

# Reach Code Community Forum

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City of Piedmont | Sustainability Division

April 20, 2022





# Tonight's Agenda

Welcome and Housekeeping	6:00-6:05pm
Background on Piedmont Climate Action Plan 2.0	6:05-6:40pm
Overview on Reach Codes	
Share Lessons Learned from Reach Code Adoption	
Discuss Initial Considerations for Future Code Cycle	
Audience Q&A	
Breakout Session	6:40-7:15pm
Summary and Next Steps	7:15-7:20pm
Overview on BayREN's Incentive Programs	7:20-7:30pm



# Piedmont Climate Action Plan 2.0





# Piedmont Climate Action Plan 2.0

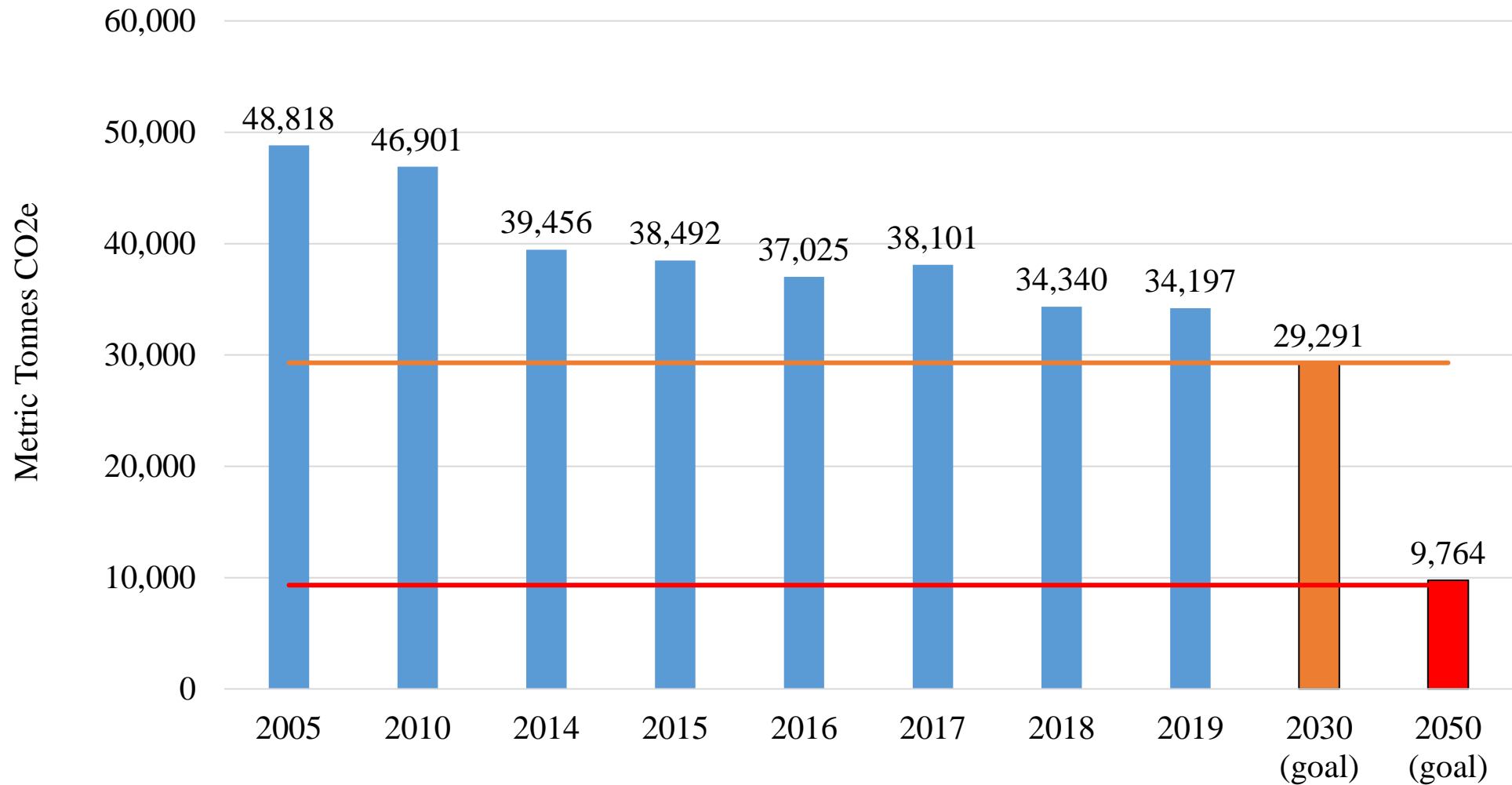
- CAP 2.0 adopted by City Council in 2018
- *Purpose:* support state climate efforts & provide a pathway for Piedmont to reduce GHG emissions 40% by 2030 and 80% by 2050
- *Scope:* reduce GHG emissions in the areas of adaptation, buildings and energy use, consumption, municipal, solid waste, water, and transportation

## Piedmont Climate Action Plan 2.0



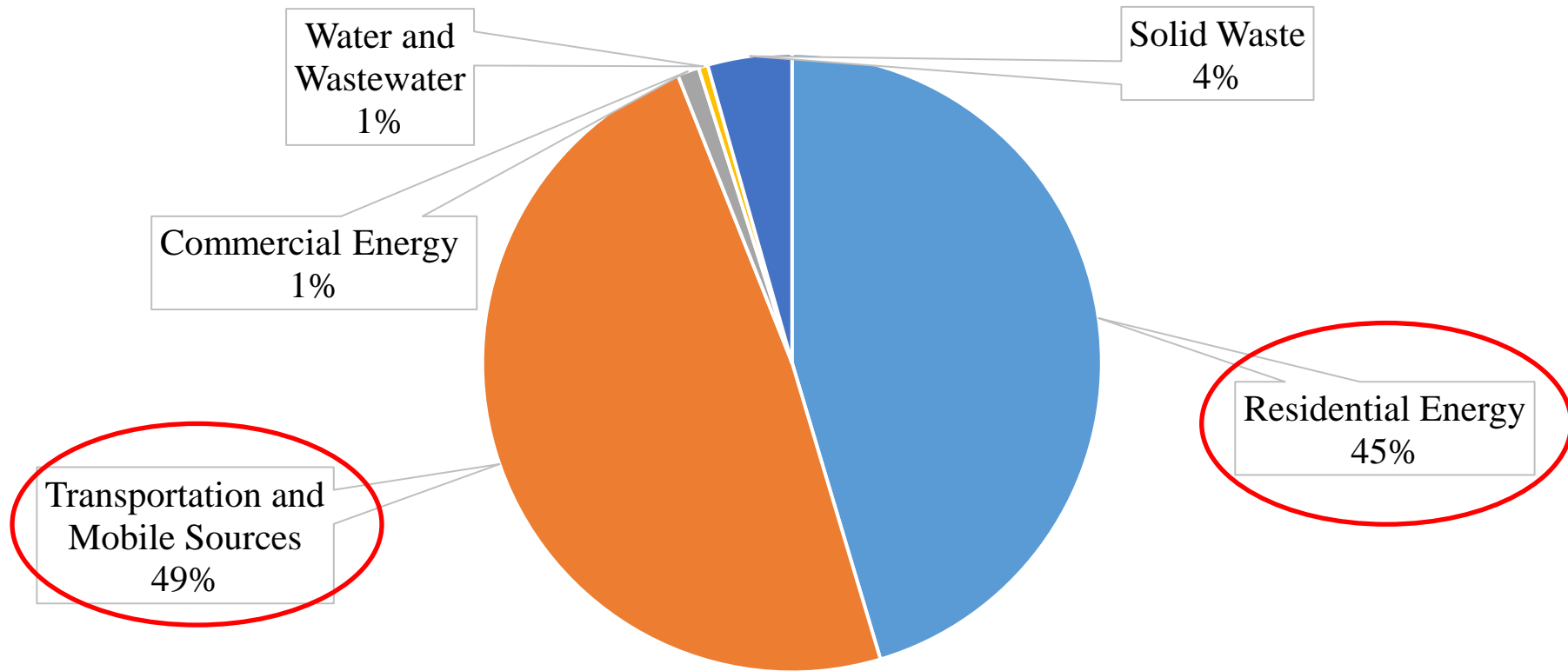


# Piedmont's Total Annual Emissions Trend





# 2019 Community Emissions



- Residential Energy
- Commercial Energy
- Solid Waste

- Transportation and Mobile Sources
- Water and Wastewater





# Pillars of Piedmont's Climate Policy

- Adoption of electric vehicles and public transportation use
- Conduct ongoing community engagement and outreach
- Conserve water and maximize efficiencies
- Fuel switching from gas to electric
- Maximize energy efficiency in existing buildings
- Produce and obtain 100% renewable electricity
- Reduce emissions associated with consumption
- Sequester carbon through land use and management



# **Local Building Code Amendments (Reach Codes)**

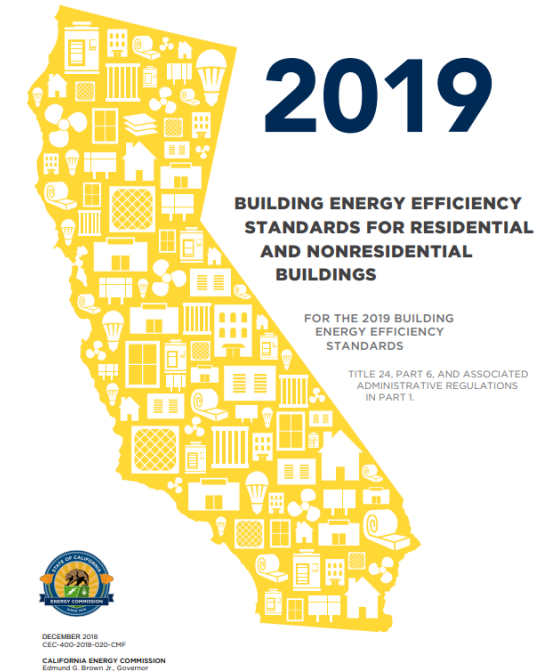






# What are Reach Codes?

- Energy Code sets statewide energy efficiency requirements for new construction of, and additions and alterations to, residential and nonresidential buildings
- Local amendments to Title 24, Part 6 (the Energy Code)
- *Intent:* Go beyond state standards for energy efficiency
- Local governments must make findings that reach code is needed for local climatic, geological, topographical, or environmental reasons
- Must: Pass through standard City Council ordinance adoption process & get CEC approval





# Impetus for Pursuing Reach Codes

- Aligns with Climate Action Plan goals:
  - Reduce natural gas use in buildings
  - Increase local solar energy production
  - Build awareness on cost-effective ways to improve home energy use
- Improves community health and safety
- Reduces greenhouse gas emissions



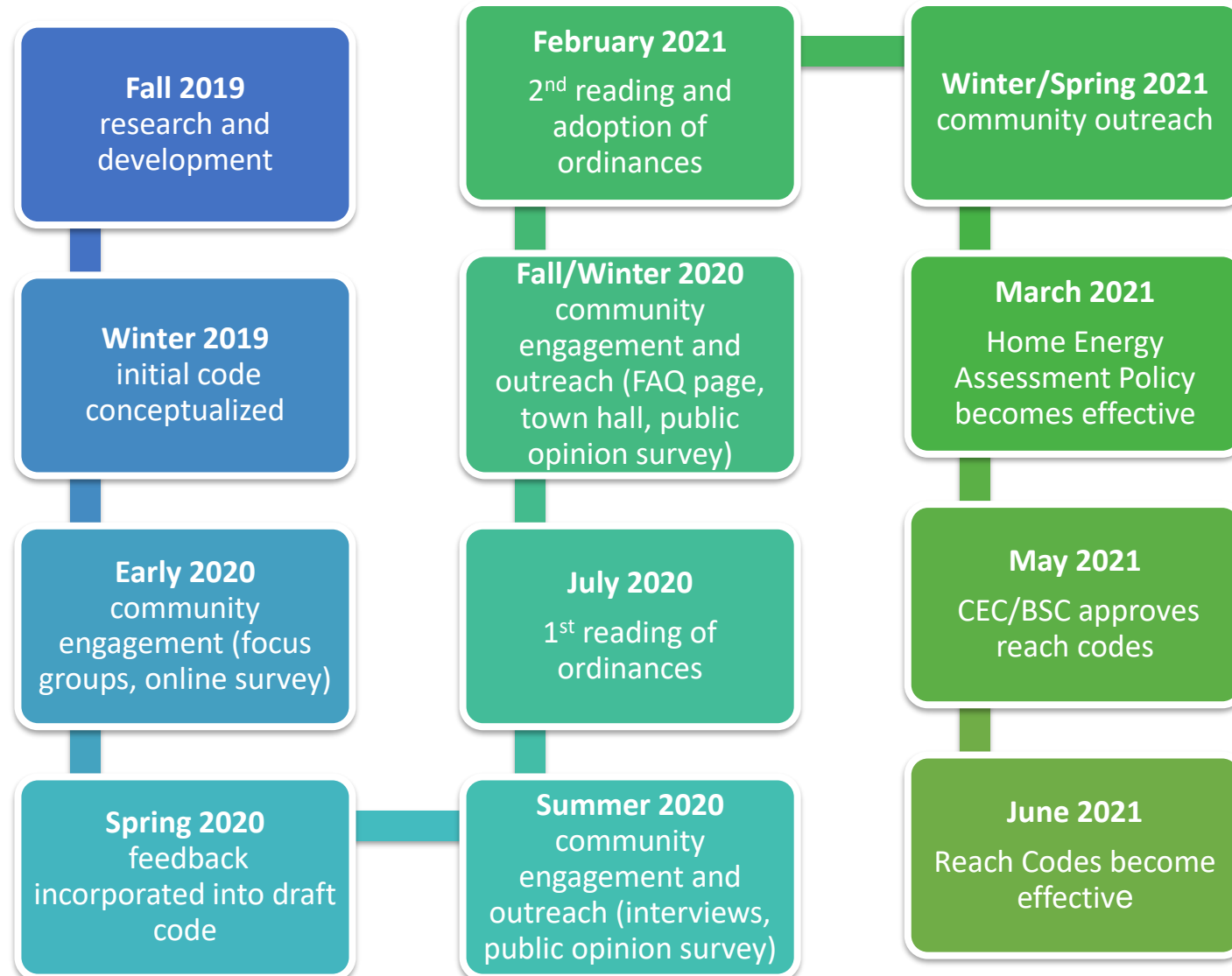
*“Avoiding the worst hazards and costs of climate change requires **taking action now** to both reduce emissions and mitigate the impacts.”*

*--Climate Action Plan 2.0, 2018*





# Reach Code Development Process





# Ordinance 750 N.S. (Reach Codes)

## New Construction

New low-rise residential buildings & detached Accessory Dwelling Units (ADUs) must be all electric

## Roof Expansion

Projects that include an entirely new level or expand the total roof area 30% or more must install solar panels on roof

## Renovation Projects

Projects \$25K or more must include an energy efficiency upgrade

Projects \$100K or more must include two energy efficiency upgrades

Electrical panel upgrades must include capacity in panel to accommodate future electrification of all appliances

Kitchen or laundry area renovation must include electrical outlets for future appliance installation



# Energy Efficiency Measures

- A package of attic insulation, air sealing, and duct sealing
- Floor insulation
- A package of low-flow fixtures and water heater/water piping insulation
- Switch out existing lights for high efficacy lights with motion sensors
- Submit a report from a Home Energy Score or Home Energy Audit completed in the last five years and follow one recommendation
- Switch out gas furnace for heat pump (or other energy efficient electric space heating system)
- Switch out gas water heater for heat pump (or other energy efficient electric water heating system)

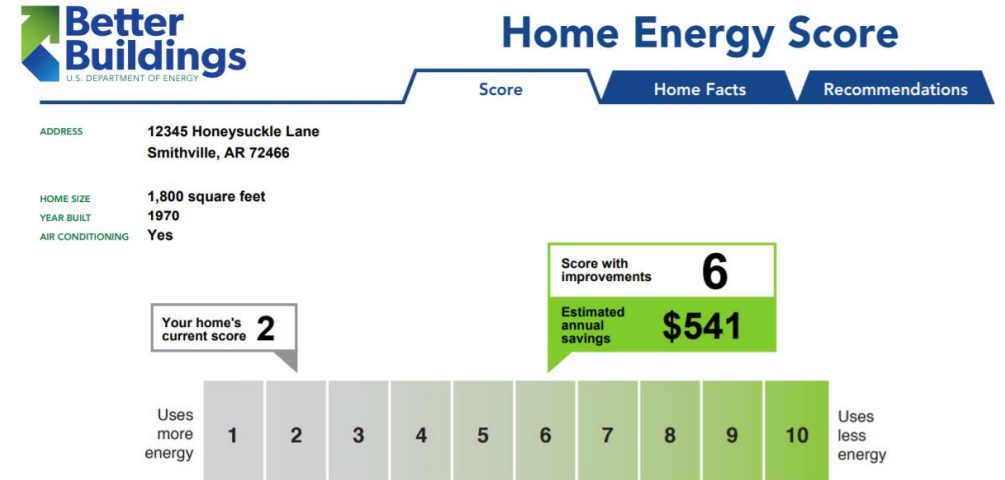




# Ordinance 751 N.S. (Home Energy Assessment Policy)

Requires submission of a Home Energy Score or Home Energy Audit report (homeowner's choice), completed within the past five years:

- At point of listing for sale of property, unless the home was constructed within the last 10 years



# Post-Adoption





# Priorities

- Evaluating Building Permit Applications since Reach Code effective date
- Gathering feedback from homeowners, contractors, architects, and project managers
- Understanding the reach code implementation experience among City staff
- Identifying challenges and opportunities for change







# Reach Codes Implementation

- Ordinance in effect since June 1, 2021
- 113 Reach Code Related Building Permit Projects from effective date to January 31, 2022:
  - 73 \$25K renovations, 40 \$100K renovations
  - 44 kitchen renovations, 17 laundry room renovations
  - 13 new all-electric ADUs
  - 1 roof expansion requiring solar PV





# Reach Codes Implementation

- Selected Energy Efficient Measures:
  - LED Lighting (42 projects)
  - Water Heating Package (28 projects)
  - Envelope and Duct Package (13 projects)
  - Heat Pump Heating and Cooling (9 projects)
  - Heat Pump Water Heater (6 projects)
  - Photovoltaic System (1 project)





# HES Policy Implementation

- Ordinance in effect since March 3, 2021
- 42 Home Energy Scores received
  - Average Score: 3
  - Average Estimated Energy Costs Per Year: \$2,574
- Common recommended improvements:
  - Replacing gas cooktop with induction
  - Replacing gas water heater with HPWH
  - Upgrading attic and wall insulation

U.S. DEPARTMENT OF ENERGY  
**Home Energy Score**  
Know your home. Know your Score.

#### HOME PROFILE

##### LOCATION:

Piedmont, CA, 94611

YEAR BUILT:  
1914

HEATED FLOOR AREA:  
2620 sq. ft.

NUMBER OF BEDROOMS:  
5

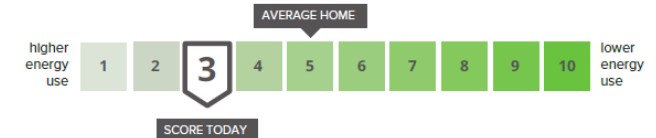
#### ASSESSMENT

ASSESSMENT DATE:  
2/18/2021

THIS HOME'S  
**HOME ENERGY SCORE**  
**3** out of 10

THIS HOME'S ESTIMATED  
**ENERGY COSTS**  
**\$2627** per year

#### Home Energy Score details



#### Official Assessment | ID#333617

Home Energy Score is an easy way to see how energy efficient this home is compared to other homes. A higher score is better. This report also contains ways you can make your home more efficient and more comfortable.

#### How much energy is this home likely to use?

Electric	8586 kWh/year	\$1769
Natural Gas	611 therms/year	\$858
TOTAL ESTIMATED ENERGY COSTS PER YEAR		\$2627





# Lessons Learned

- Frequent, ongoing communication with the public
- Incorporate community feedback from various engagement mediums
- Conduct internal staff trainings to ensure consistency in implementation
- Develop monitoring and evaluation framework to assess effectiveness
- Disseminate rebate and financial incentive opportunities



# 2022 Energy Code and Future Considerations





# 2022 Energy Code Overview

- California Energy Commission (CEC) adopts standards every 3 years
- CEC adopted new Code in August 2021; effective date is Jan 1, 2023
- All jurisdictions will need to adopt the new Code and any local amendments (i.e., Reach Codes)





# 2022 Energy Code Highlights

- Heat pumps are prescriptive baseline
  - Residential
    - Space heating
    - Water heating
  - Nonresidential –most building types include water-and/or space-heating
    - Limited application in Piedmont
  - Performance credit for all-electric design
- Residential
  - Pre-wiring required for gas appliances
  - Higher ventilation rate for gas stoves
  - Energy storage readiness





# 2022 Energy Code Benefits

- Increasing on-site renewable energy generation from solar
- Increasing electric load flexibility to support grid reliability
- Reducing emissions from newly constructed buildings
- Reducing air pollution for improved public health
- Encouraging adoption of environmentally beneficial efficient electric technologies







# Staff's preliminary ideas for 2022

- Develop Reach Codes for new high-rise multifamily developments, new non-residential buildings, and non-residential building alterations
- Re-adopt existing low-rise residential building Reach Codes:
  - Clarify specific elements of existing Code
  - Update stated project value thresholds to reflect CPI increase
  - Update existing energy efficiency improvements found to be cost-effective
  - Add new requirement for gas furnace and water heater replacements
  - Update City Code to require Level-2 EV Ready charging infrastructure with garage renovations valued at \$50K or more (Title 24, Part 11, CALGreen)



# Questions?



# Breakout Session





# Breakout Session (20 minutes)

1. On each table, find a piece of paper with three sections
  - a. Reach code requirements adopted in 2021
  - b. Obstacles for effective implementation
  - c. Possible amendments for the 2022 cycle
2. For each reach code requirement, identify at least one obstacle to implementation
  - a. Obstacles may be previously identified or created by group members
3. For each obstacles, identify a possible amendment
  - a. Amendments may be previously identified or created by group members
4. Designate one member of the table to report back to the group





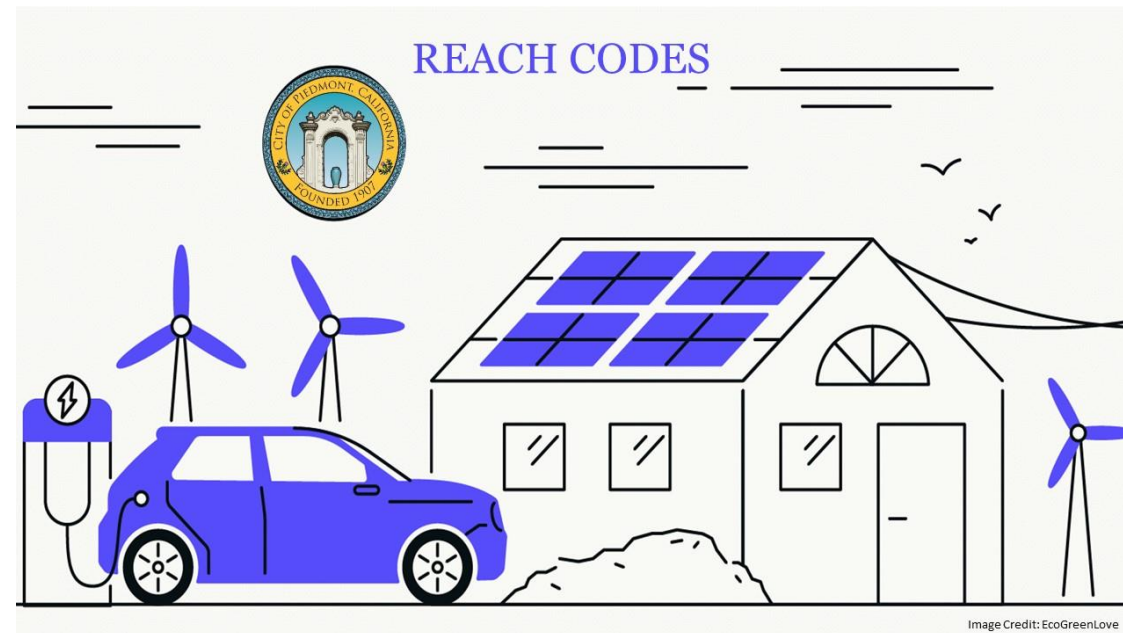
# BREAKOUT SESSION





# Next Steps

- Upcoming Engagement Opportunities:
  - Online Reach Code Community Survey (open until May 20<sup>th</sup>)
  - Be on the lookout for a future reach code agenda item at City Council





# Contact

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# BayREN Presentation







## Resources for Single-Family Energy Upgrades

Chris Hunter

April 20, 2022

# Who is StopWaste?



- Countywide public agency with 17 member agencies representing Alameda County, its 14 cities, and 2 sanitary districts
- Outreach & education for residents and businesses
- Key Programs:
  - Enforce Mandatory Commercial Recycling & Composting Law
  - Food Waste Reduction and Home Gardening
  - Household Hazardous Waste
  - K-12 Environmental Education
  - Green Buildings & Energy Council
  - Support Member Agency Staff
  - ...and more!



# The Bay Area Regional Energy Network (BayREN)

*BayREN is a highly effective and trusted group of local governments that deliver targeted, integrated, and regional-scale climate solutions focused on energy, water, and resilience.*



# BayREN Home+ Program

Rebates and technical support to improve home health, resilience, and efficiency



**BAYREN**



# Examples of Building Issues

Old & Inefficient  
Furnace or A/C

High Energy Bill

Drafty Rooms &  
Temperature  
Swings

Noise pollution



Moisture &  
Condensation

Asthma Triggers

Excessive Dust

Pest infestations

# BayREN Home+ Program

- Up to \$5,000 in rebates for energy efficiency upgrades
  - Includes weatherization & building shell measures, heating and cooling systems, water heaters, induction cooktops and other consumer appliances
- No-cost Home Energy Advisor service
- Network of trained participating contractors
- Free “Energy Efficiency Kit” worth up to \$70



# Home+: Home Energy Advisor

- Free, unbiased advice for completing your Home Upgrade
- Technical and programmatic experts
- Assistance finding a Participating Contractor
- Referrals to complementary programs

(866) 878-6008  
[advisor@bayren.org](mailto:advisor@bayren.org)

**BAYREN**





# Home+: Participating Contractors

Specially trained in building performance

Handle all the paperwork

Safety testing required

Quality control checks

Those not meeting program guidelines and best practices are removed

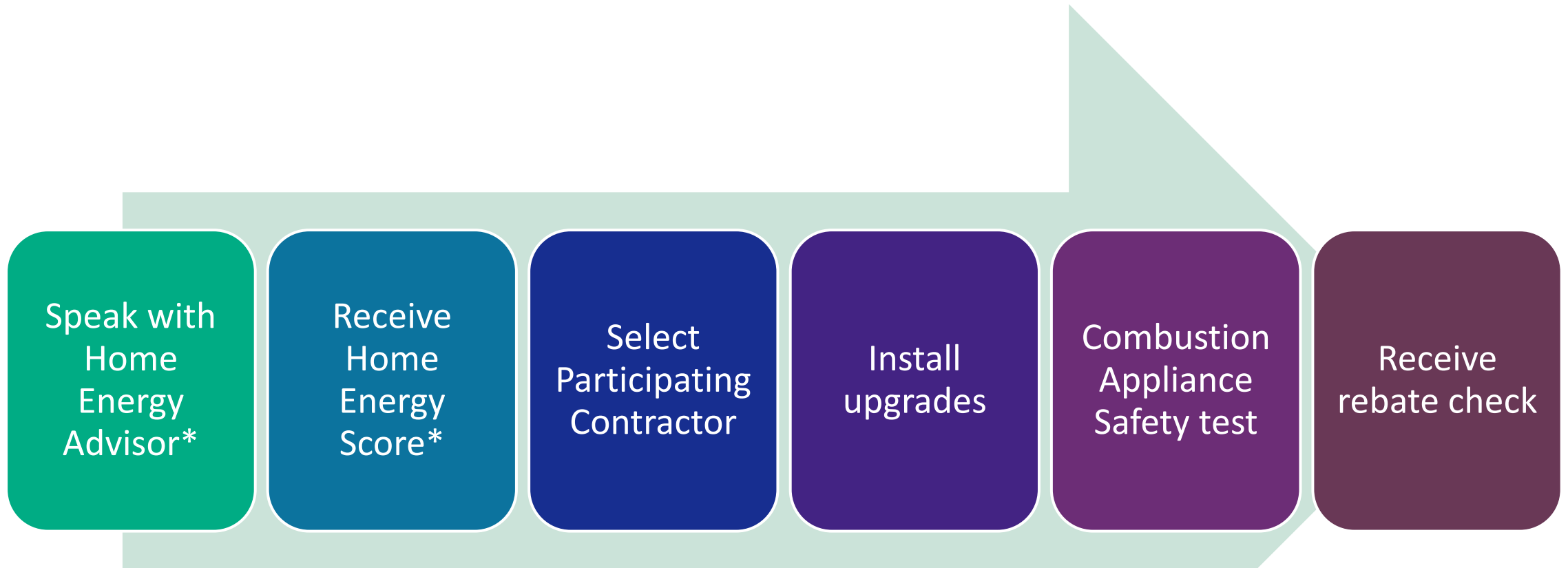
Vetted through program requirements

Find a participating contractor:  
[www.bayrenresidential.org/find-a-contractor](http://www.bayrenresidential.org/find-a-contractor)





# Sample Project – Process

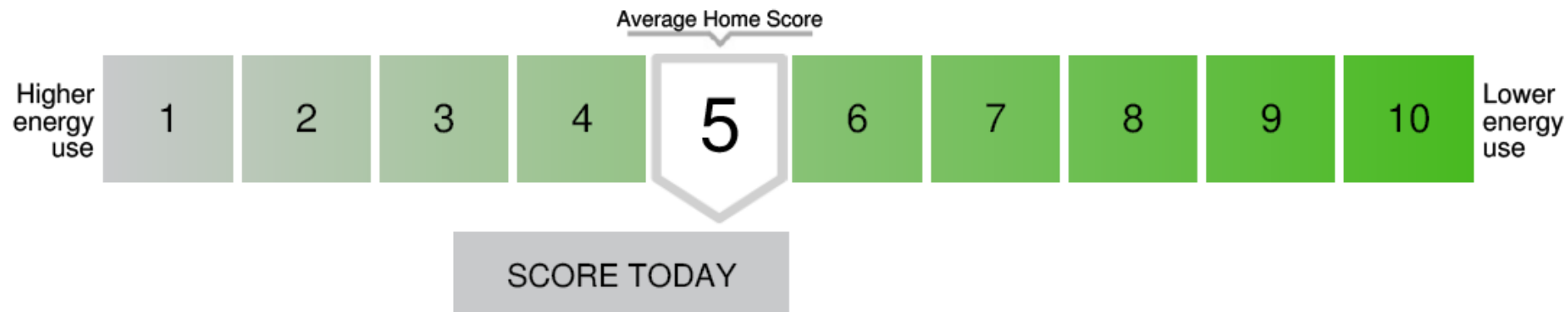


*\*Optional*

# Complementary Programs

# Home Energy Score

- Developed by U.S. Department of Energy to create standardized label for understanding a home's efficiency and compare it to similar homes
- Home Energy Score Report estimates home energy use, associated costs, and provides recommendations to improve the home's efficiency
- [BayREN offers \\$200 rebate](#) for HES assessments and streamlines with Home+ program



# TECH Clean CA Initiative

- New statewide initiative to transform the market for heat pumps for space and water heating
- Additional incentives for electrification projects.  
**Can be layered with BayREN Home+ Incentives**
  - Heat pump water heaters: up to \$1,800
  - Heat pump HVAC: up to \$3,000
  - Electric panel upgrades: up to \$2,800
- Learn more at <https://energy-solution.com/tech/>

# Rising Sun Center for Opportunity

**Our Mission:**  
**Building career pathways for economic equity  
and climate resilience**

We offer two programs:

- **Opportunity Build**, a pre-apprenticeship job training program for adults
- **Climate Careers**, a youth program that offers residential energy efficiency installations



# The Green House Call

## Step 1: Assessment

- Full home walkthrough
- Measurements
- Toilet Leak Detection

## Step 2: Installation

- LEDs
- Smart Power Strip
- Bath and Kitchen sink aerators
- Showerheads

## Step 3: Education

- Energy and water saving tips
- Additional resources
- Follow-up report

Learn more and sign-up:

<https://risingsunopp.org/programs/ghc/>

