Energy Efficient Renovations Policy Development

Planning Commission

October 17, 2024

CITY OF SANTA CRUZ

Agenda

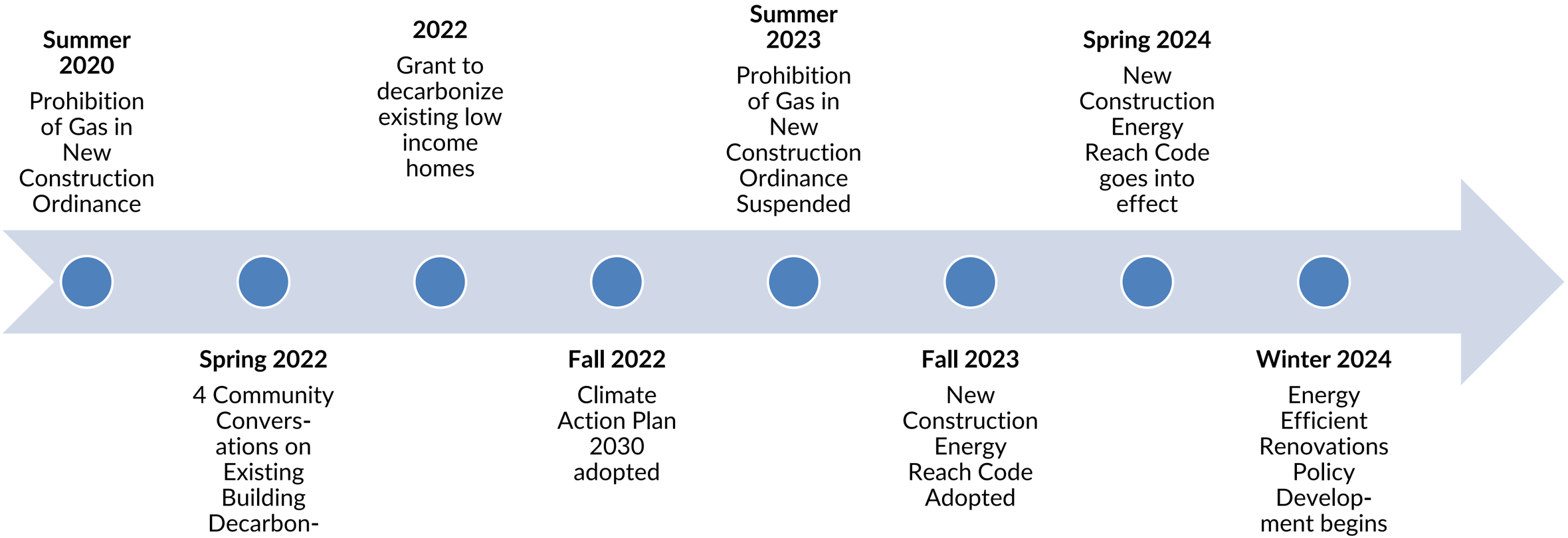
1. Introductions + Background
2. Proposed Policy Requirements
3. Proposed Policy Exemptions
4. Examples + Next Steps
5. Q + A Discussion

INTRODUCTIONS

OBJECTIVE OF MEETING

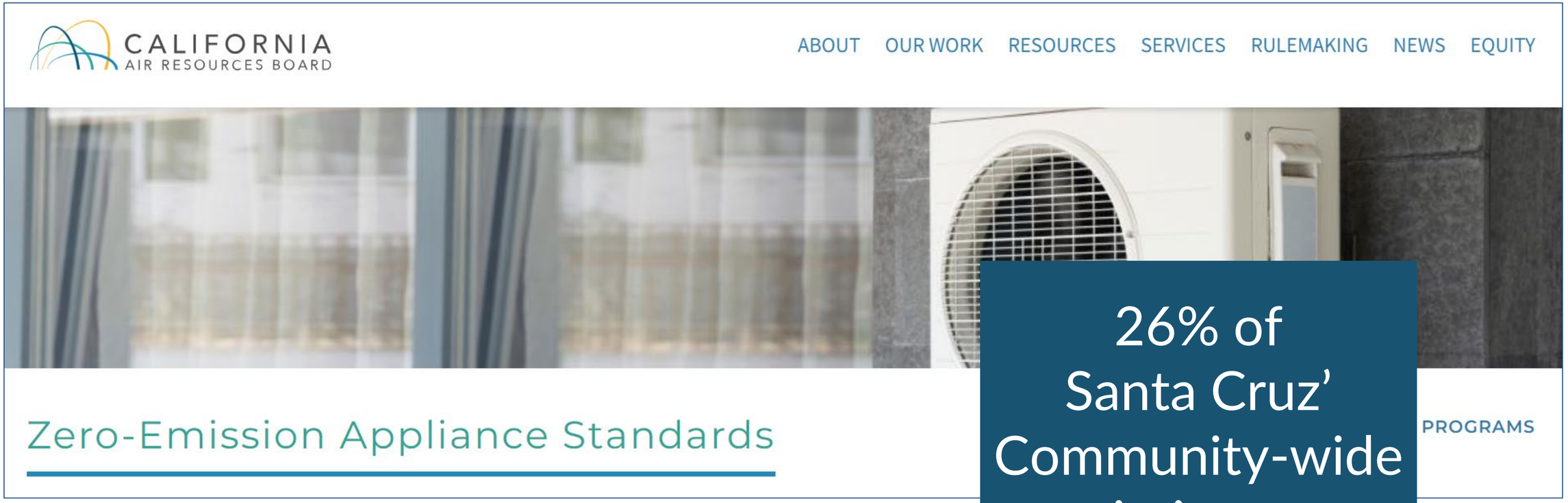
To share where the City is in developing an energy efficient renovation policy and receive feedback from Planning Commission.

Timeline of Building Decarbonization Efforts



Decarbonization includes lower carbon fuels, renewable energy, energy efficiency, electrification, carbon capture, and other ways to reduce carbon.

California is pursuing ambitious efficiency measures…



26% of Santa Cruz' Community-wide emissions are from building energy

City of Santa Cruz

Climate Action Plan

www.cityofsantacruz.com/climateactionplan

1 **CEQA Qualified Target** *(legally defensible, minimum for CEQA):*

40% emissions reduction by 2030 from 1990 levels *(9% reduction 1990 to 2020)*

2 **Aspirational Target of Carbon Neutral by 2035** *(voluntary)*

CAP 2030 Measures + Actions

MEASURE BE-5: Increase resiliency through equitable energy efficiency and local solar programs.

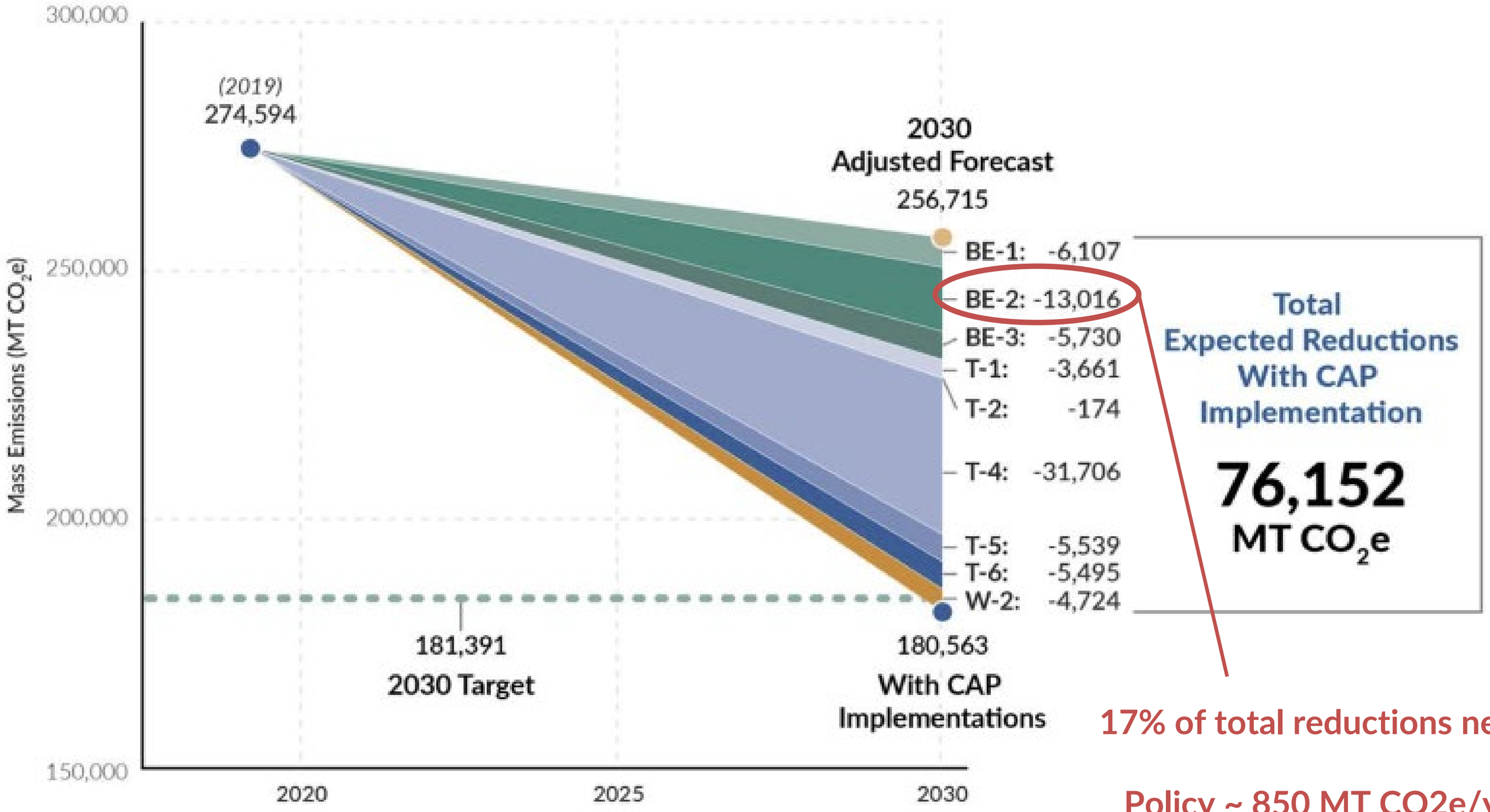
MEASURE BE-2: Electrify 31% of existing residential buildings by 2030 and 53% by 2035.

★ **BE6.3 Prioritize Electrification (HIGH IMPACT ACTION)**

Advance new and existing building electrification as a priority at all scales.

GHG Reduction	Department	Co-Benefits	Pillars
• **2030:** Supportive • **2035:** Supportive • **2045:** Supportive	• City Manager's Office • Economic Development	Community Health; GHG Reduction; Resilience; Local Green Jobs; Env. Restoration	• Structural Change

Emissions Reductions by Measure to 2030 Target



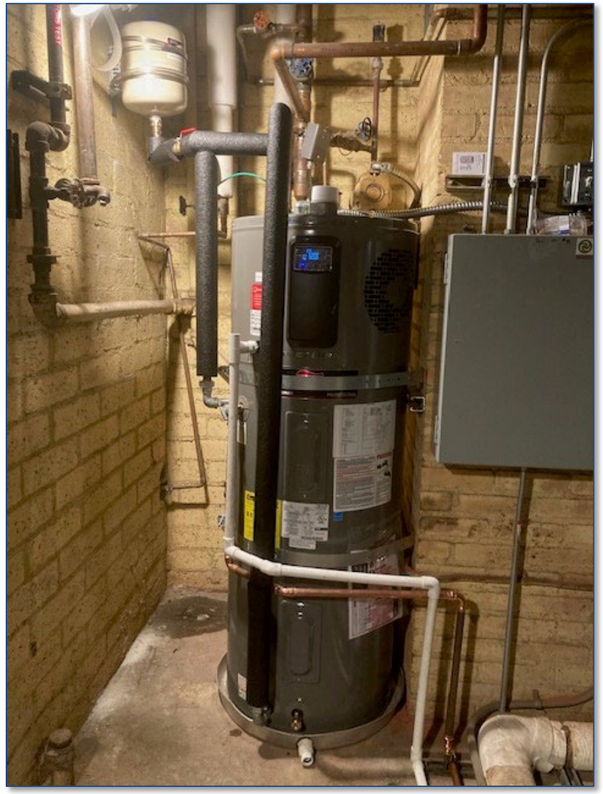
17% of total reductions needed

Policy ~ 850 MT CO2e/year

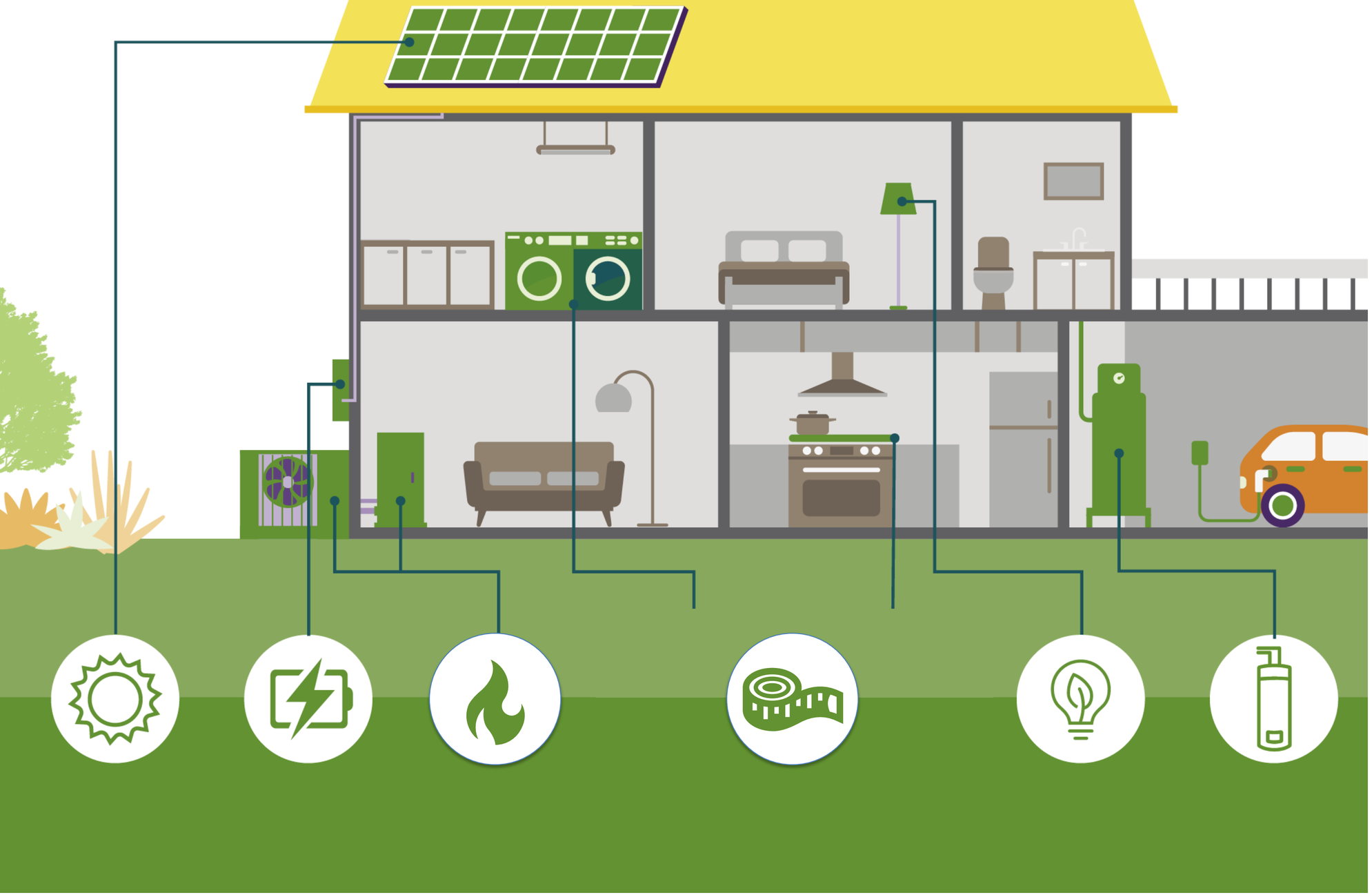
Decarbonizing City Building Stock

MEASURE M-1: Decarbonize municipally owned buildings by 2030 and remaining municipal facilities by 2045.

- 97% Lighting upgraded to LED
- 13 heat pump water heaters installed replacing gas water heaters
- 2 buildings electrified with heat pump HVAC
- Municipal Decarbonization Roadmap pending grant award funding



How do Our Buildings Use Energy?



House Illustration source: Southern California Edison

When are building energy decisions made?

- When they are built
- When something breaks
- When a building is undergoing a major addition or alteration

What Are Major Additions and Alterations?

Major Addition Example Scenario

Situation

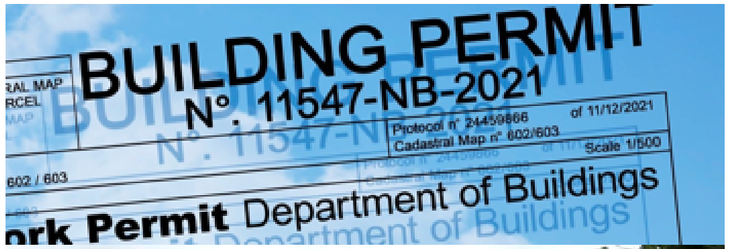
- A homeowner of a single family house applies for a permit.
- They are adding a 350+ square feet to a second story with two new bedrooms and a full bathroom.
- The project valuation is reported at $230,000.

The homeowner is already…

- ✓ Going through the permitting process and complying with existing local and statewide requirements.
- ✓ Working with a design team.
- ✓ Working with a contractor team.

This is the right time to make additional home improvements

- It's unlikely the project goes through a significant remodel again for 20-50 years.
- The team is already assembled and engaged, providing knowledge and support in decision making.
- There are several cost-effective options.
- Cost and time savings associated with doing multiple projects at the same time instead of separately.



What is a Major Alteration?

- “Any construction or renovation to an existing structure other than repair or addition.” (California Building Code)
- Proposed: A major alteration is altering 350 square feet or more of existing floor area.
- Project requires a building permit and must comply with existing local and statewide requirements.
- A major alteration can also require an architect, engineer, and energy code compliance expertise.
- Depending on the alteration, the contractor team could include a general contractor, electrician, and plumber.

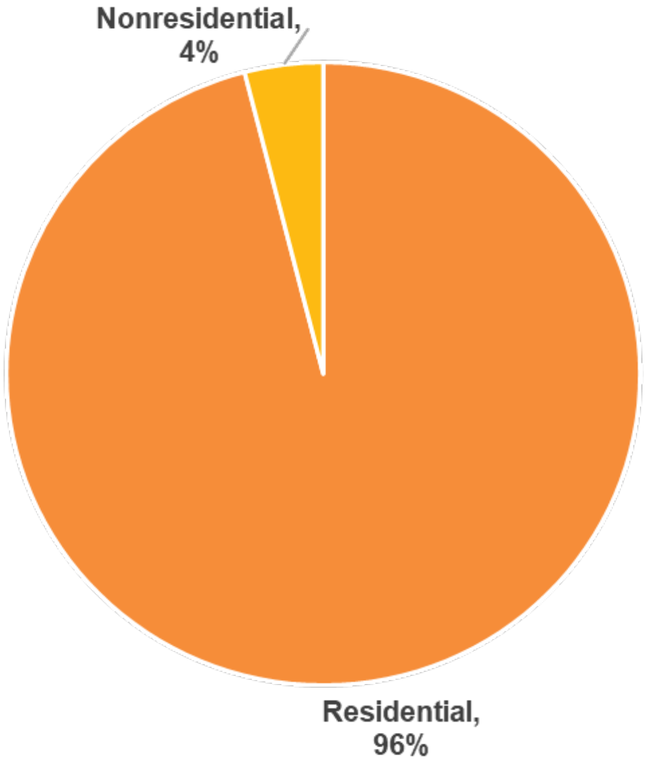
Example of a major alteration:

- Single family home
- Alters 350+ square feet of floor area, such as converting 2 bedrooms and a hallway into 3 bedrooms and adding a new bathroom
- Project valuation reported at $135,000

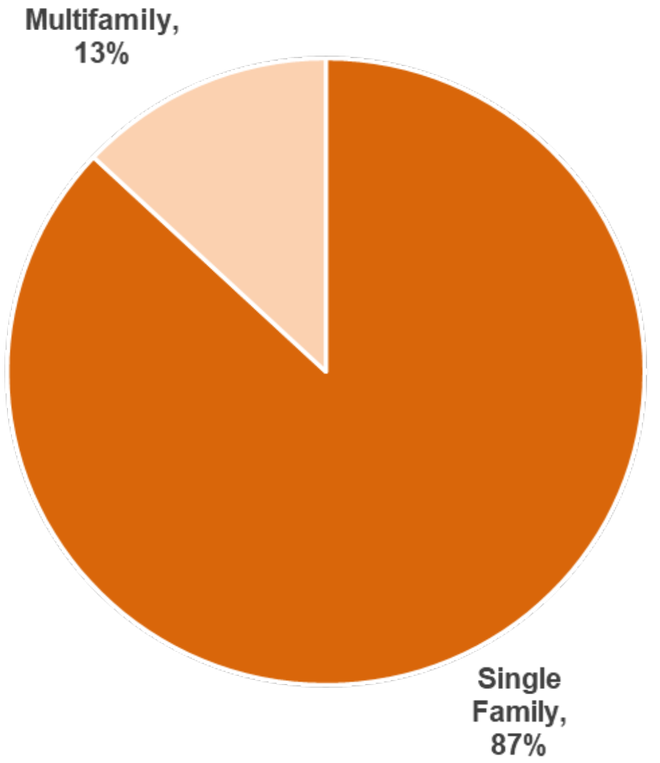
Proposed Energy Efficiency Requirements

Existing Building Stock Mostly Single Family Homes

96% of Buildings are Residential



87% of Residential Buildings are Single Family



84% of Single Family Homes built before 1991

Proposed Policy-at-a-Glance

Proposed requirements for major residential addition and/or alteration projects to include energy efficiency measures.*

What is a "major" addition or alteration as proposed?

- An addition of 350 or more square feet of floor area (aligns with Green Building Program threshold).
- Any addition and alteration combination with an impacted area of 350 or greater square feet.

What would a project applicant have to do?

- Pick from a menu of energy efficiency measures and in some cases provide outlets for future zero emission appliances.

Would this apply to small projects, appliance replacements, window projects, roof projects, cosmetic changes, work that doesn't require a permit, kitchen appliances, or gas stoves?

- No, no, no, no, no and no.

The proposed ordinance is projected to impact 300 permits a year with a median project valuation of $130k

**Proposed requirements are current as of September 2024 and may be revised based on Planning Commission and community feedback.*

Energy Efficiency Measures + Packages

Requirements:

1. Install any number of the measures from the table that add up to a total score of 9 or greater. Many combinations possible

2. Complete all mandatory requirements.

There are at least 5 cost effective combinations.

Measures	Points
Water Heating Package	1
Induction Cooktop	1
Heat Pump Clothes Dryer	1
Air Sealing	2
R-49 Attic Insulation	4
Duct Sealing	3
New Ducts + Duct Sealing	6
Windows	4
R-13 Wall Insulation	5
R-19 Floor Insulation	9
R-30 Floor Insulation	10
Heat Pump Water Heater (HPWH)	12
Heat Pump Space Heater	18
Solar PV + Electric Ready Pre-Wire	13
Panel-related Pre-wiring	Mandatory
Mechanical, Kitchen & Laundry Room Electric Ready Pre-Wire	Mandatory

Source: Single Family Residential Retrofits Cost-Effectiveness Reports

Compliance Examples

Examples:

In addition to the mandatory measures…

1. Install a Heat Pump Water Heater.
2. Install a Heat Pump Space Heater.
3. Install Solar PV + Electric Ready Pre-Wire.
4. Install Floor Insulation (R-19 or R-30)
5. Install a combination of efficiency measures:
   - R-49 Attic Insulation & R-13 Wall Insulation
   - Water Heating Package + Duct Sealing + R-13 Wall Insulation
   - Windows + R-13 Wall Insulation
   - & many more

Electric Readiness

- If a project involves a new electrical panel OR electrical service upgrade to 200A, electric readiness components will be installed for space heating and water heating appliances.

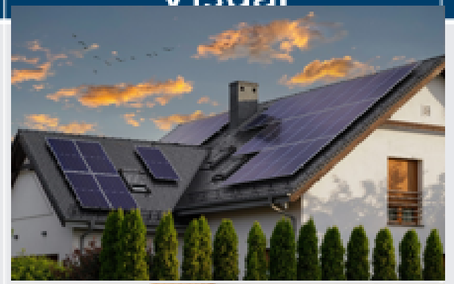
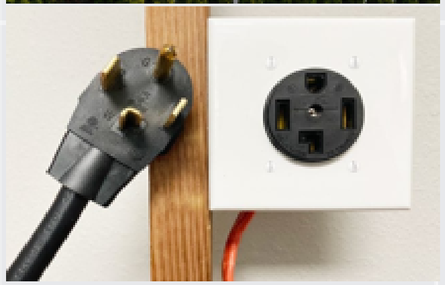
- If an alteration or addition includes work in utility, kitchen or laundry spaces, electric readiness components will be installed for electric appliances (e.g., water heater, furnace, stove and clothes dryer).

- If installing solar PV to achieve compliance, must also include electric readiness for water heating, space heating, and either energy storage system ready OR EV charger ready.

Co-Benefits of Measures

Category	Examples	Visual	Benefits
Efficiency Measures	Windows Insulation Air Sealing Ducts		• Increase comfort • More consistent interior temperature • Reduce exterior noise • Decrease pests
Electrification Measures	Heat Pump Space Heater Heat Pump Water Heater (HPWH) Induction Cooktop Heat Pump Clothes Dryer		• Decrease indoor air pollution • Reduce asthma risk • Reduce carbon monoxide risk • Heating & cooling capability

Co-Benefits of Measures

Category	Examples	Visual	Benefits
Solar PV	Solar PV		• Energy security/reliability • Quiet and unobtrusive • Little maintenance needed
Readiness Measures	Panel Readiness Electric Readiness		• CARB readiness • Reduce future work needed by completing at a convenient time

Proposed Exemptions

1. Repairs

2. Pre-Compliance

3. Historic Building →The applicant may request an exemption to any requirements of this chapter which would impair the historic integrity of any building listed on a local, state, or federal register of historic structures

4. Hazard Mitigation → e.g., seismic retrofit

5. Temporary Structures

6. Cost Burden→ Costs associated with ordinance compliance exceeds 20% of project valuation

7. Only touching roof or windows or roof and windows

8. Manufactured Homes (Title 25 compliance only)

9. ADUs to which a statewide exemption applies*

Cost Impacts of the Proposed Policy

$130,000	• The median project valuation for permits captured by this policy.
$6,600	• The estimated typical cost of compliance (not including rebates or incentives).
5%	• The increased cost for a typical project complying with this policy (not including rebates or incentives).

Major Addition Example

Example

- Single family home
- Adds 350+ square feet in a second story with two new bedrooms and a full bathroom
- Project valuation reported at $230,000

Compliance Example

- Project chooses a heat pump hot water heater to comply ($6,500) and LED lightbulbs ($250)
- Total compliance cost = $6,750 (3% cost increase).
- Measures are cost effective
- Rebates and incentives up to approximately $5,000 (much higher if low-moderate income) available

Major Alteration Example

Local Example

- Single family home
- Alters 350+ square feet, including converting 2 bedrooms, and a hallway into 3 bedrooms and renovating the kitchen
- Project valuation reported at $135,000

Compliance Example

- Project chooses a heat pump hot water heater to comply ($6,500), electric circuit and outlet for electric cooktop ($750) and installs LED lighting ($250)
- Total compliance cost = $7,500 (5.5% cost increase)
- Measures are cost effective
- Rebates and incentives up to approximately $5,000 (much higher if low-moderate income)

What this policy would not do

The policy is not:

- Regulating the use of gas cooking equipment or other kitchen equipment or appliances.
- Requiring electrification.
- Triggered by small projects like flooring, window replacements, kitchen upgrades, etc.
- Triggered by work that doesn’t require a permit.
- Triggered by single appliance replacements.

The policy does consider:

- Special onsite challenges or circumstances.

Resources

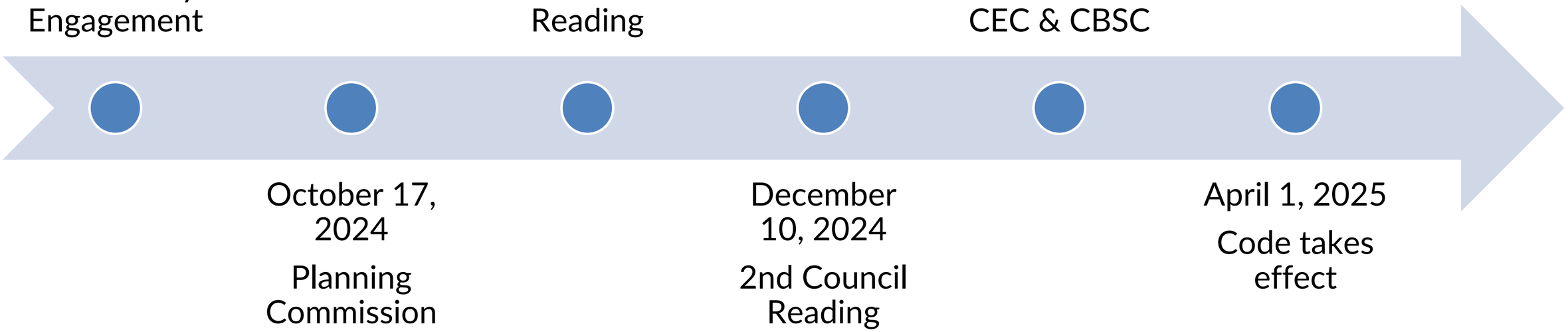
- Central Coast Community Energy provide direct incentives ($4,600 - $5,300+).
- Limited Self Generation Incentive Program applicability
- New Regional Energy Network coming online with possible more incentives in 2025
- Inflation Reduction Act tax credits are available for most residential energy upgrades (approximately 30% for each improvement, with caps per measure and total in a given tax year).
- Exploring services to help community members navigate complicated projects, e.g., Quit Carbon
- Resubmitting grant proposal for low income decarbonization and resilience in frontline neighborhoods (with tenant protections/affordability)

Engagement

- City Council Study Session
- 1 Virtual Meeting with Santa Cruz County Realtors Association
- 1 Virtual Webinar with Developers, Designers, Contractors
- 1 Virtual Webinar with the public
- Decarbonization Webpage
- FAQ
- Survey

Building Decarbonization webpage + survey:

Policy Development Timeline



Thank you.
Questions
Discussion