



12th Annual CCEC Forum: Webinar 10

August 17, 2021 | 2:00 - 3:00 pm

Speeding Decarbonization Efforts with Reach Code Development Tools

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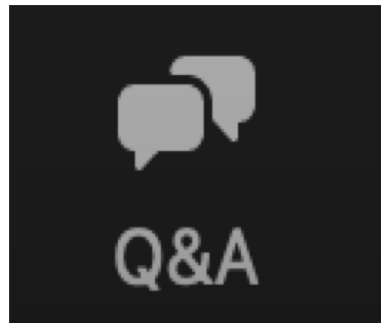


Zoom Features

Q&A

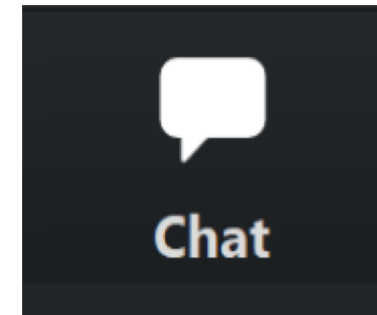
Submit questions for panelists through the Q&A module at any point during the webinar.

Upvote questions that you are interested in.



Chat

Communicate with other participants or reach out to LGC staff if you encounter technical issues.





Meet our Speakers!



Moderator
Misti Bruceri
*Technical Lead,
Statewide Reach Codes
Program/Misti Bruceri &
Associates*



Cory Downs
*Conservation
Specialist,
City of Chula Vista*



Eric Engelman
*Principal
Energy Policy Consultant*



David Freedman
*Member,
Palm Springs
Sustainability Commission*

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CCEC 2021 Forum Webinar 10

August 17, 2021



Misti Bruceri
Statewide Codes &
Standards Program



Cory Downs
City of Chula Vista



Eric Engelman, Principal
Energy Policy
Consulting



David Freedman
City of Palm Springs

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Today's Presentation

Quick Overview of Reach Codes

City of Chula Vista

- Developing a reach code measure
- Challenges related to meeting cost-effectiveness requirement
- Using the online Cost-Effectiveness Explorer for ordinance implementation post-adoption

Using the Cost-Effectiveness Explorer

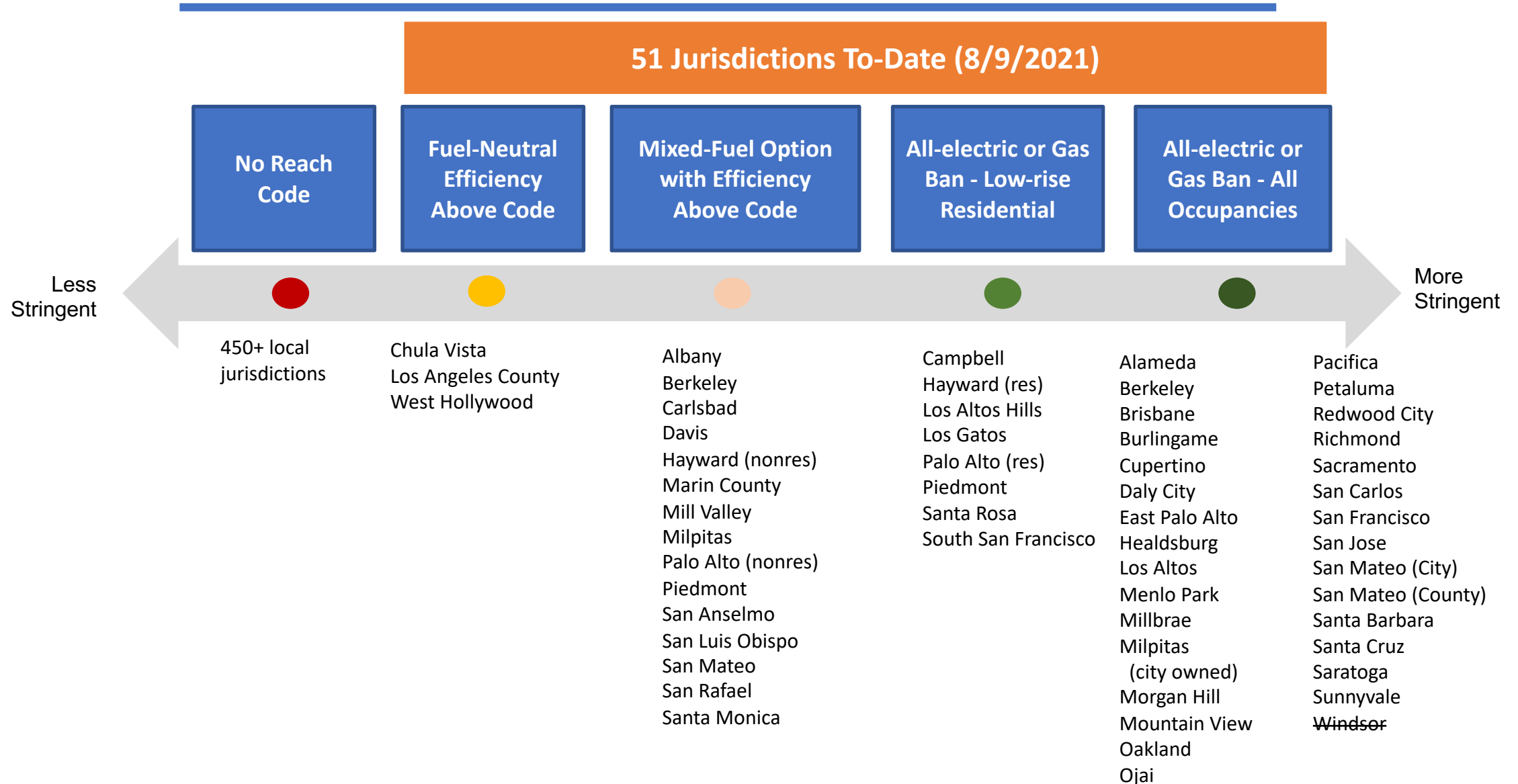
City of Palm Springs

- Using the Explorer for developing a reach code
- Evaluating different options
- Compare/contrast packages

Reach Codes

- **What is a reach code?**
 - A reach code is a local ordinance, often amending the California Building Code (Title 24, Parts 1-12)
 - Energy Code (Part 6)
 - CALGreen (Part 11)
- **Why adopt a reach code?**
 - Save energy, reduce greenhouse gas emissions
 - Implement Climate Action Plan
 - Align with state decarbonization policies
 - Local and regional leadership

Reach Codes in the 2019 Code Cycle





Chula Vista Existing Building Ordinance Development

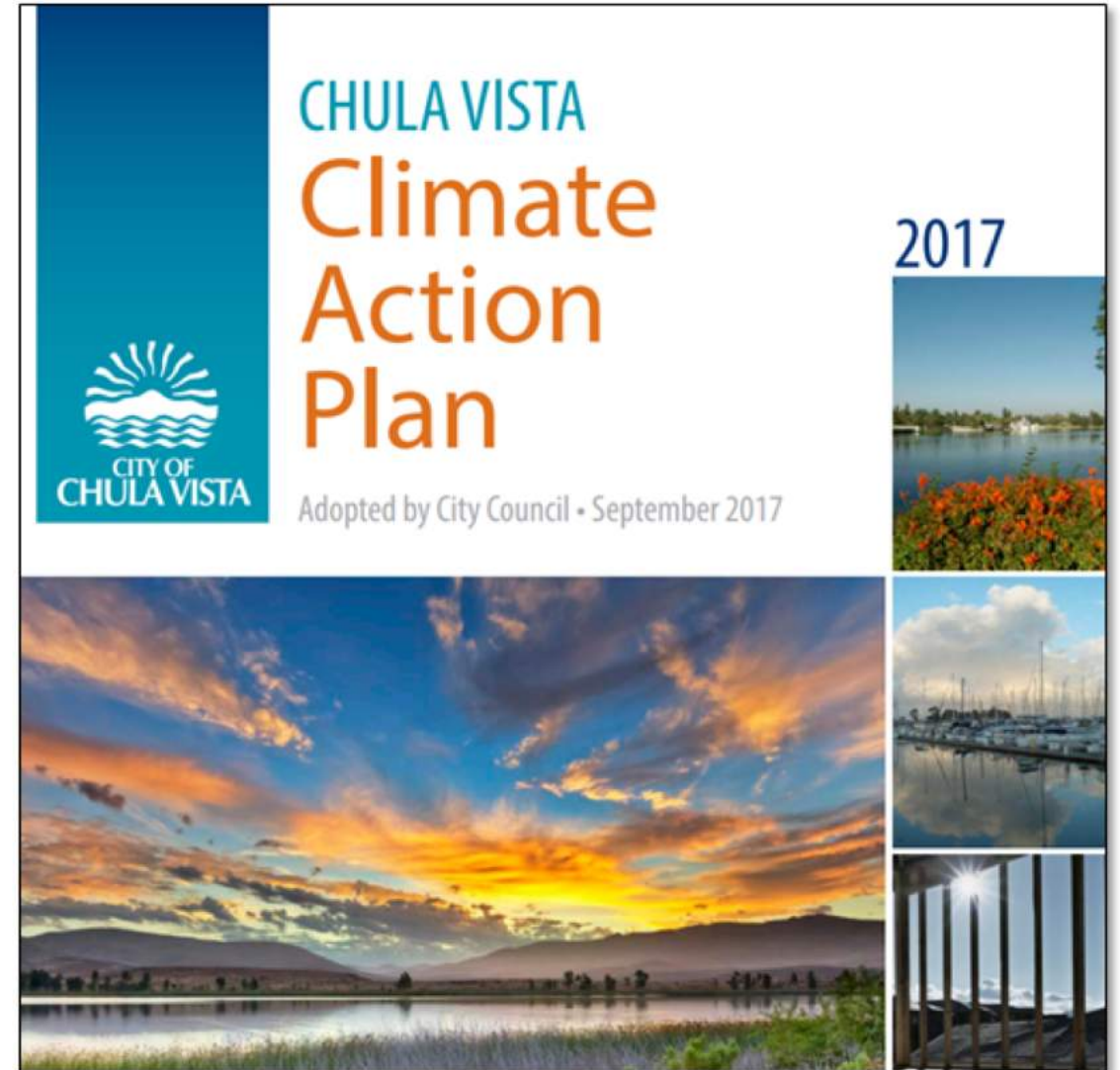
Expanding Reach Codes to New Buildings

Code Development

Challenges & Next Steps

Policy Development

- Previous ordinances for 10% - 15% above code, solar pre wiring and grey water stub outs, outdoor LED lighting and cool roofing
- Came from our 2017 CAP and Climate Change Working Group
 - Initial stakeholder input “not at time-of-sale”



Voluntary Actions

- Home Energy & Water Check-Ups
- Sustainable Home Toolkit at Library
- Chula Vista Climate Action Challenge

Compliment but do not replace mandatory action



Existing Home Sustainability Ordinance

Require homes built **before 2006** that are performing additions or major remodels to also perform energy efficiency upgrades in existing portion of the home



Existing Home Sustainability Ordinance

<i>Location</i>	<i>Year Home Was Built</i>	<i>Energy Efficiency Requirements</i>
All Chula Vista zip codes	2006 or later	0
All zip codes except 91914	2005 to 1979	2
All zip codes except 91914	1978 or older	3
91914	2005 or older	4

- Not all measures were found cost effective in all climate zones
- Changes were made during ordinance development based on stakeholder feedback

Projects that trigger this requirement:



- Adding square footage
- Moving interior walls or other structural elements
- Adding or moving windows and doors

Projects that do NOT trigger this requirement:



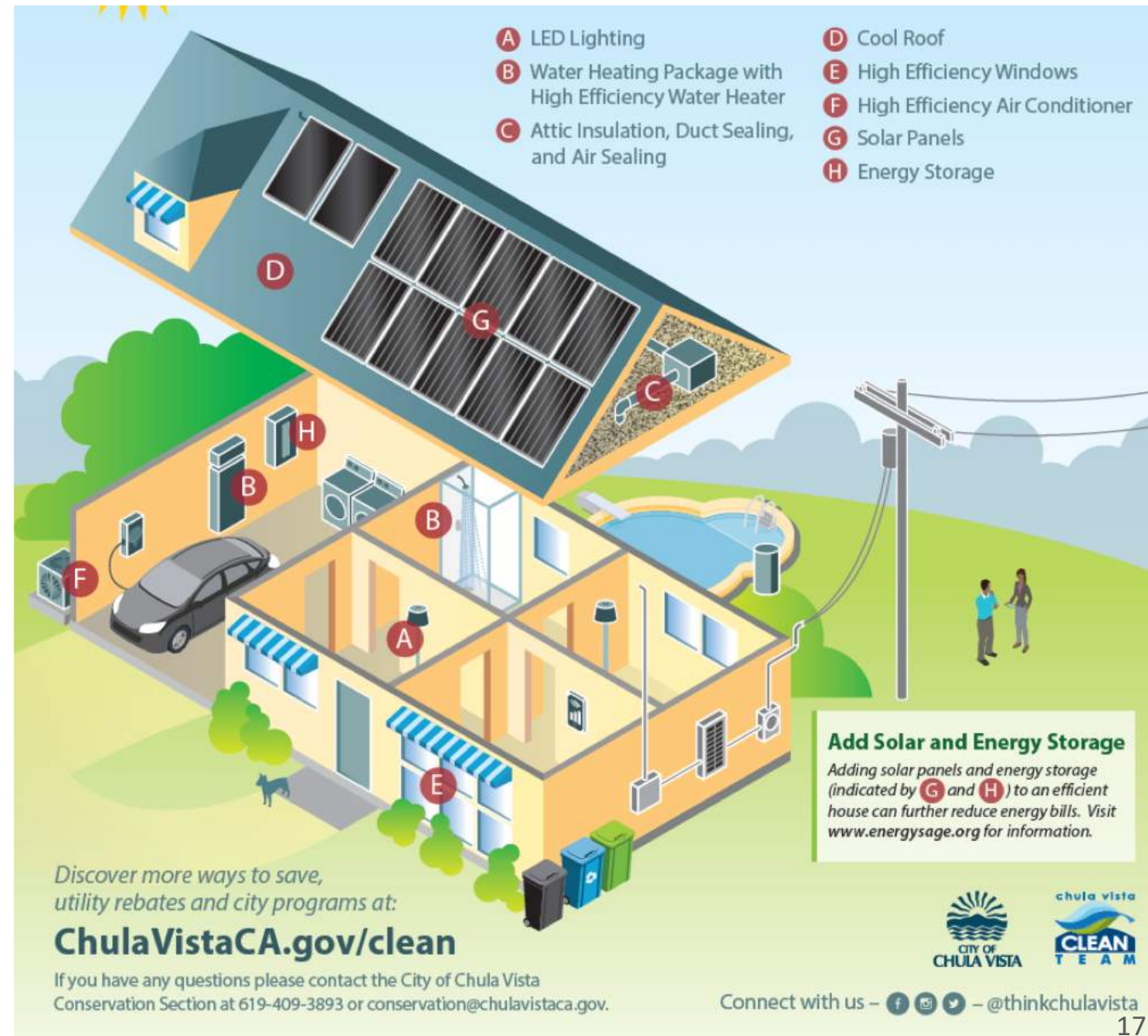
- Adding new tile or flooring
- Bathroom fixtures
- Lighting fixtures
- Appliances
- Adding or moving a kitchen island
- Adding or changing counters
- Patio or landscaping
- Adding an Accessory Dwelling Unit (ADU/JADU)
- Projects that are medically necessary
- Repairing, without moving, structural elements

Prescriptive Measures

- LED Lighting
- Water Heating Package
- Attic Insulation
- Duct Sealing
- Air Sealing
- Cool Roof
- High Efficiency Windows*
- High Efficiency Water Heaters*
- High Efficiency Air Conditioning*

*Not found to be cost effective

[Updated report with more measures available](#)



Exemptions

- Similar measures have already been completed
- Similar measures will be incorporated
- High performing home (Home Energy Score)
- Fully solar powered
- Low income
- Project value cutoff
- Technical infeasibility
- Homeowner association
- Medically necessary or repair
- Can pre-certify a home



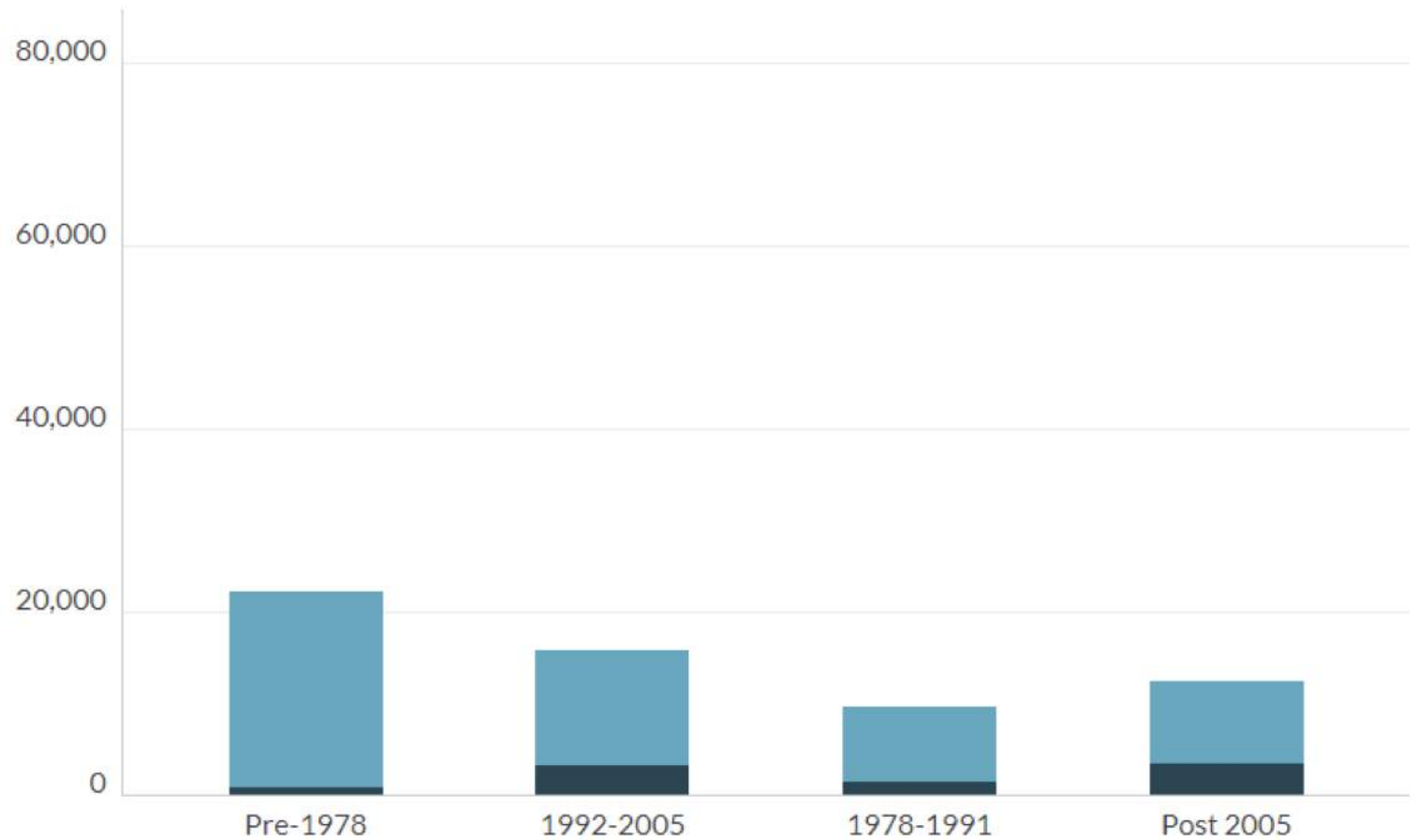
Development Services staff was not able to review exemptions so Conservation staff will do that

Policy Development



- Develop impact and cost estimates
- Evaluate different thresholds
- Information for outreach marketing
- Future updates

Single Family Dwelling Units 60,266



Equity



Increasing codes requirements can help increase equity by:

- Improving energy efficiency/comfort/health of older existing buildings
- Removing the “split Incentive”

For more information on how equity can be incorporated in codes :

<https://greenlining.org/publications/reports/2019/equitable-building-electrification-a-framework-for-powering-resilient-communities/>

Next Steps

- Adopted but not currently enforced
- Promote EHSO & energy efficiency broadly
- Track implementation
- Support inspection staff
- Re-evaluate ADU exemption
- Re-evaluate number of measure required and a potential update to weighted measure approach
- How to support equity in home retrofits?
- Evaluate if water saving measures be added?



Thank you!!



Cory Downs

Sustainability Specialist

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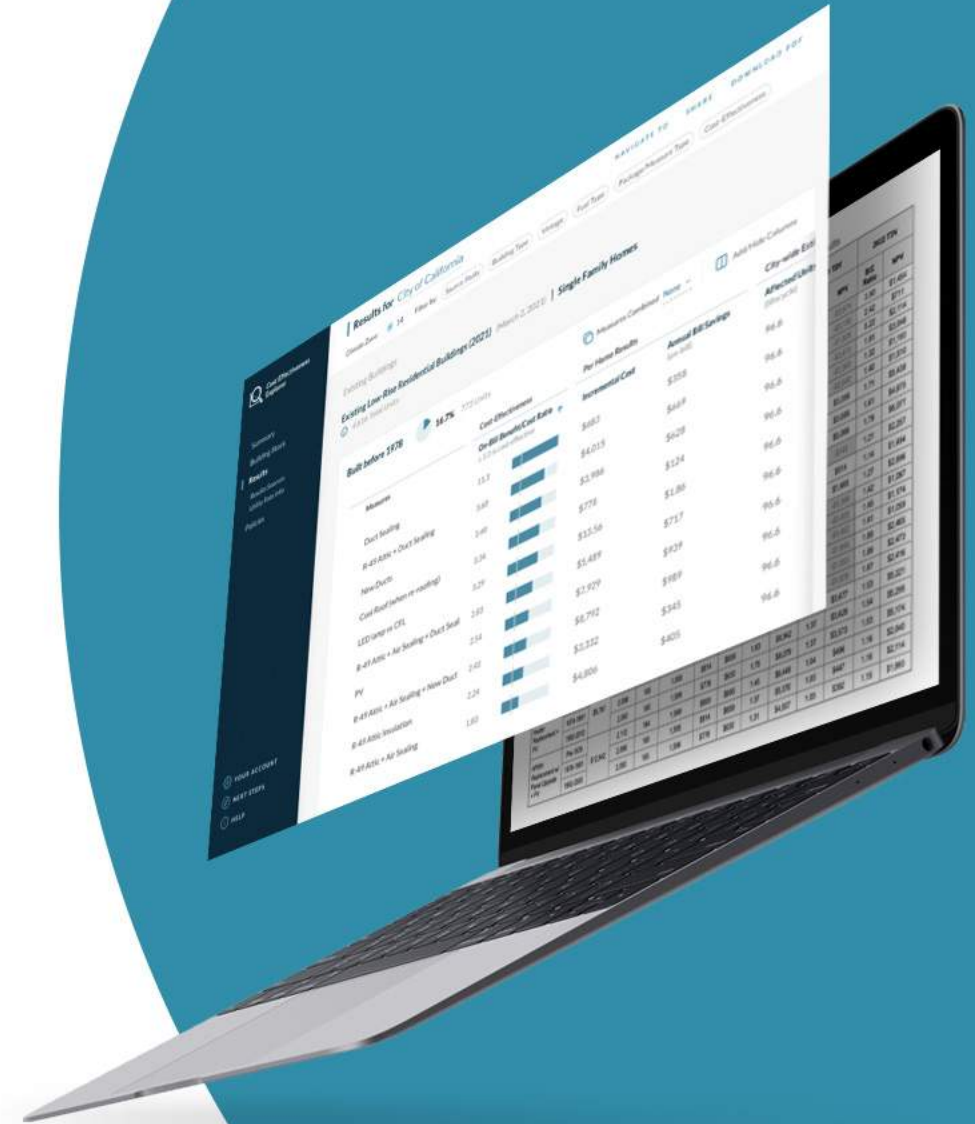


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Cost-Effectiveness Explorer

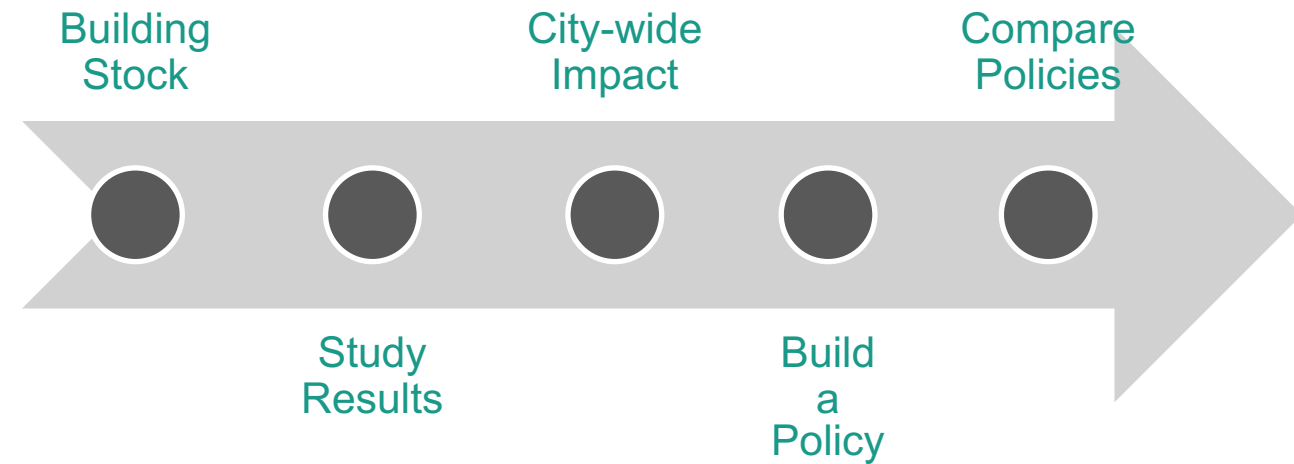
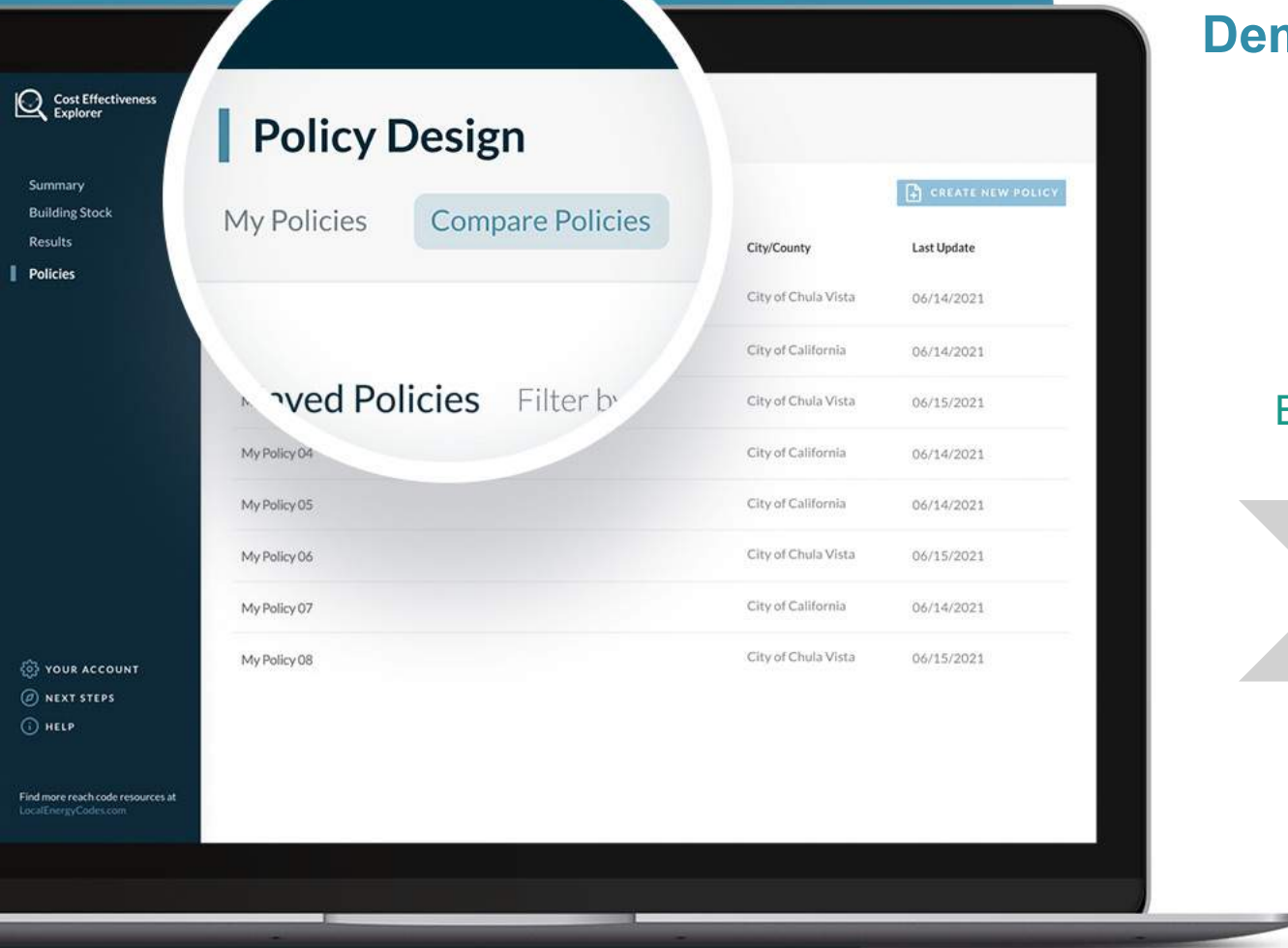
explorer.localenergycodes.com

- ✓ Free Web-based software for California local government energy policy makers
- ✓ Designed to help accelerate reach code adoption and support data-driven decision making
- ✓ Launched in late 2020
- ✓ Aggregates findings from 4 state-wide cost-effectiveness studies
- ✓ Estimates residential building stock for each of 500+ California cities and counties
- ✓ Helps users evaluate and develop cost-effective policy options



Cost-Effectiveness Explorer

Demonstration



Cost-Effectiveness Explorer

Upcoming Features

- Flexible policy options
- Ordinance drafting
- Future construction forecasts
- Nonresidential building stock data
- Additional Studies

Palm Springs: Using the Explorer to Develop a Reach Code

CEEC Forum 2021



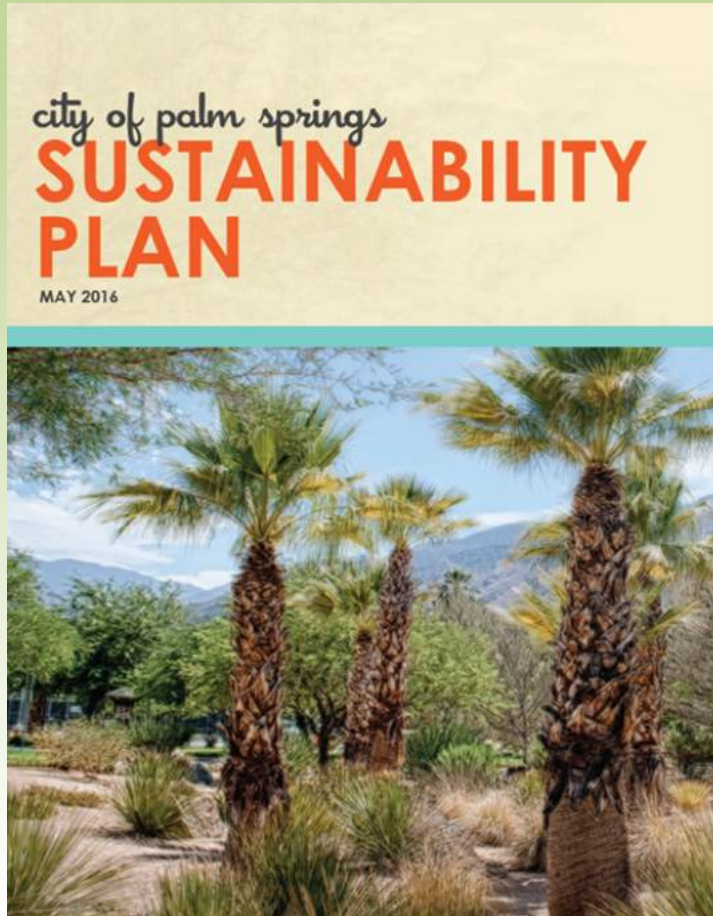
Palm Springs Sustainability Commission

Presenter
David Freedman
Sustainability Commission Vice Chair
Solar and Green Building Committee



Palm Springs Sustainability Commission

Sustainability Plan Energy Goals



- Reduce GHG emissions to 1990 levels by 2020, and 80% below 1990 levels by 2050.
- Achieve carbon neutrality for municipal emissions by 2030.
- Encourage the building or retrofitting of one million square feet of green buildings.
- Reduce the total energy use by all buildings built before 2012 by 10%.
- Reduce energy use and carbon use from new homes and buildings.
- Supply 50% of all energy from renewable sources by 2030.
- Plan to be updated in 2022.



GHG Inventory Results

- City recently completed a GHG inventory in connection with its ongoing General Plan update.
- Palm Springs achieved its 2020 GHG emissions reduction target primarily as a result of the 2020 launch of CCA Desert Community Energy (DCE) and the commitment by most DCE customers to stay with its Carbon Free program.
- Residential energy represents approximately 22.4% of estimated 2020 GHG emissions.
- The other largest contributors to GHG emissions are transportation (53.4%) and commercial and industrial energy (14.6%).



Using the Explorer

- Objective: design a policy that will produce cost and energy savings for mixed-fuel existing residential buildings undergoing renovations, with additional measures required for higher building permit values.
- Start with the Quick Guide and Building Stock Estimates. If your jurisdiction is in two climate zones, identify the boundary from the Climate Zone Search Tool on the CEC website.
- Read the information in the information bubbles to learn more about the measure.
- Use the filters to narrow the initial search by source study, building type and fuel type.
- Start with cost-effectiveness and per home results before adding emissions and energy savings and city-wide estimates.



Evaluating Different Options

- What measures have least costs and highest benefit / cost ratios?
 - Cost effectiveness (as required by Energy Code for a Reach Code) is easier to present to City Council and stakeholders.
 - Don't want to disincentivize measures for cost reasons.
- What measures produce most energy savings / GHG reductions?
 - Energy efficiency and GHG reductions align with City and DCE policy goals.
 - Most housing stock is pre-1978, with limited insulation.
- What measures work best in mixed-fuel homes?
 - Nearly all housing stock is mixed fuel.
 - Electrification may be a challenge in new single-family homes with gas-powered pool heaters.
- Explorer shows all this information at a glance!



Compare/Contrast Packages

- Different packages created based on policy objective and number of measures required by building permit amount.
- Separate packages for existing single-family residential (2021 study), and existing multifamily residential and new residential buildings (2019 study).
- Envelope measures can be combined into packages or considered individually. Certain measures are cost-effective when combined but not individually.
- Packages can be designed and reviewed to help ensure equitable results (e.g., water heating package, LED lighting).
- Even though a measure may not have a significant GHG reduction effect, it may, depending on your Climate Zone, be good to do to reduce energy use and mitigate climate impacts.



Lessons Learned / Next Steps

- Do a GHG inventory to have benchmarks to state GHG goals.
- Know the energy policy goals of your City and the CCA / IOU / POU that serves it and start with a policy objective.
- Know your City's building stock, not just existing housing from the Explorer but expected new housing starts under RHNA.
- Know the changes to be made in the 2022 Energy Code and gaps that can be filled via a Reach Code.
- Explorer is updated frequently, so check to see what's new.
- Palm Springs City Council to receive Climate Action Roadmap this fall with GHG inventory and policy options to continue GHG reduction efforts, including possible Reach Code ordinance based on Chula Vista's and using Explorer data.
- I will update data sets from latest Explorer features.



Thank You!

- Questions?



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Upcoming Events



12th Annual California Climate & Energy Forum

Transforming Tomorrow Together

August 3 - 19, 2021

Post-Session Survey:
bit.ly/CCEC-Post-Session-Survey

WEEK 3

- **8/18 Lunch 6:**
The State of Local Climate Planning – a Needed Evolution
- **8/18 Webinar 11:**
Next Generation Building Decarbonization: Policy Evolution in California & Washington
- **8/19 Webinar 12:**
Leveraging Solar & Battery Systems to Lower Costs & Increase Resiliency
- **8/19 Closing Plenary:**
Highlights and Horizons: An Interactive Forum Closing

To view the entire program visit eecoordinator.info/forum-program/