

SCE's Pathway to Building Electrification

South Coast Air Quality Management Plan

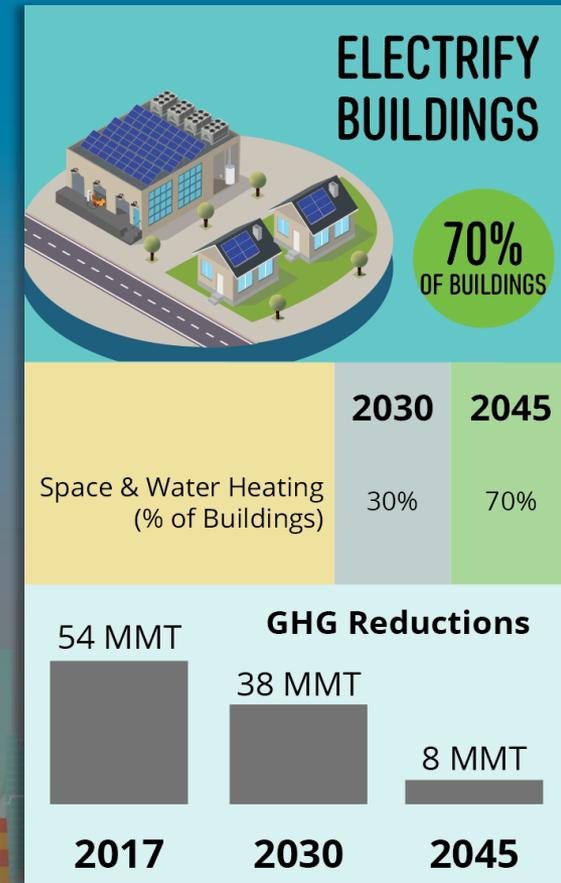
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SCE's Pathway to 2045: Building Electrification

- Electrify almost three-quarters of space and water heating by 2045.
- Building electrification today reduces total GHG emissions in single-family homes by 30% to 60% relative to a natural gas-fueled home.
 - **As electricity gets cleaner, these reductions are estimated to increase to almost 90% by 2050.¹**
- In addition to health benefits, all-electric homes can provide overall cost savings to most customers.
- Building Electrification will contribute to better utilization (higher load factor) of the grid.
- Building costs for all-electric homes can be less than mixed-fuel homes. Plus, electrified homes also provide overall energy savings for the average customer.

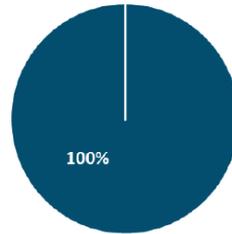
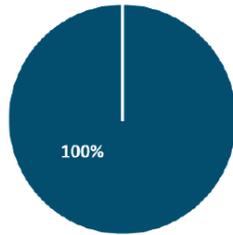


¹Mahone, Amber, Charles Li, Zack Subin, Michael Sontag, Gabe Mantegna, Alexis Karolides, Alea German, Peter Morris. 2019. Residential Building Electrification in California: Consumer Economies, Greenhouse Gases and Grid Impacts

Single Family

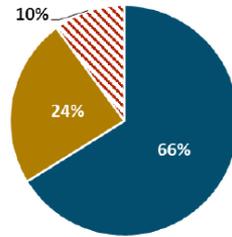
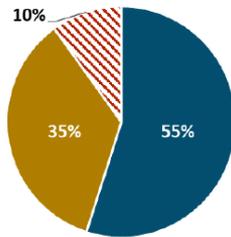
Low-rise Multifamily

Retrofit Package (HVAC Heat Pump + HPWH)



- Bill Savings
- Bill Increase <= \$100 per year
- ▨ Bill Increase > \$100 per year

All-Electric New Construction



Residential Building Electrification in California

Consumer economics, greenhouse gases
and grid impacts

April 2019



 Energy+Environmental Economics

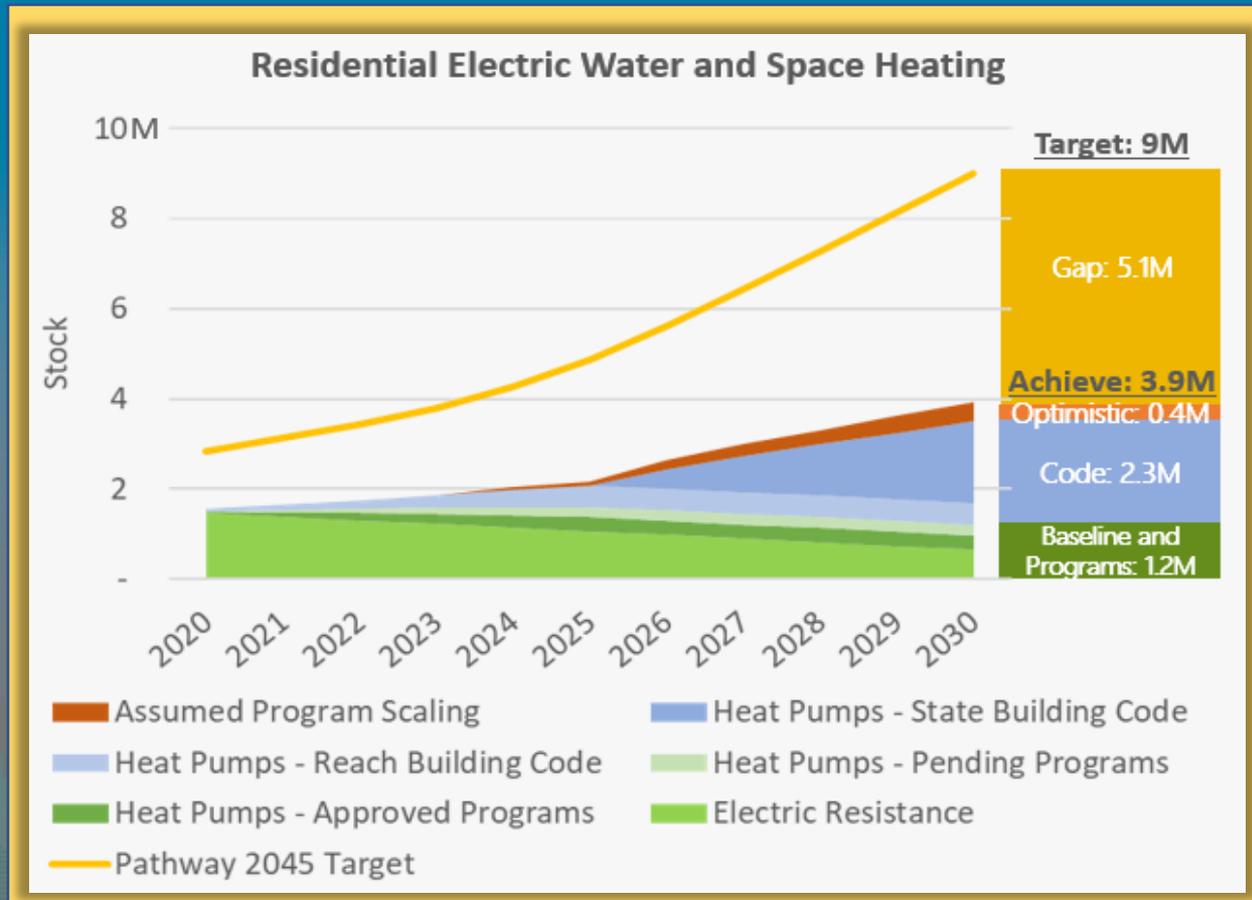
Bill Savings from BE for households across CA

Share of simulated households with bill savings from adopting electric end uses; results are weighted by the estimated share of households in each climate zone and utility service territory¹

¹Mahone, Amber, Charles Li, Zack Subin, Michael Sontag, Gabe Mantegna, Alexis Karolides, Alea German, Peter Morris. 2019. Residential Building Electrification in California: Consumer Economics, Greenhouse Gases and Grid Impacts.

SCE's internal analysis indicates that CA will fall short of reaching the heat pump targets forecasted in Pathway 2045 if the state stays on its current trajectory

How will we get there?



Policies and program interventions are necessary to close the increasing gap

What is SCE Doing?

- **Today**

- California Advanced Homes Program - electric (CAHPe)
- Clean Energy and Resiliency Program (CLEAR)
- San Joaquin Valley Disadvantaged Community Pilot
- Energy Codes & Standards
- Support CPUC's BUILD and TECH Pilots (SB 1477)
- Residential Upstream Space and Water Heating Heat Pump Incentives (closed)

- **Tomorrow**

- Proposed BE Pilots in Energy Savings Assistance Application (Proposed Decision)
- Self Generation Incentive Program (SGIP) (Scoping Decision)
- Proposed a Smart Heat Pump Water Heater Pilot in Energy Savings Procurement & Investment Plan (ESP & IP) Application
- Continue Leveraging EE Programs Where it Makes Sense

- **Longer Term Transformational**

- Leverage Programs Across Proceedings
- Learn from Pilots
- Identify Gaps and Barriers
- Push to Advance Code to All-Electric
- Consider Rate Design
- Other Incentive and Financing Programs

Thank You

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