Building Operations existing buildings: example



NEW BUILDINGS



EXISTING BUILDINGS



EMBODIED CARBON



#### **Existing Buildings Decarbonization Framework**

#### Big Buildings

small number of buildings | typically have capital budget | significant system variations



use type distinctions/ exceptions?

multifamily vs.
commercial might be
important segmentation

some buildings/types may need exemptions



prescriptive or performance upgrades?

#### performance, or both

 allows selection of upgrades most appropriate to each building



intervention points or date-certain requirements?

#### date-certain

 allows alignment with already-planned upgrades and/or capital budget



## Decarbonizing Existing Buildings policy example





Buildings account for approximately two-thirds of greenhouse gas emissions in New York City and Mayor de Blasio has pledged to address these emissions as part of his plan to make the city carbon neutral by 2050.

<u>Local Law 97</u> is one of the most ambitious plans for reducing emissions in the nation. Local Law 97 was included in the Climate Mobilization Act, passed by the City Council in April 2019 as part of the Mayor's New York City Green New Deal.

Under this groundbreaking law, most buildings over 25,000 square feet will be required to meet new energy efficiency and greenhouse gas emissions limits by 2024, with stricter limits coming into effect in 2030. The goal is to reduce the emissions produced by the city's largest buildings 40 percent by 2030 and 80 percent by 2050. The law also established the Local Law 97 Advisory Board and Climate Working Groups to advise the city on how best to meet these aggressive sustainability goals.

Local Law 97 generally covers, with some exceptions:

- Buildings that exceed 25,000 gross square feet;
- Two or more buildings on the same tax lot that together exceed 50,000 square feet;
- Two or more buildings owned by a condo association that are governed by the same board of managers and that together exceed 50,000 square feet.

Further details regarding emissions limits, as well as information on buildings that are exempt from Local Law 97 requirements can be found at <a href="mailto:the Department of Buildings">the Department of Buildings</a></a>
<a href="Mailto:DOB">(DOB) Greenhouse Gas Emission Reporting</a> website. Local Law 97 of 2019 was amended by Local Law 147 of 2019, and additional amendments have followed. The amended version of Local Law 97 of 2019 can be reviewed in §28-320 and §28-321 of the Administrative Code.

Please visit this website regularly for updated information. For additional information on the Department of Buildings' sustainability efforts, visit the <u>Department of Buildings</u> <u>Sustainability page</u>.

Most buildings over 25,000 square feet:

- required to meet new energy efficiency and greenhouse gas emissions limits by 2024
- stricter limits coming into effect in 2030

Goal to reduce the emissions produced by the city's largest buildings 40% by 2030 and 80% by 2050.



#### **Existing Buildings Decarbonization Framework**

#### Small Buildings Example

hundreds/thousands of buildings | upfront costs are critical barrier | bldgs. have similar systems



owned vs. leased?

owned vs. leased might be important segmentation due to split incentives



prescriptive or performance upgrades?

#### prescriptive

- eliminates time and money associated w/ audit costs, decision making
- ease of implementation



intervention points or date-certain requirements?

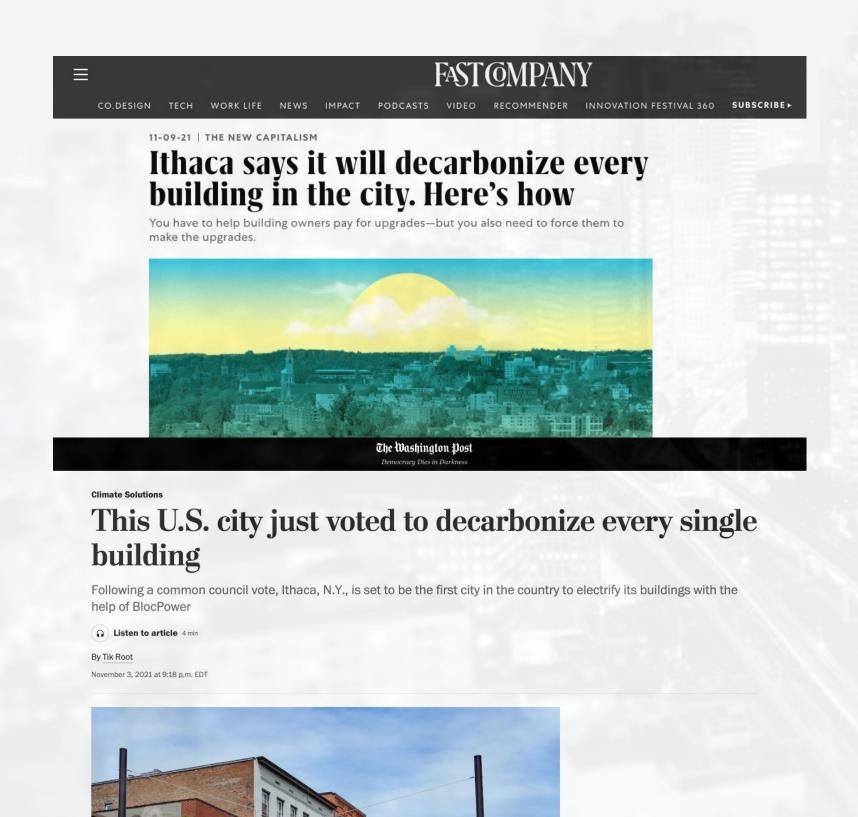
#### intervention points

- purchase
- o lease
- o renovation
- equipment replacement
- life safety/resilience upgrade



#### Decarbonizing Existing Buildings

policy example



"I don't look at this as an environmental issue. It's an economic issue that can be solved with creative financing schemes."

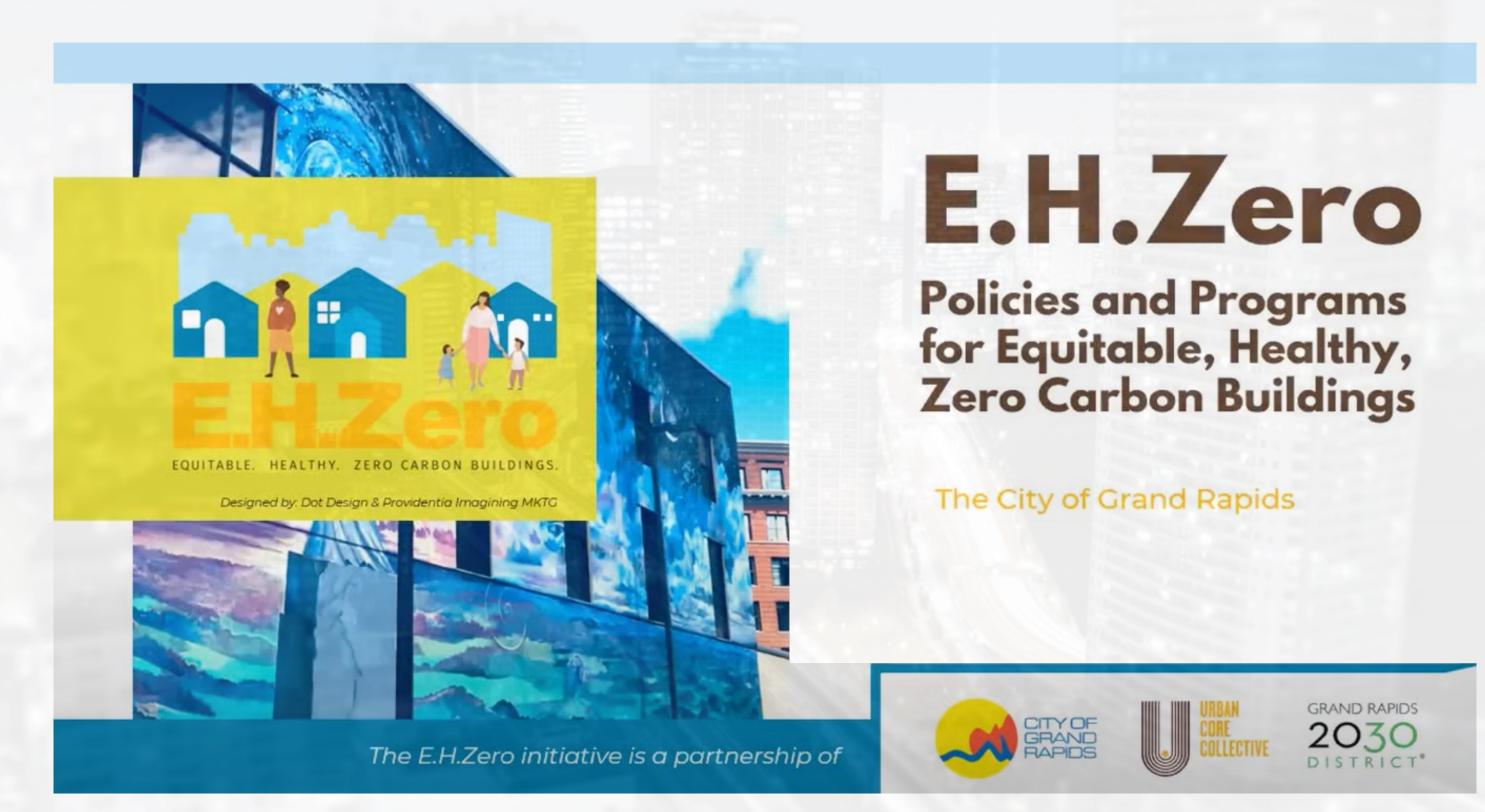
- Luis Aguirre-Torres, Ithaca's director of sustainability

The idea of the program is that the homeowners will be lent money to do the electrification upgrades, with zero interest, and they pay it back only if they have savings. "Their property value increases, they don't pay any extra money and they have a better home," Aguirre-Torres said.



### Decarbonizing the Building Sector

**Grand Rapids** 











# ANNUAL PARTY & LEADERSHIP AWARD CEREMONY





# Leadership Awards





# ANNUAL PARTY & LEADERSHIP AWARD CEREMONY

#### Wendy Berg

Event & Membership Manager USGBC West Michigan





# 2021 CERTIFIED GREEN BUILDING AWARD

SUSTAINABLE SITES

















# 2021 CERTIFIED GREEN BUILDING AWARD

SUSTAINABLE SITES







#### 2030 LEADERSHIP AWARD









#### 2030 LEADERSHIP AWARD





## Tanger Outlets Grand Rapids

#### 2021 CERTIFIED GREEN BUILDING AWARD

COMMERCIAL











## Tanger Outlets Grand Rapids

#### 2021 CERTIFIED GREEN BUILDING AWARD

COMMERCIAL





#### AQUINAS COLLEGE

ALBERTUS MAGNUS
HALL OF SCIENCE

#### 2021 CERTIFIED GREEN BUILDING AWARD

HIGHER EDUCATION









#### AQUINAS COLLEGE

ALBERTUS MAGNUS
HALL OF SCIENCE

#### 2021 CERTIFIED GREEN BUILDING AWARD

HIGHER EDUCATION





GARFIELD PARK LOFTS

#### 2021 CERTIFIED GREEN BUILDING AWARD

MULTIFAMILY











GARFIELD PARK LOFTS

#### 2021 CERTIFIED GREEN BUILDING AWARD

MULTIFAMILY





## GREEN SCHOOLS CHAMPION AWARD













## GREEN SCHOOLS CHAMPION AWARD





BUSINESS RESEARCH AND Technology Park, Phase 2

INNOVATIVE PROJECT AWARD









BUSINESS RESEARCH AND Technology Park, Phase 2

INNOVATIVE PROJECT AWARD





# 400 HEDRICK

#### VOLUNTEER OF THE YEAR AWARD













# 400 HEDRICK

#### VOLUNTEER OF THE YEAR AWARD











# ANNUAL PARTY & LEADERSHIP AWARD CEREMONY