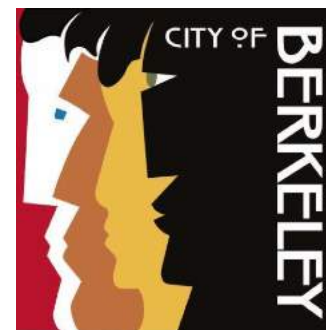




12th Annual CCEC Forum: Webinar 5

August 10, 2021 | 2:00 - 3:15 pm

Planning for Equitable Existing Building Electrification





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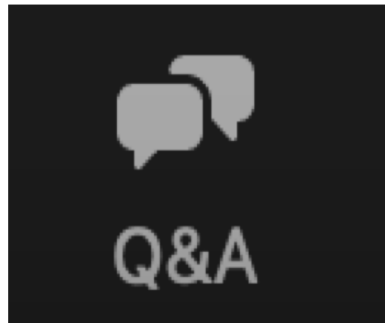


Zoom Features

Q&A

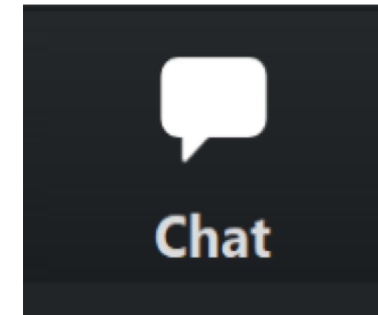
Submit questions for panelists through the Q&A module at any point during the webinar.

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
Reema Shakra
Senior Planner,
Rincon Consultants, Inc.



Denaya Shorter
Community Engagement
Program Director,
Ecology Center



Michael Gartman
Manager Carbon Free Buildings,
Rocky Mountain Institute



Katie Van Dyke
Climate Action Program
Manager/Chief Resilience Officer,
City of Berkeley



Ryan Gardner
Climate Action Program
Manager,
Rincon Consultants, Inc.

Berkeley Existing Building Electrification Strategy



Project Scope

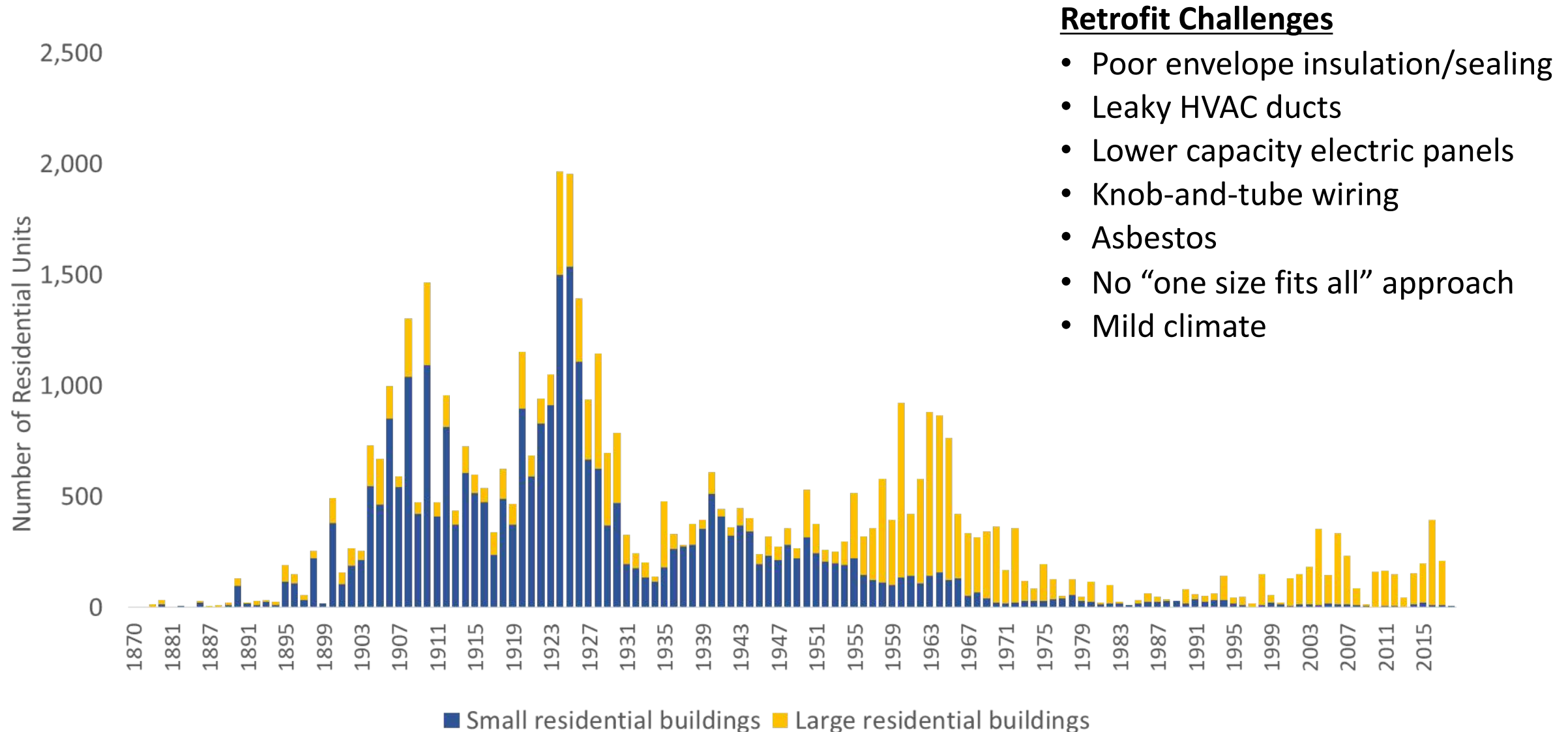
- **Build off of new construction ordinance/fossil fuel free goal**
- **Equitable electrification of all existing buildings**
 - Focused on low-rise residential buildings
 - Determine possible implementation date
 - Provide short- and long-term options
- **Building stock analysis**
- **Cost & savings modeling data analysis**
- **Community engagement**
 - Focused on disadvantaged communities
 - Developing equity guardrails
 - Avoiding displacement



Building Stock Analysis



Key Issues: Older Housing Stock



Cost Analysis



3 Equipment Packages Modeled

**Package 1:
Economy
Products**

**Package 2:
Mid-Tier
Products**

**Package 3:
Mid-Tier Products
+ Envelope**

3 Solar Options Per Package

**Package X.1:
No Solar**

**Package X.2:
Offset New Load**

**Package X.3:
Net Zero Energy**

Draft Costs

#	Electrification Package	Energy Bill Savings (\$/yr)	Energy Bill Savings (%)	Gross Cost (\$)	Incremental Cost (\$)	Incremental Cost with Current Incentives (\$)	Incremental Cost with Incentives + Financing (\$)
1.1	Economy Appliances	-\$540	-33%	\$19,870	\$7,930	\$7,930	\$12,290
1.2	Economy Appliances + Offset Solar	\$540	33%	\$26,160	\$14,220	\$14,220	\$5,610
1.3	Economy Appliances + NZE Solar	\$1,480	89%	\$32,270	\$20,330	\$20,330	\$1,470
2.1	Mid-Tier Appliances	\$5	0%	\$24,750	\$12,110	\$9,910	\$9,880
2.2	Mid-Tier Appliances + Offset Solar	\$590	35%	\$28,200	\$15,560	\$13,360	\$6,090
2.3	Mid-Tier Appliances + NZE Solar	\$1,510	91%	\$34,270	\$21,630	\$19,430	\$1,700
3.1	Mid-Tier Appliances + Envelope	\$90	5%	\$29,320	\$16,690	\$13,240	\$12,540
3.2	Mid-Tier Appliances + Envelope + Offset Solar	\$600	36%	\$32,350	\$19,720	\$16,720	\$9,470
3.3	Mid-Tier Appliances + Envelope + NZE Solar	\$1,510	91%	\$38,410	\$25,780	\$22,320	\$4,520

Key Takeaways From Modeling

Challenges

- Mild climate (little AC)
- High labor costs
- High electricity rates
- Older homes may require other upgrades (electric panels, wiring)

Modeling Trends

- Economy products increase bills without solar
- Solar dramatically improves economics
- Envelope improvements lack financial payback, but have other resilience benefits not included in model
- Longer paybacks in multifamily

Payback has equity correlations

- Home size, home type, neighborhood, education, race

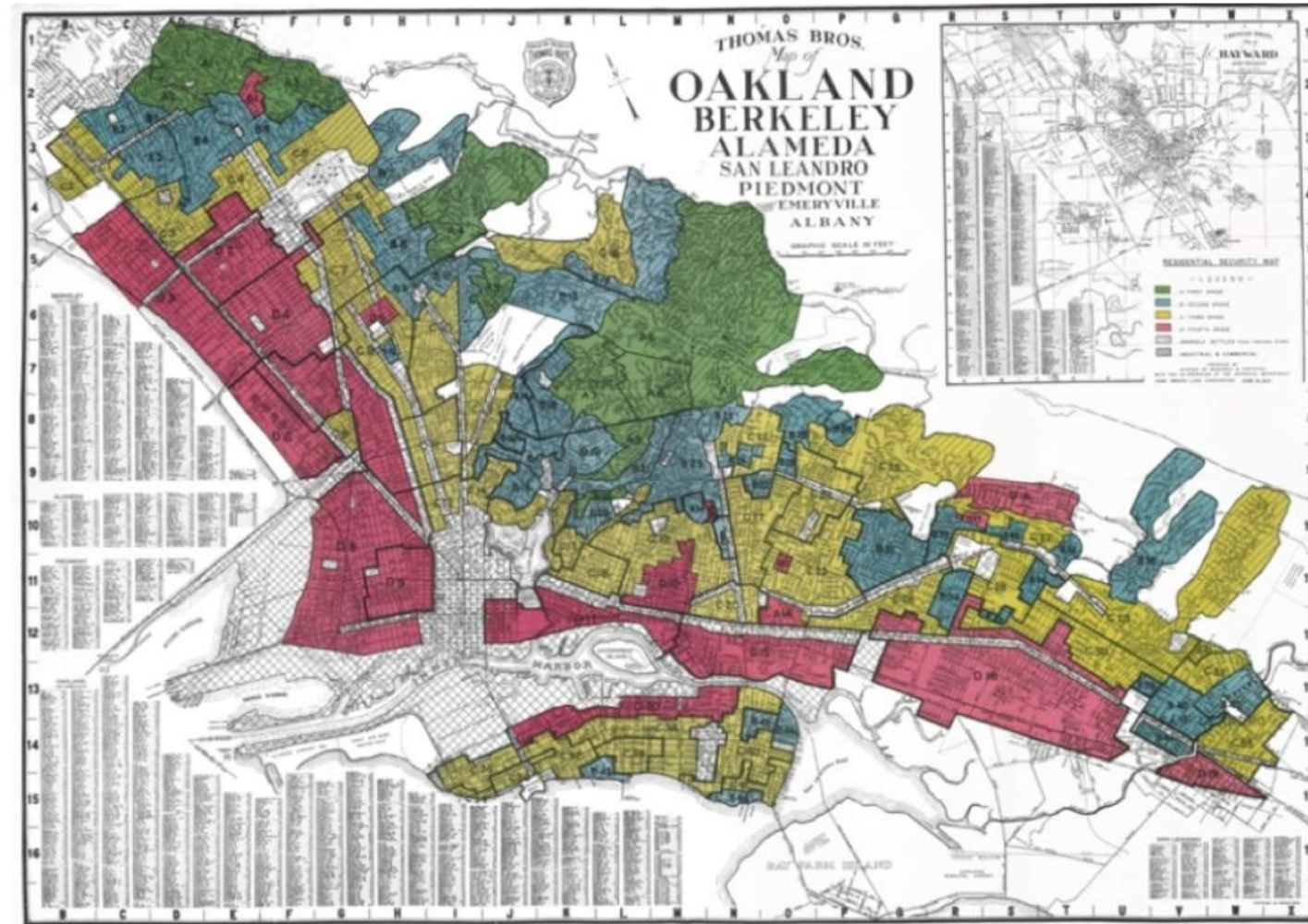


Solar PV on West Berkeley Branch Library

Community Engagement



Redlined Areas



This Thomas Bros map shows how Berkeley was divided into different colored zones indicating the “soundness” of lending in those zones. The red areas were “redlined.” Banks would not lend to people buying property there.

Source: Berkeleyside

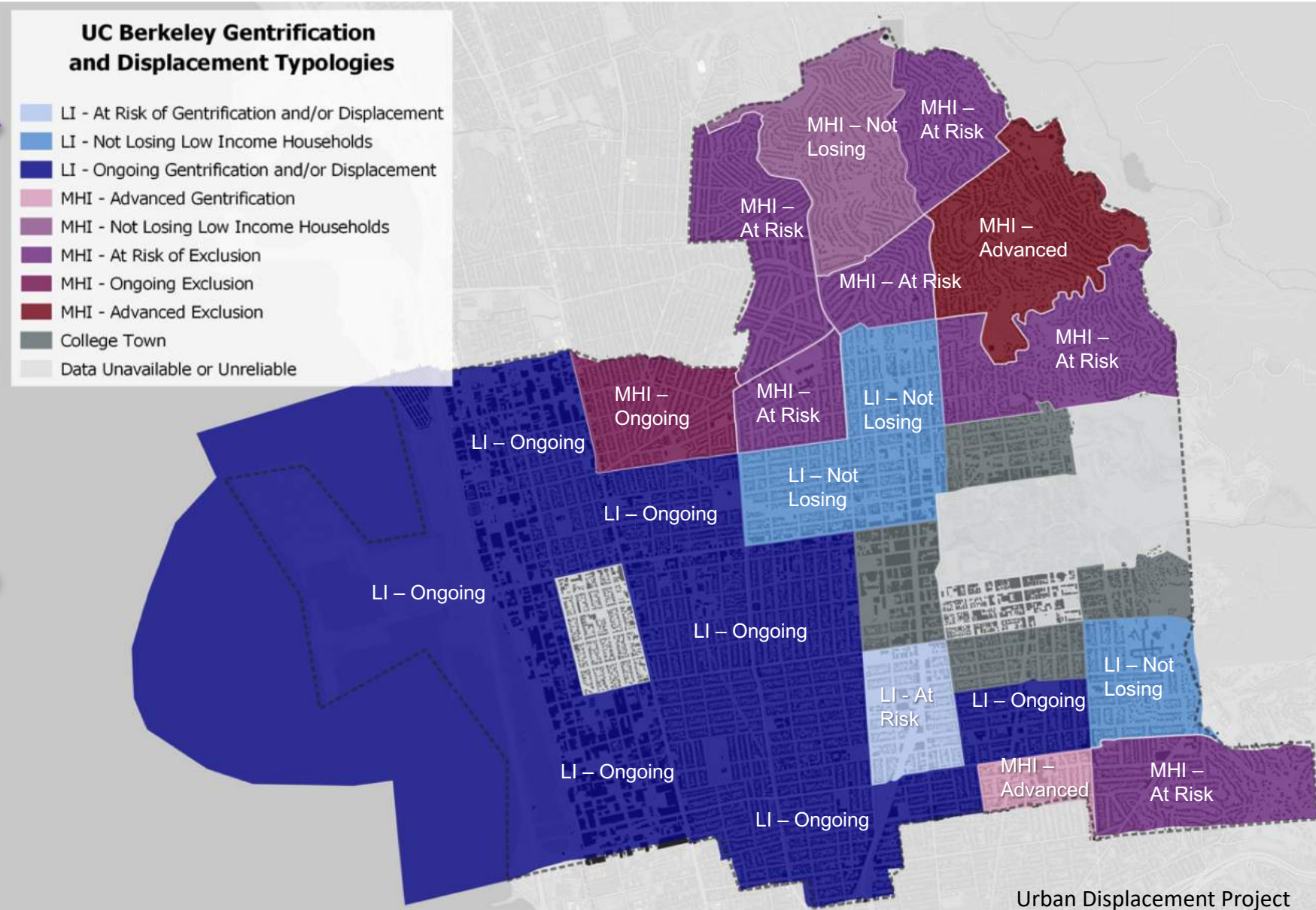
Ongoing Housing Crisis & Displacement Risk

Ongoing gentrification and displacement

Extreme rental rates
(median \$2600 in 2017)

Poor protections for
unsubsidized affordable
housing

Disincentives for retrofitting
rent-controlled buildings



Feedback

Health, safety, comfort & resilience benefits of electrification should be accessible to all

Upfront and long-term costs are primary concern

Concern of displacement due to housing improvements (increased rent)

Electrification upgrades should be linked with other health/safety upgrades (e.g. lead, asbestos, mold)

More education needed

Need accessible financing and funding options – no new debt

Concern of reliability of electricity supply, especially with PSPS events

Equity Guardrails



ACCESS TO HEALTH & SAFETY BENEFITS

Ensure equitable access to improved health, safety and comfort benefits from electrification like cleaner air and cooling for hot days. Due to the upfront costs of electrification, many households will need financial support to have access to the benefits of electrification, including long-term cost savings.



ACCESS TO ECONOMIC BENEFITS

Ensure all community members, especially communities of color and historically disadvantaged groups have equitable access to funding and financing mechanisms, and to high-road job opportunities.



MAXIMIZE EASE OF INSTALLATION

Ensure that incentives and programs for the community provide meaningful support to renters, owners, and vulnerable community members to minimize the procedural burdens associated with installation of electric equipment.



PROMOTE HOUSING AFFORDABILITY & ANTI-DISPLACEMENT

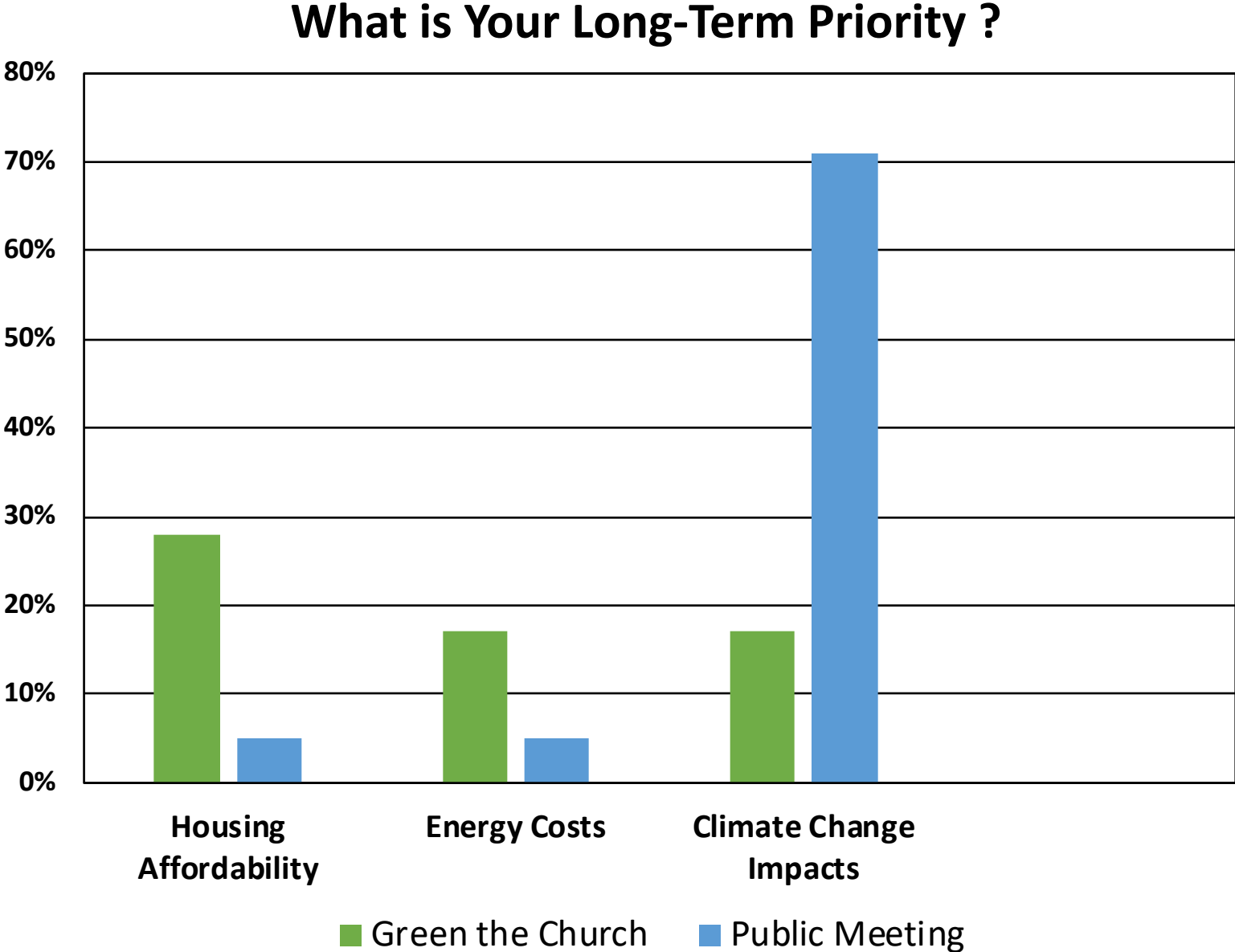
Ensure upgrades don't displace renters or over-burden homeowners. Programs should support housing production, housing preservation, and tenant protections. Ensure funds don't get diverted from developing new housing.

Green the Church & Berkeley Black Ecumenical Ministerial Alliance Electrification Meeting

1. What is the top long-term priority in your community?

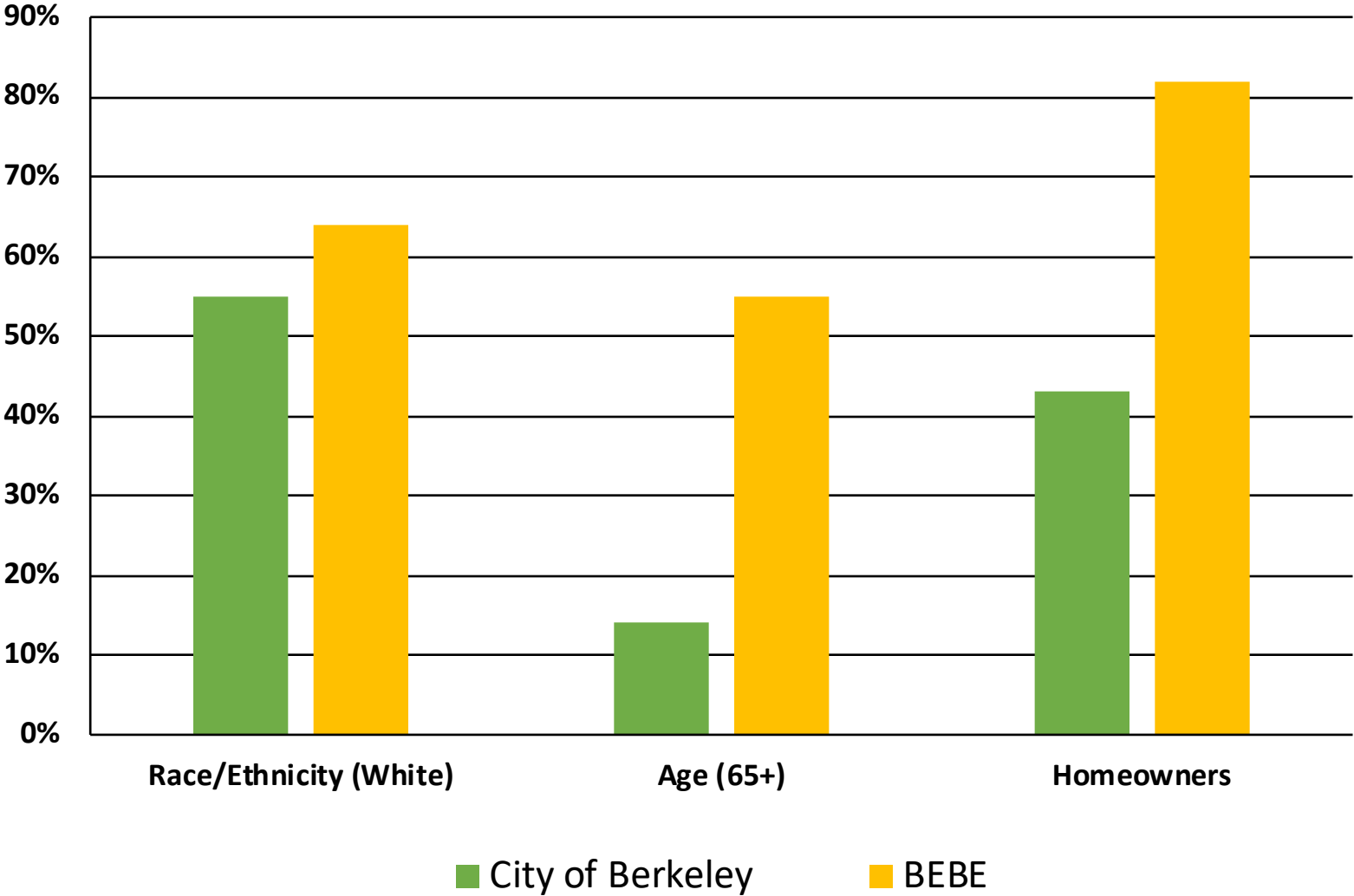


Targeted Outreach vs General Outreach

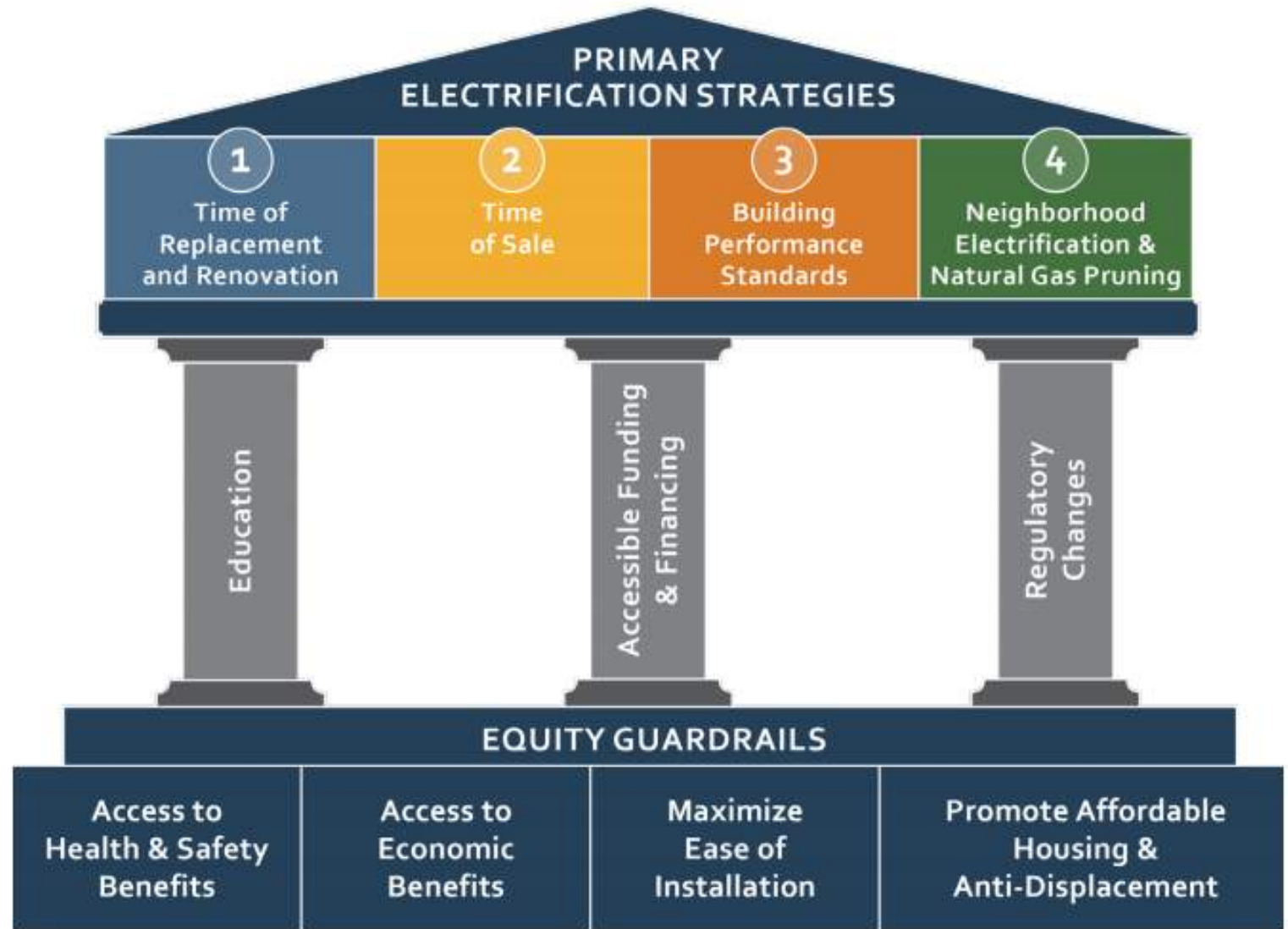


Public Feedback

Traditional
Outreach



Strategy Overview



Draft Phased-In Approach

Phase 1 (2021-2025)

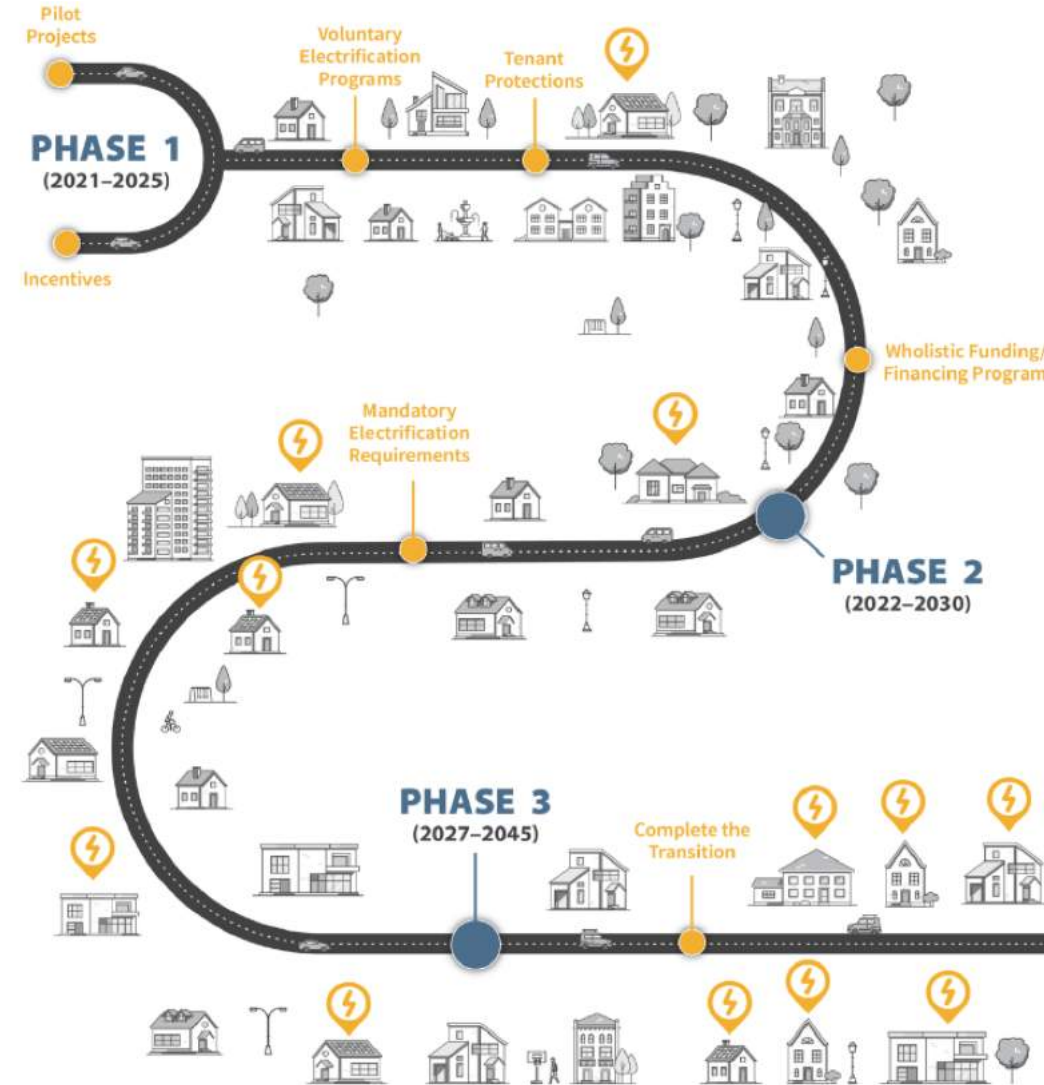
- Lay the groundwork, develop accessible and affordable solutions

Phase 2 (as soon as possible, no later than 2022-2030)

- Implement core policy levers

Phase 3 (as soon as possible, no later than 2027-2045)

- Complete the transition



What needs changing?

- **Technologies and efficiencies**
 - Panel upgrades are expensive and may be avoided or costs reduced
- **Policy Changes**
 - Obligation to serve
 - Ability to allocate natural gas retrofit funds to electrification (pruning)
- **Equitable Utility Rates**
 - Natural gas rates do not currently reflect the societal costs to climate, safety, health
 - Electricity rates are high and solar improves outcomes, but NEM 3.0 will have impacts
- **Funding and Financing**



Thanks again to...

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Local Governments Empowering Our Communities





Upcoming Events



12th Annual California Climate & Energy Forum
Transforming Tomorrow Together

August 3 - 19, 2021

WEEK 2

- **8/11 Lunch 3:**
Building Equity Into Policy & Programs with SOMAH
- **8/11 Webinar 6:**
Incorporating Environmental Justice Priorities into Regulatory and Enforcement Policy
- **8/12 Webinar 7:**
The Future is Local: Just and Equitable Clean Energy Transformation

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

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