



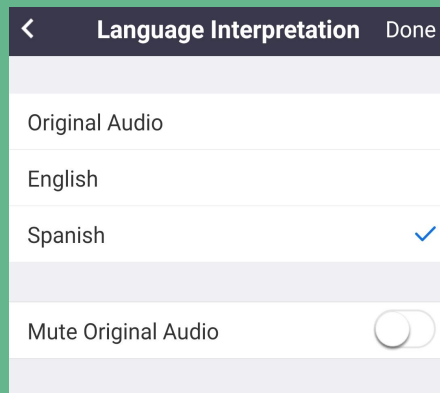
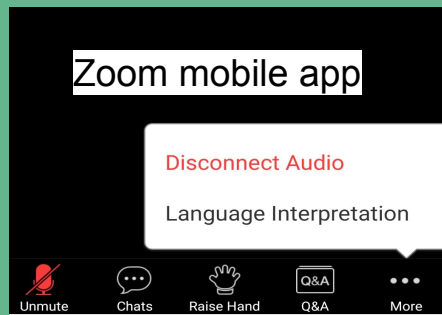
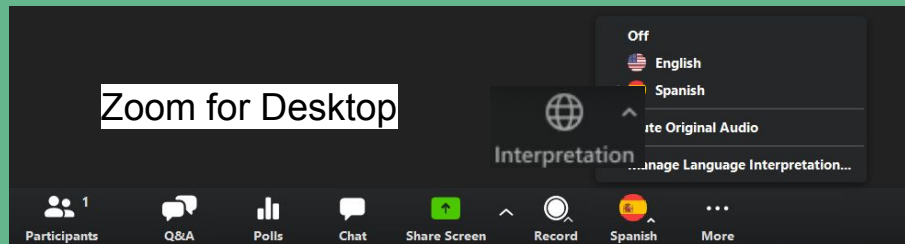
Climate Equity LA Series  
Part I: Equitable Building Decarbonization

# Workshop #1: Why Decarbonize Buildings & Homes in LA?





# CLIMATE EMERGENCY MOBILIZATION OFFICE



**All participants // Todos los participantes**

Click on the language interpretation button & **select English or Spanish** 🌐

Haga clic en el botón de interpretación de idiomas y **seleccione inglés o español** 🌐

If you are choosing Spanish, make sure you select **“Mute Original Audio”** so you will only hear the Spanish audio

Si elije al Español, asegúrese de seleccionar **“Silenciar audio original”** para que sólo escuche el audio en Español



# CLIMATE EMERGENCY MOBILIZATION OFFICE



## **Climate Emergency Mobilization Office (CEMO)**

Director, Marta A. Segura, M.P.H.

Executive Director, Climate Emergency Mobilization Commission

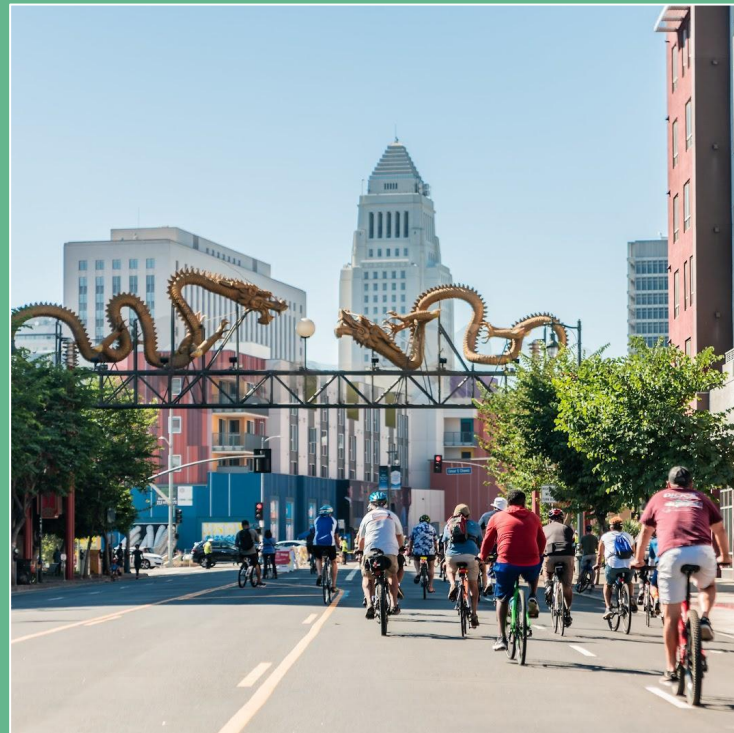


# CLIMATE EMERGENCY MOBILIZATION OFFICE



## CEMO Background & Overview

1. Introduction & Overview
2. Climate Equity LA (CELA) Model
3. CELA Partnerships
4. CELA Policy Priorities







# CLIMATE EMERGENCY MOBILIZATION OFFICE



## Director of CEMO, Marta A. Segura, M.P.H.

- **Founding Director of the Climate Emergency Mobilization Office (CEMO)**, Board of Public Works (BPW), City of LA
- **Executive Director of the Climate Emergency Mobilization Commission (CEMC)**
- *Former LA City Planning Commissioner*: As LA City Planning Commissioner, spearheaded the passing of Clean Up Green Up, Plan for a Healthy LA, re:code LA, the City's first Sustainability Plan, and its first Equity Day
- *Community Engagement Practitioner for Equitable Strategic Partnerships*
- *EJ Leader and Advocate since 1995*



# CLIMATE EMERGENCY MOBILIZATION OFFICE



## CEMO Vision

Dedicated to building collaborative, innovative, intersectional, and equitable climate solutions within the City and external to the City, that support community resilience, and limit the climate-related health burdens for all, with a laser focus on frontline communities.





# CLIMATE EMERGENCY MOBILIZATION OFFICE



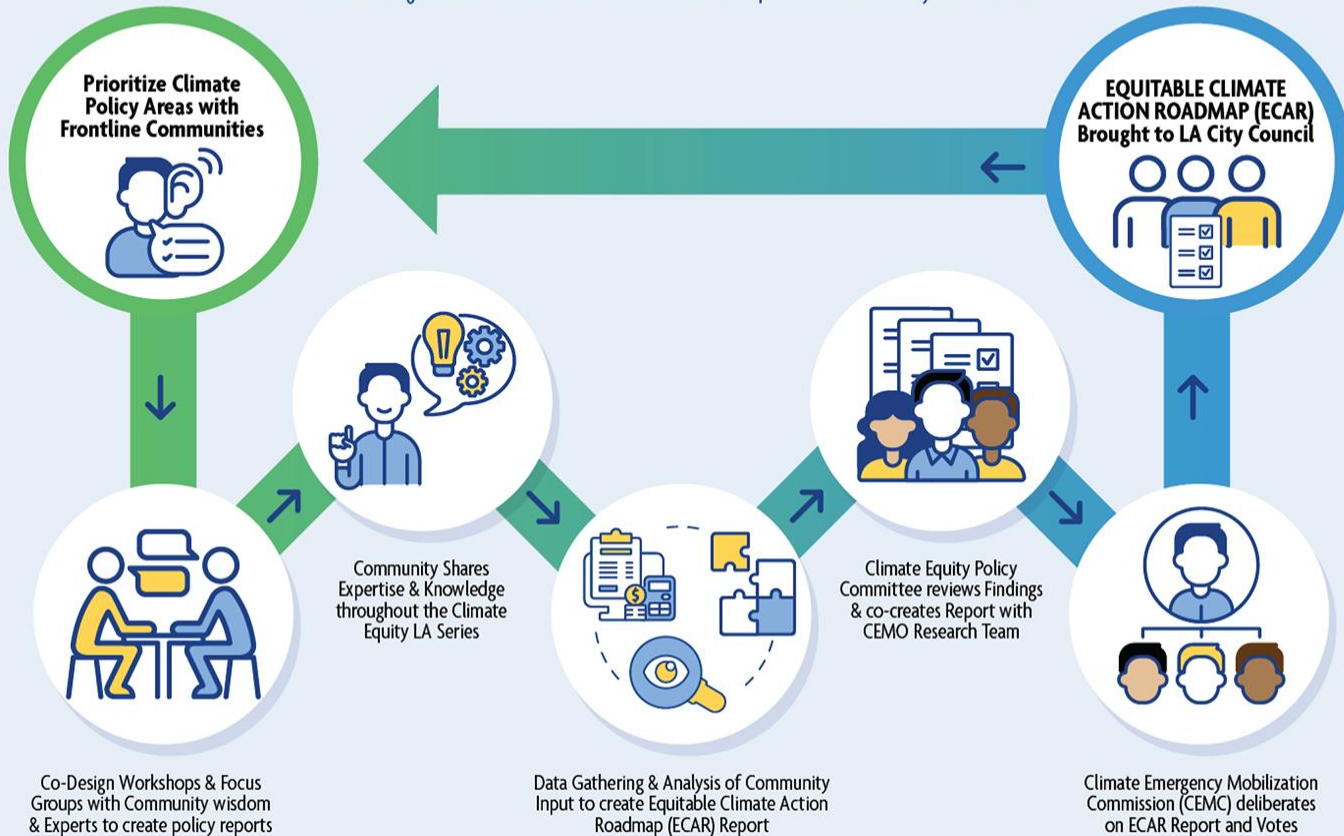
## CEMO Overarching Purpose

- ***Innovation of governance model*** via the Commission, assemblies, and mobilization efforts, are all key goals of CEMO, through the mobilization of community in climate advocacy.
- CEMO will work with City leaders to ***identify and enact equitable strategies and policies*** to prevent, mitigate, and undo impacts from pollution burdens and disinvestments from our historically technocratic/economic decisions, to ensure that frontline communities have ***a strong voice in policy*** and decision-making in the City of Los Angeles.



## CLIMATE EQUITY INNOVATIVE GOVERNANCE MODEL

Collaborating with Frontline Communities to Co-create equitable Climate Policy & Investments







# CLIMATE EMERGENCY MOBILIZATION OFFICE



## Climate Equity LA

- **Create meaningful engagement and civic-led** governance strategies for equitable climate policies & investments
- **Shape recommendations for equitable** climate policies as per environmental equity metrics
- **Coordinate & collaborate** with City leaders to bring an equity lens to LA's Green New Deal, and engage and mobilize community to innovate governance
- **Deliver** an Equitable Climate Action Roadmap via Commission
- Bring report to **City Council**





# CLIMATE EMERGENCY MOBILIZATION OFFICE



## Climate Emergency Mobilization Commission (CEMC)

- **The Commission** will consist of 19 voting members, **seven must represent the top 10% pollution-burdened segment noted in CalEnviroScreen.**
- Represents appointments from **Frontline communities, Labor, Climate, & Health Experts.**
- This Commission is programmatic/advisory to Mayor and City Council via its facilitator, Marta A. Segura, the Executive Director of the Commission.
- **Ordinance no. 187126 dated July 1, 2021** from the LA City Council, Chapter 35, Division 22 of the Los Angeles Admin Code.



MICHAEL N. FEUER  
CITY ATTORNEY

REPORT NO. R 21-0221  
JUL 01 2021

REPORT RE:

REVISED ORDINANCE ADDING CHAPTER 35 TO DIVISION 22 OF THE LOS ANGELES ADMINISTRATIVE CODE ESTABLISHING A CLIMATE EMERGENCY MOBILIZATION COMMISSION; AND ADDING ARTICLE 12 TO CHAPTER 13 OF DIVISION 22 OF THE LOS ANGELES ADMINISTRATIVE CODE ESTABLISHING A CLIMATE EMERGENCY MOBILIZATION OFFICE WITHIN THE DEPARTMENT OF PUBLIC WORKS

The Honorable City Council  
of the City of Los Angeles  
Room 395, City Hall  
200 North Spring Street  
Los Angeles, California 90012

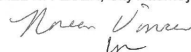
Council File No. 19-1084

Honorable Members:

Enclosed, we are transmitting a revised ordinance, approved as to form and legality, consistent with changes adopted by the City Council at its June 29, 2021, regular meeting pursuant to a motion by Councilmember Koretz revising "25%" to "10%" within Section 22.1500(c)(ii) of Chapter 35 in Division 22 of the Los Angeles Administrative Code. Please contact Deputy City Attorney Steven Martin at (213) 978-8253 if you have any questions.

Sincerely,

MICHAEL N. FEUER, City Attorney

By:   
DAVID MICHAELSON  
Chief Assistant City Attorney





# CLIMATE EMERGENCY MOBILIZATION OFFICE



## CEMO Origins: LEAP L.A. Coalition



- EJ & Grassroots organizing led to the development of CEMO Community-driven public partnership
- Emphasis on frontline communities
- Deep stakeholder engagement
- Coalition building



# CLIMATE EMERGENCY MOBILIZATION OFFICE



## Policy Priorities for CEMO

- Building Decarbonization Curriculum Design, and Policy & Energy Justice
- Community Climate Resilience (Extreme Heat, Wildfires, Blackouts, Earthquakes, Cyber threats)
- Just Transition & Workforce Development
- Tracking Policies for Cumulative Air Emissions & Plastics



# **An Energy Justice Framework for Building Decarbonization**



# What does an energy justice framework look like?

- Seeks to address historic and current injustices created by policy
- Seeks to avoid unintended consequences of rushed legislation
- Vision for clean, affordable, and accessible energy for all
- Recognizes importance of taking leadership from frontline communities
- Prioritizes environmental justice principles and works to create a participatory democracy
- Addresses the urgency of the climate crisis while understanding the importance of collaboration

## How does that translate to building decarb?

- Not lead to evictions, rent burden, energy burden, harassing conduct against tenants, or displacement; thereby exacerbating our homelessness crisis;
- Not replace carbon-based infrastructure with technologies that create other local air, environmental, or climate pollutants;
- Equitably distribute the benefits and burdens of the transition;
- Ensure that decarbonization technologies and information will be accessible and affordable for all, and will ensure that the communities with the worst pollution and climate burdens reap the full benefits;
- Be informed and shaped by the needs and priorities of local communities and experts, leveraging local networks and expertise to ensure equitable and effective adoption;
- Create jobs that are well-paid and unionized, where targeted local hiring will ensure a just transition for workers from impacted industries and historically excluded communities;
- Ensure that energy efficiency improvements decrease energy burdens in historically- excluded communities and provide real bill savings at no additional cost.



## Los Angeles is in a climate emergency

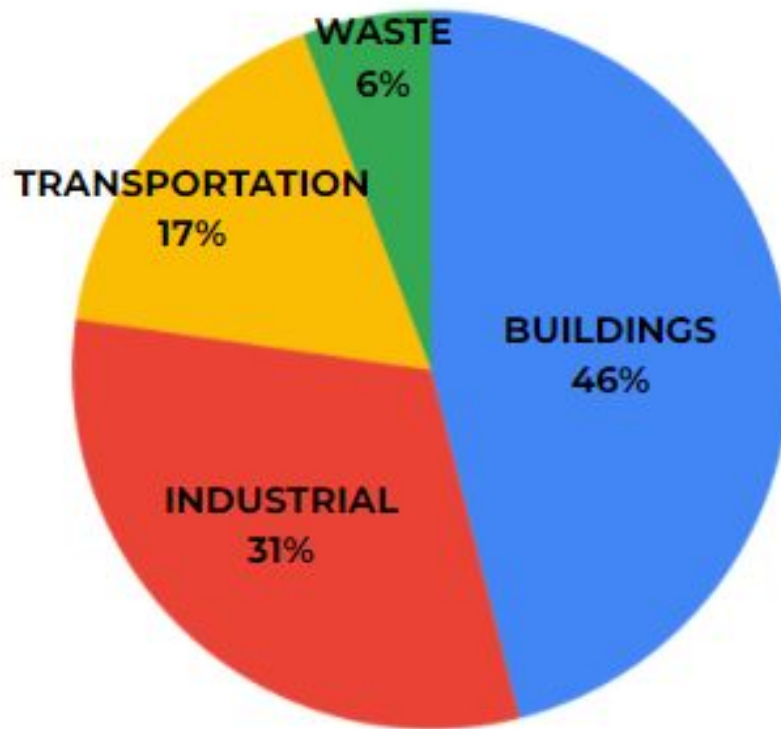


- Each year there are more wildfires, record-breaking summer heat, drought, and rising sea levels
- These hazards are becoming more frequent and severe because of global warming





# Buildings are the largest source of GHG emissions



Source: City of Los Angeles *Draft* Community-wide GHG Inventory, 2019

# How do buildings produce GHG emissions?

- **Direct building emissions**
  - Buildings release carbon dioxide directly when they use equipment that relies on combustion
  - Gas appliances, such as wall heaters, water heaters, stoves, and ovens
- **Indirect building emissions**
  - Energy source
    - if the electricity supply comes from power stations fired by fossil fuels
  - Embodied carbon
    - the emissions produced during the construction of a building before it becomes operational

# What is building decarbonization?

- The goal of decarbonization is to remove greenhouse gas emissions from a building's energy use
- Decarbonization has three components:
  - **Energy Efficiency:** reducing a building's energy use through energy efficiency measures (e.g. replacing windows, installing better insulation, upgrading lighting)
  - **Electrification:** replacing polluting natural gas appliances with all-electric appliances
  - Moving to **carbon-free energy sources** (e.g. wind, solar, clean energy )

# **Energy Efficiency**



## Upgrading lighting (LED)



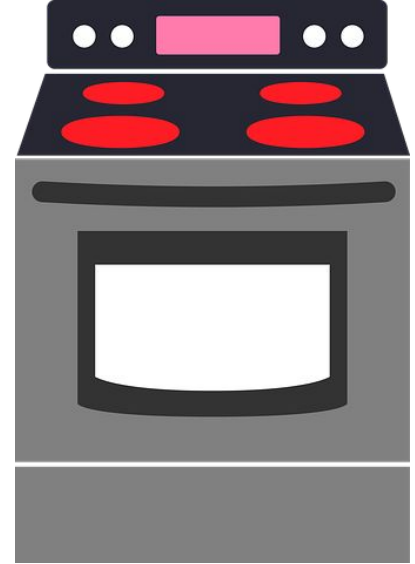
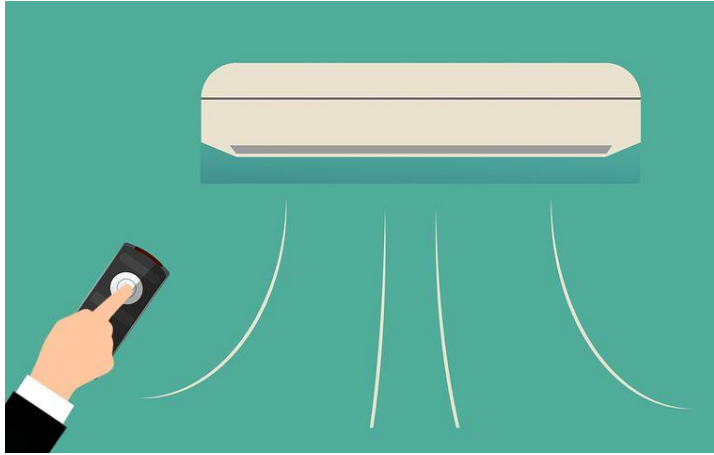
# Replacing wall insulation



# Replace old windows



# Electrification





# Carbon Free Energy Sources



# Community Concerns

- Environmental Justice
- Housing Justice
- Worker Justice



# **Environmental Justice**

# Environmental Justice Opportunities

- Pairing decarbonization with other retrofits to improve housing quality and reduce costs
- Decarbonization policies can be used to address injustices of past and present policy
- Decarbonization policy can help us reimagine what energy ownership and distribution look like
- Opportunity to design policy differently and serve as a model for other cities





# Environmental Justice Risks

- Disparity in access = disparity in outcomes
- Communities need to be at the design table
- We must avoid false solutions that sacrifice local air or water quality for carbon reductions
- Ignoring efficiency will increase burdens on EJ and low-income communities



# **Housing Justice**

# Housing opportunities

- Lower energy bills
  - Deep energy efficiency retrofits could result in energy bill savings for tenants
- Improved health outcomes
  - All-electric appliances will eliminate indoor air pollution
- Climate Resilient Homes
- Better housing quality
  - Building retrofits could include the remediation of hazardous conditions such as asbestos



# Potential Risks for Tenants in Los Angeles

- Rent increases and greater rent burden for households
- Displacement of low-income tenants
- Increase in harmful landlord practices like harassment
- Greater corporate ownership of housing



# **Worker Justice**

# Labor opportunities

- Jobs potential
- Opportunities for workers in impacted industries to transition
- Centering labor concerns early can shape standards for new industries
- Targeted hiring can help rectify inequities and preserve jobs





# Labor Risks

- Workers from impacted industries unable to find new jobs
- Decrease in job quality/protections as workers transition



# Why is an energy justice framework necessary?

Without a comprehensive, community-led approach, the proposed solutions will inevitably lead to unintended consequences for the most vulnerable communities.

However, if we utilize this opportunity to design policy differently, with communities at the center, we can rectify past injustices, increase labor protections, improve indoor air quality, and keep people housed, all while eliminating the largest source of greenhouse gases in the city.





# Building Decarbonization & The City of Los Angeles

Climate Equity LA Series - March 10, 2022  
Megan Ross - City of LA



Eric  
Garcetti  
#lamayor

# Context & Guiding Thoughts

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- The window of a 1.5 degree future is closing quickly, and reaching that future requires major progress made rapidly.
- Building decarbonization is one of our city's most impactful climate actions.
- In buildings, one size does not fit all -- different types vary in usage patterns, energy profiles, cost implications, readiness levels, etc.
- City goals provide a guiding framework.
- **What decarbonizing actions need to come first?**
- **What support is needed to maintain decarbonizing action in the long term?**





# L.A.'s Green New Deal's Key Principles



Act with urgency to eliminate carbon emissions



Deliver environmental justice and equity



Create a fair and equitable green economy that grows the middle class through pipelines to good paying jobs



Lead by example



# L.A.'s "Five Zeros"

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To reach **carbon neutrality by 2050**,  
deep emissions reductions are needed across sectors.



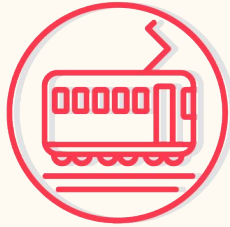
## Zero Carbon Grid

*Achieve 100%  
renewable  
energy by ~~2045~~  
2035*



## Zero Carbon Buildings

*100% net-zero  
carbon new  
buildings by 2030 &  
all buildings by  
2050*



## Zero Carbon Transportation

*100% zero  
emission vehicles  
in the city by 2050*



## Zero Waste

*100% landfill  
diversion rate  
by 2050*



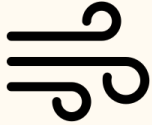
## Zero Wasted Water

*100% of our  
wastewater  
recycled by 2035*



# Why Decarbonize Buildings?

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## CLEANER AIR

All-electric buildings means no natural gas combustion that causes pollutants.



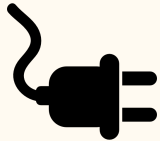
## MORE AFFORDABLE HOUSING

All-electric homes cost less to build and operate than homes powered by natural gas.



## LOWER CLIMATE IMPACT

Powering buildings with renewable energy is better for the climate.



## LOWER UTILITY BILLS

Renewable energy is becoming cheaper while natural gas prices are expected to rise.



## SAFER BUILDINGS

In case of building damager (such as earthquake or other disaster), all-electric buildings are not exposed to fires from gas pipe breaks.






## IMPROVED PUBLIC HEALTH

Electrification avoids prolonged exposure to natural gas fumes, which can lead to respiratory issues like asthma.



# CLEAN & HEALTHY BUILDINGS

## Key Targets

-  **100% of new buildings will be net zero carbon by 2030**
-  **100% of existing buildings will be net zero carbon by 2050**
-  **Reduce building energy use per sq.ft. for all building types:**
  - **22% by 2025**
  - **34% by 2035**
  - **44% by 2050**



# What's Decarbonization All About?

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# Should Buildings Be “Net Zero Carbon” or “Zero Carbon?”

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Both are highly energy efficient.

“Net zero” carbon buildings use on-site renewables or offsets to make up for carbon content of energy used.

“Zero” carbon buildings use only carbon-free energy.



**Grid**

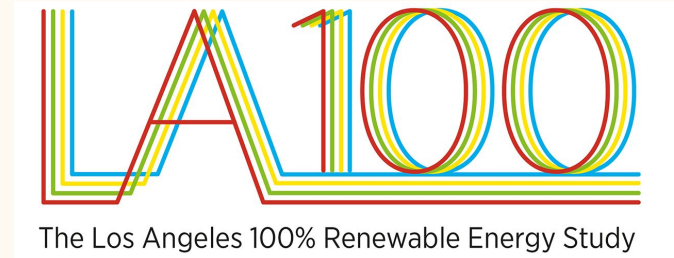


**Buildings**

# Decarbonize the Electric Grid, Decarbonize Buildings

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The LA100 Study has shown that we can fully decarbonize the grid, and that building decarbonization is an important part of grid modernization.



LADWP's grid will be **97% carbon-free by 2030**  
**100% carbon-free by 2035**

**All-electric buildings in LADWP area will be zero-carbon.**

For **common building types**, all-electric systems are feasible and the technology is readily available.

Some **specialized building types**, like for manufacturing, might not be zero-carbon ready right away, but we should clear a path to get them there.

# How Do We Define Carbon Reduction Pathways?

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- Understand our buildings
  - Size, type, vintage, energy use, etc.
- **Understand our community priorities and potential impacts**
  - **Seek input & solutions from those most impacted**
- Work with technical experts and City teams to develop standards and compliance paths that address climate & community needs
- Identify alternative methods for compliance where needed
- Create public-facing programs that enable community members to benefit from the clean energy transition



# Inclusive Policy Development

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**In December 2021**, City Council called for an **inclusive stakeholder engagement process** to understand community priorities and impacts of change. ([CF 21-1463](#))

- Motion established **energy & housing justice principles** for building decarbonization, defined by community leaders.
- Three departments are hosting processes across varying interests.
- Department reports will be submitted to Council in mid-2022.

**In February 2022**, City Council specified a policy goal for **new building construction**: zero carbon operational emissions by 2030. ([CF 22-0151](#))

- LADBS will draft a policy informed by the stakeholder process above and submit it to City Council by the end of 2022.

**Council will name additional specific policy goals, with attention to issues of equity, climate impacts, and implementation raised in the stakeholder process.**

## CLIMATE EMERGENCY MOBILIZATION OFFICE

- **Climate Emergency Mobilization Office**
- March 2022: “Climate Equity LA” series
- **Audience:** frontline communities, justice-focused organizations, neighborhoods
- **Topics:** technical foundations, timelines, housing affordability, workforce transitions, support needs



- **LA Department of Building & Safety**
- Spring 2022
- **Audience:** architects, engineers, construction, real estate, owners, building managers, workforce
- **Topics:** technical foundations, timelines, compliance pathways, workforce transitions, implementation needs



- **LA Housing Department**
- Spring 2022
- **Audience:** multifamily housing providers, landlords, tenants, affordable housing
- **Topics:** technical foundations, housing supply & protections, compliance pathways, implementation and support needs

# **L.A.'s Emissions Reductions (2019 *Draft* GHG Inventory)**

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- Buildings make up **46% of citywide emissions**
  - Emissions are still dropping overall, year after year
  - Unusual GHG impacts in 2020 due to COVID-19
- Residential & Commercial Buildings
  - Reduced emissions **30% since 2014** (just before 1st CAP)
  - Reduced emissions **38% since 1990** (baseline)
  - Reductions are largely due to decarbonization of the electricity grid – more action needs to be taken

## L.A.'s Emissions Reductions (2019 *Draft* GHG Inventory)

<b>BASIC Stationary Energy Emissions by Subsector</b>	<b>Residential Buildings (MT CO<sub>2</sub>e)</b>	<b>Commercial/Institutional Buildings (MT CO<sub>2</sub>e)</b>
<b>1990</b> (baseline)	7,190,000	9,900,000
<b>2014</b> (before 1st CAP)	6,590,000	8,460,000
<b>2019</b>	5,020,000	5,540,000
<b>Reduction since 1990</b>	<b>- 30%</b>	<b>- 44%</b>

- Residential buildings use more natural gas than other building types (esp. for domestic hot water, space heating during cooler hours, and cooking), so their emissions are not decreasing as much.
- Commercial/institutional buildings have a higher proportion of electricity use, which is going carbon-free, so their emissions are reducing at a faster rate.

# Precedent: Energy Benchmarking & Performance

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## Existing Building Energy and Water Efficiency (EBEWE) Ordinance

- Since 2016, ordinance phased in gradually by building size
  - All privately-owned buildings 20,000 sq ft or larger
  - All City-owned buildings 7,500 sq ft or larger
- Report on energy and water benchmarking
  - Confirms building EUI and CO<sub>2</sub> emissions from energy use
- Report on energy and water performance starting in 2021
  - Confirms improvement in EUI over time

# Building & Housing Stock Analysis

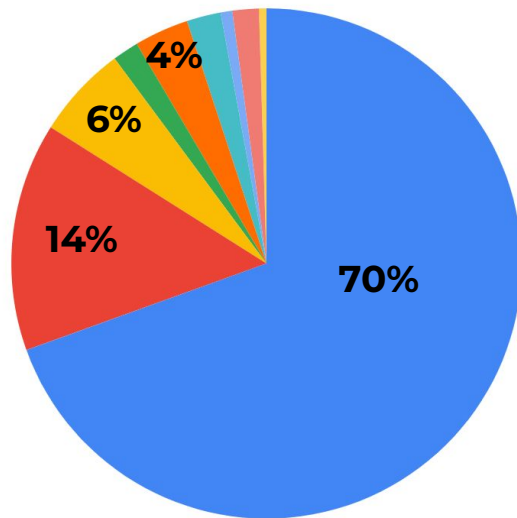
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**The Building Electrification Institute completed an inventory and analysis of LA's building stock and energy use**, with support from Cadmus and Steven Winter Associates.

- Building data was sourced from county tax assessor records, building footprints, census data, and other public records.
- Energy data was sourced from EBEWE data covering “large” buildings, which BEI cleaned to avoid errors and false estimations.
- This analysis is expected to be published later this month, in March 2022.

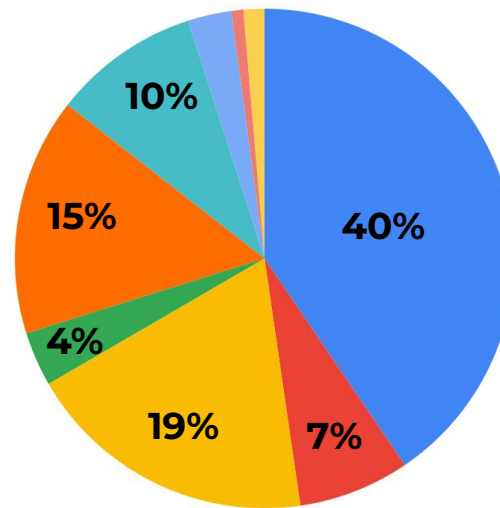


# Number of Buildings (966,671)

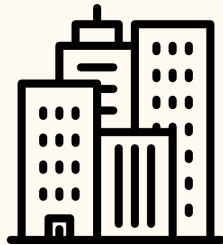


- Residential (Single-family)
- Residential (2-4 Units)
- Residential (5+ Units)
- Residential (Other, Mixed Use)

# Building Area (2.58 billion sq ft)



- Commercial
- Institutional
- Industrial
- Government
- Other



### **Large buildings: 20,000+ sf**

- ~25,000 individual buildings
- 34% of floor area



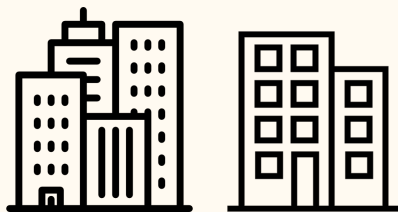
### **Medium buildings: 7,500-19,999 sf**

- ~27,000 individual buildings
- 11% of floor area



### **Small buildings: under 7,500 sf**

- ~914,000 individual buildings
- 56% of floor area

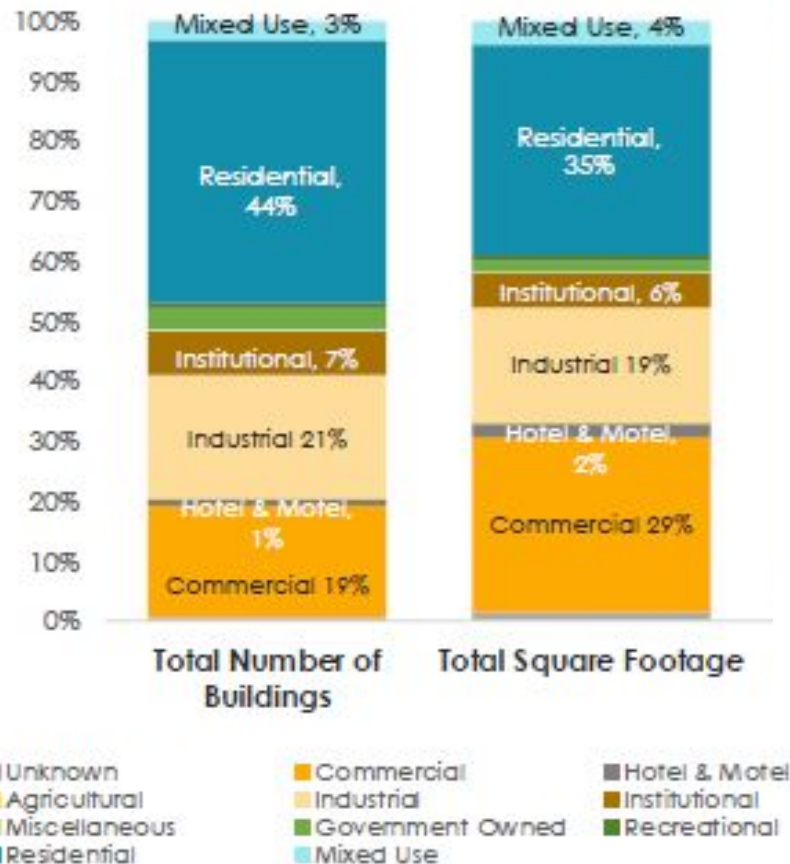


**Nearly half of medium + large buildings are multifamily.**

**The other half are a mix of commercial, industrial, and institutional (like schools).**

**These building types use energy differently and may decarbonize differently.**

**Medium & Large Buildings by Use**



# Building & Housing Stock Analysis Takeaways

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**The largest 3% of buildings in L.A. use almost 30% of the energy and take up 1/3 of the floor area citywide.**

# Building & Housing Stock Analysis Takeaways

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Decarbonizing all “**large**” buildings (20,000+ sf) would affect ~25,000 buildings, 34% of floor area, and 12% of natural gas usage.



Decarbonizing all “**large**” + “**medium**” buildings (7,500+ sf) would affect ~50,000 buildings, 45% of floor area, and 22% of natural gas usage.



Climate goals will not be met without decarbonizing **small** buildings & single-family homes, which account for an estimated 78% of natural gas usage.

# Preparing for Discussion

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- Building decarbonization is one of our city's most impactful climate actions.
- In buildings, one size does not fit all -- different types vary in usage patterns, energy profiles, cost implications, readiness levels, etc.
- **What decarbonizing actions need to come first?**
- **What support is needed to maintain decarbonizing action in the long term?**





# Thank You!

Email: [megan.ross@lacity.org](mailto:megan.ross@lacity.org)



Eric  
Garcetti  
#lamayor

# Building Decarbonization Policy Examples

Climate Equity LA Series - March 10, 2022

Kristen Pawling, County of LA

Megan Ross, City of LA



# Context & Guiding Thoughts

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- Climate change knows no geographic or jurisdictional boundaries, so **all levels of government have to work together** to reduce emissions.
- Local gov'ts need to work within the framework set up by the State of California.
- **City and County collaboration** is especially important since Angelenos may live in the City of LA and work elsewhere in the County, or vice versa.
- Policy models discussed today are **relevant examples to consider**, not specific proposals. Think about:
  - **Which aspects of these policy examples resonate with you?**
  - **If examples like these were applied in LA, how do you think you and your community would be affected?**

# Context & Guiding Thoughts

- LA’s Green New Deal + OurCounty Sustainability Plans

## Goal 7: A fossil fuel-free LA County

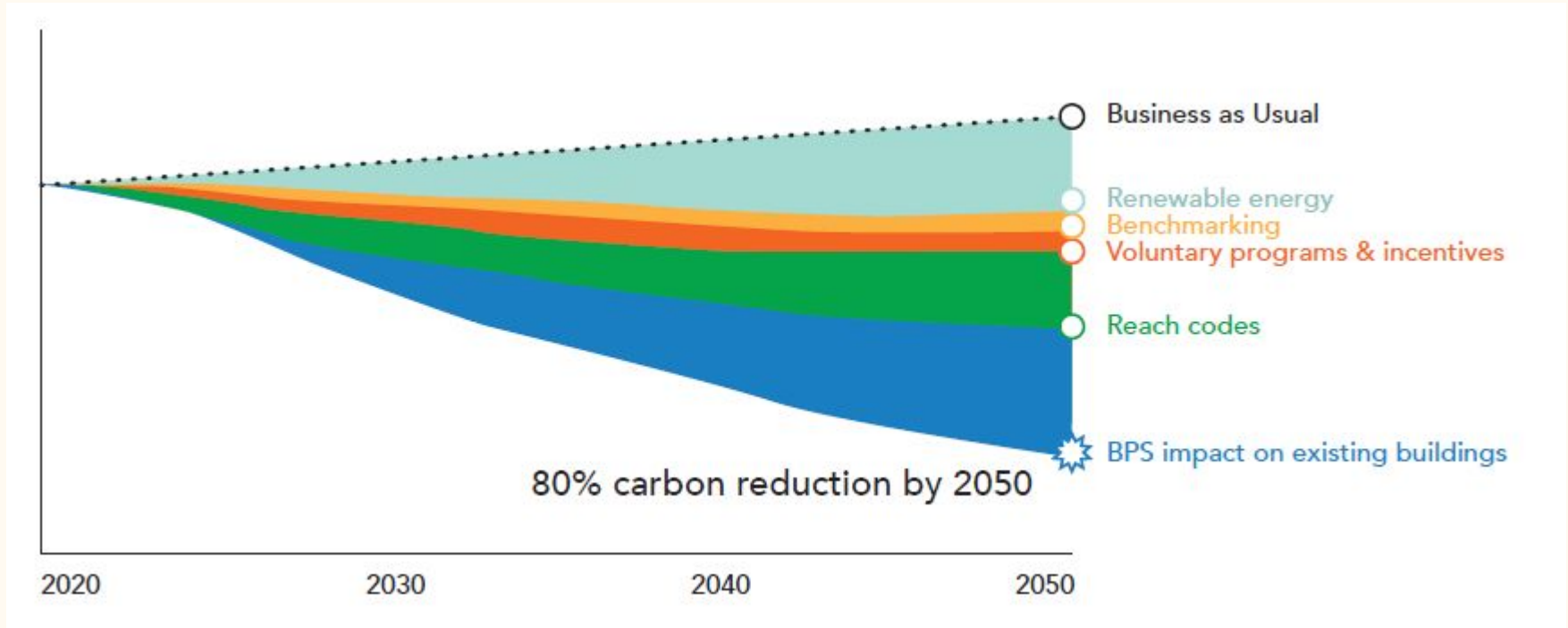


**Action 85:** Collaborate with the City of Los Angeles, Santa Monica, and other members of the Building Decarbonization Coalition to develop building energy and emissions performance standards that put the County on a path towards building decarbonization.

Horizon	Medium Term
Sphere of influence	Direct
Lead County entity	Los Angeles County Public Works
Partners	Cities
Topic Tags	Air Quality, Climate, Energy, Housing, Land Use, Public Health

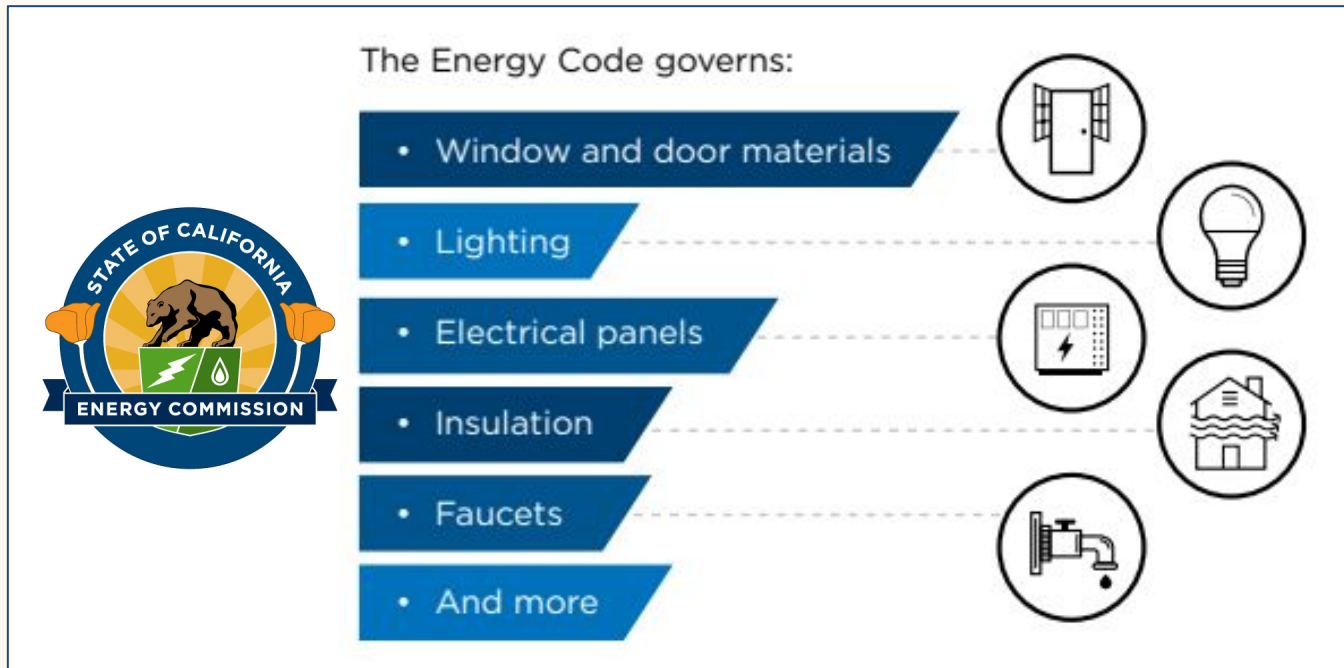


# Example of Emissions Reduction Potential for Buildings



# New Buildings: What Is an Energy “Reach Code?”

**California’s Building Energy Efficiency Standards (BEES or Energy Code)** applies to newly constructed and renovated buildings, establishing minimum requirements in support of health, climate, and energy goals.



# New Buildings: What Is an Energy “Reach Code?”

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**California’s Building Energy Efficiency Standards (BEES or Energy Code)** applies to newly constructed and renovated buildings, establishing minimum requirements in support of health, climate, and energy goals.

- **Local jurisdictions can “reach” beyond these minimums** with their own codes – a “reach code.”
- Local reach codes go through an approval process with the state.
- Depending on building size, type, number of stories, etc., different buildings may be subject to different code specifications.
- Reach code compliance is usually determined at the time a building permit is applied for / granted.



# New Buildings: Common Types of Reach Codes

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## Natural Gas Infrastructure Ban

- Effectively prohibits gas hookups in buildings
- Based on allowable emissions or on infrastructure type
- Berkeley, San Francisco

## All-Electric Code

- “All-electric” is clear & definitive
- “No natural gas appliances” makes space for propane or biogas
- San Francisco, Sacramento

## Electric-Preferred Code

- Where gas is used, it must be to a higher efficiency standard than the state’s minimum (incentivizes electric appliances)
- Santa Monica

# New Buildings: Cost Impact Findings

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The California State Codes & Standards program studied cost impacts of several different building types across climate zones and utility areas.

These studies covered **construction costs** and **utility bill impacts** of certain electrification measures compared with mixed-fuel measures.

Studies included:

- Nonresidential buildings
- Single-family & low-rise residential homes
- Mid-rise multifamily
- High-rise multifamily



Studies covered complex, detailed configurations and impact analyses. The following slides are very broad summaries of these complex results.

New Building Type	Construction Costs of All-Electric (vs. mixed-fuel)
Nonresidential	<b>Usually less expensive</b> ; deep efficiency slightly more expensive but pays off in utility savings
Single-family	<b>Less expensive</b>
Low-rise Multifamily	<b>Less expensive</b>
Mid-rise Multifamily	<b>Less expensive</b>
High-rise Multifamily	<b>Less expensive</b>

New Building Type	Utility Bill Impacts of All-Electric (vs. mixed-fuel)
Nonresidential	<b>Less expensive right away</b> ; even better with deep efficiency
Single-family	<b>Usually less expensive</b> right away; sometimes Year 1 is slightly more expensive but costs go down**
Low-rise Multifamily	<b>Usually less expensive</b> right away; sometimes Year 1 is slightly more expensive but costs go down**
Mid-rise Multifamily	<b>Less expensive right away</b> ; even better with on-site solar
High-rise Multifamily	<b>Sometimes less expensive</b> depending on configuration; <b>better with on-site solar</b> ; sometimes Year 1 is slightly more expensive but costs go down**

*\*\* Early-year utility bill increases, as estimated averages, would be fully counteracted by the amount saved through enrollment in the LADWP low-income discount program.*

# New Buildings: Additional Considerations

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- What about related elements like **EV charging, on-site renewable energy, cool roofs, or landscape features**?
- How could **embodied carbon** fit into a holistic climate approach?
- How will the City align with timing of **State energy codes** (3-yr cycle)?
- How will the City **cooperate with the County** and/or other local cities?



# Existing Buildings: Building Performance Standards

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Building performance standards (BPS) require existing buildings to achieve **minimum levels of energy or climate performance**, by conducting **retrofits or other performance-based actions**.

LA's Green New Deal refers to energy & climate performance in two ways:

- **Carbon:** GHG emissions intensity
  - MT CO<sub>2</sub>e per sq. ft.
- **Efficiency:** Energy use intensity (EUI)
  - kBTU per sq. ft.



# Existing Buildings: Building Performance Standards

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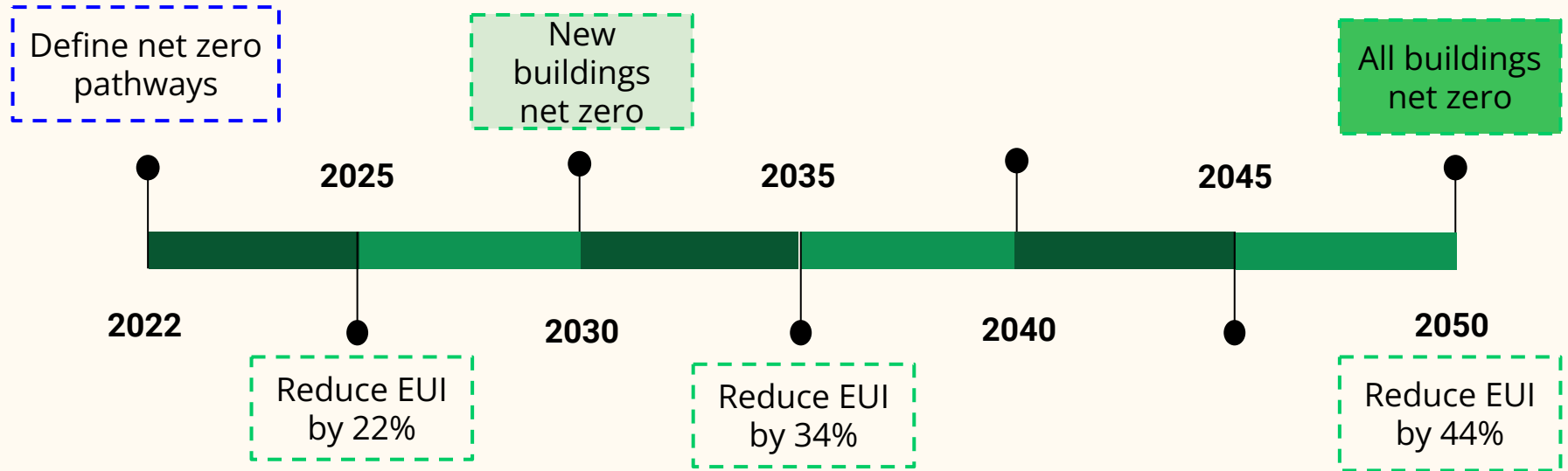
Building performance action is nationwide. The City of Los Angeles is part of the **National BPS Coalition**, a group of state & local governments committed to inclusively designing & implementing BPS policies and programs, launched by President Biden & aligned with Justice40 principles.





# Existing Buildings: Timing of Performance Goals

- Major milestones: based on policy goals and efficiency improvements
- Interim milestones: e.g. one-year update cycles, three-year energy code cycle, or five-year implementation cycle like EBEWE



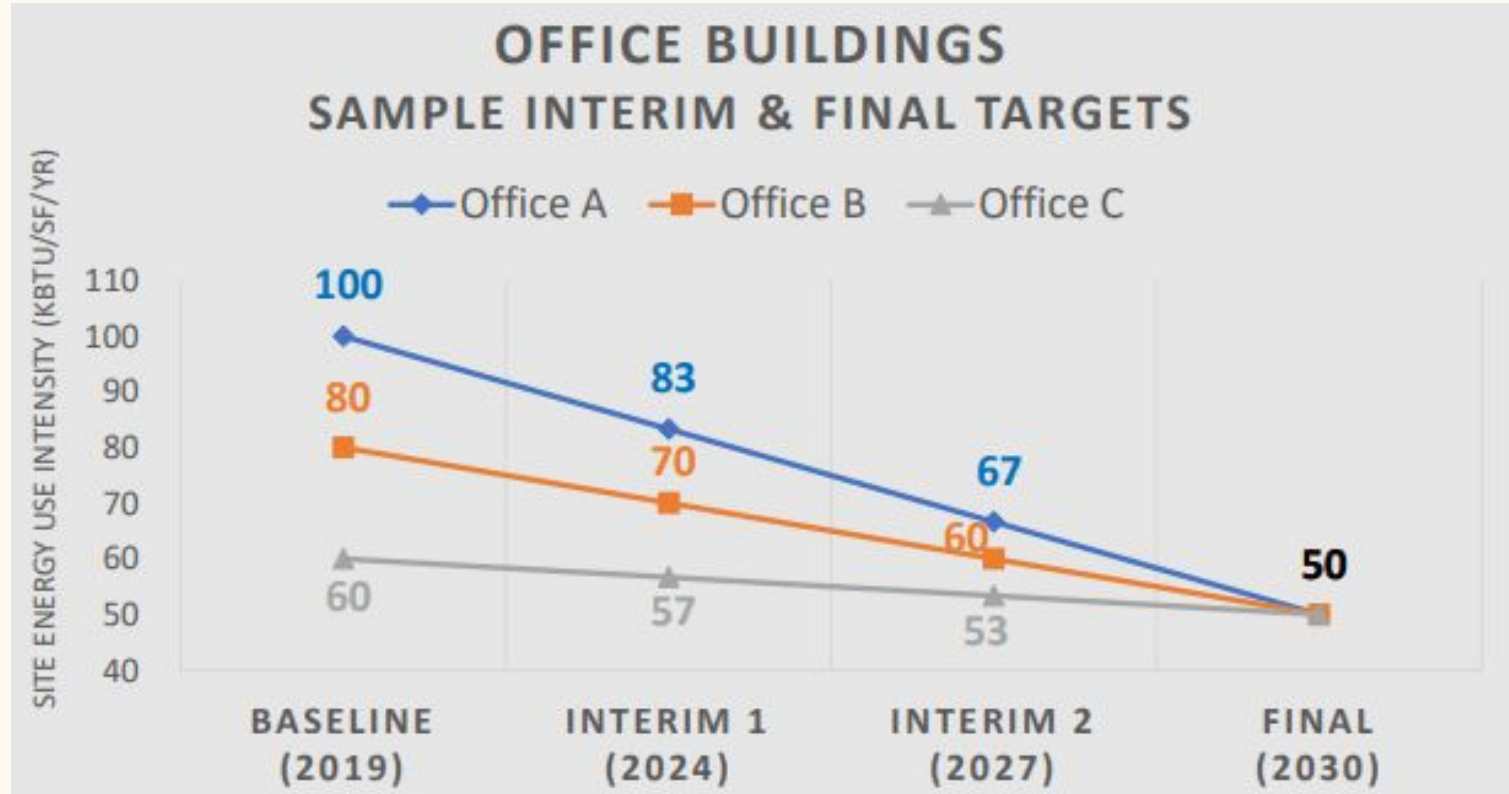
# Existing Buildings: Examples of Performance Standards

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	Denver	New York
<b>What Metrics?</b>	EUI (energy per sq ft)	GHG emissions intensity
<b>Covers Large Buildings?</b>	Yes, 25,000+ sf (~3,000 buildings)	Yes, 25,000+ sf (~50,000 buildings)
<b>Covers Small Buildings?</b>	Yes, 5,000-24,999 sf can choose to take specific energy-saving actions	No
<b>When to Comply?</b>	Final year 2030, with interim targets on 3-year cycles (2024, 2027)	Annual targets 2024-2029, limits become more stringent 2030-2034
<b>How are Limits Set?</b>	According to individual building baseline (2021)	According to 10 categories of buildings (occ. type)

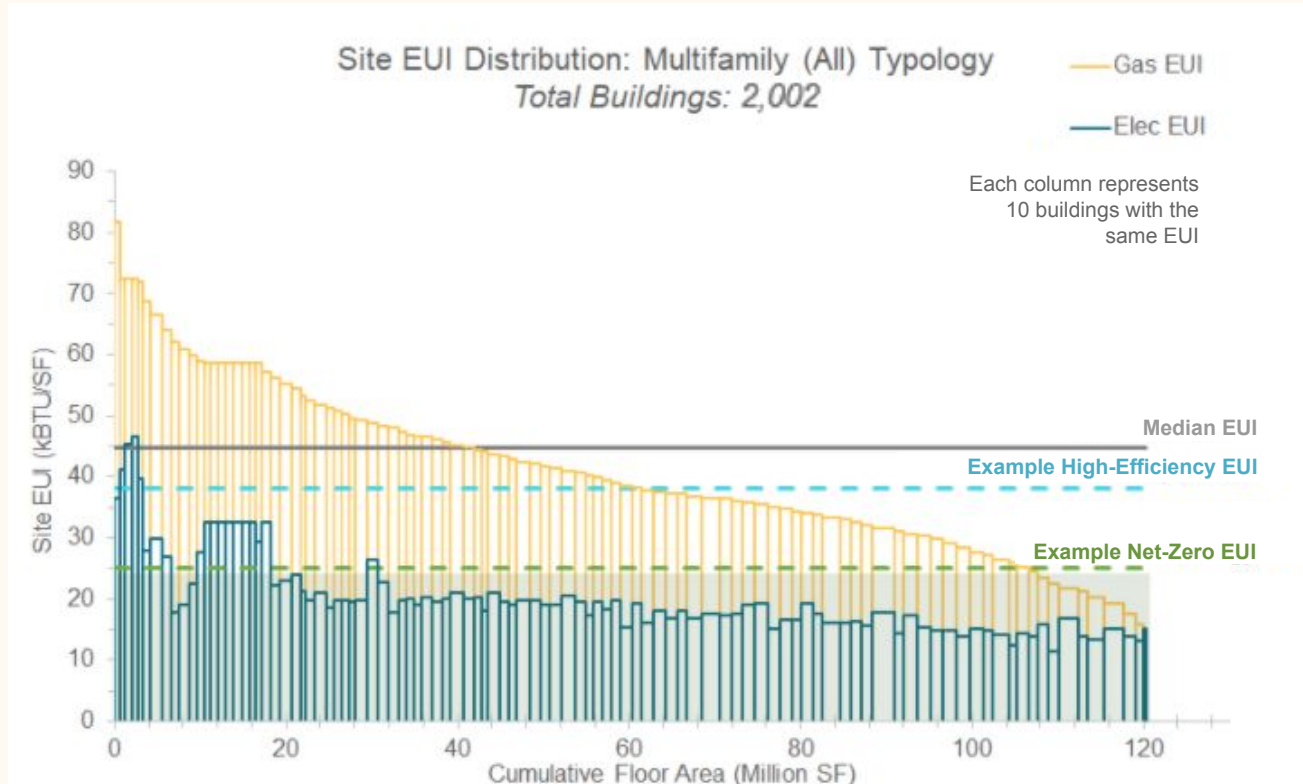
# Existing Buildings: Examples of Performance Standards

Example of performance improvement by **individual building baseline**:



# Existing Buildings: Examples of Performance Standards

Example of performance improvement by **building category targets**:



# Existing Buildings: Cost Impact Findings

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Arup Engineering (Arup) and Energy+Environmental Economics (E3) conducted cost impact studies for retrofits of common building types across California climate zones or in Los Angeles specifically.

These studies covered **upfront retrofit costs** and **utility bill impacts** of certain electrification retrofit measures, and in some cases compared the effects of near-term vs. delayed measures.

Studies included:

- Nonresidential buildings (Arup)
- Single-family & low-rise residential homes (E3)
- Mid-rise multifamily (Arup)

Studies covered complex, detailed configurations and impact analyses. The following slides are very broad summaries of these complex results.

Existing Building Type	Retrofit Cost Impacts
Nonresidential	Energy bills are <b>reduced, usually enough</b> to recover upfront costs
Single-family and Low-rise Multifamily <i>where cooling exists</i>	Energy bills are <b>reduced, usually enough</b> to recover upfront costs (85% of the time)
Single-family and Low-rise Multifamily <i>where cooling is added</i>	Energy bills <b>may reduce</b> or <b>may go up</b> if new cooling increases demand, and it's <b>usually not enough to recover</b> all upfront costs
Multifamily	Energy bills are <b>reduced</b> , but <b>usually not enough to recover</b> all upfront costs

Earlier retrofits are more impactful from a climate mitigation perspective and improve financial benefits. **Risks of cost escalation increase as electrification is delayed.**

# Existing Buildings: Additional Considerations

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- What about related elements like **EV charging, on-site renewable energy, cool roofs, or landscape features**?
- How could **embodied carbon** fit into a holistic climate approach?
- How will the City **cooperate with the County** and/or other local cities?
- How will we **accommodate and support buildings** where cost savings are not enough to cover investments?
- Will there be **penalties** for noncompliance? If so, what will those penalty fees go toward?





# Preparing for Discussion

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- Policy models discussed today are **relevant examples to consider**, not specific proposals. Think about:
  - **Which aspects of these policy examples resonate with you?**
  - **If policy examples like these were applied in LA, how do you think you and your community would be affected?**
  - **What support or tools would help you go through this building decarbonization transition with the City and the region?**

# Thank You!





# CLIMATE EMERGENCY MOBILIZATION OFFICE

**Thank you for joining us!**



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