

U.S. DEPARTMENT OF  
**ENERGY**

Office of  
**ENERGY EFFICIENCY &  
RENEWABLE ENERGY**

# Zoning and Land-Use Regulation: Emerging Tools for Advancing Climate-Friendly Development

Building Energy Codes Seminar Series

Building Technologies Office

Fall 2021



# NECC Seminar Series Lineup

Catch the entire lineup of sessions bi-weekly—Thursdays @ 1p ET:

- 8/12: Grid Integration and Electrification in Energy Codes
- 8/26: Approaching Zero, Where Do We Go From Here for Commercial Buildings
- 9/9: Codes Around the Globe: A Cross-National Comparison of Building Energy Codes
- 9/23: Evolution of Commercial Building Design and Construction
- **10/21: Zoning and Land-Use Regulation: Emerging Tools for Advancing Climate-Friendly Development**
- 11/18: Equity and Codes: Ensuring Codes and Energy Efficient Buildings Address Affordable Housing Needs

> Learn more: <https://www.energycodes.gov/2021-summer-seminar-series>

# Today's Moderator & Panelists

## Moderator

- **Rodney Sobin** – Senior Program Director, NASEO

## Speakers

- **Kai Palmer-Dunning** – Buildings and Communities Associate, NEEP
- **Katrina Managan** – Buildings Team Lead, City and County of Denver
- **Ellen Eggerton, P.E** – Sustainability Coordinator, City of Alexandria
- **Jennifer T. Manierre, CEM, LEED AP ND** – Program Manager, Clean Energy Siting, NYSERDA





# Deep Dive: Energy and Zoning

# About NEEP

A Regional Energy Efficiency Organization

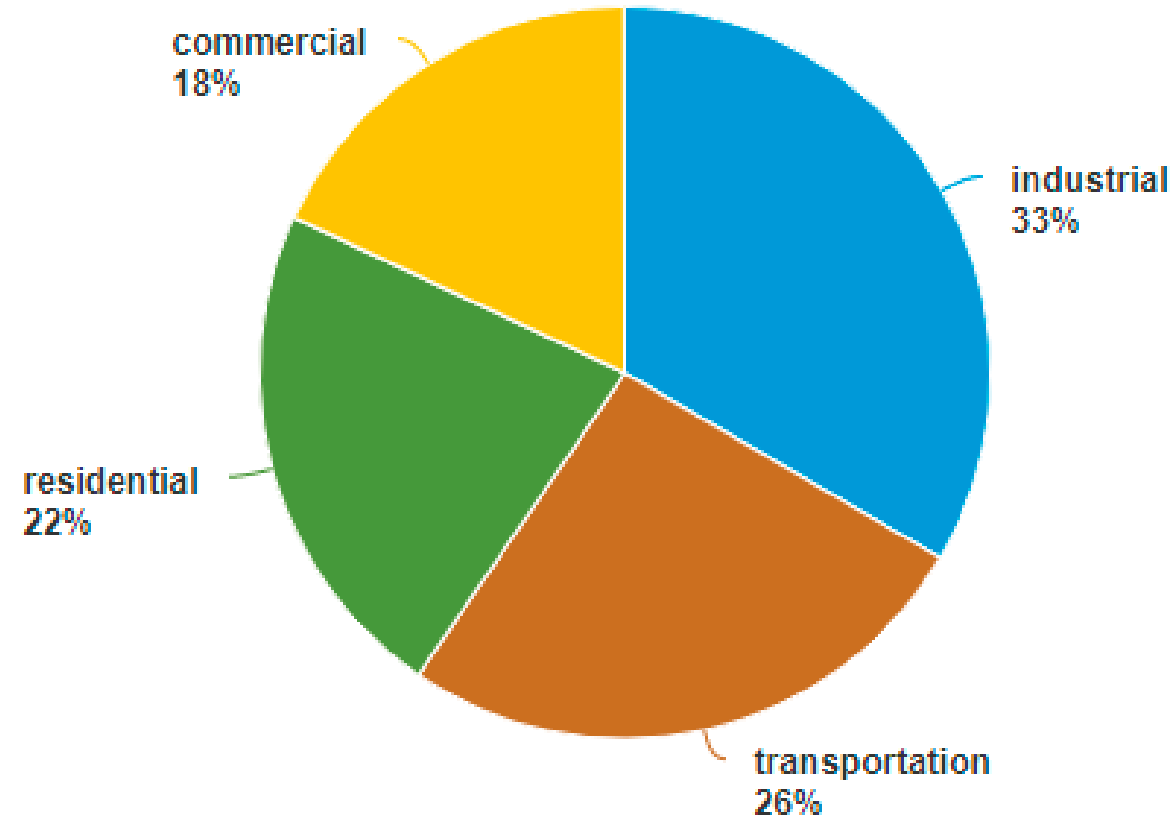


One of six REEOs funded in-part by U.S. DOE  
to support state and local efficiency policies and programs.

# Energy-Use by Sector

## Share of total U.S. energy consumption by end-use sectors, 2020

Total = 92.94 quadrillion British thermal units





# Zoning v. Building Code



In the 1920s, the US Commerce Department drafting model zoning ordinances for states.

In 1970s, US Congress created national model energy codes.

Energy of the building is regulated by building codes. Some states prevent local jurisdictions from passing local ordinances that “touch” the topic building energy.

# What Does Zoning Regulate?

- Land use districts (Residential, Commercial, industrial, etc.)
- Lot characteristics (size, density, building height, set back, etc.)
- Traffic and parking
- Landscaped space and impervious surfaces





# Relationship Between Zoning and Building Energy



- Zoning for Green Space, hardscapes, Roof surfaces
  - Urban Heat Island Effect
  - Stormwater management
- Setback Requirements
  - insulation and passive solar
- Building Height and Density
  - Rooftop solar PV
  - Transit oriented development (carbon emissions from transportation)

# Urban Heat and Energy Consumption

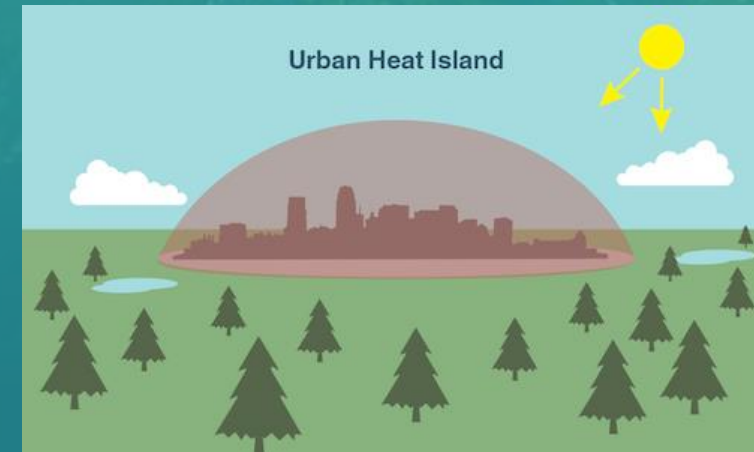
**Heat Island:** *Urban areas, where these structures are highly concentrated and greenery is limited, become “islands” of higher temperatures relative to outlying areas. (EPA)*

Urban Heat:

- Daytime temp: 1-7 degrees higher
- Nighttime temp: 2-5 degrees higher

Increased Energy Consumption

- Higher electricity usage on air conditioning
- Rolling brownouts and blackouts





# Effects on Vulnerable Populations

## Low-Income Communities

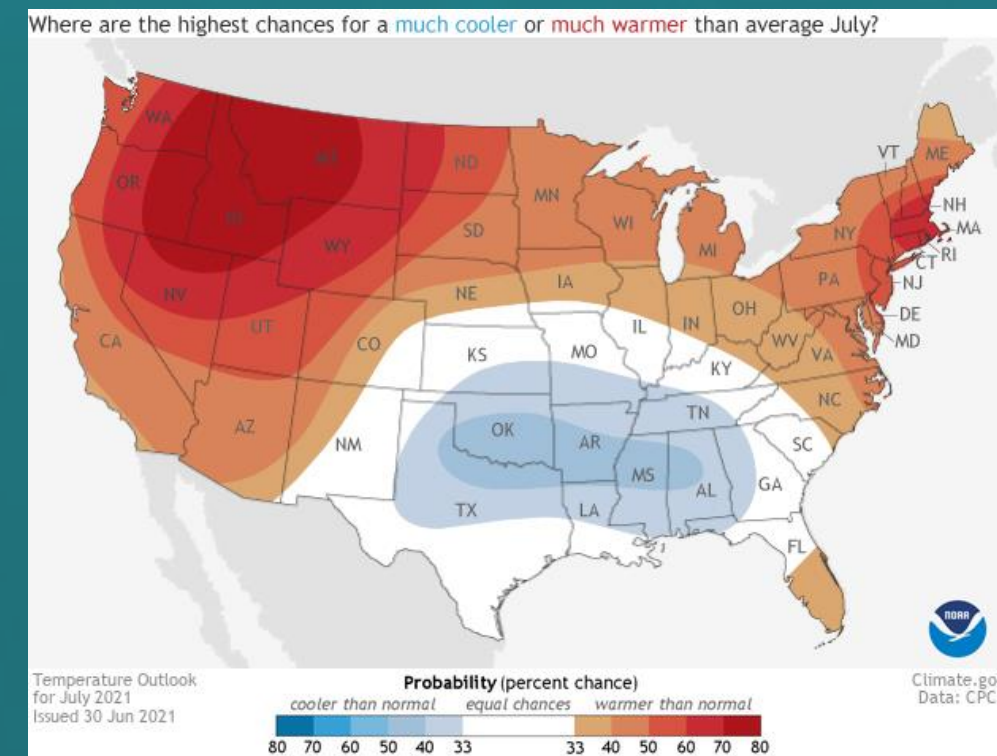
- Older homes: poorly insulated, weak electrical systems
- Higher energy burden

## Elderly and people with health issues

- Higher risk of heat strokes and respiratory distress
- Poor air quality

## Redlined Neighborhood

- Less trees
- Higher temperatures
- Higher hardscape to greenspace ratio





# Somerville, MA



## Green Score:

- performance-based environmental landscape standard with a weighted point system that incentivizes landscape and site design elements that:
  - Reduce storm water runoff
  - Improve urban air quality
  - Mitigate urban heat island effect
  - Improve general well being of residents and visitors



- Denver Green Building Ordinance
  - Offers flexible pathway for compliance of green building ordinance
  - NEW BUILDINGS (25,000 SQ. FT. AND UP) & ADDITIONS (50,000 SQ. FT. AND UP)
    - Cool Roof requirement

AND ONE OF THE FOLLOWING:

- Payment into green building fund
- On-site solar
- Purchase off-site solar energy
- Energy conservation of at least 12% above code req.
- Green building certification





# A few Things to Consider



- Allow for building orientation exemptions to maximize daylighting
- Promote covered parking in commercial districts to reduce heat island effect
- Minimum Solar Reflectance Index (SRI) for roofs in commercial/industrial districts
- Exempt overhang and/or exterior wall thickness from counting toward gross sq. ft. if it contributes to tighter building envelope and energy efficiency



**For more information, contact:**

**[kpunning@neep.org](mailto:kpunning@neep.org)**



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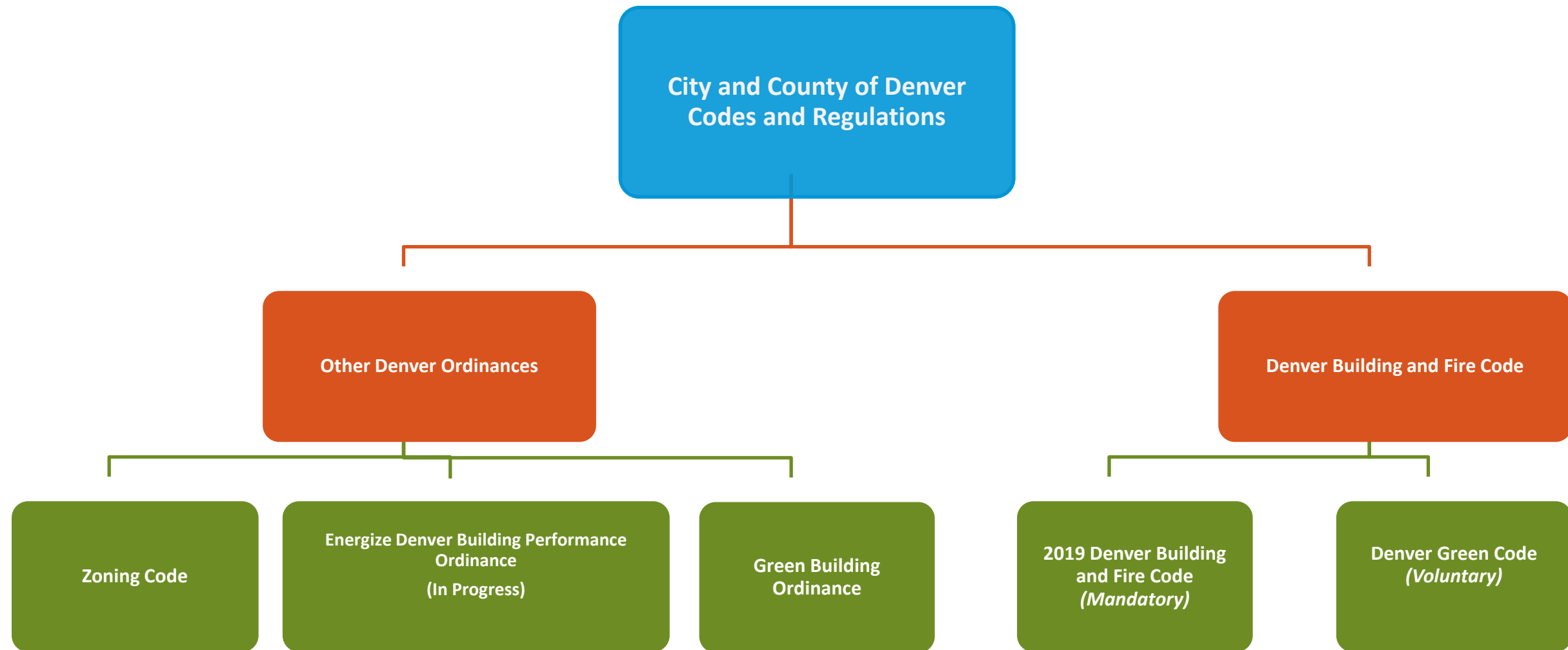
# *Zoning and Land-Use Regulations: Emerging Tools for Advancing Climate-Friendly Development*

October 21, 2021

# Buildings and Homes Regulations

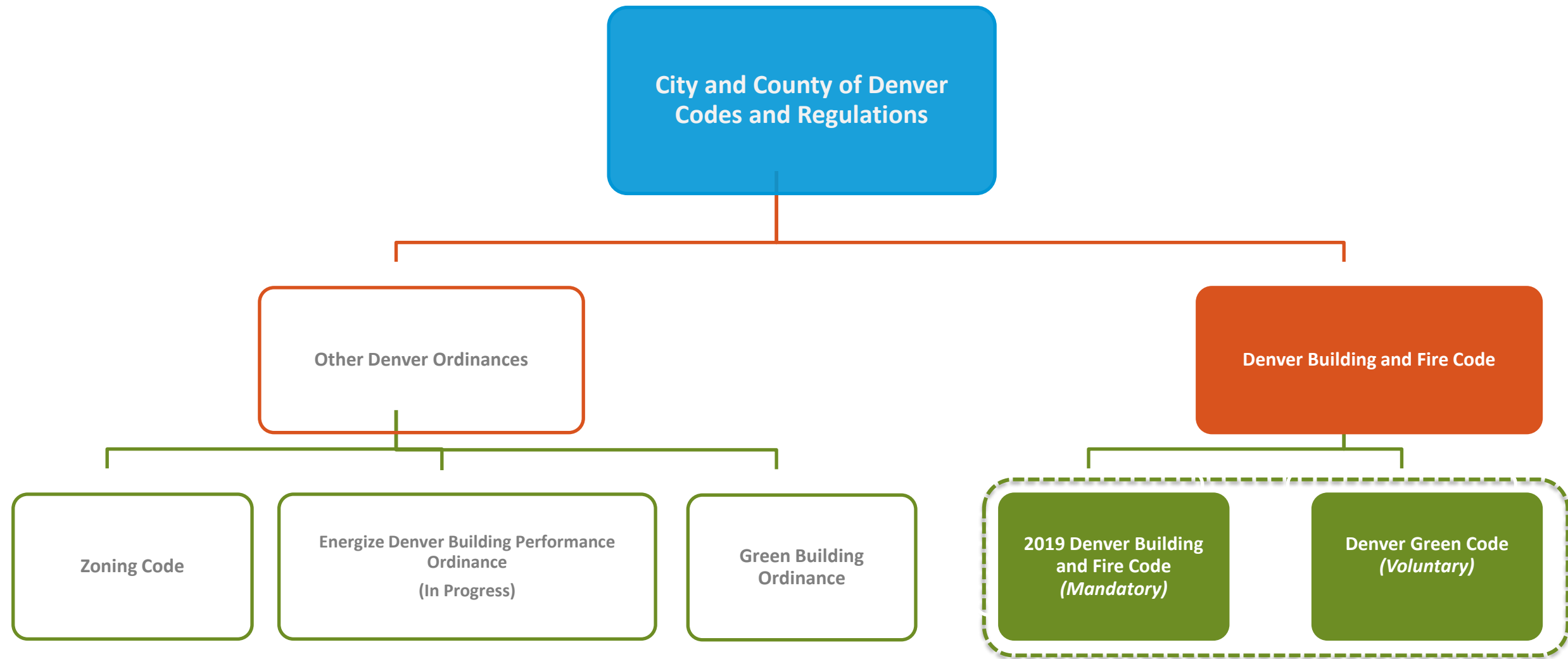


# Denver Building Regulations Structure



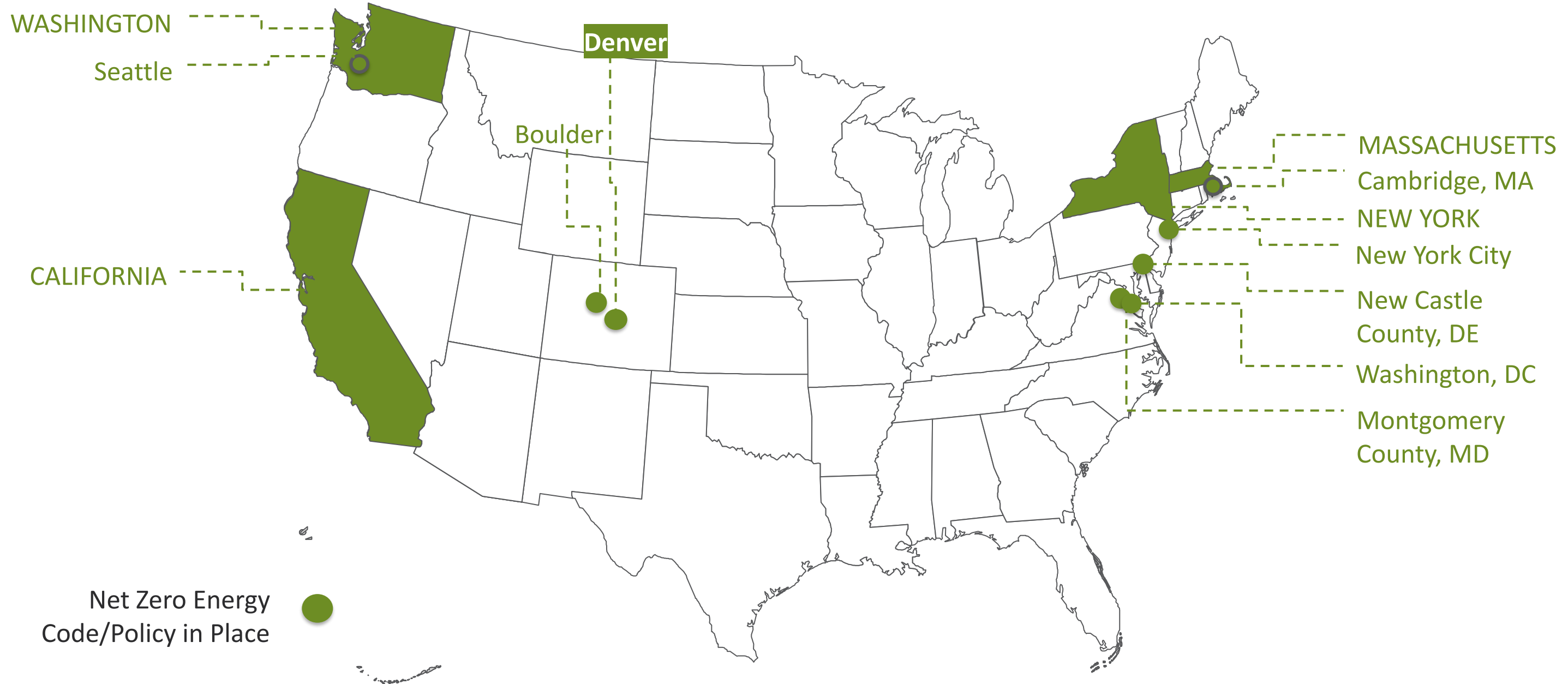
# 2022 Code Adoption Process

# Denver New Building and Fire Code



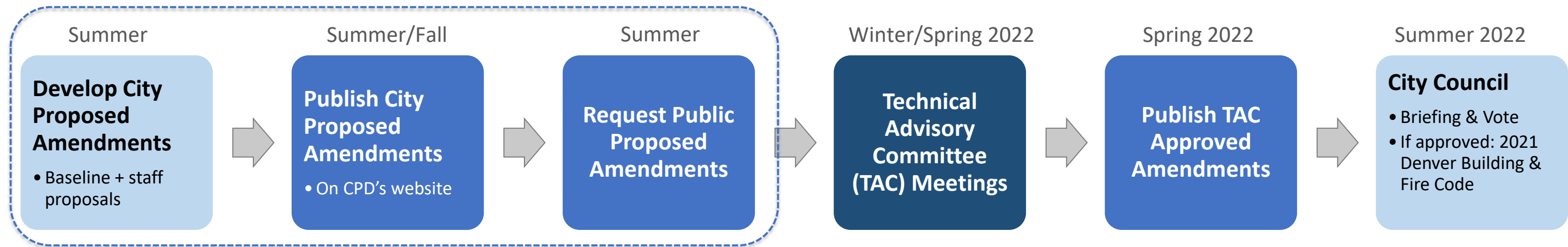


# New Building Net Zero Energy Codes & Policies in Other Cities



# Denver Code Adoption Process

## Denver Code Adoption Process

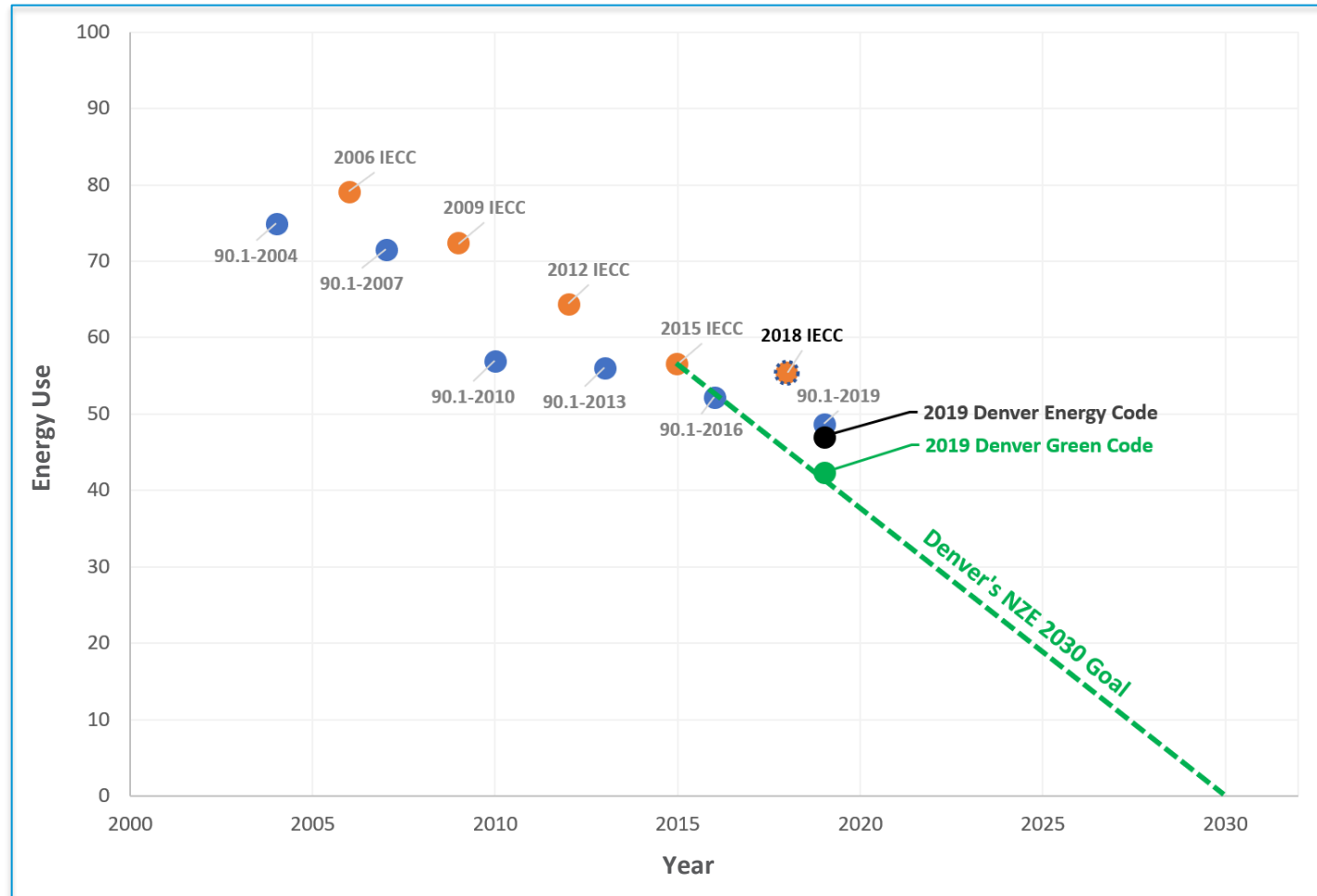


### Legend:

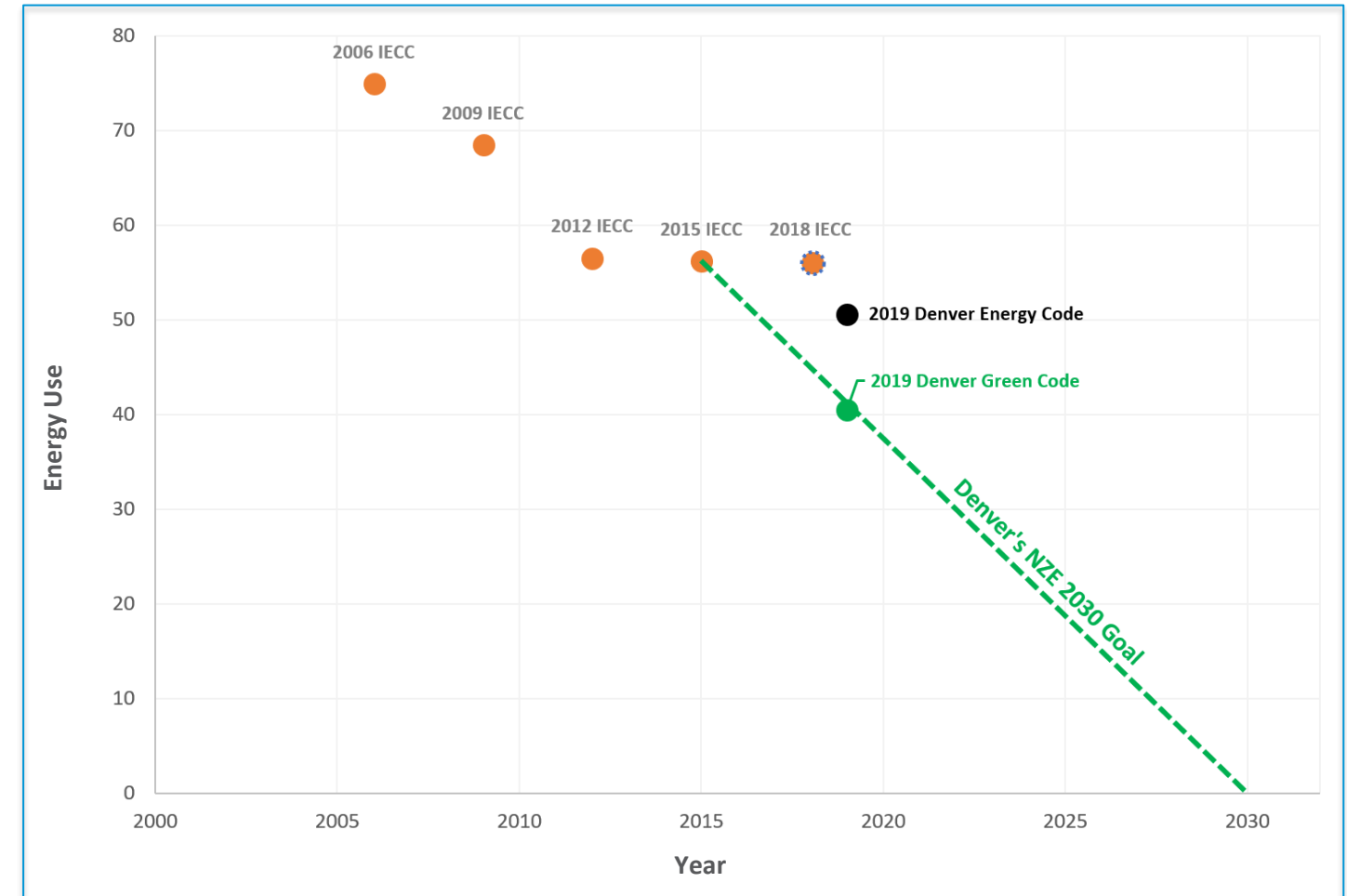
- City
- External/Public
- Code Technical Advisory Committee (Code Committee)

# Denver's Path to NZE New Buildings & Homes by 2030

Path to NZE – Commercial & Multifamily



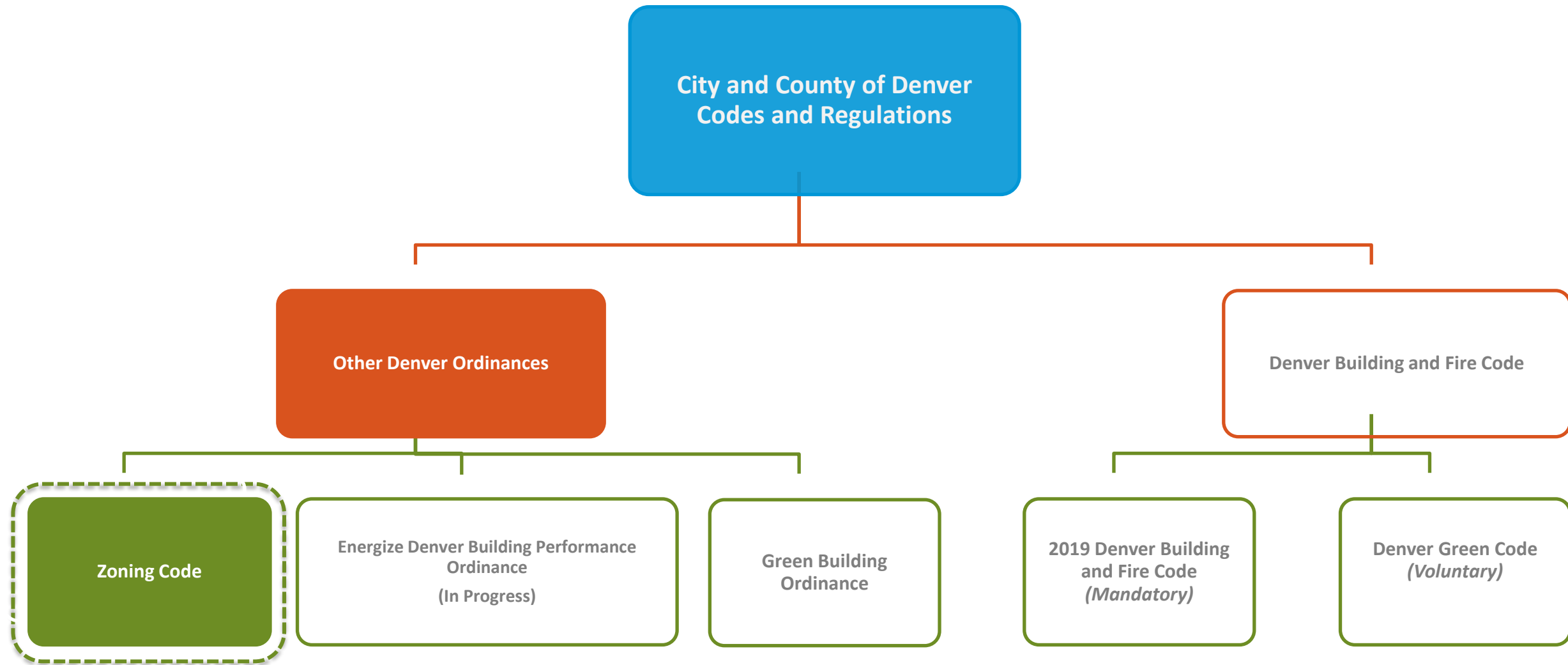
Path to NZE – Residential



# Denver Zoning Code



# Denver Zoning Code



# Zoning Code Considerations

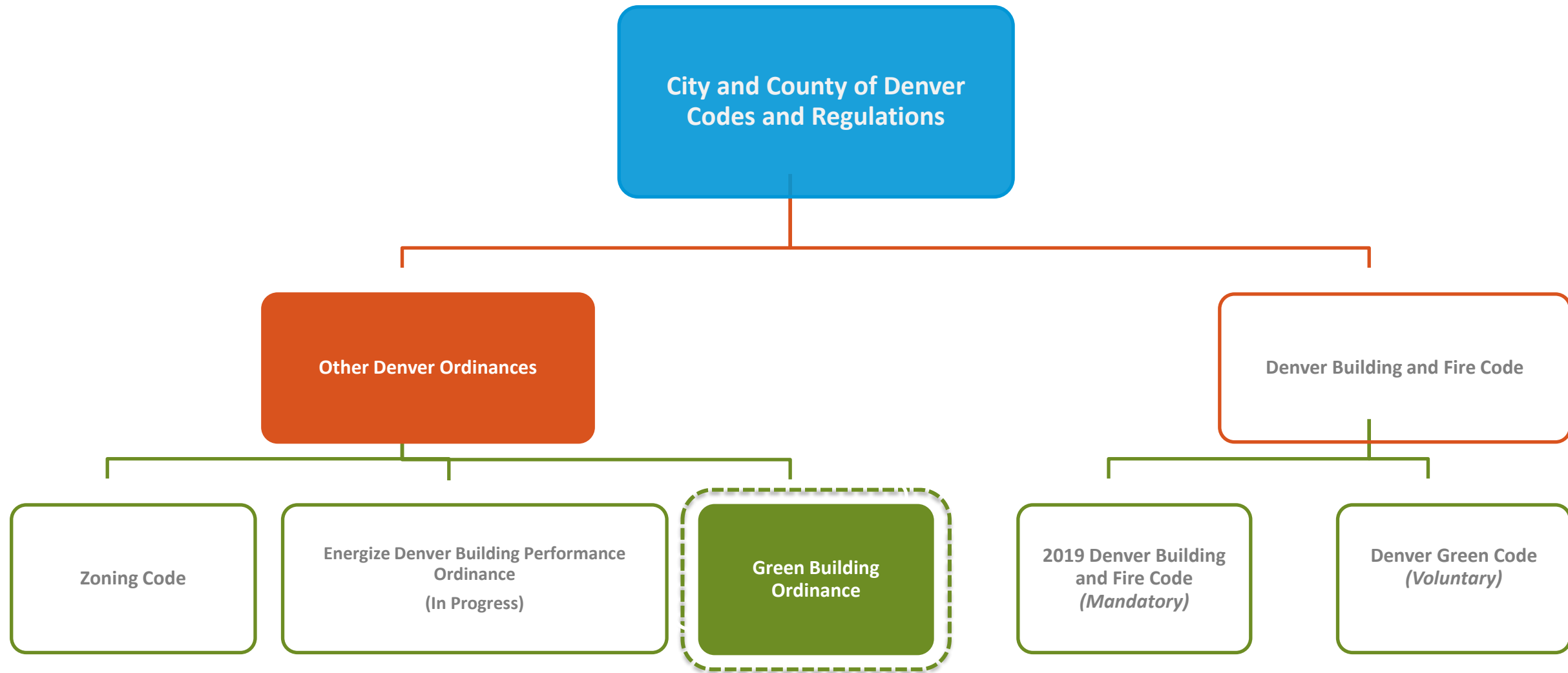
Collaboration w/ Community Planning and Development

- Landscape regulations
- Lot Coverage Standards
- Parking Requirements
- District Energy



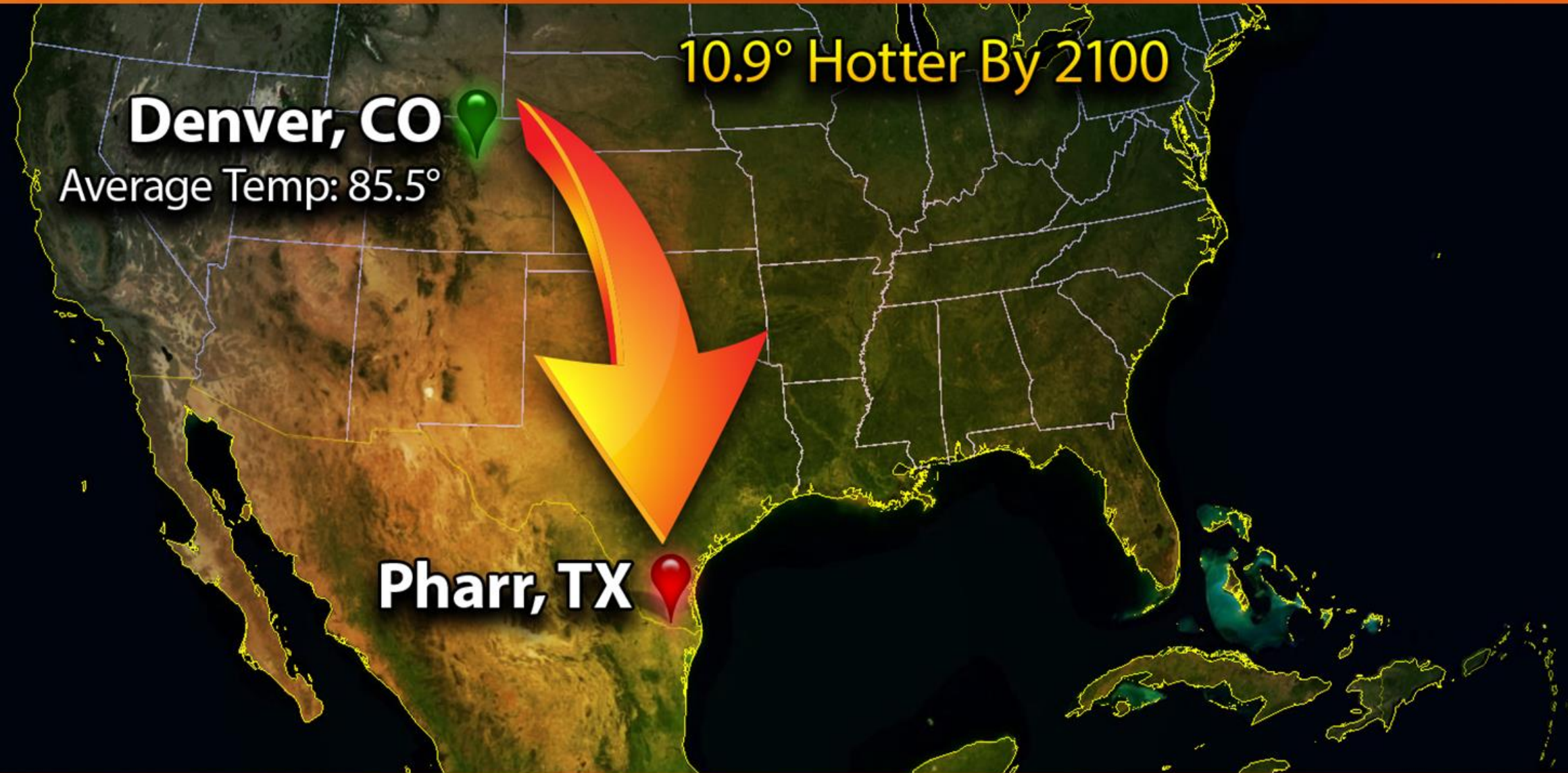
# Green Building Ordinance

# Green Building Ordinance





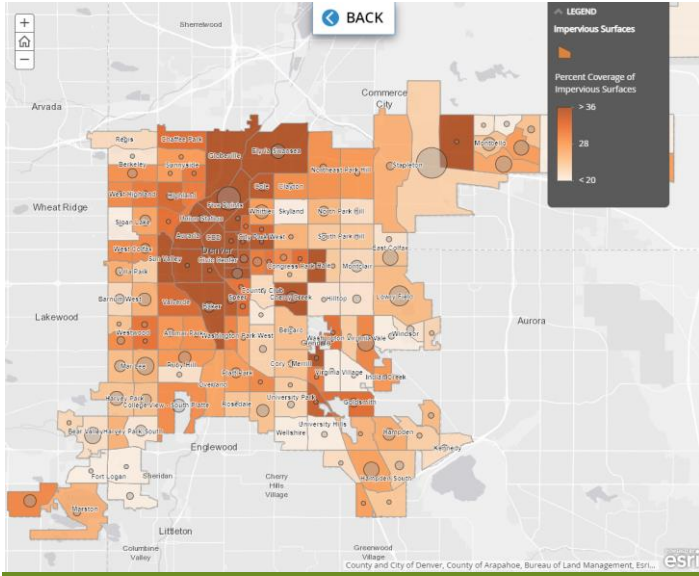
# WHERE YOUR SUMMER IS HEADED



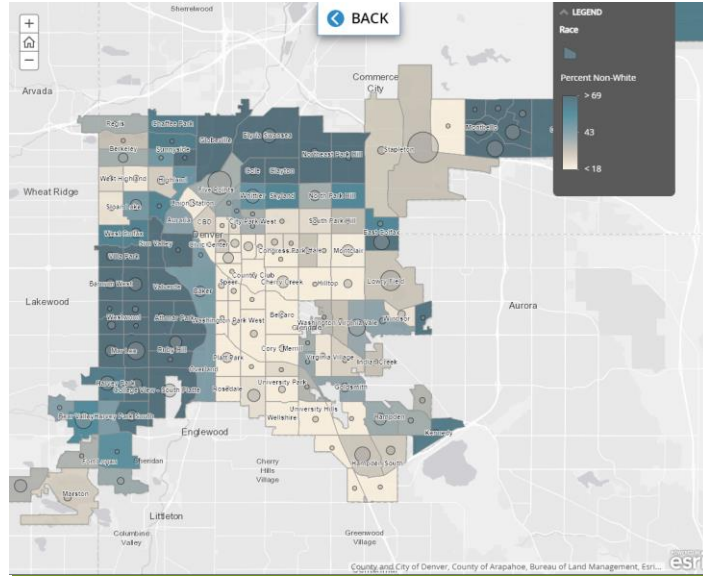
Current temperatures: PRISM Climate Group, Oregon State University, <http://prism.oregonstate.edu>, accessed July 1, 2014.  
CMIP5 multi-model ensemble dataset based on current emission trends.

CLIMATE  CENTRAL

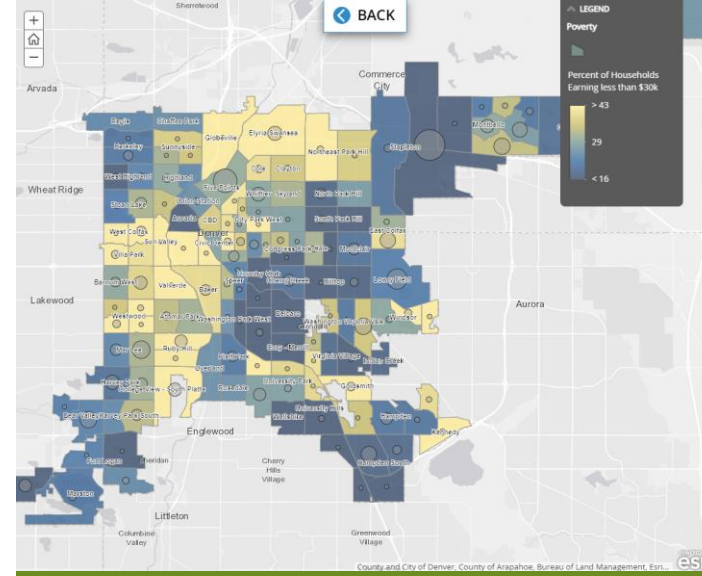




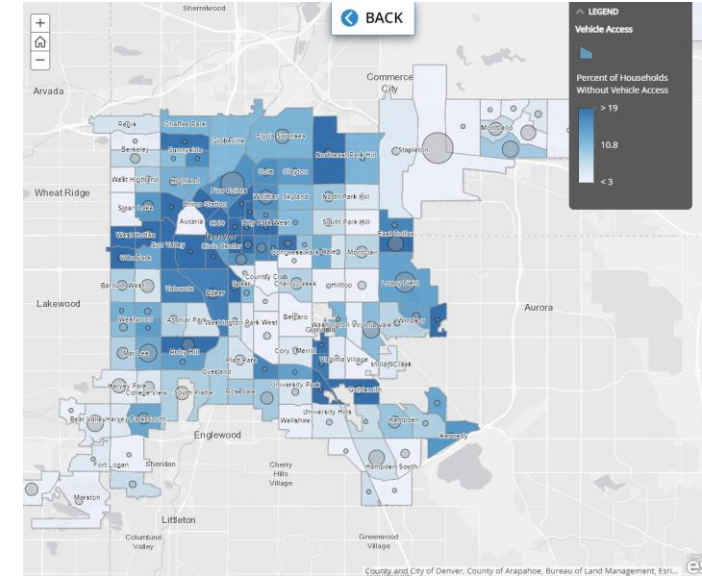
IMPERVIOUS SURFACES



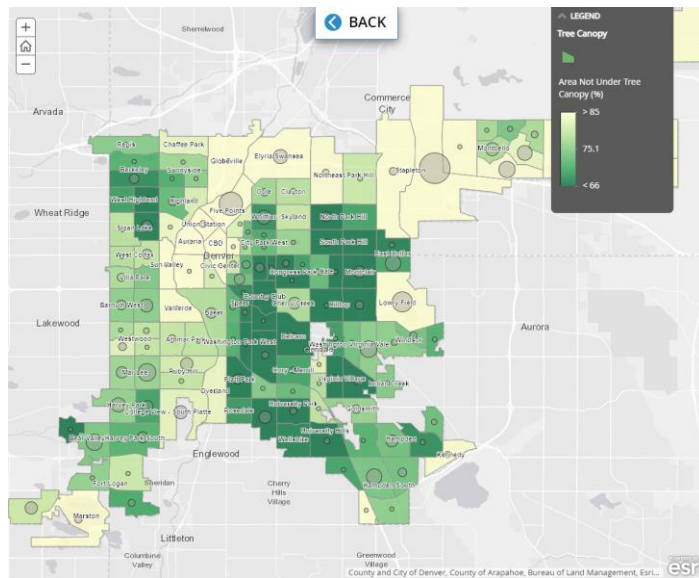
RACE



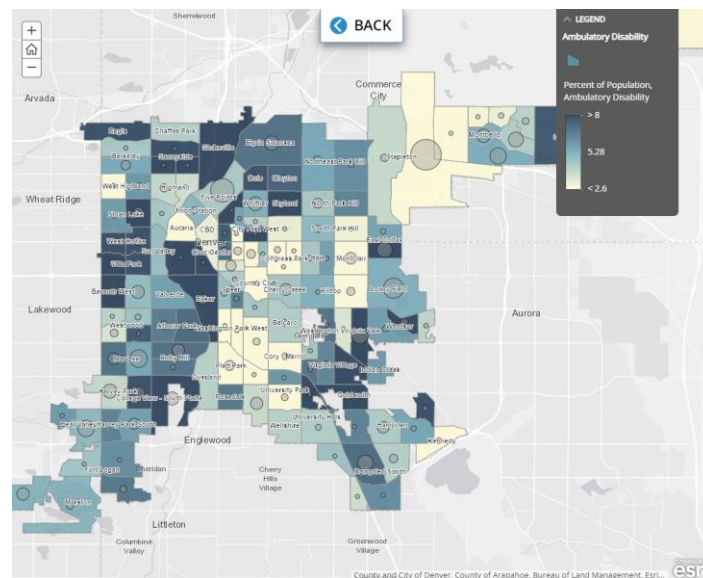
POVERTY



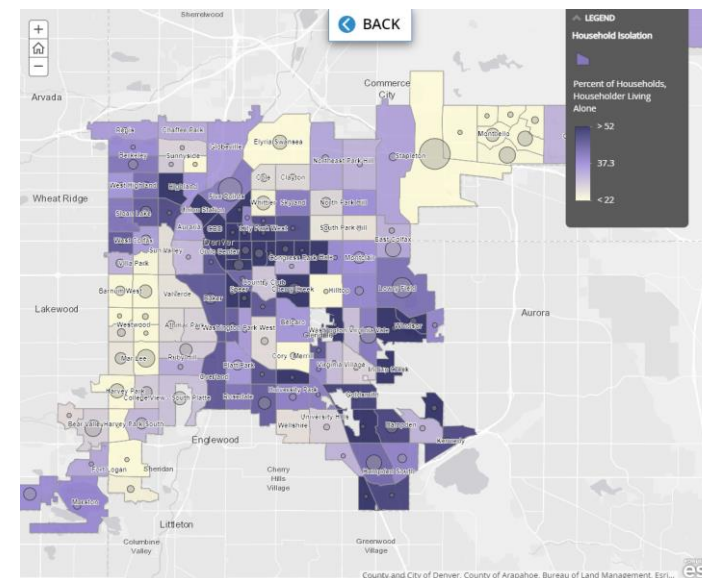
VEHICLE ACCESS



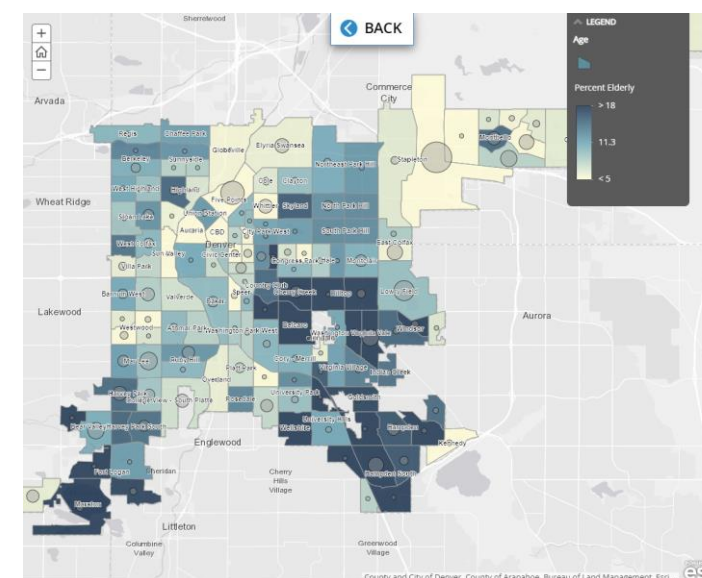
TREE CANOPY



AMBULATORY DISABILITY



HOUSEHOLD ISOLATION



ELDERLY

DIABETES

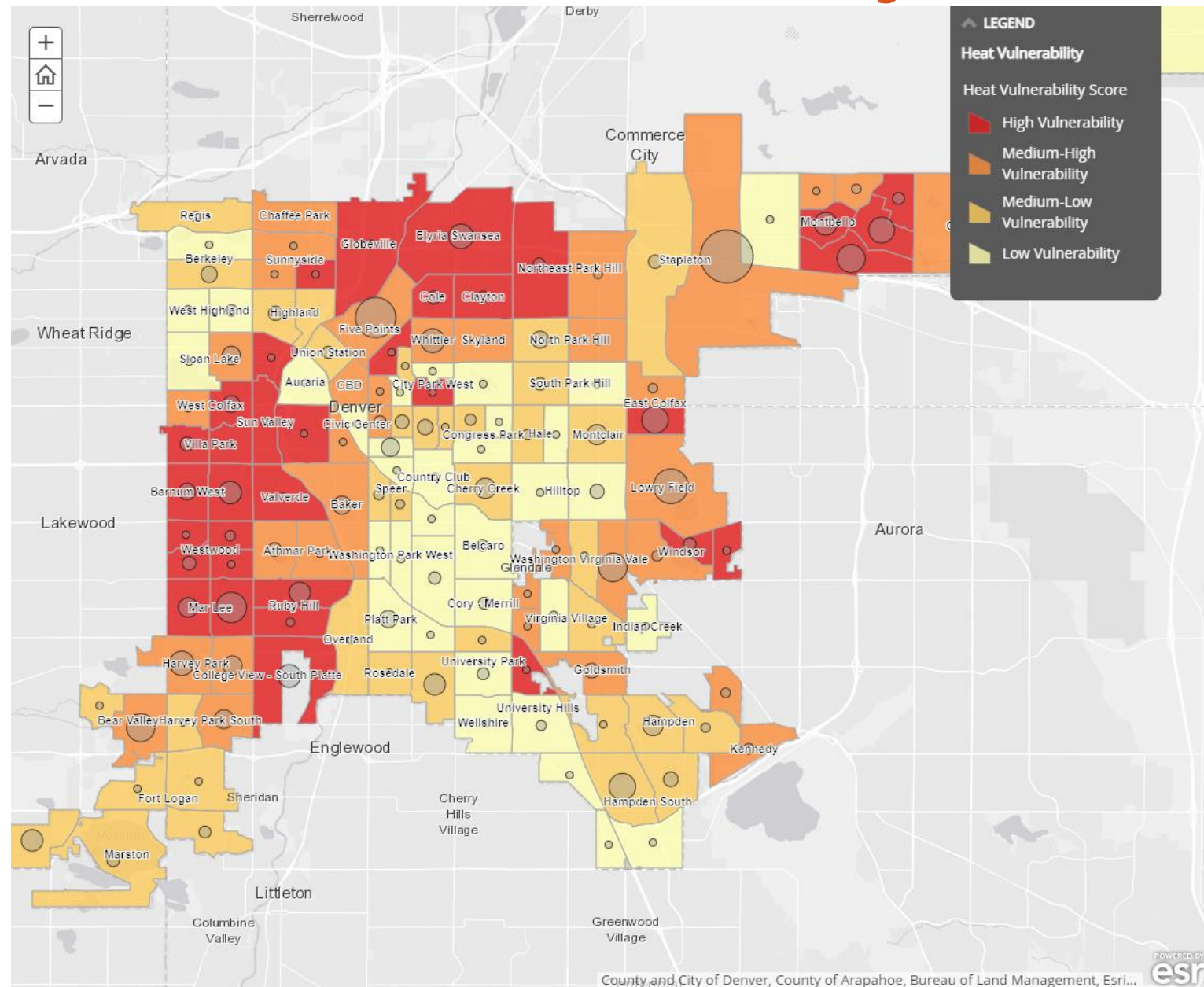
EDUCATIONAL ATTAINMENT

ELDERLY COGNITIVE DISABILITY

LINGUISTIC ISOLATION



# Heat Vulnerability Index





# Green Buildings Ordinance

Buildings over  
25,000 sqft



Cool Roof  
Required

+

ONE of the  
Following  
Compliance  
Options

Compliance Options for  
New Buildings



Green Roof / Space



Pay for Offsite Green



Green + Solar or Energy  
Efficiency



Solar or Energy Efficiency



Certification

Compliance Options for  
Existing Buildings



Green Roof / Space



Pay for Offsite Green



Solar or Energy Efficiency



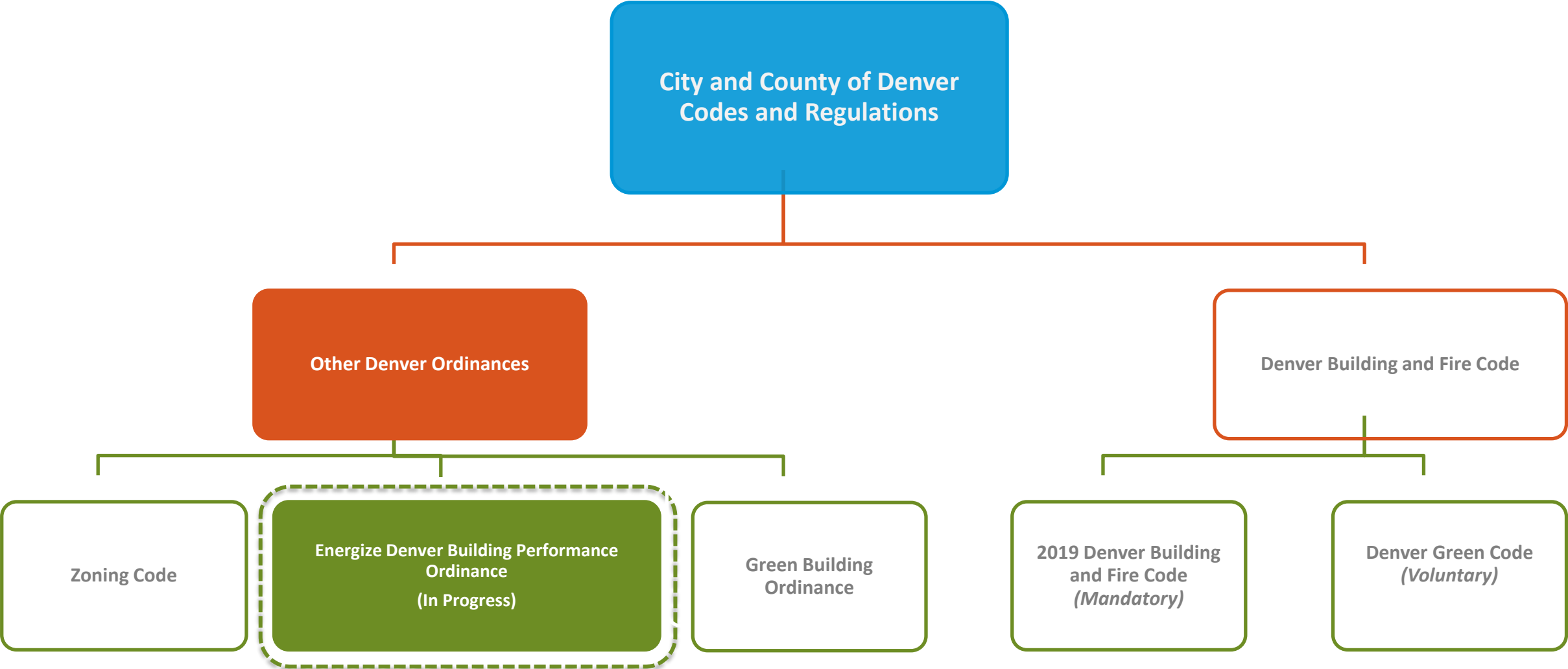
Certification



Energy Program

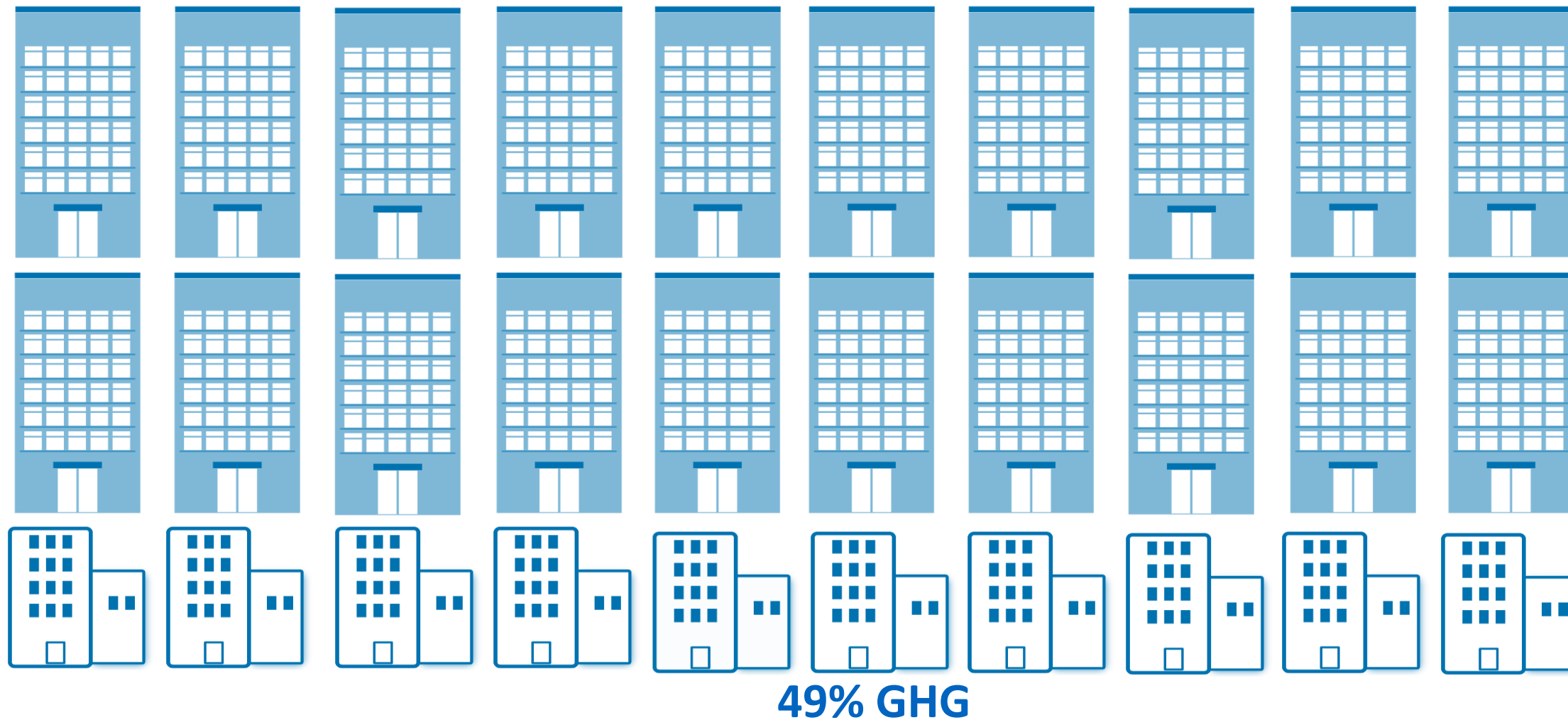
# Energize Denver Task Force

# High Performance Existing Building Program Ordinance





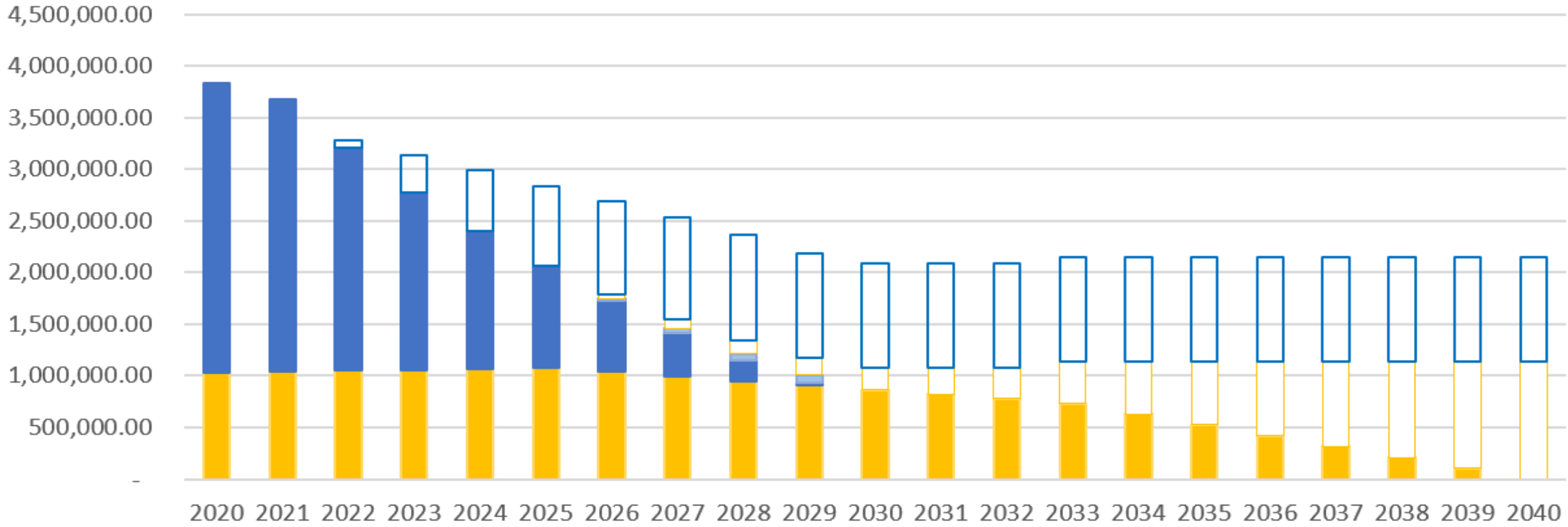
# Commercial and Multifamily Buildings Account for 49% of Denver's GHG Emissions



- >25,000 sq ft:
  - 82% of square footage
  - 3,000 buildings

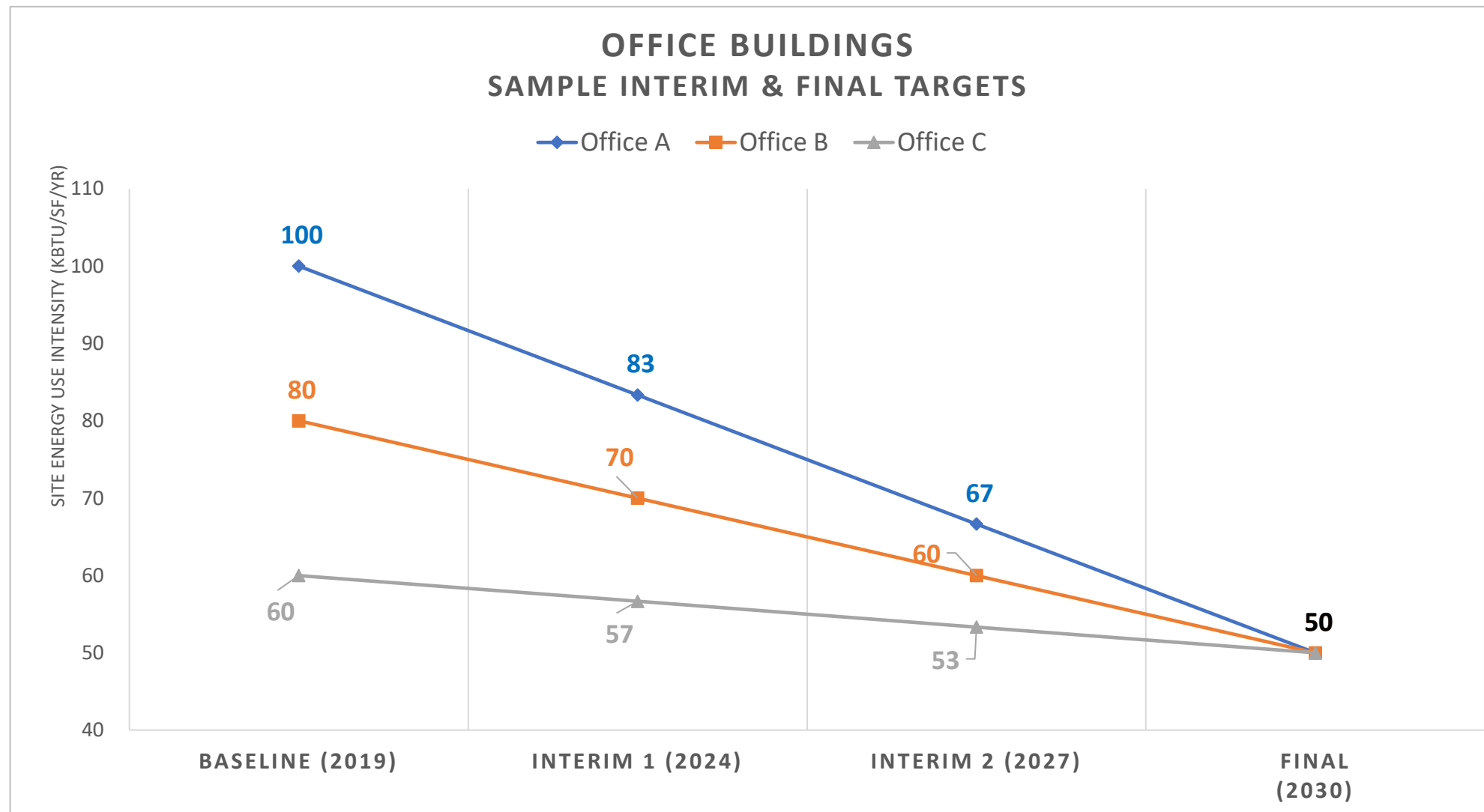
- <25,000 sq ft:
  - 18% of square footage
  - 14,000 buildings

# Goal of the Task Force: NZE by 2040



- Avoided Carbon Emissions due to Energy Efficiency and Solar
 □ Avoided Gas Emissions due to Electrification
- Additional Electricity Carbon Emissions due to Electrification
 ■ Electricity Carbon Emissions
- Fossil Gas Carbon Emissions

# 30% Improvement in Energy Performance by 2030



# Renewable Heating and Cooling: Partial Electrification upon System Replacement when Cost Effective

## Phase 1 (2022)

- System Requirements: None
- Incentives for Electrification Schematic Design and Costs

## Phase 2 (2023)

- System Requirements: None
- Permitting Ease Equal: Make the permitting process equal because permitting a heat pump is harder than gas system today.
- Incentives for Heat Pumps for All Buildings

## Phase 3 (2025-2027)

- Require heat pumps when systems are replaced when cost effective.
  - 2025 – Easy to electrify system types
  - 2027 – Harder to electrify system types
- Incentives for Heat Pumps for only Under resourced Buildings



# The Climate Benefit:

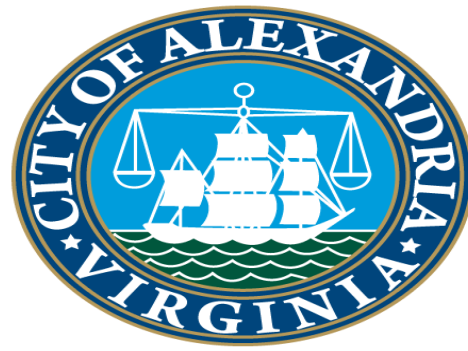
Carbon Impact	Cumulative Carbon Reduction by 2040 (million tons eCO <sub>2</sub> )
<b>Task Force Goal</b>	<b>13.7</b>
Benefit of EE & RE policies	8.2
Benefit of electrification policies	3.6
<b><i>Benefit of all policies</i></b>	<b>11.8</b>

- While this doesn't achieve the Task Force goal, it does get ~80% of the way there and achieve as much as the Task Force feels is reasonable and achievable for building owners and managers in Denver.

# Thank You!

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**Katrina Managan**  
*Buildings Team Lead*

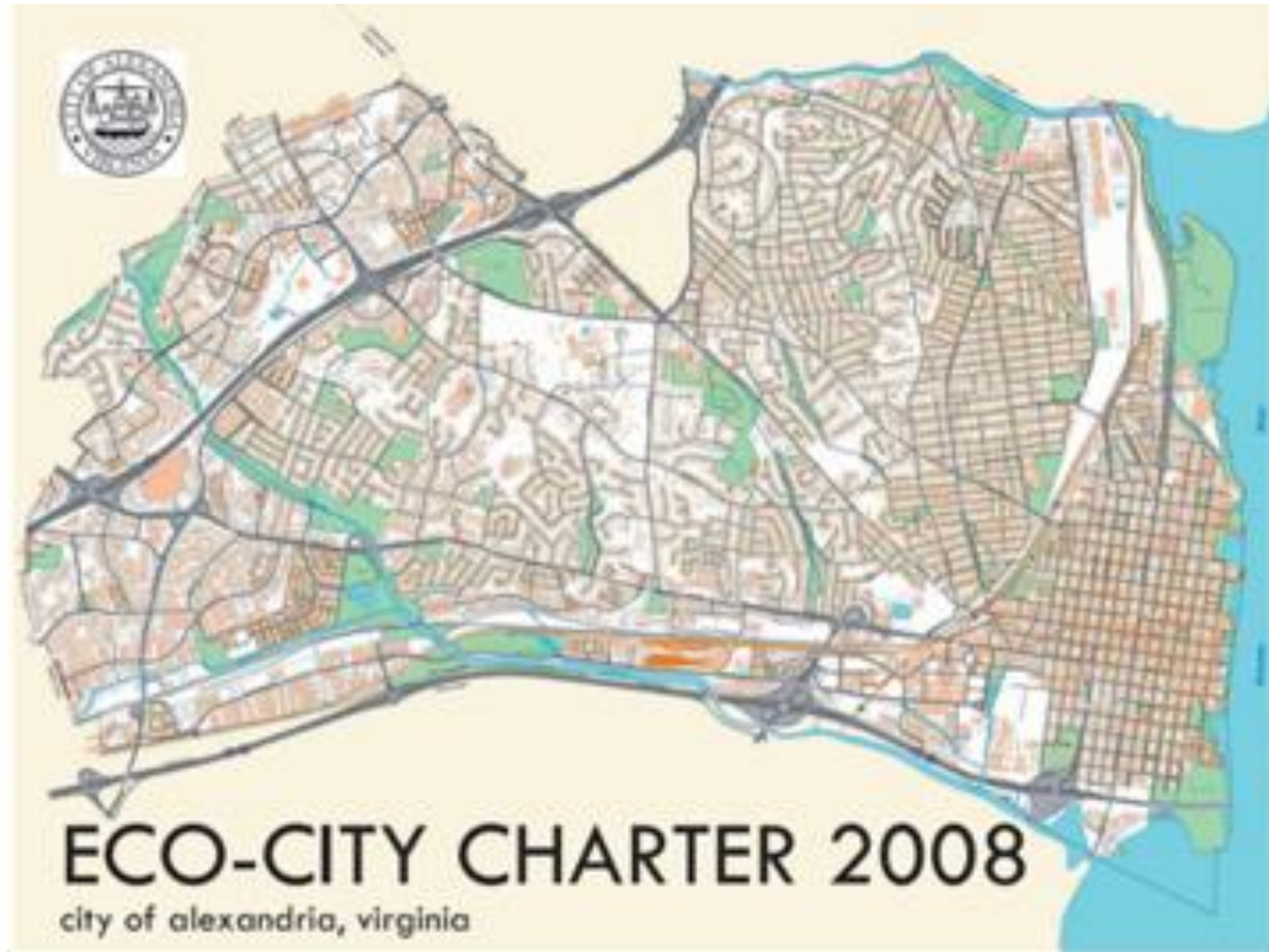
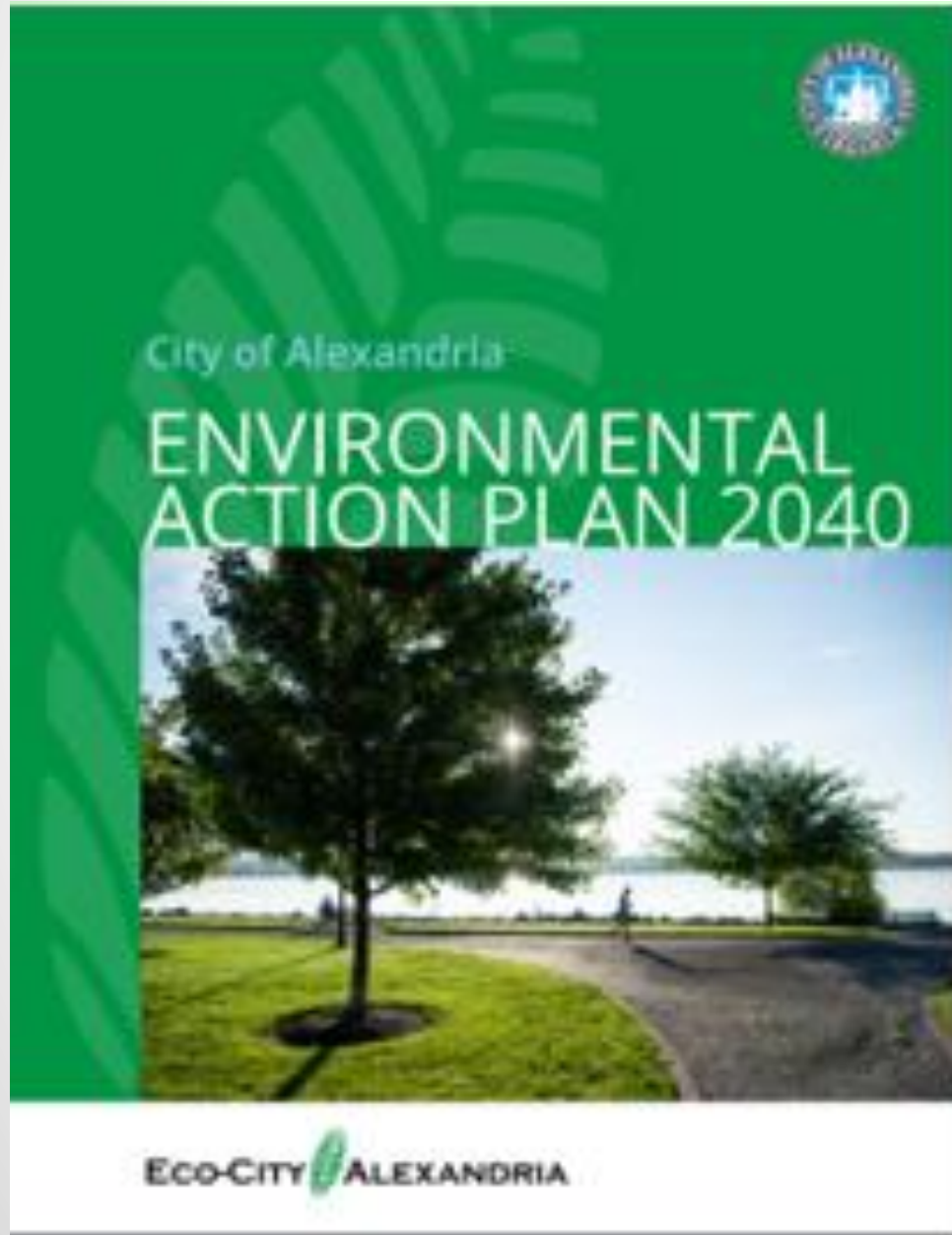


# Ellen Eggerton, P.E., Sustainability Coordinator



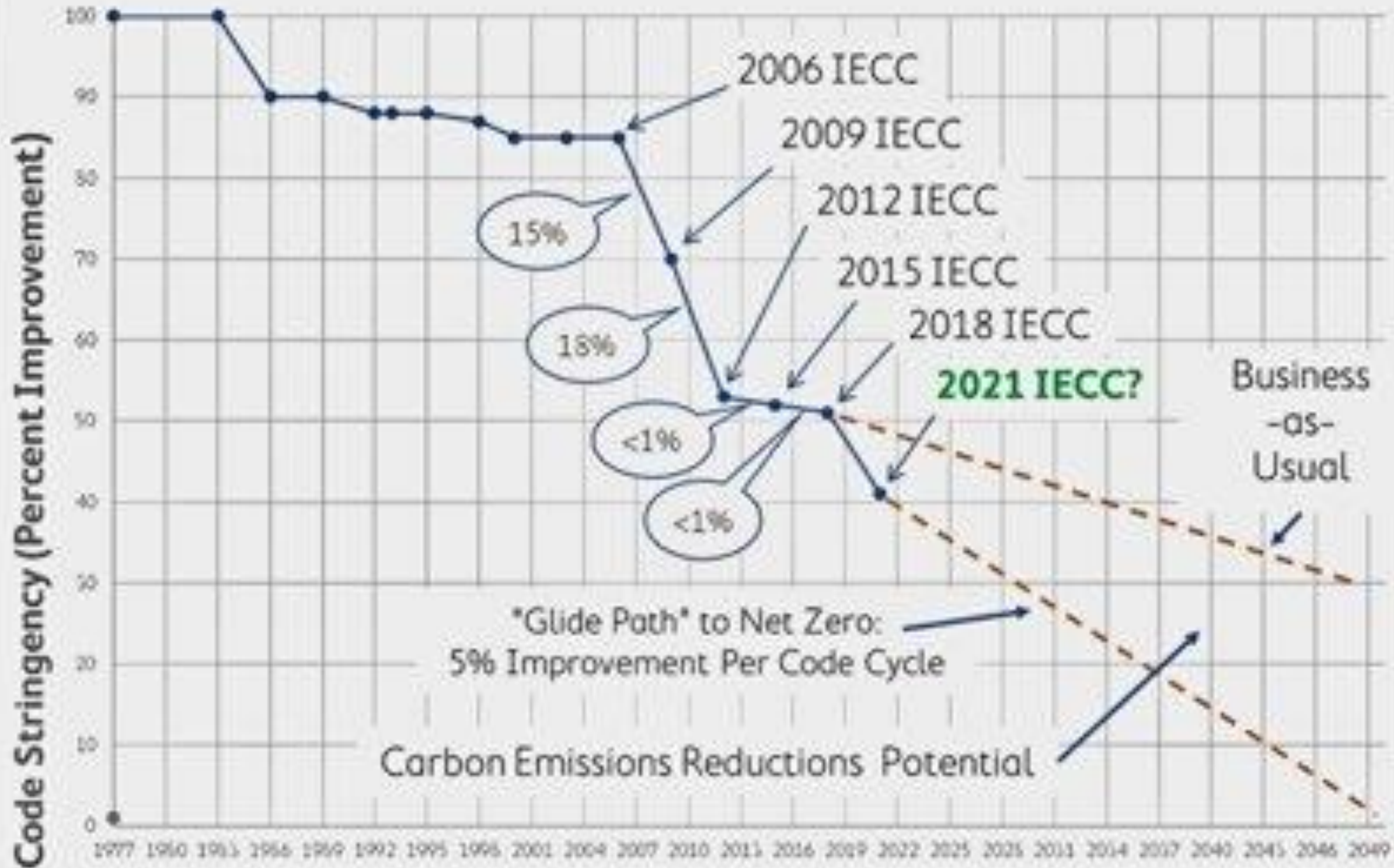


# 2019 EAP 2040 roadmap for the City





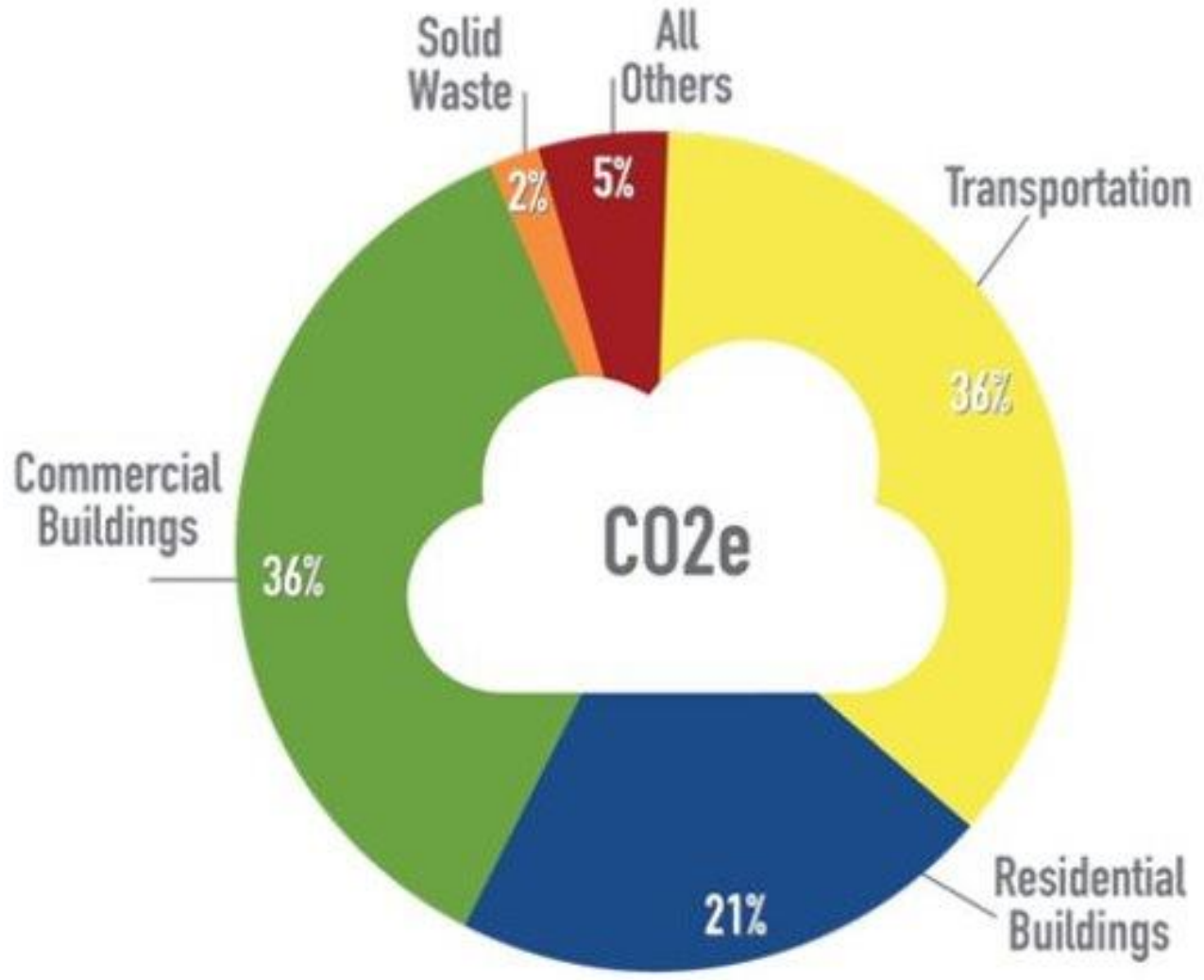
# Efficiency Improvements of IECC: Historic and Projected



# Electric vehicles and solar infrastructure

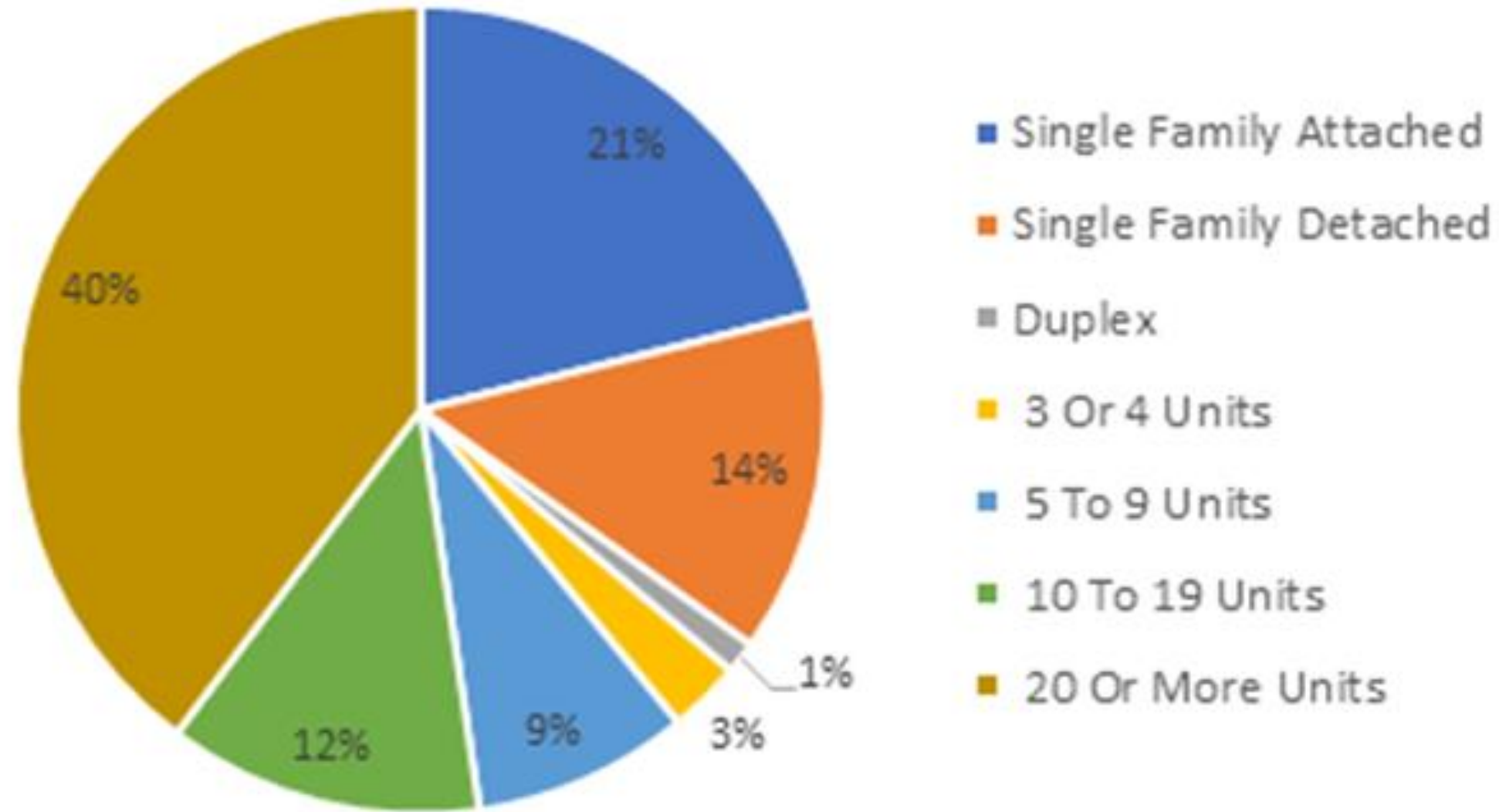
- The government voted version of the 2021 International Energy Conservation Code included changes for electric vehicle charging and solar ready but they were taken out by the board council directors.
- Changes were made to the code development process.
- States and municipalities have the option of moving forward sustainable goals and targets through other options and one of them is the land development process.

# Emissions are 57% from Buildings



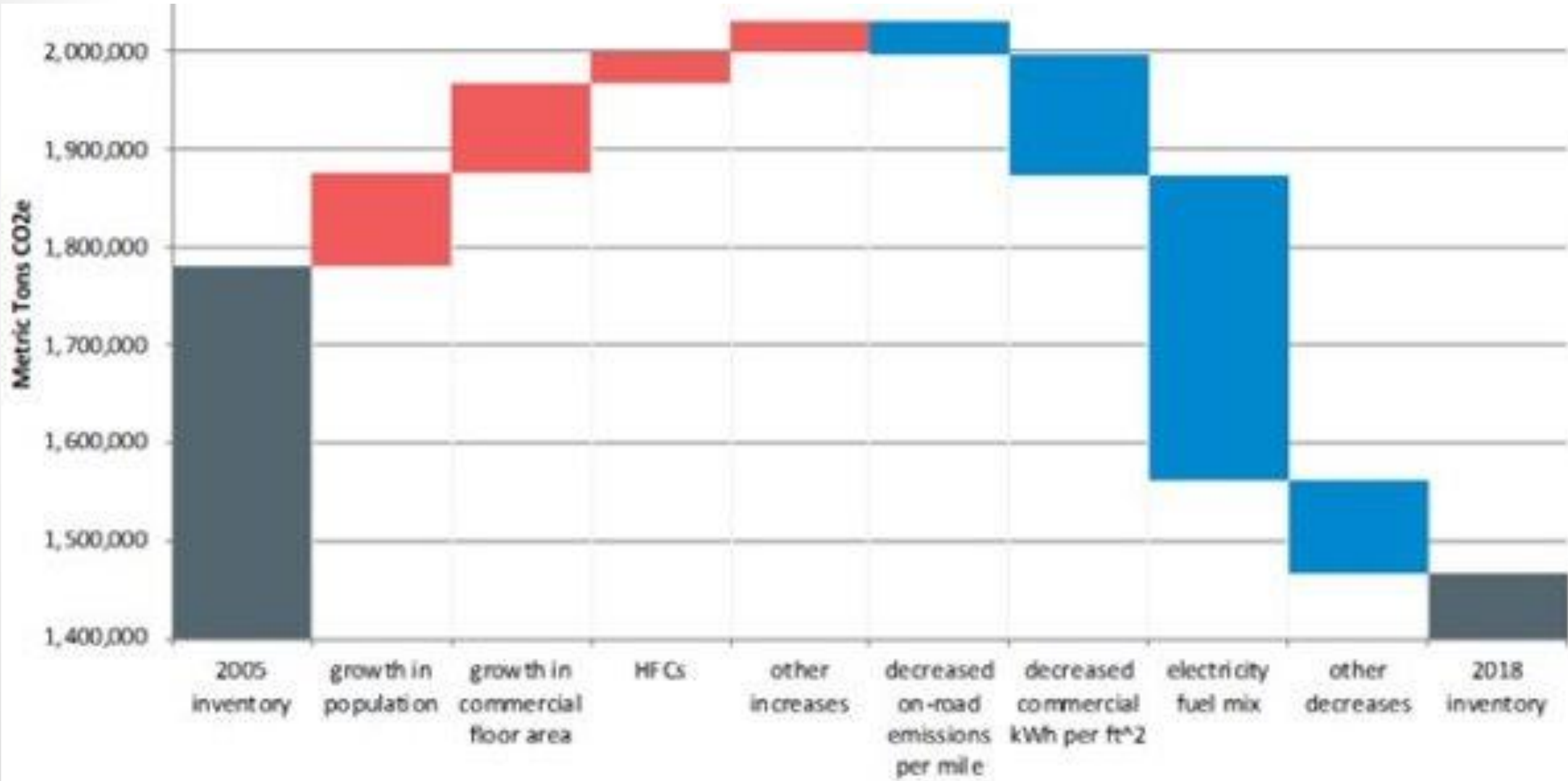
The contribution of City emissions from various sectors of the community show that the majority emissions are from the built environment, followed by transportation.

# Multifamily is 65% of housing





# Emission Drivers in Alexandria





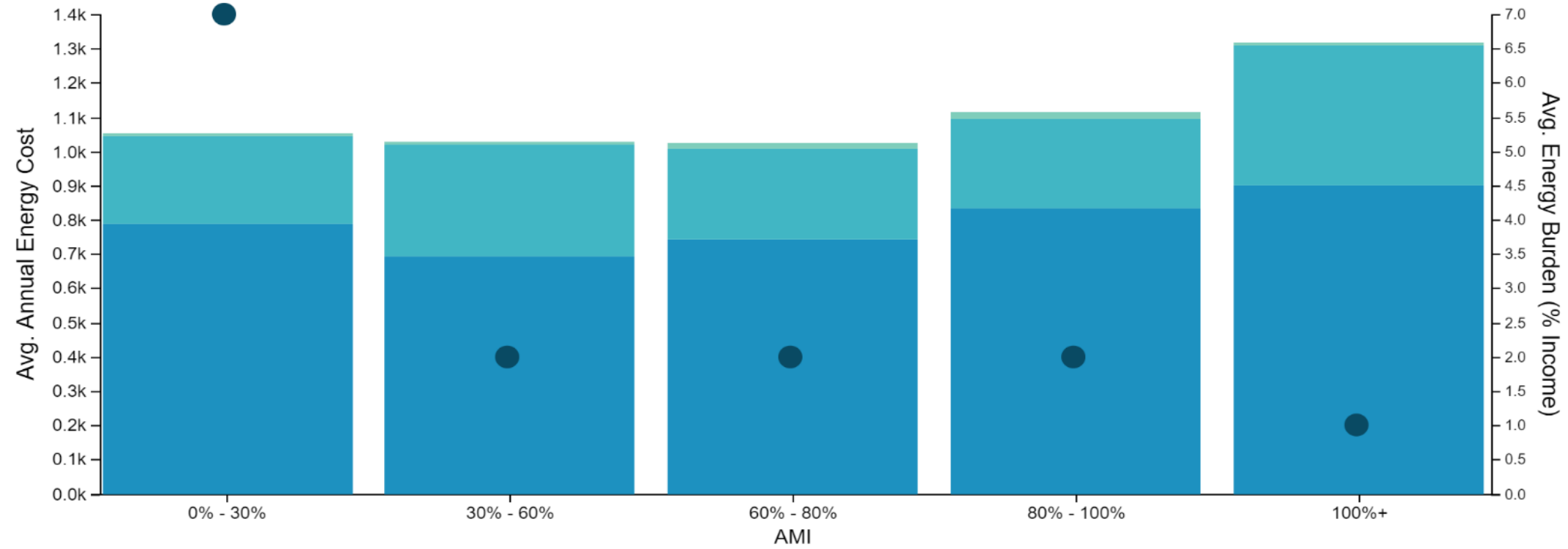
# Energy Burden by Income

Energy Burden by % Area Median Income					
Jurisdiction	0-30% of median family income	31-60% of median family income	61-80% of median family income	81-100% of median family income	100%+of median family income
Alexandria	7%	2%	2%	2%	1%
Virginia	17%	7%	5%	4%	2%
Arlington Co	9%	3%	2%	2%	1%
Fairfax Co	10%	4%	3%	2%	1%
District of Columbia	14%	4%	3%	2%	1%
Montgomery Co	11%	4%	3%	3%	1%
Prince George's Co	12%	5%	3%	3%	2%



# Energy Cost by Income

Avg. Annual Energy Cost for Alexandria



- Alexandria**
- Electricity
  - Gas
  - Other
  - Avg. Energy Burden (% Income)

# Improving existing buildings

- Energy codes have only minimally been applied to existing buildings. Most often in roof replacement and insulation.
- But applying new energy codes to existing building renovations could improve building energy efficiency to advance complementary climate emission goals, reduce energy burden, and improve housing affordability.
- Code enforcement and zoning process apply to new buildings.

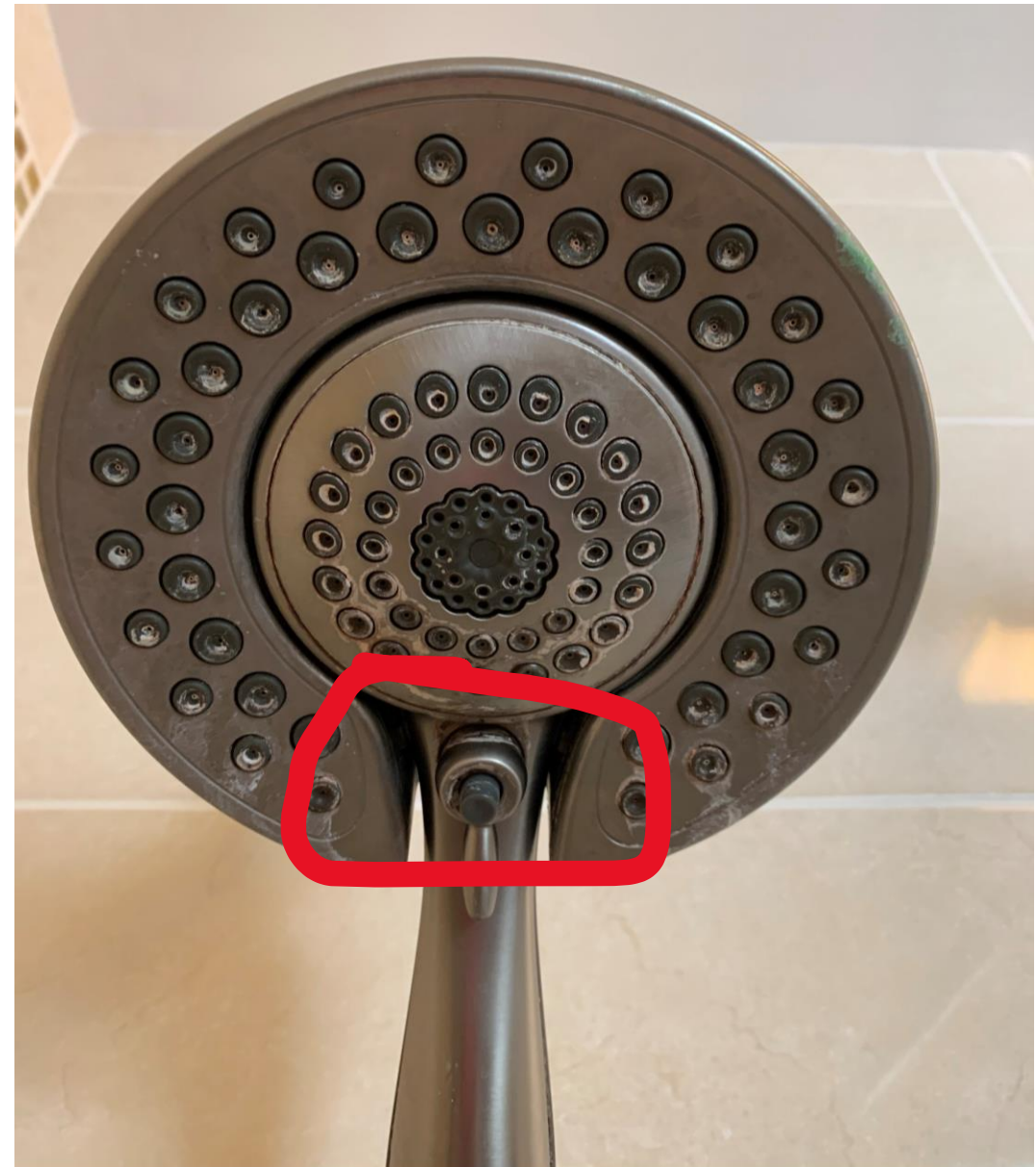
# Pause button on a shower

Ellen Eggerton, P.E.  
Sustainability Coordinator  
City of Alexandria

[Ellen.Eggerton@alexandriava.gov](mailto:Ellen.Eggerton@alexandriava.gov)

571-447-8207

[Alexandriava.gov/Eco-City](http://Alexandriava.gov/Eco-City)





# **New York State's Clean Energy Siting Resources**



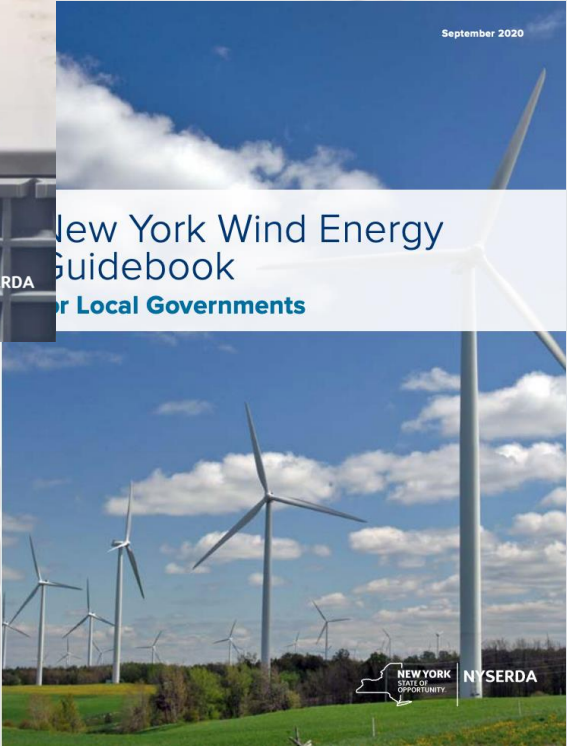
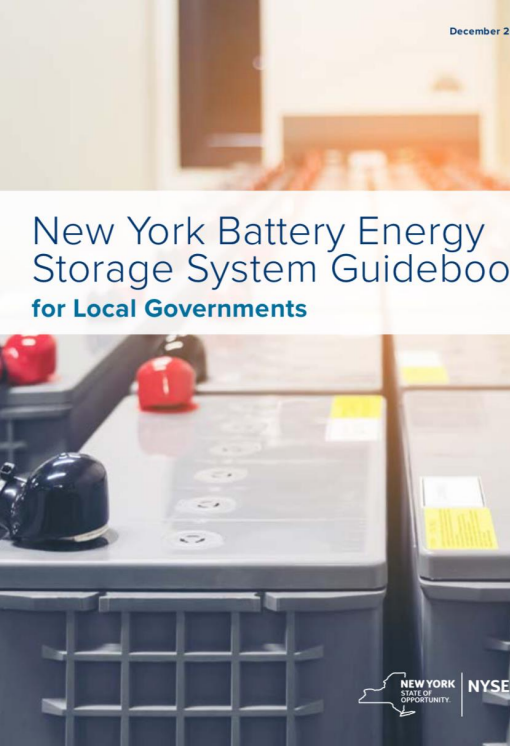
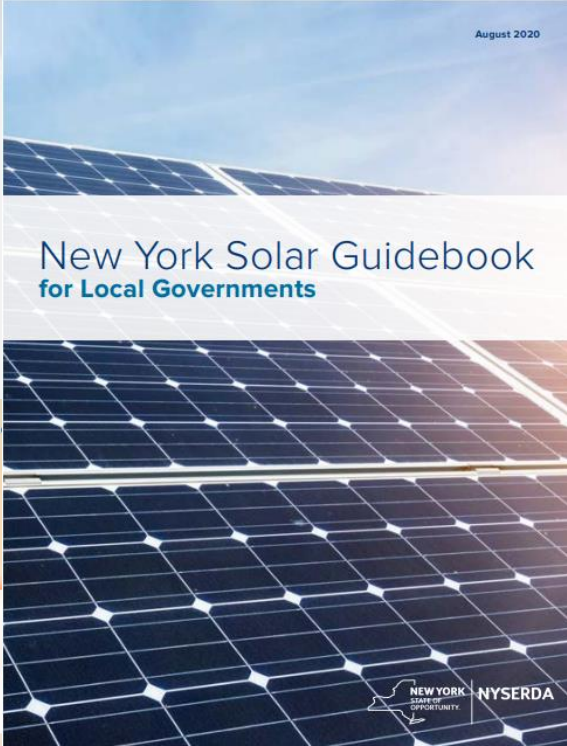
**NYSERDA**

**October 21, 2021**



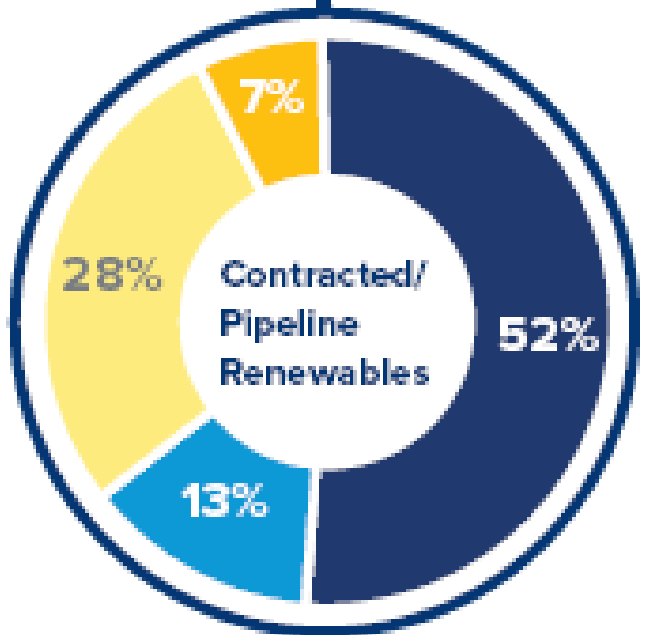
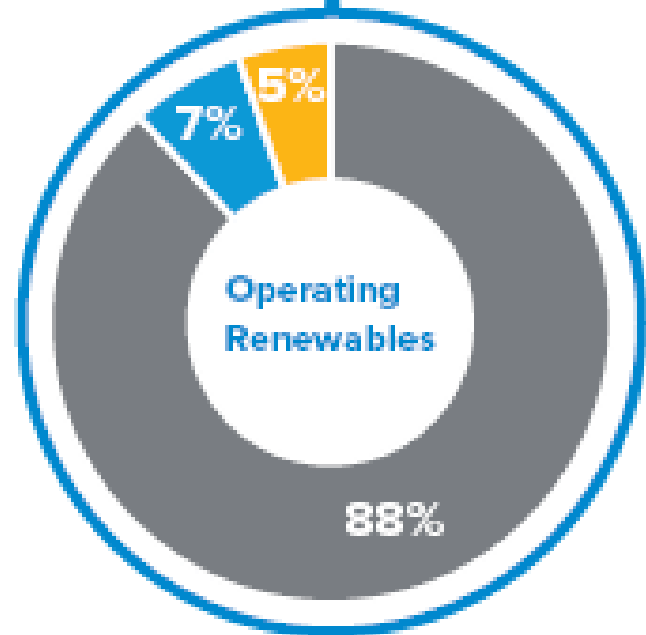
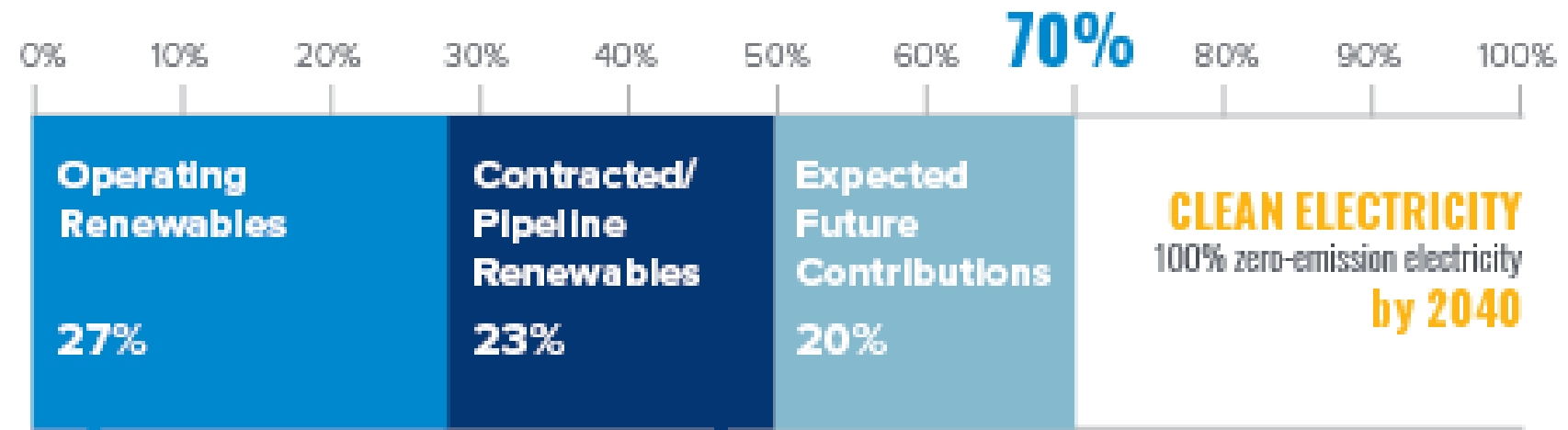
# Introduction:

**Jennifer Manierre**  
Program Manager,  
Clean Energy Siting



# Climate Act: Path to 70% by 2030

**70%**  
renewable  
energy by  
**2030**



- Hydroelectric
- Land-Based Wind
- Offshore Wind
- Distributed Solar
- Large-Scale Solar



# Clean Energy Technologies: Primary Local Considerations

## All technologies:

- Appropriate location/zoning
- Environmental impacts
- Bulk/area standards
- Decommissioning
- Taxation

## Solar:

- Visual/aesthetic impacts
- Agricultural land impacts

## Wind:

- Visual/aesthetic impacts
- Noise
- Shadow flicker

## Energy Storage:

- Fire safety
- Incident management training



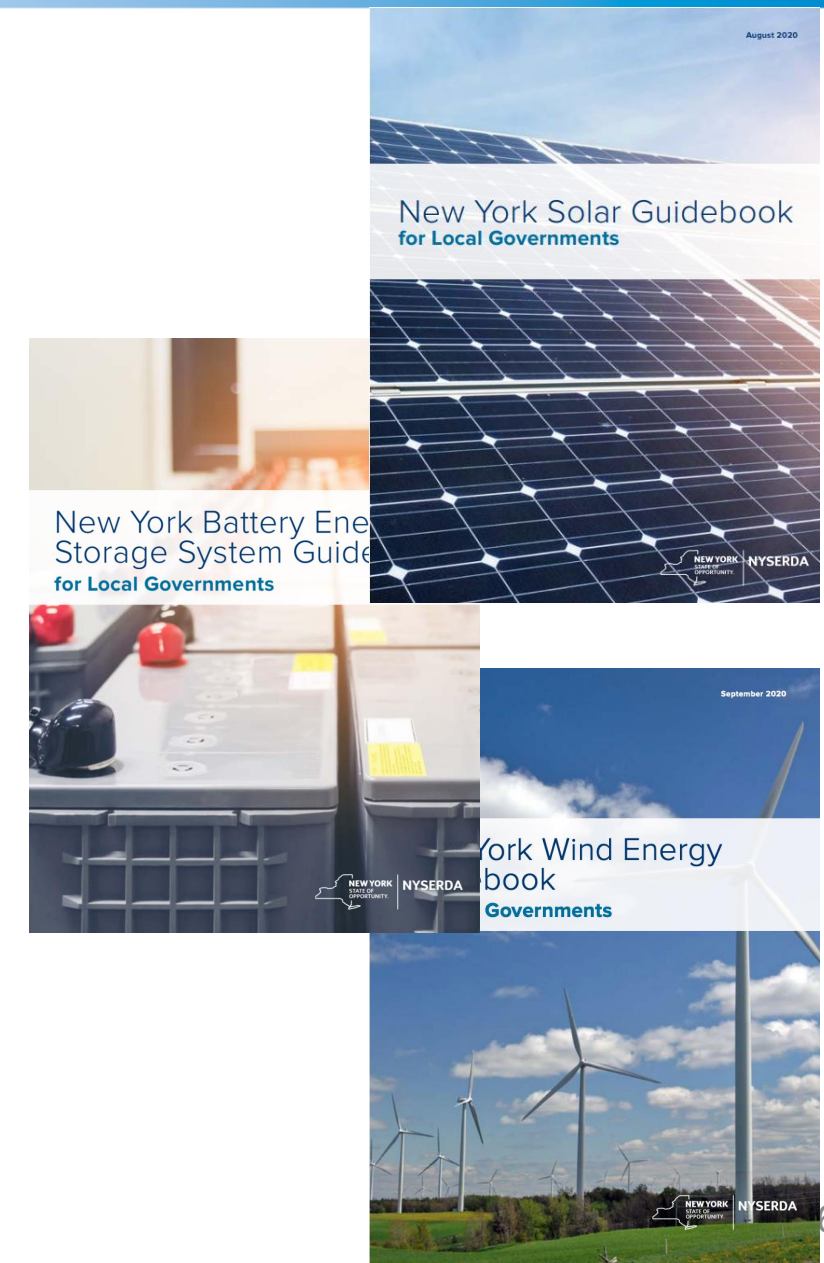


# Clean Energy Siting Team

NYSERDA offers local governments free, one-on-one technical assistance and trainings on topics including, but not limited to:

- Clean energy zoning and permitting
- Property taxes & Payment-in-Lieu-of-Taxes (PILOTs)
- SEQR process
- Municipal procurement
- Adopting and implementing the Unified Solar Permit & Model Energy Storage Permit
- Clean energy in the NYS Uniform Code

[www.nyserda.ny.gov/Siting](http://www.nyserda.ny.gov/Siting)



# Clean Energy Siting Team Homepage

## Clean Energy Siting for Local Governments

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[Energy Storage Guidebook](#)

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[EV Charging Station Permitting Resources](#)

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[Siting for Large-Scale Renewables](#)

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[Solar Guidebook](#)

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[Wind Energy Guidebook](#)


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[Technical Assistance and Workshops](#)

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[Clean Energy Siting Email List](#)

Our Clean Energy Guidebooks are available for download here



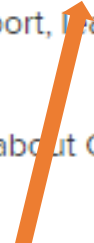
## Clean Energy Siting for Local Governments

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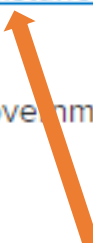
NYSERDA offers several resources to help local governments understand how to manage responsible clean energy development in their communities. These resources include step-by-step instructions and tools to guide the implementation of clean energy, including permitting processes, property taxes, siting, zoning, and more. If you have a question on clean energy siting in your community, or need help with a chapter of the Guidebook, email [cleanenergyhelp@nyserda.ny.gov](mailto:cleanenergyhelp@nyserda.ny.gov) and we'll respond to you within 24 hours. For more hands-on support, learn more about our free [training and technical assistance opportunities](#).

Stay up-to-date with the latest about Clean Energy Siting. [Join our email list](#) for local government officials.

Ask the team any question by sending an email to [cleanenergyhelp@nyserda.ny.gov](mailto:cleanenergyhelp@nyserda.ny.gov)



Municipalities can request technical assistance here



# Land Use Regulations

**Processes for regulating/permitting clean energy development will vary based on size and type of the installation.**

## **For solar/wind:**

- **Projects < 25 MW:** Permitted at local level (SEQR, municipal requirements)
- **Projects > 25 MW:** Permitted at State level (Article 10, Office of Renewable Energy Siting [ORES])
- **Projects between 20 – 25 MW:** May opt-in to State-level siting process through ORES

## **For energy storage:**

- **Projects paired (or “co-located”) with large-scale renewable generators:** Permitted at State level
- **Projects not paired with large-scale generators:** Permitted at local level





# Land Use Regulations

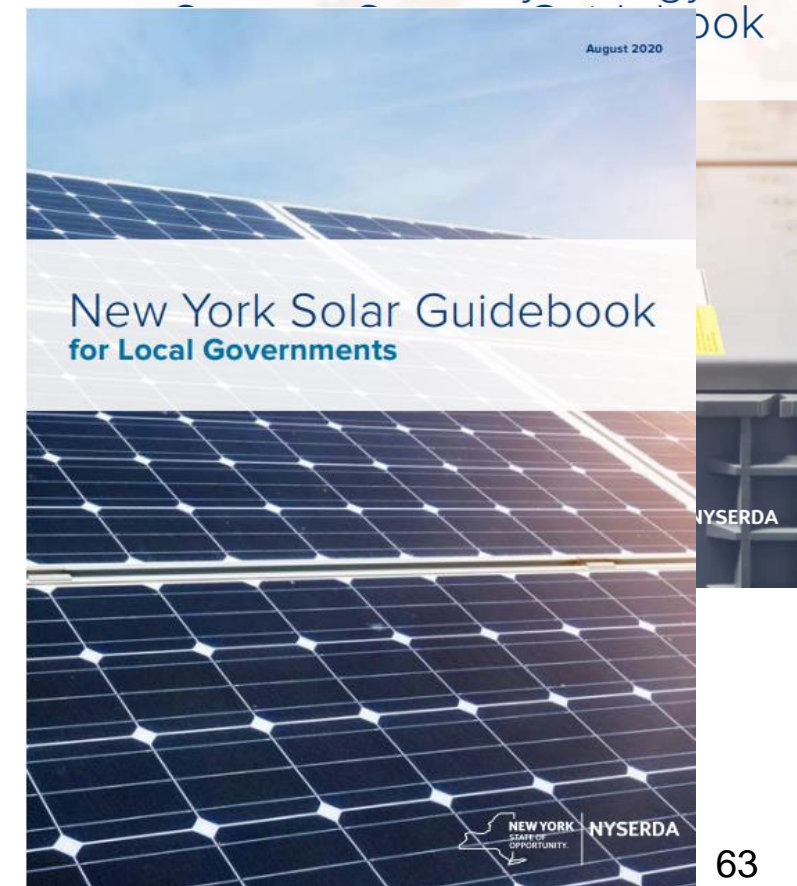
**Land use regulations – zoning, in particular – are a key tool for municipalities looking to regulate and balance clean energy development.**

**NYSERDA's Solar and Energy Storage Guidebooks contain comprehensive and highly-customizable Model Zoning Laws, which municipalities across New York have adopted to fit local priorities and needs.**

NYSERDA is currently making important updates to its Solar Guidebook, including modifying the Model Law to ensure its continued utility to NYS communities.



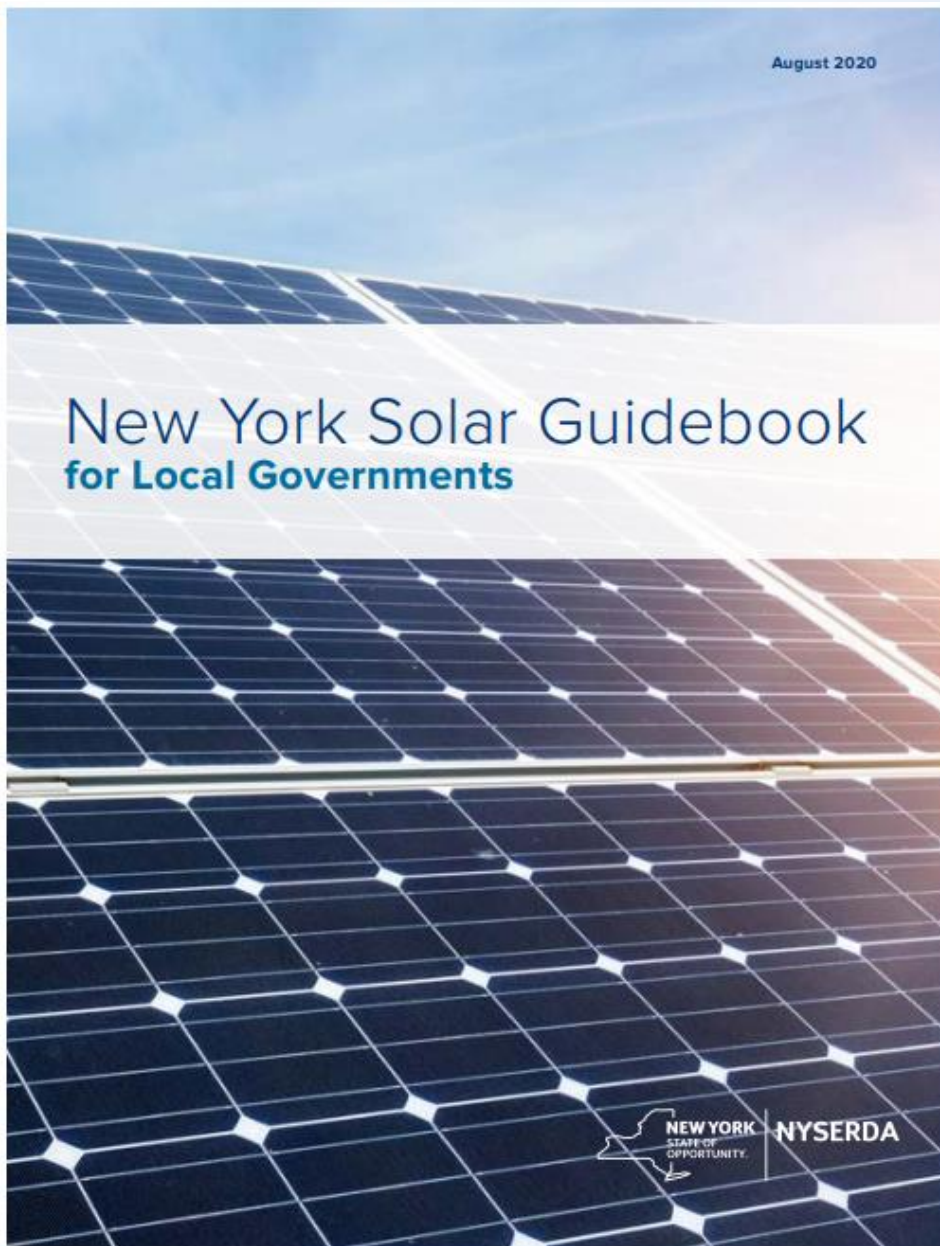
New York Battery Energy Storage Guidebook





# Solar Zoning and Permitting

# Solar Guidebook for Local Governments



**Chapter 1** - Solar PV Permitting and Inspecting in NYS

**Chapter 2** - Roof Top Access and Ventilation Requirements

**Chapter 3** - State Environmental Quality Review (SEQR)

**Chapter 4** - NYS's Real Property Tax Law § 487

**Chapter 5** - Solar Payment-In-Lieu-of-Taxes Toolkit

**Chapter 6** - Using Special Use Permits and Site Plan Regulations

**Chapter 7** - Solar Installations in Agricultural Districts

**Chapter 8** - Landowner Considerations for Solar Land Leases

**Chapter 9** - Decommissioning Solar Panel Systems

**Chapter 10** - Model Solar Energy Local Law

**Chapter 11** – Municipal Solar Procurement Toolkit

# What Is the Model Solar Energy Law?

“All-inclusive” ordinance intended to provide a thorough review of all aspects of solar energy systems that could be regulated.

Gives municipalities flexibility to choose the options

Updates are in progress

# Contents

Section 1: Authority

Section 2: Statement of Purpose

Section 3: Definitions

Section 4: Applicability

Section 5: General Requirements

Section 6: Permitting Requirements for Tier 1 Solar Energy Systems

Section 7: Permitting Requirements for Tier 2 Solar Energy Systems

Section 8: Permitting Requirements for Tier 3 Solar Energy Systems

Section 9: Safety

Section 10: Permit Time Frame and Abandonment

Section 11: Enforcement

Section 12: Severability



# Model Solar Energy Law

**Tier 1**



**Rooftop Installations**

**Tier 2**



**Small Ground-Mount Installations**

**Tier 3**



**Larger than Tiers 1-2**



# Permitting Solar Energy Projects

- Important to understand **where projects are feasible** and permissible – utilize Utility Hosting Capacity maps, transmission line maps, zoning map
- Model Law suggests permitting Tier 1 and Tier 2 systems using **Building Permit, Unified Solar Permit**
- Model Law suggests that Tier 3 systems be permitted by **Special Use Permit**, subject to **Site Plan Review**

## PERMIT APPLICATION

### NY State Unified Solar Permit

Unified solar permitting is available statewide for eligible solar photovoltaic (PV) installations. Municipal authorities that adopt the unified permit streamline their process while providing consistent and thorough review of solar PV permitting applications and installations. Upon approval of this application and supporting documentation, the authority having jurisdiction (AHJ) will issue a building and/or electrical permit for the solar PV installation described herein.

## PROJECT ELIGIBILITY FOR UNIFIED PERMITTING PROCESS

By submitting this application, the applicant attests that the proposed project meets the established eligibility criteria for the unified permitting process (subject to verification by the AHJ). The proposed solar PV system installation:

- |                              |                             |   |
|------------------------------|-----------------------------|---|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | 1. Has a rated DC capacity of 25 kW or less.  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | 2. Is not subject to review by an Architectural or Historical Review Board. (If review has already been issued answer YES and attach a copy)  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | 3. Does not need a zoning variance or special use permit. (If variance or permit has already been issued answer YES and attach a copy)  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | 4. Is mounted on a permitted roof structure, on a legal accessory structure, or ground mounted on the applicant's property. If on a legal accessory structure, a diagram showing existing electrical connection to structure is attached. |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | 5. The Solar Installation Contractor complies with all licensing and other requirements of the jurisdiction and the State.  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | 6. If the structure is a sloped roof, solar panels are mounted parallel to the roof surface.  |

For solar PV systems not meeting these eligibility criteria, the applicant is not eligible for the Unified Solar Permit and must submit conventional permit applications. Permit applications may be downloaded here: [BUILDING DEPARTMENT WEBSITE] or obtained in person at [BUILDING DEPARTMENT ADDRESS] during business hours [INDICATE BUSINESS HOURS].

# Permitting Tier 3 Systems

## Requirements for Approval

1. Underground Requirements
2. Vehicular Paths
3. Signage
4. Glare
5. Lighting
6. Tree-cutting
7. Decommissioning
8. Site Plan Application
9. Special Use Permit Standards
10. Ownership Changes

# Permitting Tier 3 Systems (cont.)

- **Special Use Permit**, subject to Site Plan Review
  - Section 8(J): Establish standards for Special Use Permit approval
    - Bulk Regulations (utilize underlying standards or establish new, solar-specific standards):
      - Minimum Lot size
      - Setbacks
      - Height
      - Lot Coverage
    - Screening & Visibility
    - Agricultural Resources





# Permitting Tier 3 Systems (cont.)

## Section 8(H): Decommissioning

- Clarify the timeframes/inactivity which might trigger decommissioning
- Require a robust decommissioning plan, outlining the costs, timelines, and activities involved in decommissioning a system
- Detail requirements for a decommissioning surety, subject to the AHJ's liking, ensuring:
  - It will cover the full cost of system removal, not including salvage values
  - It is revisited on a regular basis to account for inflation/changing costs
  - It will cover the AHJ in the event of project sale, insolvency, or other circumstances whereby the applicant is unable to remove the system

# BESS Model Zoning Law

## Battery Energy Storage System Model Law

For local governments to utilize when drafting local laws  
and regulations for battery energy storage systems.



Battery Energy Storage System Guidebook for Local Governments  
NYSERDA 17 Columbia Circle Albany, NY 12203

# BESS Model Law

## Model Law Contents:

**Section 1:** Authority

**Section 2:** Statement of Purpose

**Section 3:** Definitions

**Section 4:** Applicability

**Section 5:** General Requirements

**Section 6:** *Permitting Requirements for Tier 1 Battery Energy Storage Systems*

**Section 7:** *Permitting Requirements for Tier 2 Battery Energy Storage Systems*

**Section 8:** Safety

**Section 9:** Permit Time Frame and Abandonment

**Section 10:** Enforcement

**Section 11:** Severability



# BESS Model Law

## Section 3: Definitions

**BATTERY ENERGY STORAGE SYSTEM:** One or more devices, assembled together, capable of storing energy in order to supply electrical energy at a future time, not to include a stand-alone 12-volt car battery or an electric motor vehicle. A battery energy storage system is classified as a Tier 1 or Tier 2 Battery Energy Storage System as follows:

- A. Tier 1 Battery Energy Storage Systems have an aggregate energy capacity less than or equal to 600kWh and, if in a room or enclosed area, consist of only a single energy storage system technology.
- B. Tier 2 Battery Energy Storage Systems have an aggregate energy capacity greater than 600kWh or are comprised of more than one storage battery technology in a room or enclosed area.

# BESS Model Law

## Examples of Tier 1 BESS:





# BESS Model Law

## Examples of Tier 2 BESS:



940 kWh



Unknown MWh (20 MW)



# BESS Model Law

## Sections 6-7: Permitting Requirements for Tiers 1 and 2

### Section 6: Tier 1 Battery Energy Storage Systems

- Battery Energy Storage System Permit
- Exempt from Site Plan Review
- Allowable in all zoning districts

### Section 7: Tier 2 Battery Energy Storage Systems

- Special Use Permit
- Site Plan Review
- Allowable in designated zoning districts

# BESS Model Law – Tier 1 Systems

## **Requirements for Approval:**

B. Utility Lines and Electrical Circuitry

C. Signage

D. Lighting

E. Vegetation and Tree-cutting

F. Noise

G. Decommissioning

H. Site Plan Application

I. Special Use Permit Standards

J. Ownership Changes

# BESS Model Law

## Section 7: Permitting Requirements for Tier 2 BESS

### G. Decommissioning

#### 1. Decommissioning Plan:

- Narrative description of system removal and disposal
- Anticipated life of system
- Estimated cost of decommissioning
- Description of restoration activities

2) Decommissioning Fund. The owner and/or operator of the energy storage system, shall continuously maintain a fund or bond payable to the [Village/Town/City] in a form approved by the [Village/Town/City] for the removal of the battery energy storage system in an amount to be determined by the [Village/Town/City], for the period of the life of the facility. This fund may consist of a letter of credit from a State of New York licensed-financial institution. All costs of the financial security shall be borne by the applicant.



# BESS Model Law

## Section 7: Permitting Requirements for Tier 2 BESS

### H. Site Plan Application

- 4) Equipment specification sheet for the proposed battery energy storage system components
- 8) Commissioning Plan
- 9) Fire Safety Compliance Plan
- 10) Operations and Maintenance Manual
- 11) Erosion, sediment control, and stormwater plans
- 12) Emergency Operations Plan

# Energy Storage Webinar Series



NYSERDA Webinar Series

## Battery Energy Storage Systems: Key Considerations for Local Governments

NYSERDA is pleased to host a series of webinars intended to equip local governments across New York State – including municipal board members, first responders, code enforcement officers, and other community stakeholders – with the knowledge and resources required to ensure responsible battery energy storage system development.

This webinar series, featuring presentations from NYSERDA staff as well as external subject matter experts, will cover a range of key topics related to battery energy storage systems which are particularly important for communities and local governments.

**Events in this series will be held biweekly on Wednesdays from 5:30 p.m. to 6:45 p.m. ET.**

**Register for each session of interest using the registration links.**

**Questions?** Email NYSERDA's Clean Energy Siting Team: [cleanenergyhelp@nyserda.ny.gov](mailto:cleanenergyhelp@nyserda.ny.gov)

### Battery Energy Storage Systems 101

**Date: Wednesday, May 5, 2021**

*Featured Speakers: Dr. Stanley Whittingham, 2019 Nobel Laureate for Chemistry; Distinguished Professor of Chemistry, SUNY Binghamton*

Gain an introduction to key concepts and technologies associated with battery energy storage systems, as well as an overview of relevant New York State (NYS) goals, policies and programs.

[REGISTER HERE](#)

### Fire Safety

**Date: Wednesday, May 19, 2021**

*Featured Speakers: NYS Office of Fire Prevention and Control (OFPC), Energy Safety Response Group (ESRG)*

Learn about key fire safety considerations for battery energy storage systems, including a discussion of best practices for first responders, as well as a review of important regulations found in the 2020 NYS Uniform Fire Prevention and Building Code.

[REGISTER HERE](#)

### Zoning and Permitting

**Date: Wednesday, June 2, 2021**

*Featured Speakers: NYSERDA Clean Energy Siting Team*

Dive into the valuable resources available to local governments in NYSERDA's Battery Energy Storage System Guidebook. These tools are designed to assist municipalities in implementing zoning, permitting, and inspection processes for battery energy storage installations.

[REGISTER HERE](#)

### Decommissioning and End-of-Life Considerations

**Date: Wednesday, June 16, 2021**

*Featured Speakers: DNV and Li-Cycle*

Explore best practices for the treatment of battery energy storage systems at the end of their useful life – including system recycling and disposal – as well as an introduction to decommissioning plans for energy storage installations.

[REGISTER HERE](#)

### Taxation and Assessments

**Date: Wednesday, June 30, 2021**

*Featured Speaker: Hodgson Russ, LLP*

Learn about New York State and local tax treatment of battery energy storage systems, including information regarding assessments and payments-in-lieu-of-taxes (PILOT) agreements.

[REGISTER HERE](#)

<https://www.nyserda.ny.gov/All-Programs/Programs/Clean-Energy-Siting/Battery-Energy-Storage-Guidebook/Webinar-Series>



# Thank you!

For additional questions, please reach out:

Clean Energy Siting Team:  
[cleanenergyhelp@nyserda.ny.gov](mailto:cleanenergyhelp@nyserda.ny.gov)  
[nyserda.ny.gov/siting](https://nyserda.ny.gov/siting)



**NYSERDA**



# Questions



**Building Energy Codes**

U.S. DEPARTMENT OF ENERGY

# Thank You!

**Building Energy Codes Program**

[www.energycodes.gov/training](http://www.energycodes.gov/training)

**BCEP help desk**

<https://www.energycodes.gov/technical-assistance/help-desk>

If you want AIA LUs, ICC CEUs and Certificate of Attendance for self-reporting, WRITE DOWN THIS LINK:

<https://www.energycodes.gov/zoning-credit-request>



# NECC Seminar Series Lineup

Catch the entire lineup of sessions bi-weekly—Thursdays @ 1p ET:

- 8/12: Grid Integration and Electrification in Energy Codes
- 8/26: Approaching Zero, Where Do We Go From Here for Commercial Buildings
- 9/9: Codes Around the Globe: A Cross-National Comparison of Building Energy Codes (AT 2PM ET)
- 9/23: Evolution of Commercial Building Design and Construction
- **10/21: Zoning and Land-Use Regulation: Emerging Tools for Advancing Climate-Friendly Development**
- 11/18: Equity and Codes: Ensuring Codes and Energy Efficient Buildings Address Affordable Housing Needs

> Learn more: <https://www.energycodes.gov/2021-summer-seminar-series>