

# ET Summit 2023

Presented by



# Electrifying the Future

## SCE Building Electrification Programs

Jose Buendia

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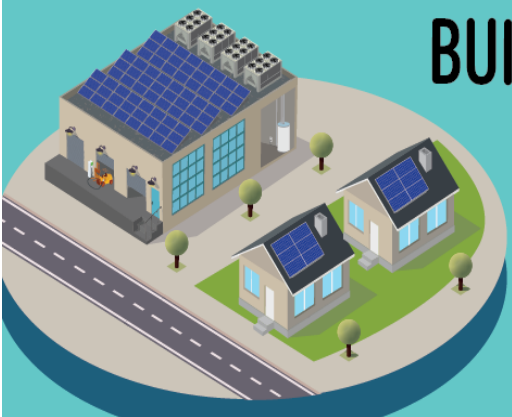
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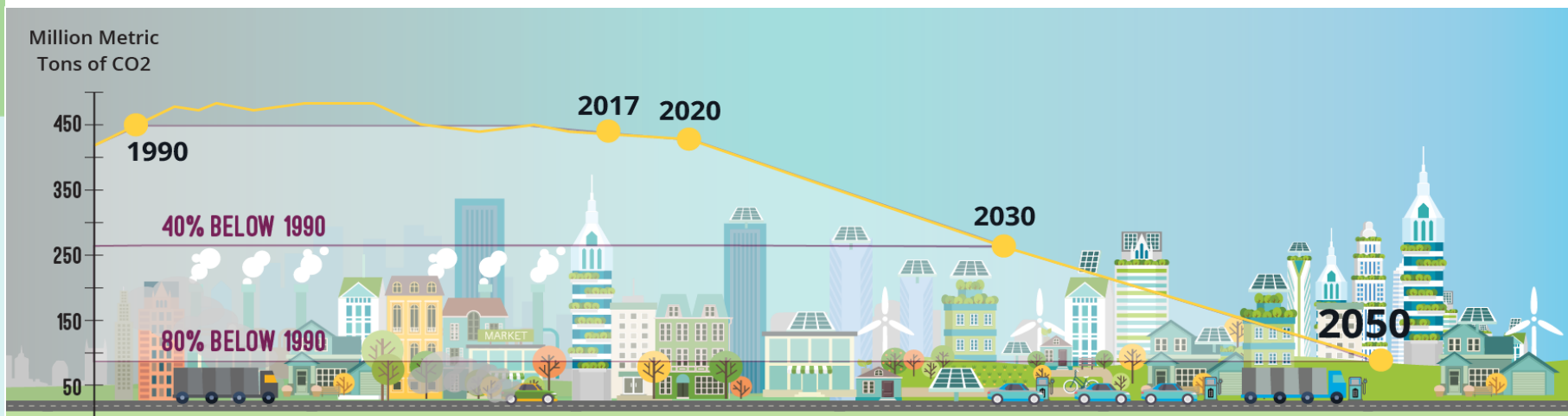
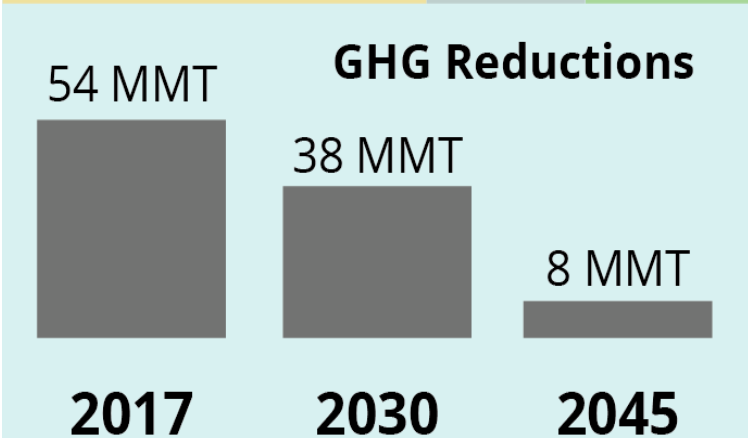
## ELECTRIFY BUILDINGS



70%  
OF BUILDINGS

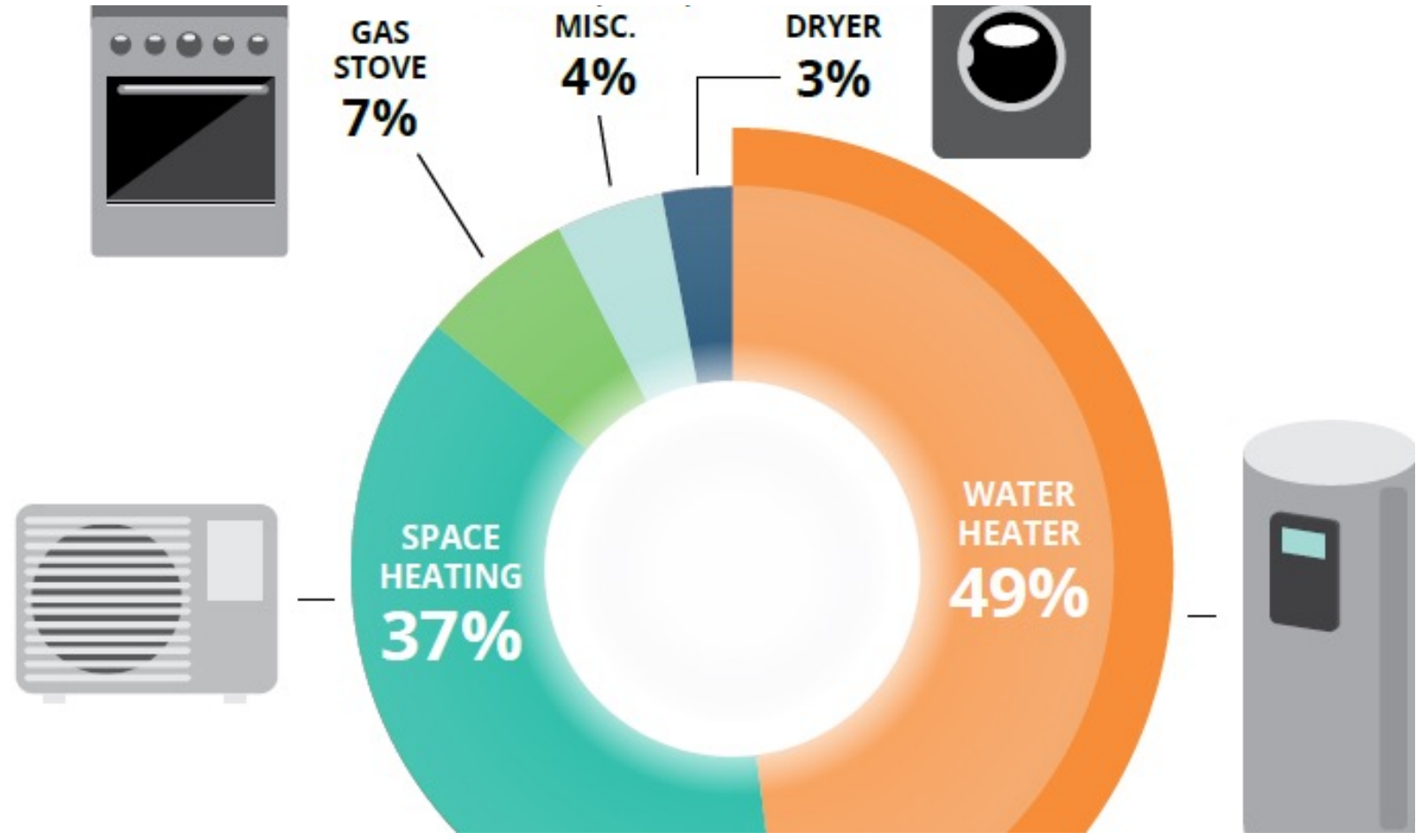
- **SCE's Pathway 2045.** A strategic plan for carbon reduction; demonstrates the need for 30% penetration of electric heat pumps for water and space heating in California by 2030 and 70% by 2045.
- **Challenges.** Limited consumer and contractor awareness, product availability, technology costs, and accessibility to incentives and financing.
- **Benefits.** HVAC heat pump systems offer cost-effective heating and cooling compared to separate gas heating and electric cooling. They can also manage demand to lower peak-time loads and grid expenses. Continuous efficiency improvements will further decrease electricity consumption.

	2030	2045
Space & Water Heating (% of Buildings)	30%	70%




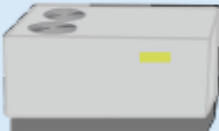
California set a goal to **reduce emissions 40% below 1990 levels by 2030, and 80% by 2050.**

# Home Emission Sources



# SCE Building Electrification Application A.21-12-009

In December 2021, SCE filed a \$677M, quarter-million heat pump application with the CPUC seeking approval for new Building Electrification (BE) Programs

	BE Ready Home & BE Ready Catalina	BE Business
Volume Targets and Breakdown	 <ul style="list-style-type: none"> <li>• 200,000 heat pump HVAC and water heating systems</li> <li>• 65,000 panel/circuit upgrades</li> <li>• \$593M of 88% of requested funding</li> </ul>	 <ul style="list-style-type: none"> <li>• 50,000 heat pump HVAC systems</li> <li>• \$83M or 12% of requested funding</li> </ul>
Incentives and Offerings	<ul style="list-style-type: none"> <li>• No-cost “BE Ready” electrification readiness assessments                             <ul style="list-style-type: none"> <li>○ Energy bill and rate analysis</li> <li>○ Customized BE retrofit plan/assessment report</li> <li>○ Layering &amp; coordination with other programs</li> </ul> </li> <li>• Heat pump equipment incentives</li> <li>• Electrical panel, circuit, and wiring incentives</li> <li>• Increased incentives for low-income households and ESJ communities</li> <li>• Catalina Island program addressing geographic barriers and provides additional support</li> </ul>	<ul style="list-style-type: none"> <li>• Technical assistance and support for installers and customers</li> <li>• Simple prescriptive incentives for high-efficiency HP HVAC systems</li> <li>• Increased incentives for businesses located in ESJ communities</li> <li>• Layering and coordination with other available programs (e.g., Energy Efficiency)</li> </ul>

# ESA Building Electrification (BE) Pilot

This retrofit pilot provides no-cost installation of BE technologies to qualified low-income single-family homes in disadvantaged communities (DACs). To participate, customers need to switch from combustion-based space and water heating to equivalent heat pump systems. A select number of homes will also receive induction cooking appliances and/or efficient electric clothes dryers. The pilot program also covers electrical enhancements, plumbing, and minor home adjustments needed to install the new technologies.

- **Budget:** \$40.8M
- **Pilot Duration:** 2023 to 2026
- **Retrofit Target:** ~2,200 homes
- **Strategic Targeting.** Focusing on homes with high cooling loads
- **Bill and Rate Analysis.** Performed for every home to ensure energy/bill savings can be achieved from electrification retrofit prior to commencing work



# Strategic Customer Targeting

## TECH SCE Electric-Only Targeting - Sample of Single Family Homes (SFH)

Has Solar:  No  Yes

CCA Customer:  No  Yes

DAC:  No  Yes

CARE:  No  Yes

FERA:  No  Yes

On Tribal Land:  No  Yes

Home Year Built:

Home Sq Ft:

Household Size:

Est HH Income:

Tenant Status:

Climate Zones:

County:

Premise City:

Annual MWh:

Electricity Model Error %:

Targeting Param 1 \*:

Targeting Param 1 Cutoff \*:

Targeting Param 2 \*:

Targeting Param 2 Cutoff \*:

2,341,216

Total customers ⓘ

2,046,820

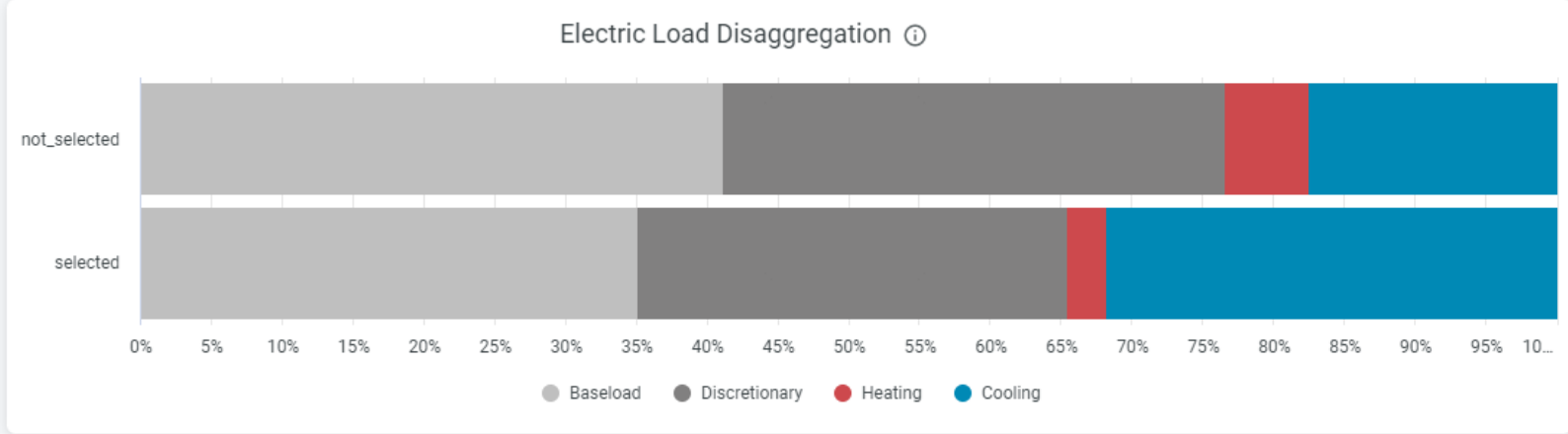
Eligible customers ⓘ

321,332

Selected customers ⓘ

16%

Selected / Eligible ⓘ



## Early Lessons Learned

- **Customer Engagement and Outreach.** Contact details like phone numbers and emails can become outdated, reducing their effectiveness. However, success has been seen with mailers, in-person outreach efforts, and word of mouth.
- **Customer Awareness, Knowledge, and Attitudes.** Further customer education is required to enhance understanding of the advantages offered by BE technologies. Some customers are concerned that electric appliances will lead to higher energy bills.
- **Property Owners of Rented Units.** Owners doubt the no-cost nature of installations; decline to sign Property Owner Authorization or Split Incentive Agreements.
- **High Remediation Cost.** Some installations require extensive extra remediation efforts and costs.



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