

Exhibit to Agenda Item #1

Provide the Board internal and external presentations and discussion on the status of energy efficiency and building electrification.
(Building Decarbonization Coalition presentation)

Board Strategic Development Committee and Special SMUD Board of Directors Meeting

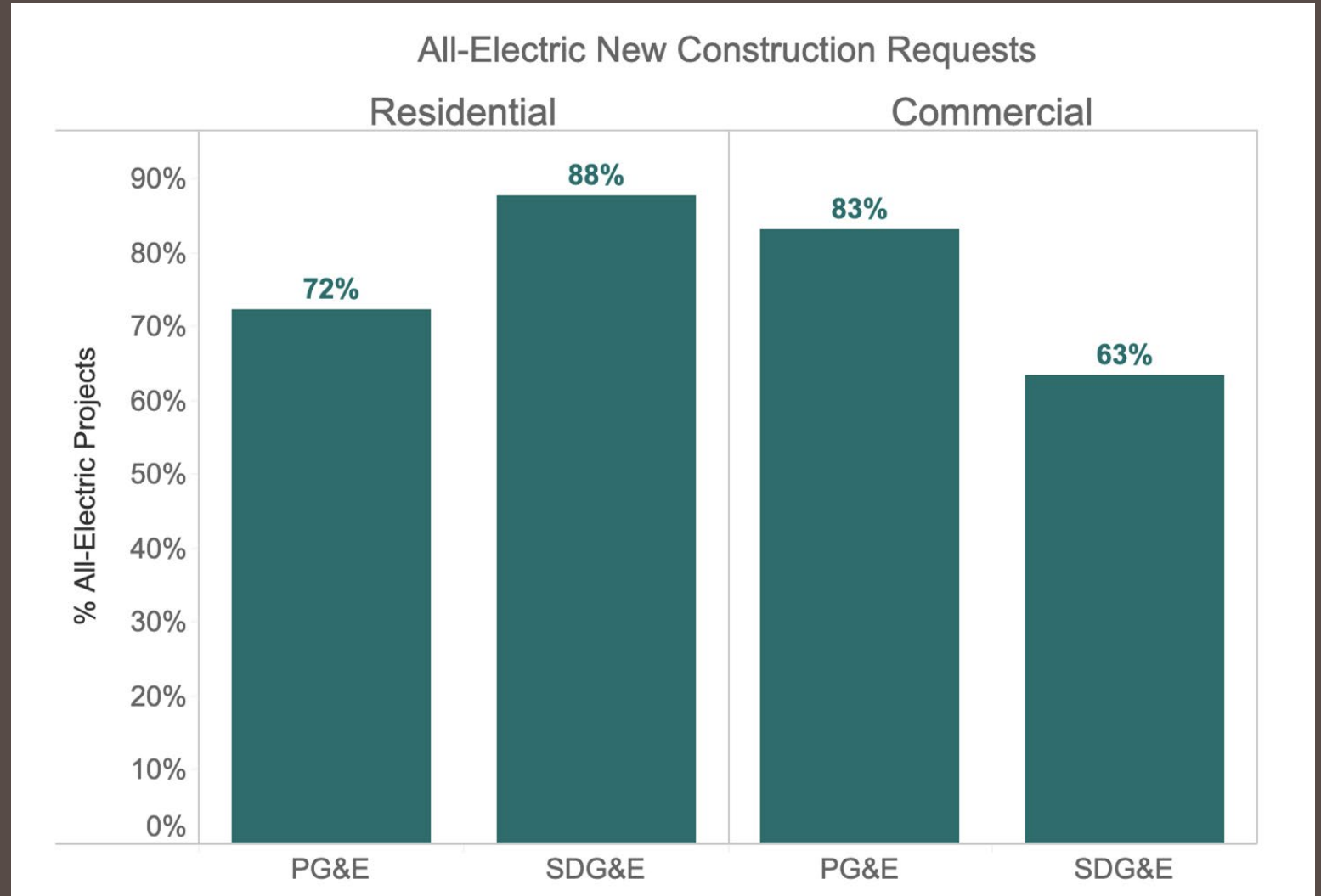
Tuesday, June 10, 2025, scheduled to begin at 6:00 p.m.

SMUD Headquarters Building, Auditorium

State of the Market

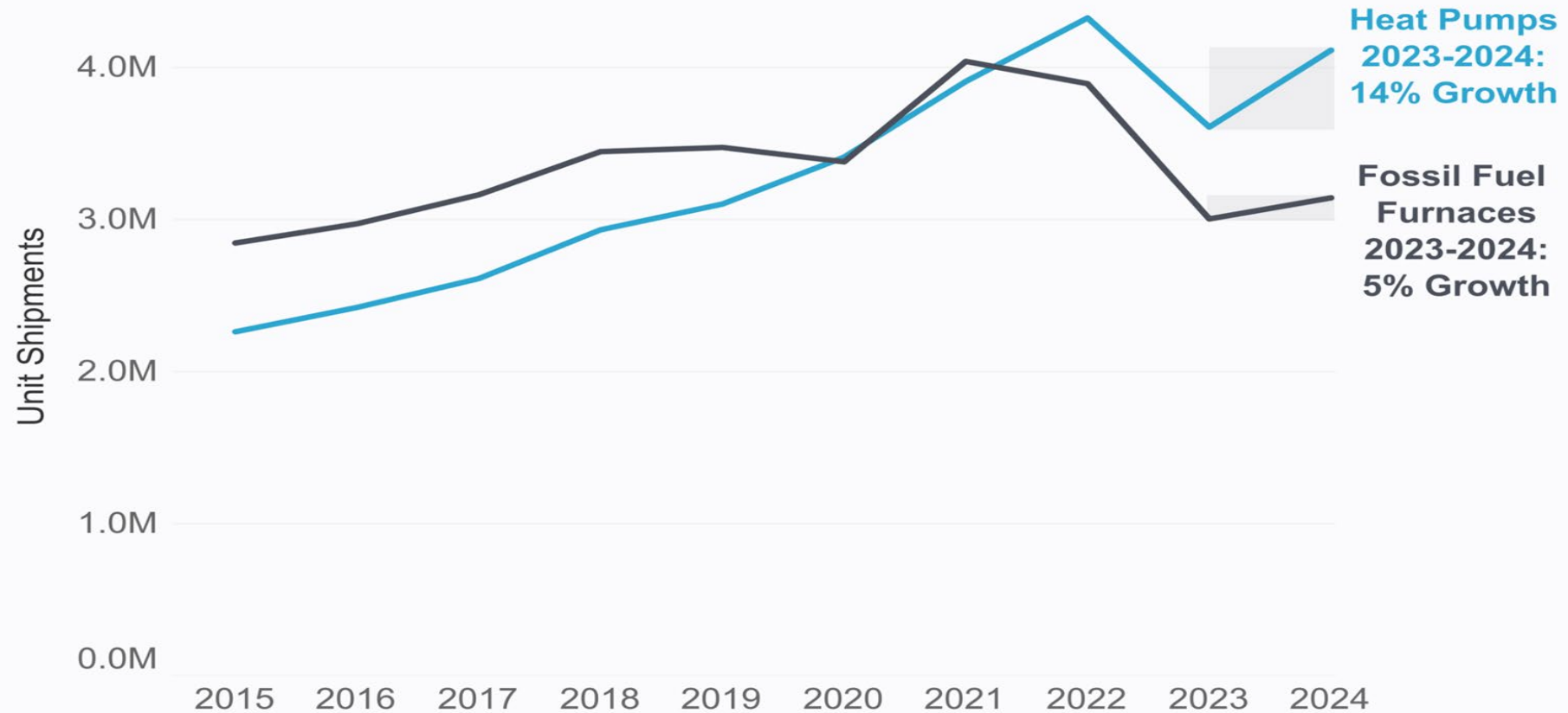
25% of people in the US lives within a jurisdiction that either requires or encourages zero-emission buildings

The majority of new construction projects in CA in 2023 were all-electric.



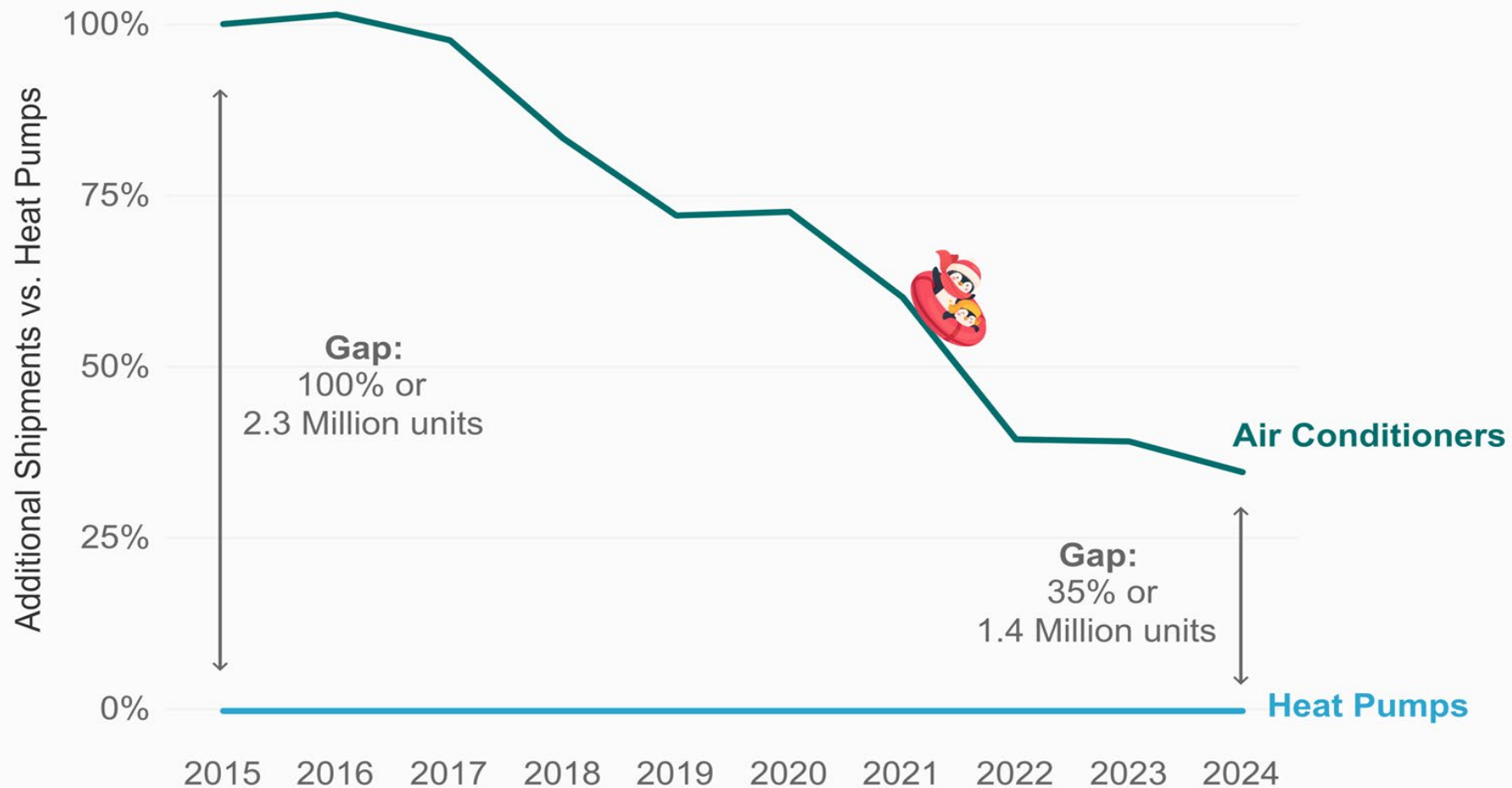
Heat Pump Market Share has Grown Steadily, Overtaking Fossil Fuel Alternatives for Three Years

Data source: AHRI Shipment Reports



Air conditioners outsold heat pumps by 100% (2-to-1) in 2015-2017. By 2024, the gap narrowed to just 35%

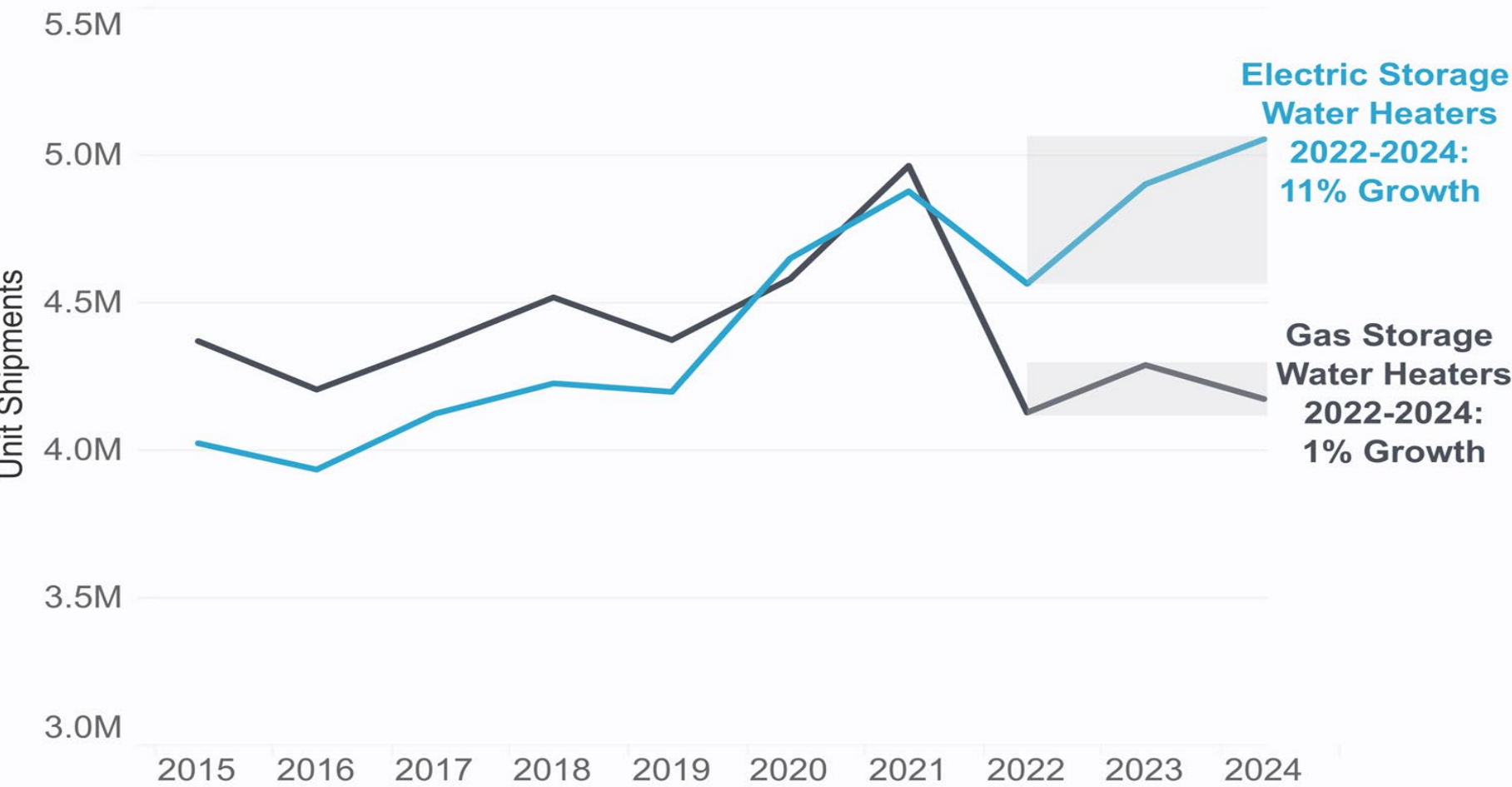
Data source: AHRI Shipment Reports



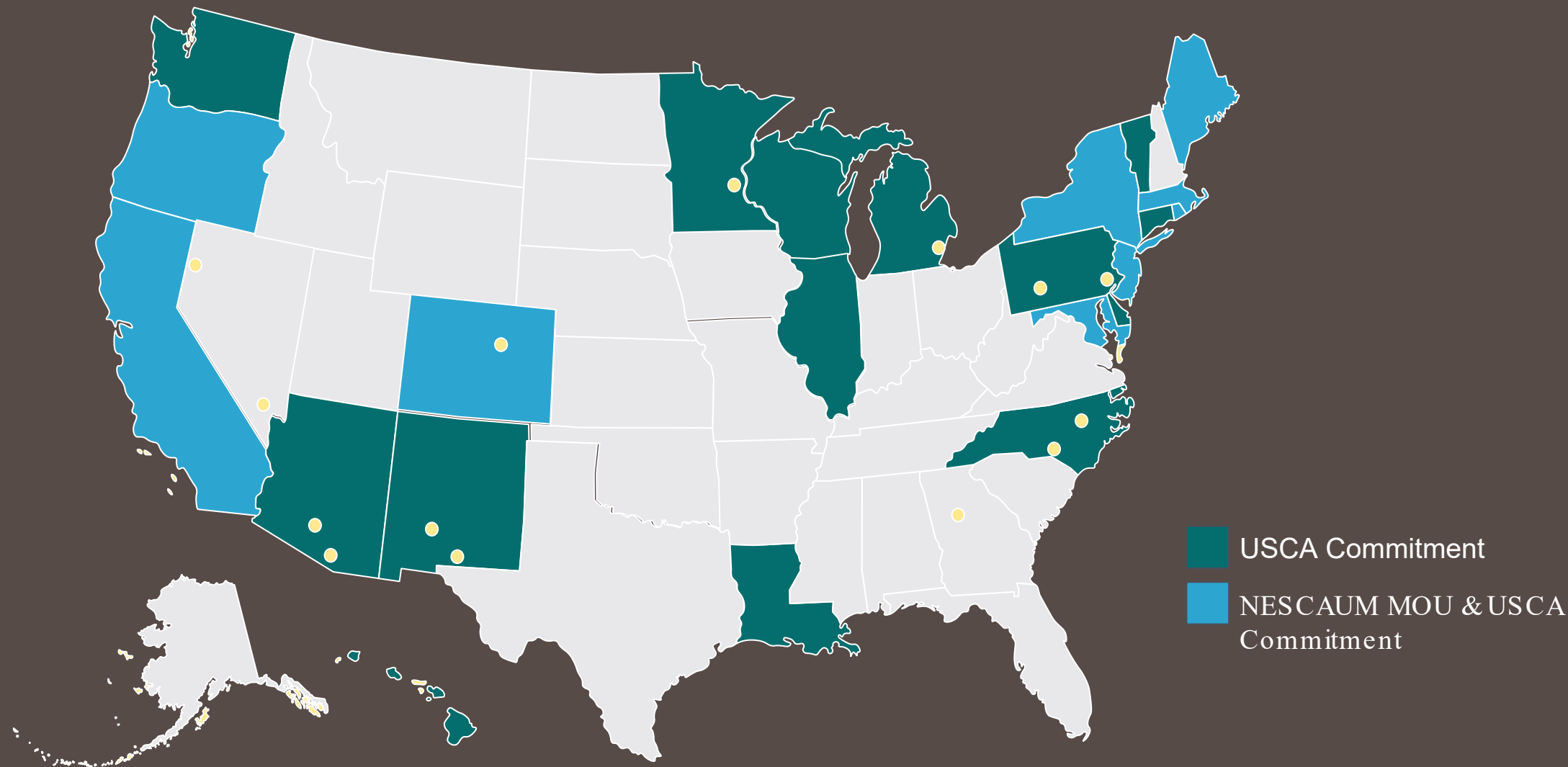
Residential Electric Storage Water Heaters Have Outsold Their Fossil-Fuel Counterparts for Three Years

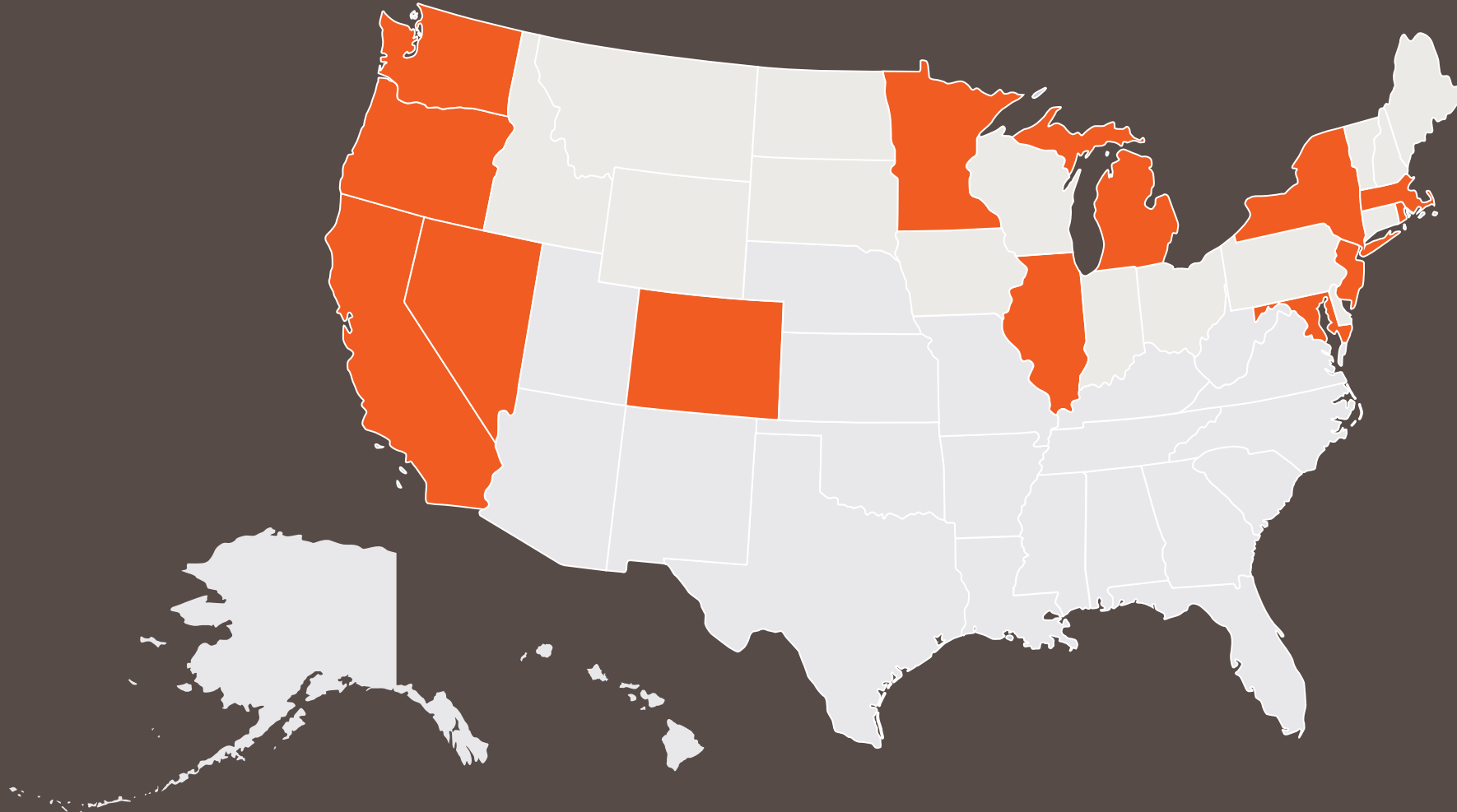


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22 states have made bold commitments on heat pumps

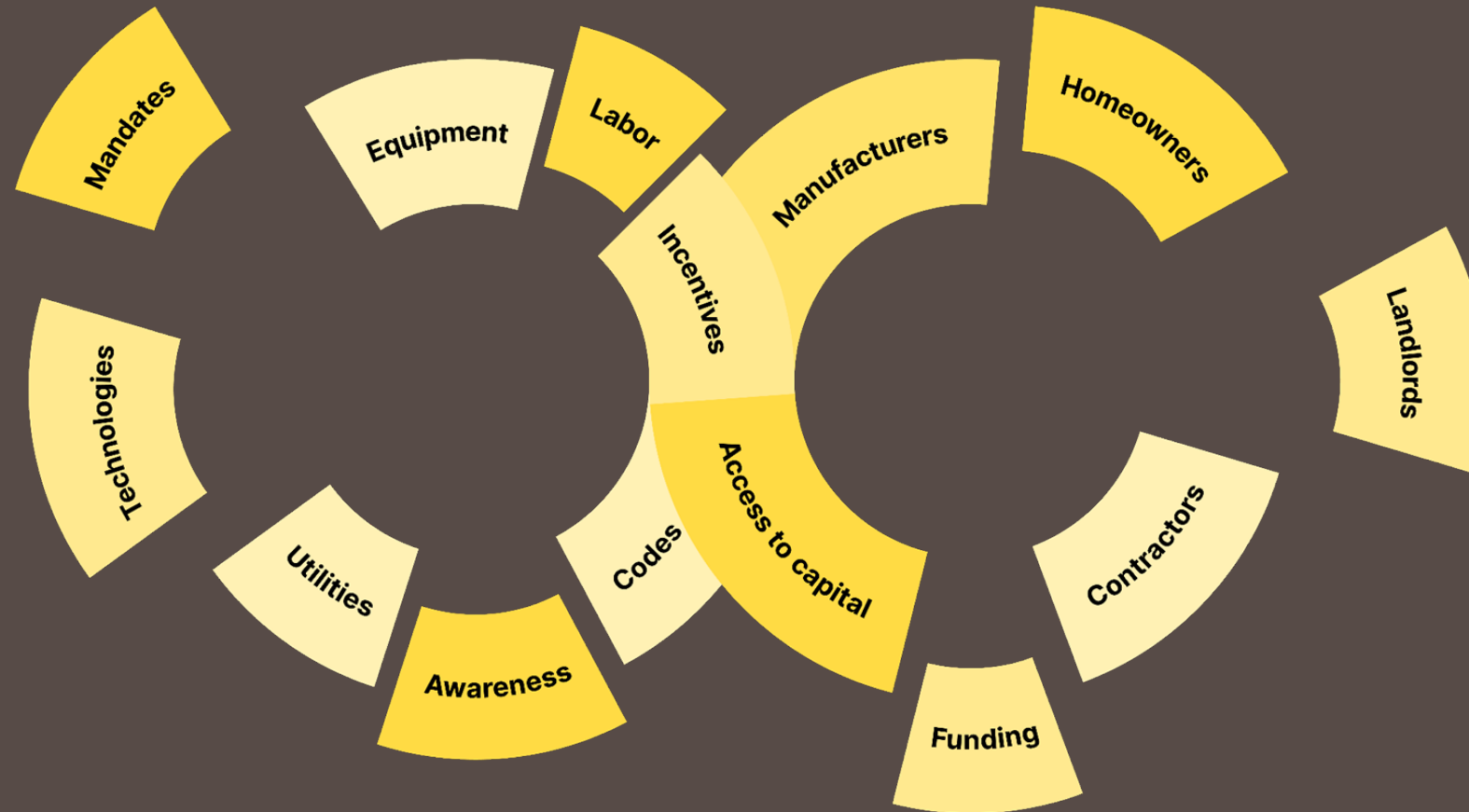




...and there are a lot of buildings (~110M in US)

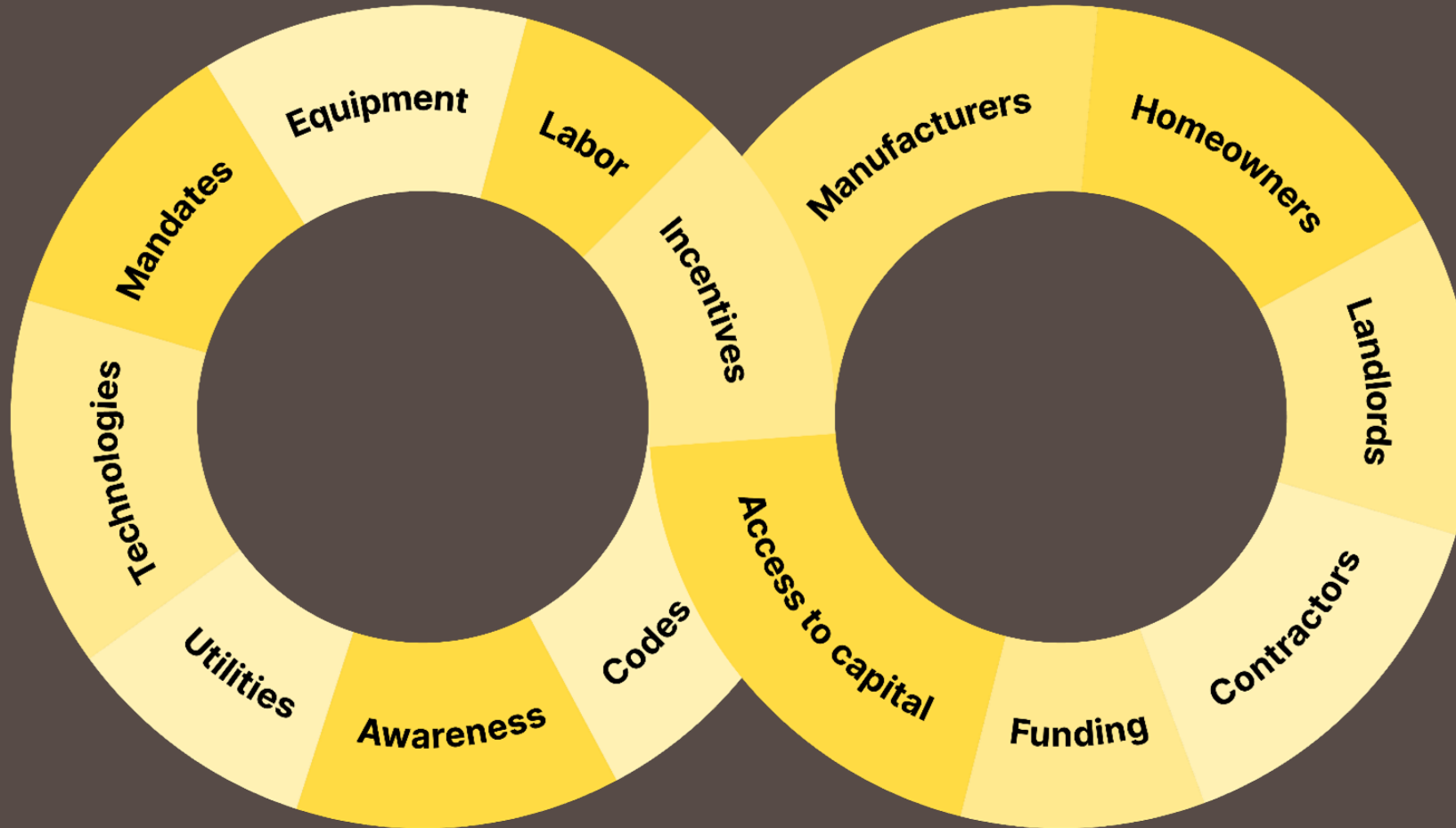


Our current approach to decarbonizing buildings is a mosaic of actors, decisions, and resources.



this list is representative, not exhaustive; in reality, this list is 10x as long and includes tenants, community leaders, advocates, engineers, regulators, legislators, developers, builders, architects, training programs, education and awareness programs, local governments, customer service agents, and so on...

We need a coordinated, scaled, and managed transition.

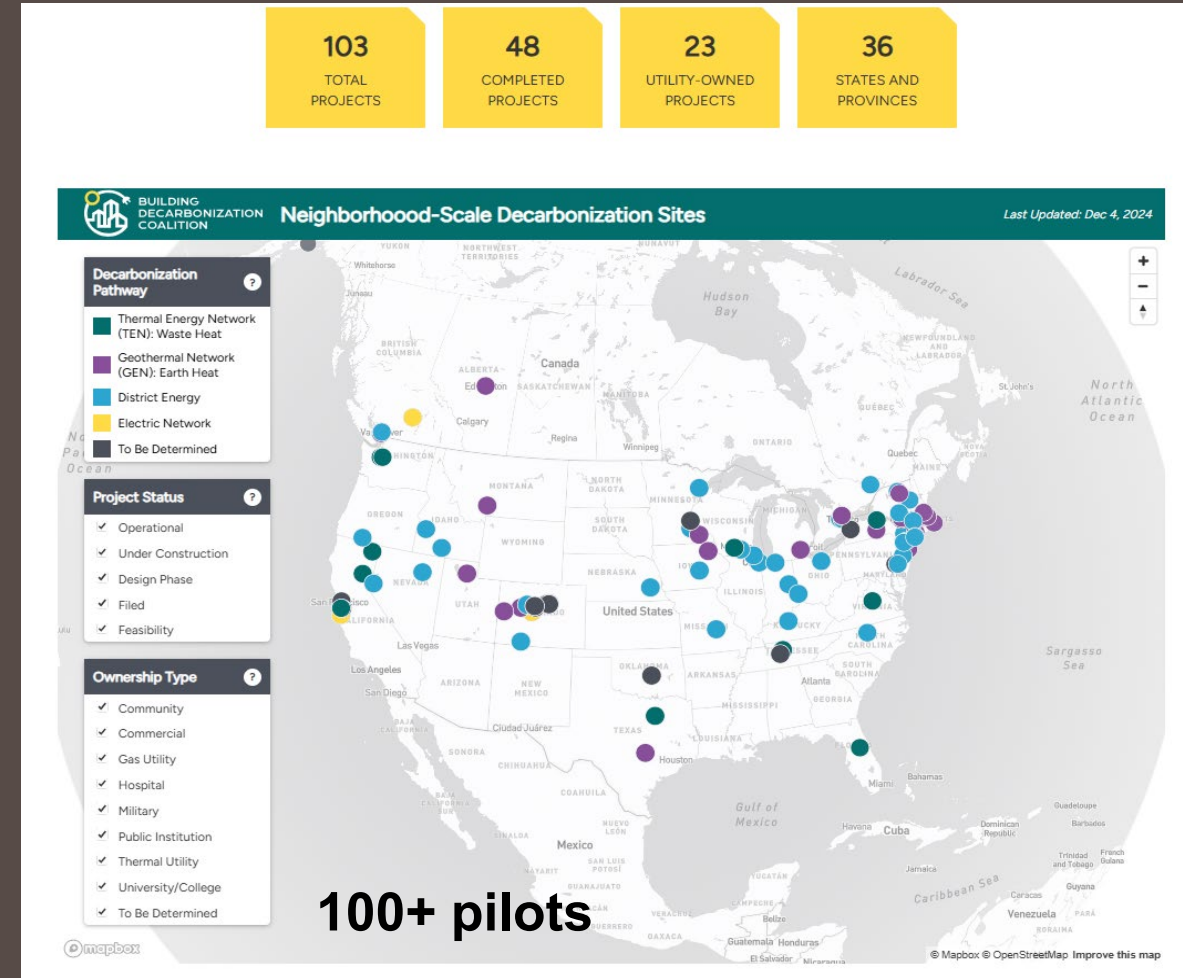
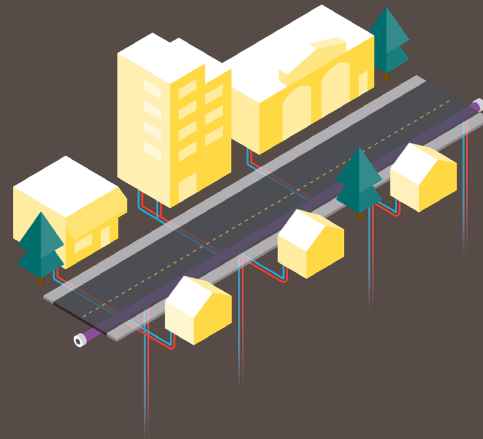


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We need neighborhood-scale building decarbonization.

A strategy for transitioning entire communities to decarbonized energy sources and electric appliances with the end goal of managing the transition off of the gas system.

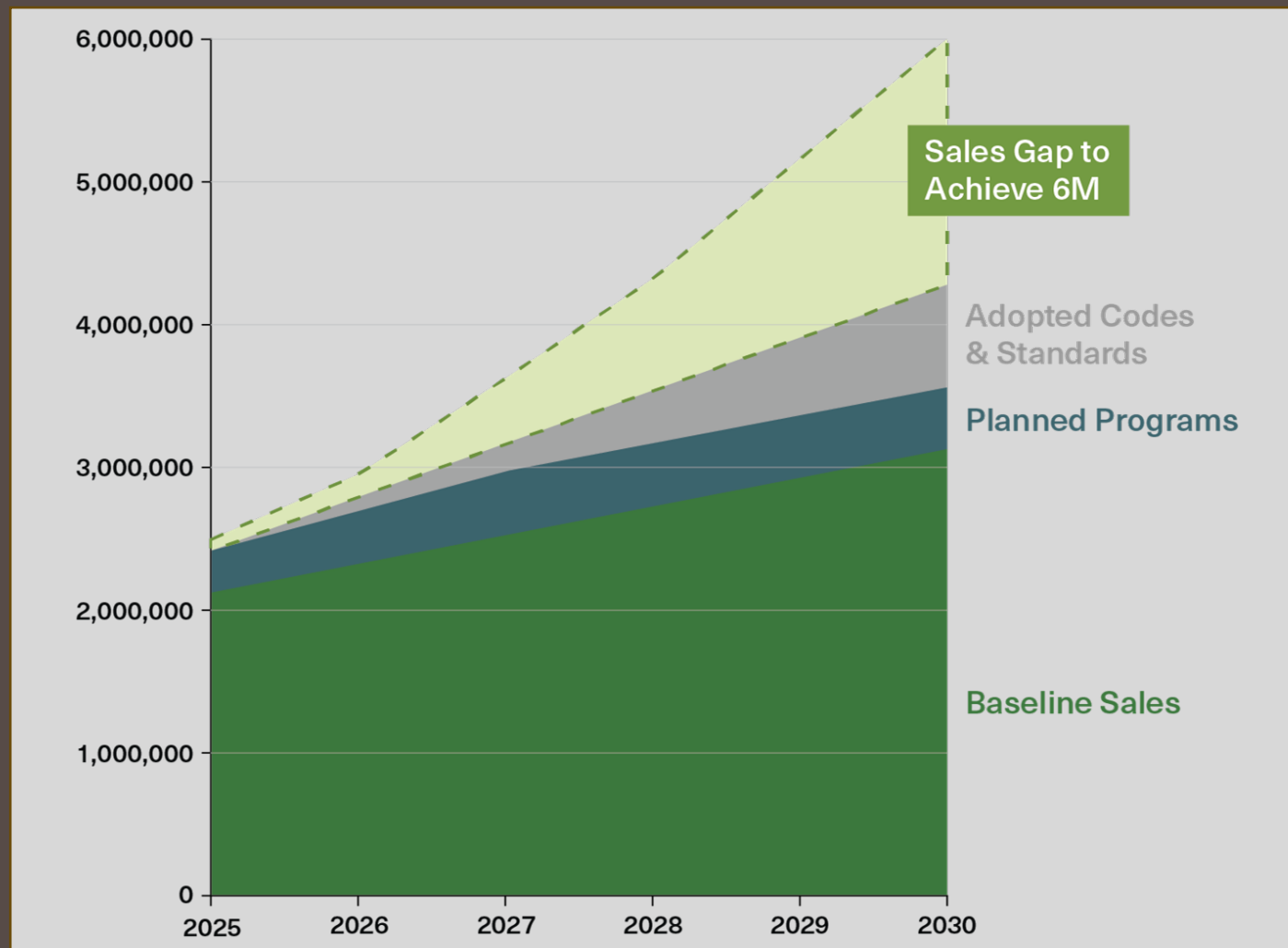
- SB 1221: CPUC will deliver first neighborhood-scale building decarbonization program in country by July 1, 2026
- Gas utilities will be able to propose neighborhoods for electrification
- Focused on disadvantaged communities facing gas pipeline replacements





6 million heat pumps by 2030

Projected Installs by 2030



CAHPP Leadership



CAHPP Goals

**Accelerate
progress toward
the 2030 goal**

**Facilitate closer
cross - sector
coordination**

**Identify and
address technical,
market, and policy
barriers**

**Increase
awareness and
favorability of heat
pumps**

Blueprint Highlight: Major Barriers



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Relative Costs

Upfront installation
costs

Operating costs

Blueprint Highlight: Major Barriers



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Transaction Friction

Complex incentive program design

Lack of consistent incentive funding

Complicated permitting processes

Blueprint Highlight: Major Barriers



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Market Maturity

Low customer awareness

Contractor reluctance

Shortage of trained installers

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Market Visibility

Limited data availability to inform policy and market efforts

Blueprint Highlights: Major Strategies

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Improve Customer Economics

- 1) Support long -term **stable incentives**
- 2) Continue supporting **electrification -friendly rates**
- 3) Direct 50% of program funds to **low -income and disadvantaged communities**
- 4) Expand low-cost appliance **financing options**
- 5) Target **near -term, high value opportunities** for appliance retrofits

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Streamline Sales and Installation Processes

- 6) Modernize local **heat pump permitting** processes
- 7) **Simplify incentive** program design

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Accelerate Market Adoption

- 8) Supercharge **heat pump marketing** efforts
- 9) Develop a comprehensive **workforce engagement** campaign
- 10) Launch **Heat Pump Week**

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Increase Market Visibility

- 11) Collect and leverage **heat pump adoption data**

Marketing Campaign – Launching this Fall

- Targeted campaigns
- Heat Pump Week
- Contractor resources
- Trusted Messengers
 - Ambassadors
 - Chefs



Workforce Engagement



- Workforce Advisory Council
- Actionable engagement strategies
- Inform marketing efforts

Federal Administration

- State and local leadership is important
- Need alternative sources of funding
- Affordability!
- Need to bring blue collar into the movement
- Need to normalize building decarbonization

Chefs, friends and neighbors are trustworthy across party lines

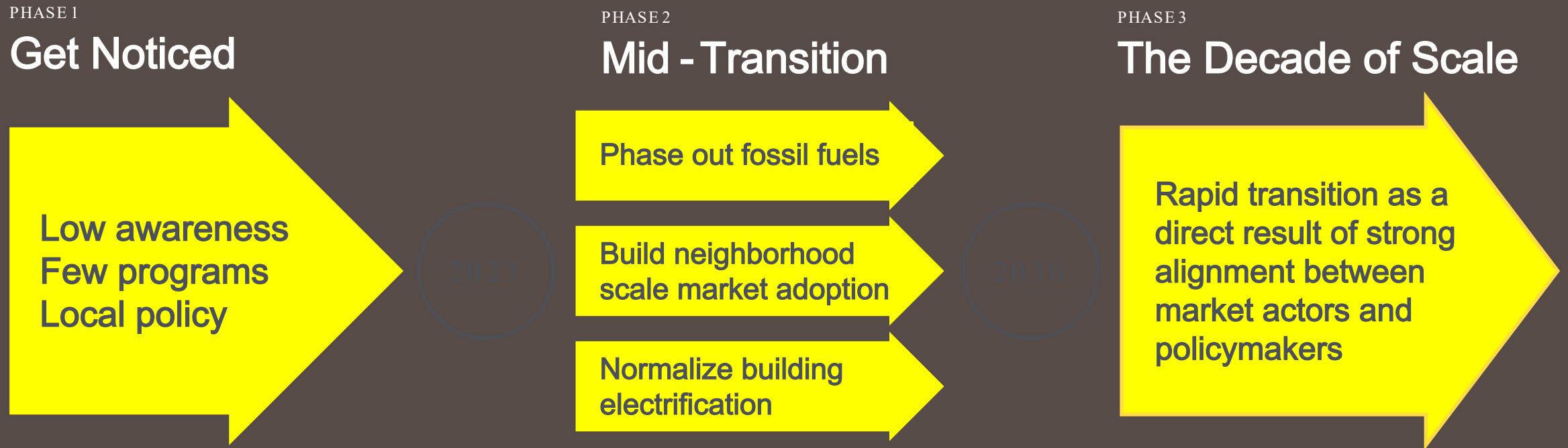
Person/Organization	Party		
	Dems.	Inds.	Reps.
Your friends and neighbors	68%	64%	55%
Doctors	71%	63%	37%
Air quality scientists	76%	59%	24%
Nurses	71%	52%	35%
Chefs	53%	55%	53%
Californians who already have all-electric appliances	70%	43%	23%
Climate justice organizations	69%	45%	14%
Environmental organizations	77%	35%	9%
Governor Gavin Newsom	53%	31%	10%
Home builders	29%	46%	34%
Labor unions	49%	24%	15%
Contractors	27%	34%	28%
Local government	45%	15%	13%
Your electric utility	32%	28%	13%
State legislators	37%	19%	7%

Cooking is culture.

Live demonstrations and sharing delicious food create memorable, culturally-relevant experiences that increase favorability.



The next 3-5 years are a critical period for the movement



How can Utilities Lead

- Move beyond early adopters
- Engage, empower and educate the local workforce
- Engage and educate consumers through trusted voices
- Make electrification affordable
- Push for local and state policies that support electrification