

# 9<sup>th</sup> Quarterly Stakeholder Meeting

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November 30, 2023



**TECH** CLEAN  
CALIFORNIA



# Welcome!

**Goal:** Review the goals and structure of TECH Clean California, provide key progress updates, and identify how you can get involved.

**Today's Theme: Recent highlights and looking ahead**

## **Presentation Guidelines:**

- This is a webinar format, so please direct your questions to the Q & A feature. We will do our best to answer your questions
- Today's slides and a recording of the presentation will be accessible on our website



## **Get Involved:**

Submit your questions on  
**incentive layering, data  
sharing, and coordination** to  
[TECH.info@energy-solution.com](mailto:TECH.info@energy-solution.com)

# Agenda

- 1 TECH Clean California Overview

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- 2 Data Webinar Recap and Next Steps

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- 3 Equity Reporting

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- 4 Incentives, Market Engagement, & Workforce Training

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- 5 Marketing

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- 6 Pilots and Quick Start Grants

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- 7 TECH Resources

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- 8 Q & A

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- 9 Next Steps



# Presenters



**Evan Kamei**  
Energy Solutions



**Peter Florin**  
Energy Solutions



**Dylan Sarkisian**  
Energy Solutions



**Anita Singha**  
BDC

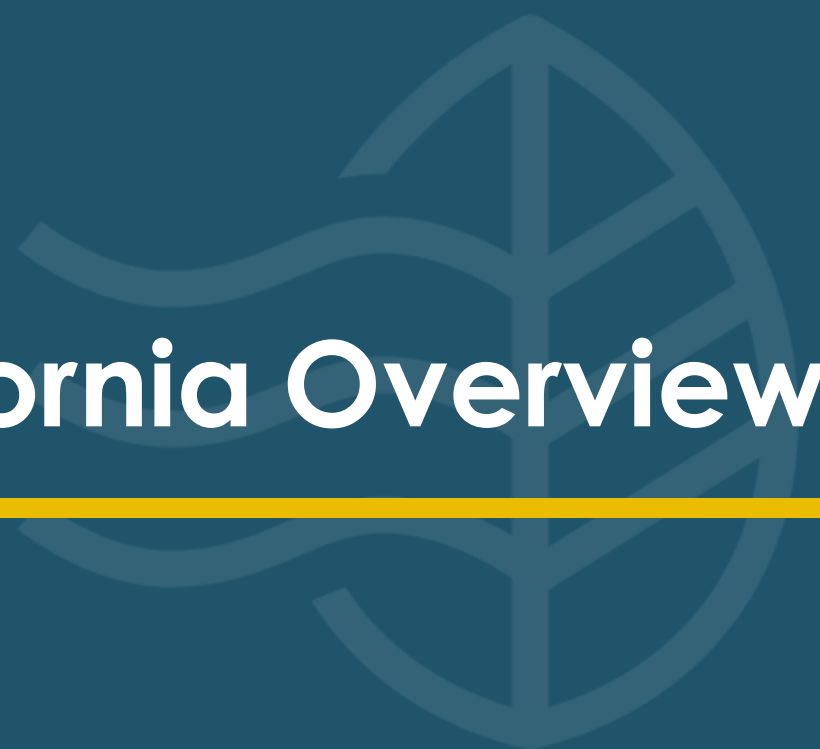


**Alison Seel**  
VEIC

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# TECH Clean California Overview

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# TECH Clean California Overview

## What is TECH Clean California?

- California’s flagship heat pump market transformation initiative for space/water heating is designed to help put California on a path towards carbon-free homes by 2045
- Guiding principles of scale, equity, regulatory simplicity, and market transformation
- Incentives offered statewide
- \$95M in new funding from the Greenhouse Gas Reduction Fund (AB 209 & AB 102)

*For a more complete overview of TECH Clean California, check out the slides and recordings from our previous quarterly Stakeholder Meetings at [techcleanca.com/about/reporting](https://techcleanca.com/about/reporting).*

## California Heat Pump Goals



Heat Pump  
Water Heating



Heat Pump  
HVAC

**6 million heat pumps installed by 2030**

**Climate ready / friendly homes:**

- 3 million by 2030
- 7 million by 2035

**50% of funding** delivered to low-income households or disadvantaged communities

Source: California Office of Governor website. July 2022.  
“Governor Newsom Calls for Bold Actions to Move Faster Towards Climate Goals”

## Our Team:



RECURVE

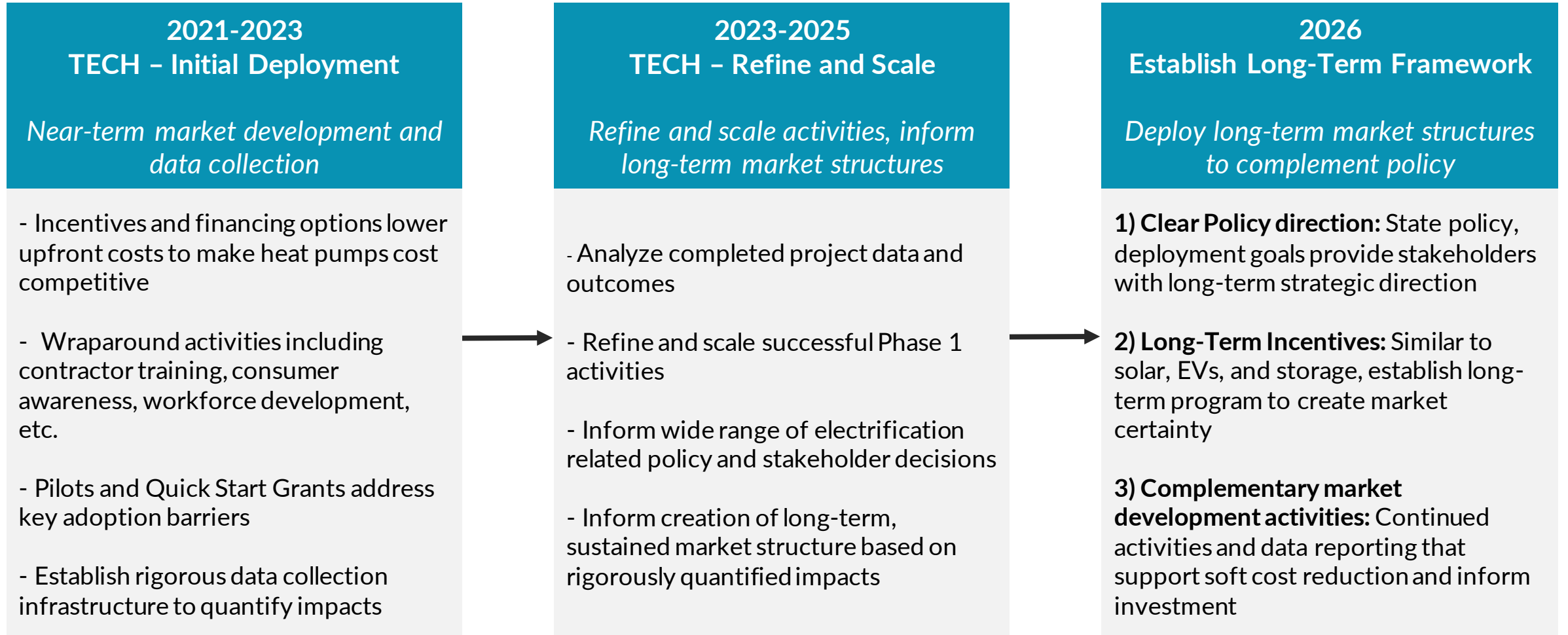


Tre'Laine

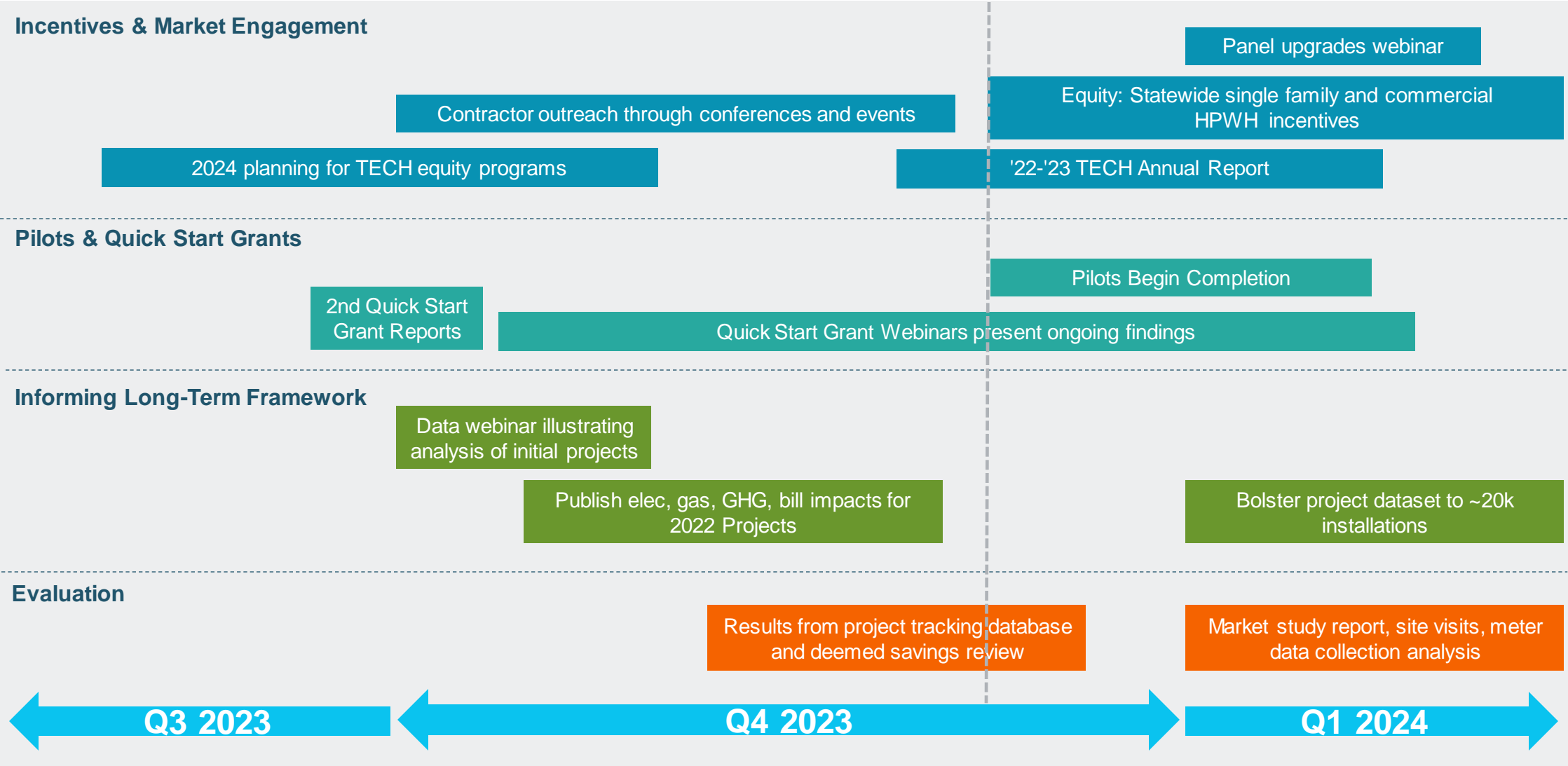
*The TECH Clean California initiative is funded by California ratepayers and taxpayers under the auspices of the California Public Utilities Commission.*

# The Long-Term Plan for TECH

*TECH is entering the “Refine and Scale” phase*



# TECH Clean California: 2023-2024 Quarterly Timeline



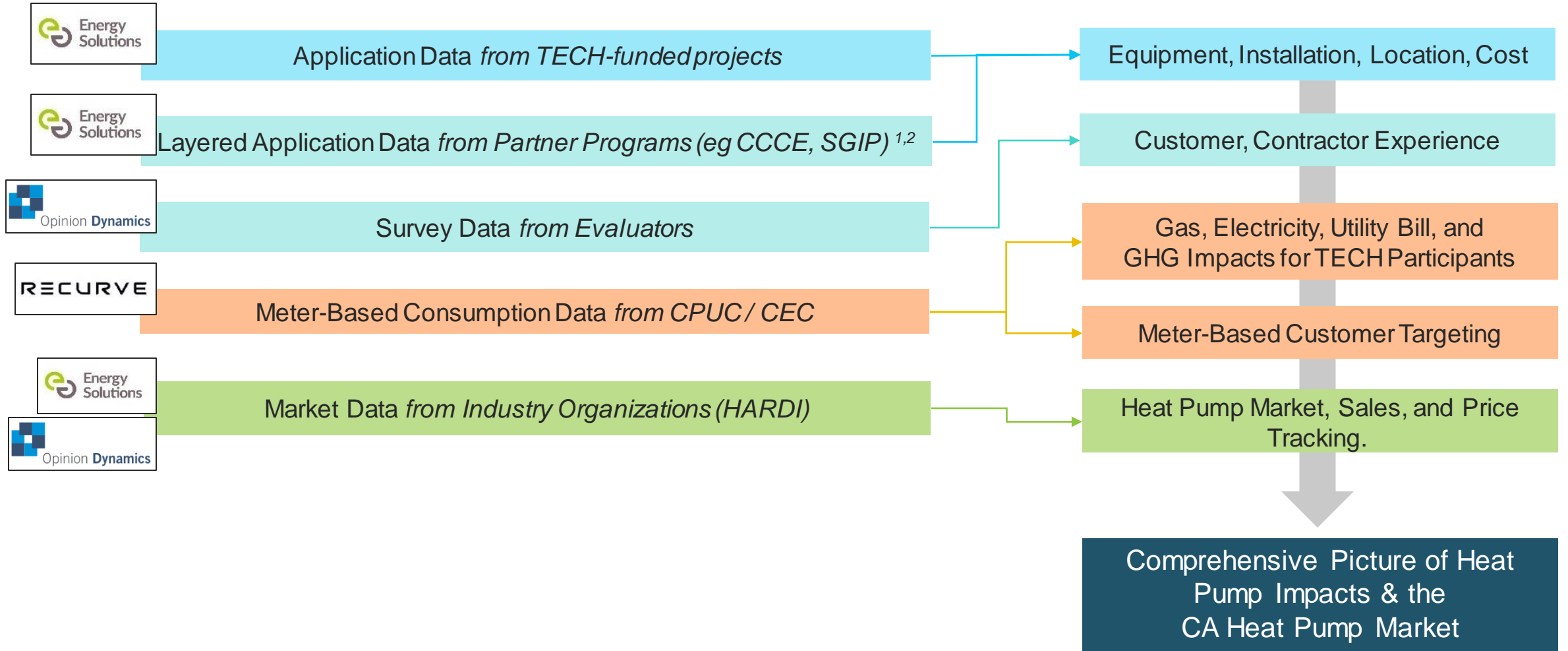


# 2 Data Webinar Recap and Next Steps

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# Major Data Flows



<sup>1</sup> Central Coast Community Energy  
<sup>2</sup> Self Generation Incentive Program

# Preliminary Residential Heat Pump Retrofit Energy Savings

## Normalized Metered Energy Consumption results show significant net grid and climate benefits

- Net benefit to the grid \$3,750 per HVAC retrofit and \$1,695 per water heater retrofit
- Net benefit to climate 10.9 and 5.7 tons GHG saved, respectively

### Average Impacts for 630 Single Family Homes in PG&E Service Territory

	Electric Impacts				Gas Impacts			Total Lifetime Impacts	
	Annual MWh Savings	Peak <sup>^</sup> MWh Savings	Lifetime TSB <sup>*</sup>	Lifetime GHG Savings (Tons) <sup>*</sup>	Annual Therms Savings	Lifetime TSB <sup>*</sup>	Lifetime GHG Savings (Tons) <sup>*</sup>	Lifetime TSB <sup>*</sup>	Lifetime GHG Savings (Tons) <sup>*</sup>
<b>Space Heating<sup>†</sup></b>	-1.25 ± 0.11	0.088 ± 0.03	-\$347	-5.25	235 ± 29	\$4,097	16.14	<b>\$3,750</b>	<b>10.89</b>
<b>Water Heating<sup>‡</sup></b>	-1.47 ± 0.10	-0.078 ± 0.03	-\$778	-4.23	219 ± 21	\$2,475	9.92	<b>\$1,696</b>	<b>5.69</b>

\*Lifecycle net, 0.85 NTG, 2022 ACC, 7.6% quarterly discounting, varying climate zones. Calculated using open source FlexValue software based on the CPUC Avoided Cost Calculator

† 15-year Effective Useful Life

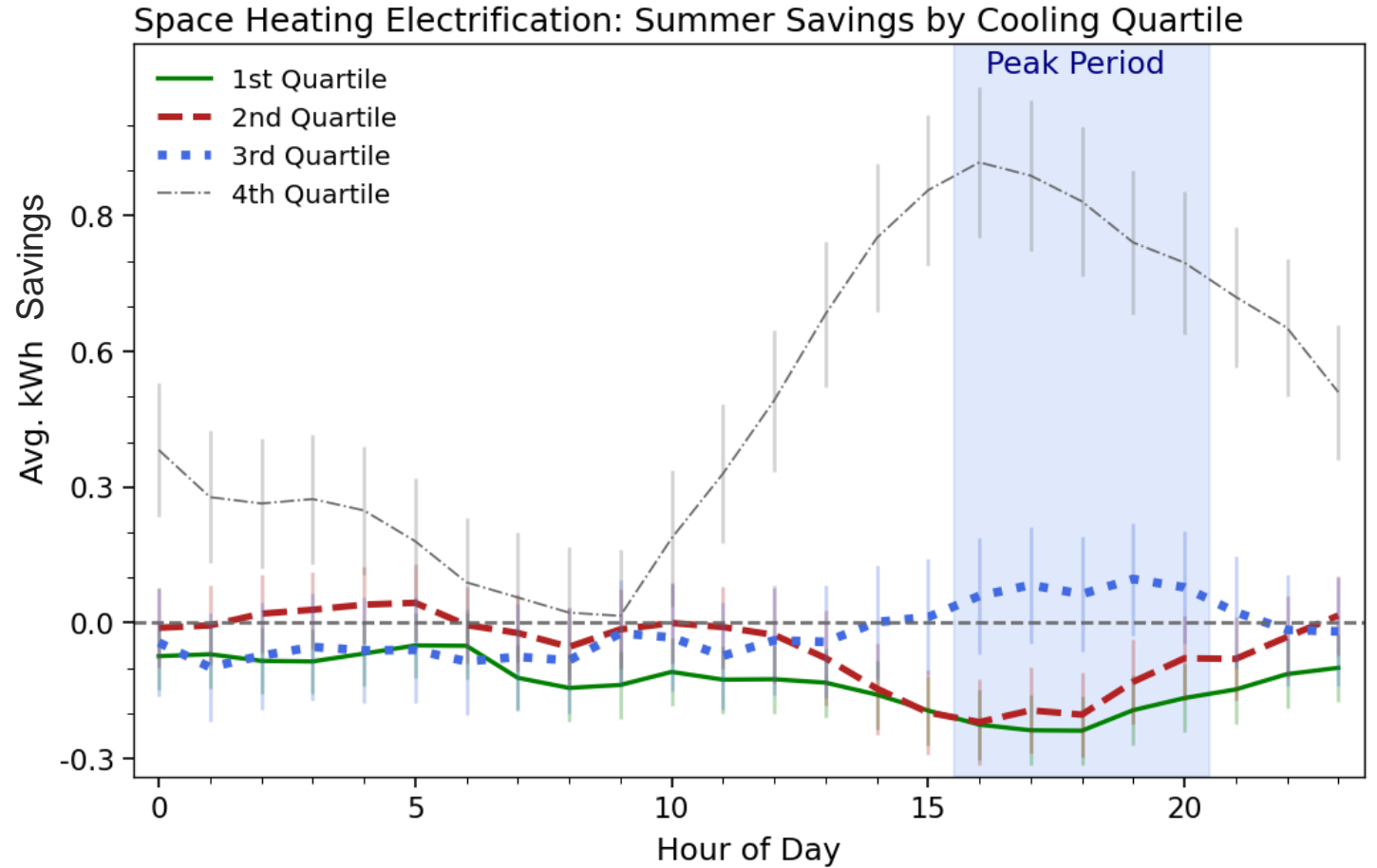
‡ 10-year Effective Useful Life

<sup>^</sup>June - Sept 4 - 9 pm

# Heat Pump HVAC Electrification Retrofits

## Striking Difference in Electricity Impacts for Highest Cooling Users

- Top quartile pre-program cooling users achieved over 500 kWh/yr (~10%) summer peak savings
- New AC users (bottom 50%) added about 100 kWh of summer peak usage
- Moderate cooling users (3rd quartile) stayed about the same



# Heat Pump HVAC Retrofit Cost Drivers

## Top 5 Most Statistically Significant Drivers for Single Family Homes

Field	Mean and Range	Average Impact on Cost of a 3-ton Installation	Example
<b>Avg Age of Homes in the Census Tract</b>	Range: 11 to 103 yrs Mean: 50 yrs	For every 10 yrs added to avg home age in a tract, project cost increases by \$826 ( $\pm$ \$59)	Projects in tracts with avg home age of 70 yrs cost \$4k more than projects in tracts with avg home age of 20 yrs
<b>Seasonal Energy Efficiency Ratio (“SEER”)</b>	Range: 14 to 30 Mean: 17	For each unit of SEER above 14, project cost increases by \$637 ( $\pm$ \$48)	All else equal, a 20-SEER unit costs ~\$3,600 more than a 14-SEER unit
<b>Installation Duration (Days)</b>	Range: 1 to 366 Mean: 5	Project cost increases logarithmically with the installation duration	A 10-day installation costs ~\$1,200 more than a one-day installation
<b>Duct Replacement (T/F)</b>	True for 15% of projects	Projects involving a duct replacement were \$2,926 ( $\pm$ \$277) more expensive	N/A
<b>Number of TECH-Certified Contractors Serving County</b>	Range: 11 to 279 Mean: 144.	Project cost decreases logarithmically with number of enrolled contractors serving the county	Projects in counties served by 100 TECH contractors cost \$1,031 ( $\pm$ \$147) less than projects in counties served by 10

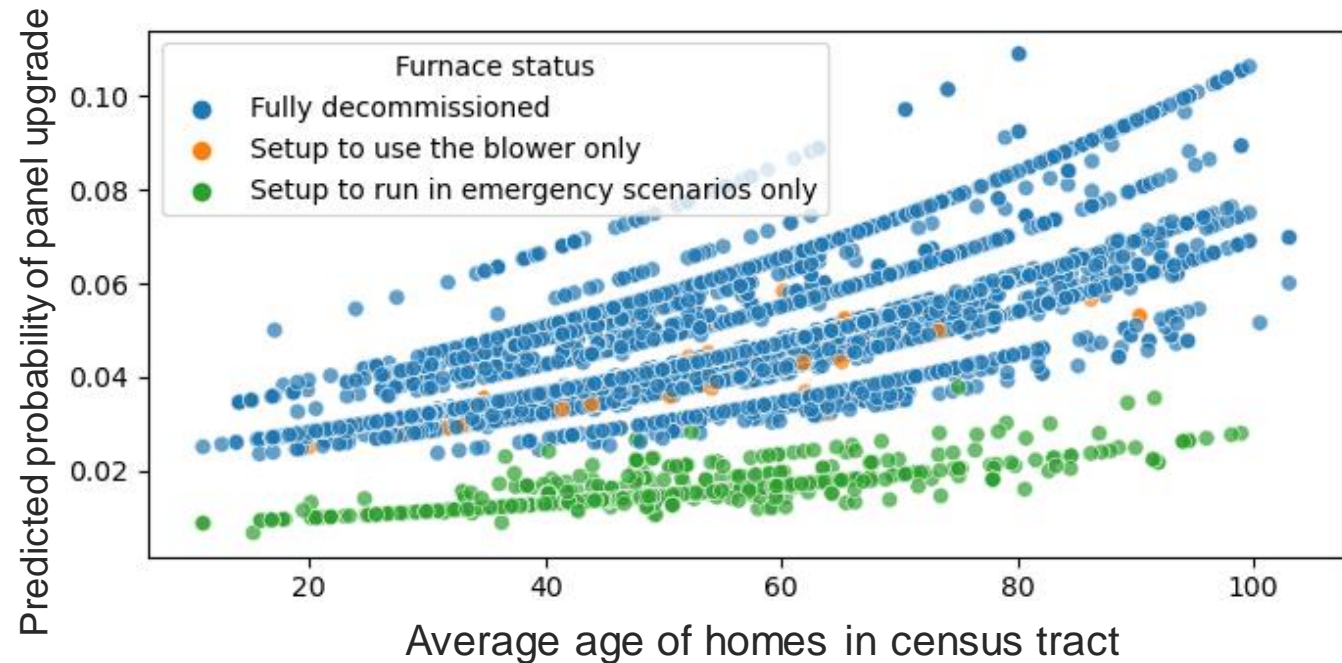
# Heat Pump HVAC Panel Upgrade Frequency Analysis

Electrical panel upgrades occurred in only 5% of heat pump HVAC retrofit projects and were not statistically associated with:

- Project location in disadvantaged community or hard-to-reach county
- HVAC system capacity
- Pre-installation panel capacity

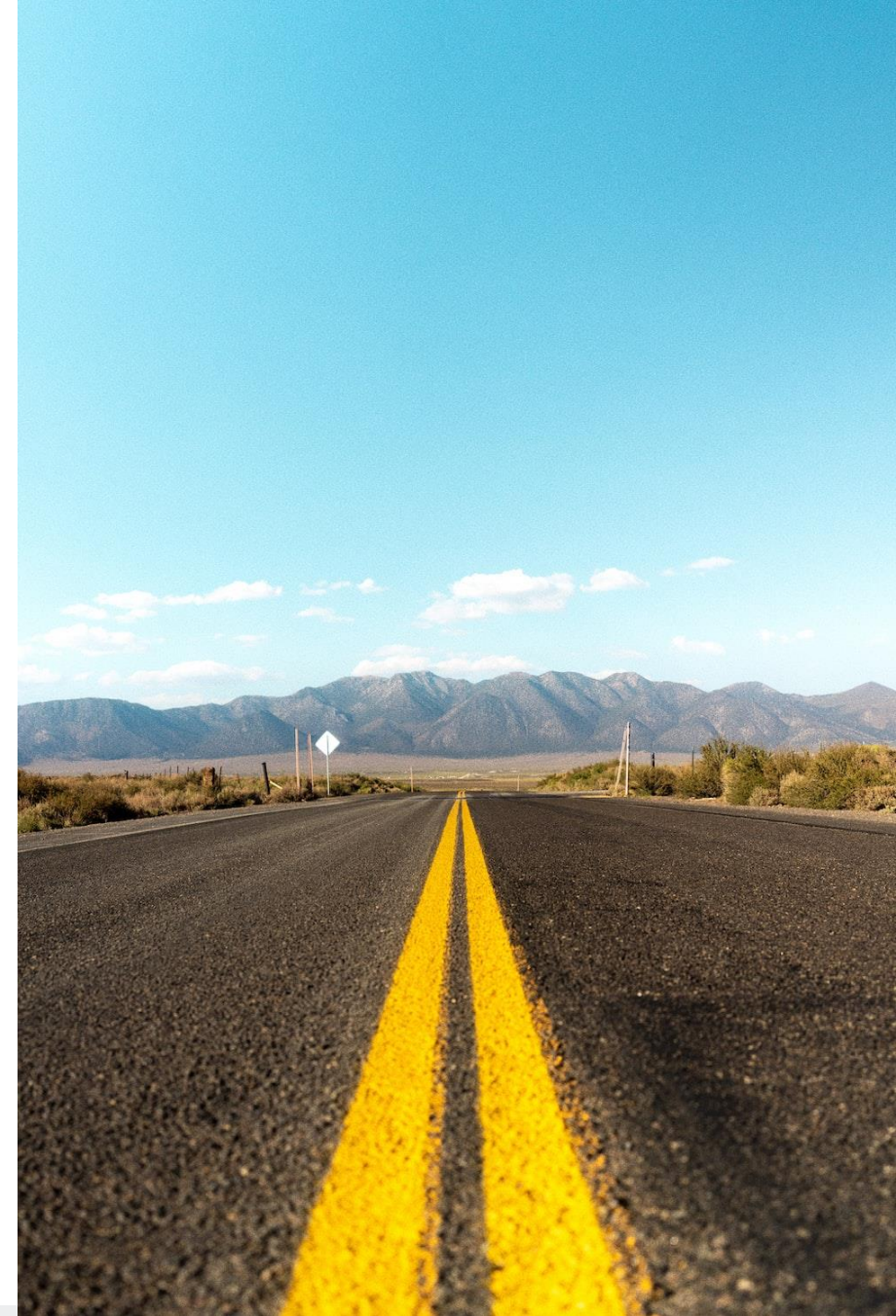
**But panel upgrades are significantly correlated with:**

- **Home age (especially in census tracts where average home age is >50 years)**
- **The complete decommissioning of a furnace**



# TECH Data Priorities Q4 2023-Q1 2024

1. Publish meter-based impacts for single-family retrofits on [techcleanca.com](https://techcleanca.com), expecting >2,000 projects in Q1 2024
2. Complete data reporting pipeline for SGIP heat pump water heater projects, boosting our dataset with ~20k new heat pump water heater installations (over program duration)
3. Publish real home vintage and parcel data in anonymous program datasets on [techcleanca.com/public-data/download-data](https://techcleanca.com/public-data/download-data)
4. Increase integration of meter-based targeting in TECH Clean California pilots and incentive strategy to maximize bill savings and minimize grid stress



# 3 Equity Reporting

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# Equity Community Engagement

In Q2 2023, TECH Clean California adopted an equity community definition incorporating elements of the CPUC Environmental and Social Justice Action Plan’s Disadvantaged Community and Hard-to-Reach definitions.

To qualify, a project must capture one of the following:

Attribute	Building Type		
	Single Family	Multifamily	Other
In a CalEnviroScreen 4.0 Disadvantaged Community	X	X	X
Household using a CARE or FERA gas or electricity rate and/or participant in an Energy Savings Assistance program	X		X
Not in SF Bay Area, Greater LA area, Greater Sacramento area, or San Diego County <b>and</b> not homeowner (e.g., renter)		X	
Affordable housing: At least 66% of living units are <80% AMI or deed-restricted housing; or subsidized deed-restricted housing		X	

TECH Clean California incentive spending in equity communities is now reported on <https://techcleanca.com/public-data/equity-budget-and-spending/>.

# Incentives Paid in Equity Communities

**\$41.7 million** of TECH Clean California incentives will be paid via initiatives serving primarily equity communities:

Initiative	Incentive Budget	Portion of Total TECH Incentive budget	Portion of Incentives for Equity Communities	Partner Organizations Offering Layered Incentives	Region Prioritized
General Statewide Single Family Incentives	\$60.9M	55%	12%	BayREN, CCCE, SMUD, PG&E	Statewide
Statewide Multifamily Incentives	\$18.7M	17%	84%	SMUD, BAMBE, CLEANair, BayREN, LIWP	Statewide
Low-Income Single Family Direct Install Incentives	\$8.5M	8%	100%	Energy Savings Assistance Program	Statewide
Multifamily Pilot	\$4.0M	4%	75%	--	SCG, Southwest Gas service territories
Low-Income Integration Pilot	\$4.9M	4%	100%	SJV DAC Pilot, ESA Program	PG&E, SCG service territories
2021 Quick Start Grants	\$3.3M	3%	75%	--	Statewide
2022 Quick Start Grants	\$2.0M	2%	100%	--	Statewide
<b>Total</b>	<b>\$102.3M</b>	<b>93%</b>	<b>43%</b>	<b>N/A</b>	<b>N/A</b>

*\*Some incentives delivered via initiatives other than those listed above also go to equity communities.*

# Workforce Education and Training in Equity Communities

The TECH Clean California team ensures WE&T initiatives serve equity communities by:

- Preferentially choosing training locations in high unemployment areas.
- Tracking participation in trainings by contractors residing in high unemployment areas.
  - 57% reside in high unemployment areas
  - 63% of companies that employ users are in high unemployment areas zip codes
- Providing no-cost equipment and curriculum development to organizations focused on training incoming workforce in marginalized communities.
- Planning for translation of trainings and more collaborations in low-income/disadvantaged communities zip codes

50% of trainings led by TECH Clean California team member National Comfort Institute occurred in high unemployment areas, and 60% of attendees reside in high unemployment areas.

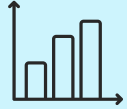
TECH Clean California incentive spending in Equity Communities is now reported on <https://techcleanca.com/public-data/equity-budget-and-spending/>.

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## Incentives, Market Engagement and Workforce Training

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# TECH Clean California Activities



## Spur the clean heating market through statewide strategies

### Activate the supply chain

- Contractor incentives
- Streamlined incentive clearinghouse
- Technical and sales training

### Drive consumer demand

- Statewide marketing campaign and website



## Create scalable models through regional pilots

### Improve targeting and project finance

- Target customers using meter-based analysis
- Deploy a Tariffed-On Bill Financing Pilot

### Expand benefits to HTR customers

- Support low-income programs
- Multifamily pilots targeting property owners

### Streamline installation

- Streamline permitting and installation costs
- Enable load-shifting

### Innovation through Quick Start Grants



## Inform long-term building decarbonization framework

### Develop public reporting site

- Inform policymakers and market actors on progress and impacts

### Quantify decarbonization impacts

- Avoided costs, grid benefits, and customer bill impacts

### Inform policy development

- State, regional, and local regulatory policy

# Incentive Relaunch

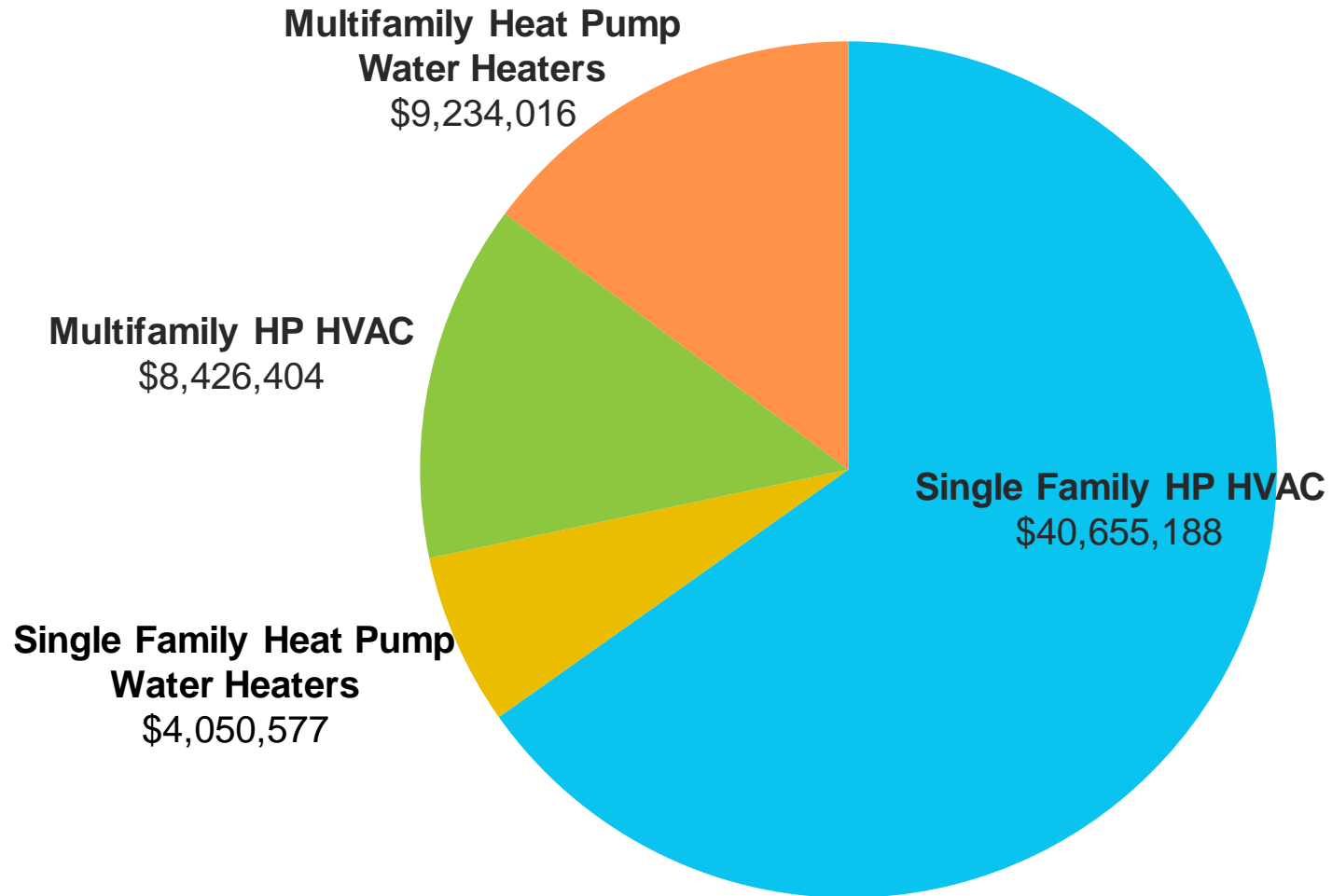
Relaunch to be guided by our core principles of **simplicity**, **consistency**, and **scalability**

- **Relaunch Update**

- Relunched single family heat pump HVAC incentives on April 25
- Exhausted 100% of multifamily heat pump HVAC incentive funds from latest phase
- Relunched single family and commercial heat pump water heater incentives on October 31
  - Relaunch multifamily unitary incentives on December 12
  - Relaunch multifamily central incentives TBD
  - Open up single family equity incentives: TBD

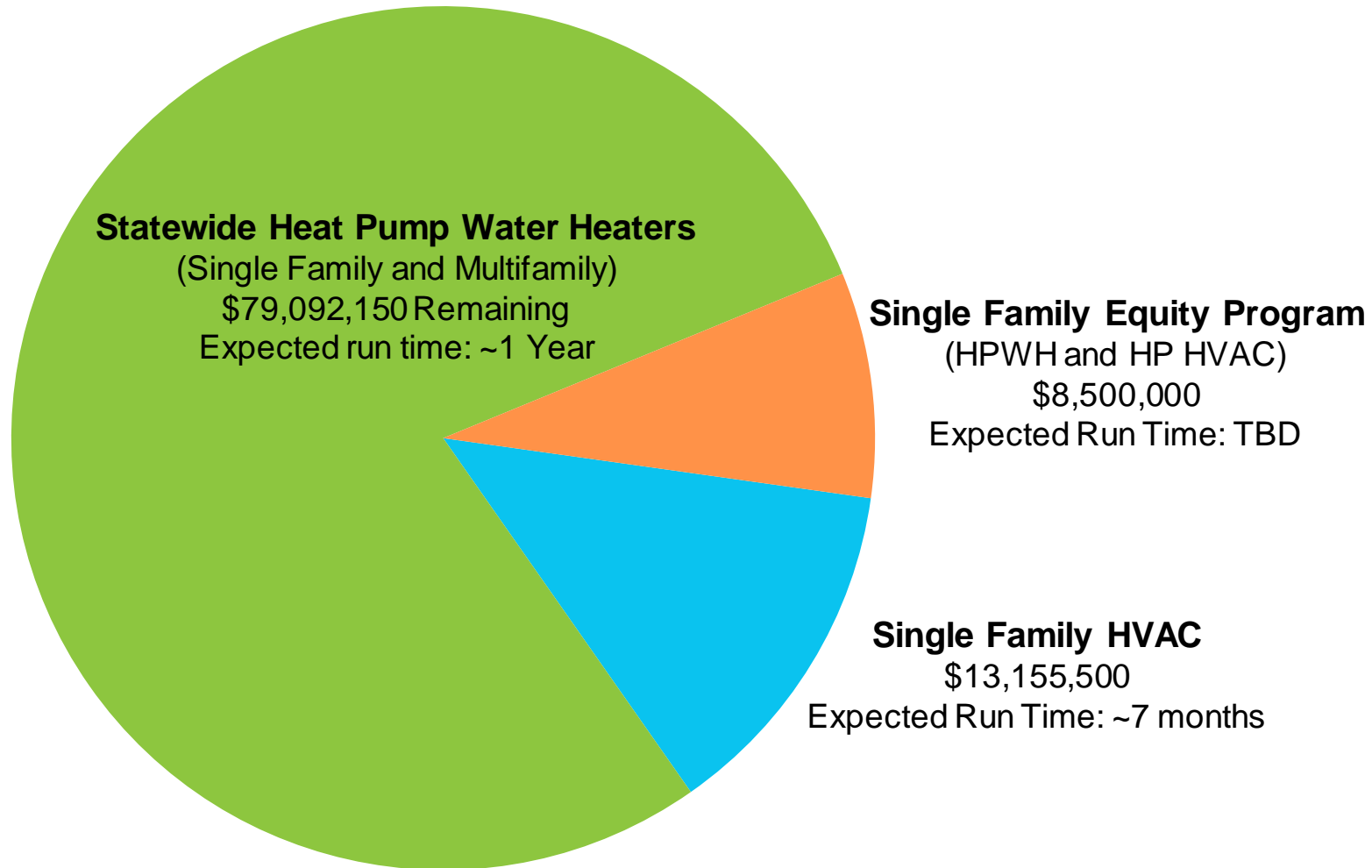


# Incentive Spend to Date



Includes all claims reserved and paid through 11/20/2023. Electrical upgrade incentives are grouped with the corresponding appliance

# Current Remaining Budgets



For up-to-date budget spend, please go to [techcleanca.com/incentives](https://techcleanca.com/incentives)



# Statewide Heat Pump Water Heater General Market Incentives

Category	General Market or Equity	Heat Pump Water Heater Incentive	Low-GWP Kicker Incentive**	≥ 55 Gallon Capacity Incentive	Electrical Panel Upgrade Incentive	Max Incentive
Residential Unitary	General Market	\$3,100	\$1,500	\$700	\$2,000*	<b>\$7,300</b>
Residential Central	General Market	\$900/kWh	\$200/kWh	N/A	N/A	<b>\$300,000</b> per project
Large Commercial Unitary	N/A	\$700/kWh	\$200/kWh	N/A	N/A	<b>\$50,000</b>
Small Business Unitary	N/A	\$3,100	\$1,500	N/A	N/A	<b>N/A</b>

\*For General Market customers, the Electrical Upgrade incentive is capped at 50% of eligible electrical costs

\*\*Low GWP kicker incentive is for heat pump water heaters with a refrigerant with GWP of 150 or less. Other ratings, such as OPD rating, cannot be used in place of GWP.

# Statewide Heat Pump Water Heater Equity Incentives

Category	General Market or Equity	Heat Pump Water Heater Incentive	Low-GWP Kicker Incentive**	≥ 55 Gallon Capacity Incentive	Electrical Upgrade & Pre-electrification Incentive	Max Incentive
<b>Residential Unitary</b>	Equity	\$4,185	\$1,500	\$700	\$4,000*	<b>\$10,385</b>
<b>Residential Central</b>	Equity	\$1,000/kWh	\$200/kWh	N/A	N/A	<b>\$300,000</b> per project

\*For Equity customers, the \$4,000 incentive may cover a variety of other “pre-electrification” costs associated with a HPWH installation

\*\*Low GWP kicker incentive is for heat pump water heaters with a refrigerant with GWP of 150 or less. Other ratings, such as OPD rating, cannot be used in place of GWP.

# Equity Customer Requirements



## Single Family

- Live in single family, low-income residences
- Have household income which is  $\leq 80\%$  of the area median income (AMI) or  $\leq 250\%$  of federal poverty level (FPL) (whichever is less stringent)
- Participated in/are eligible for other specific programs that verify income

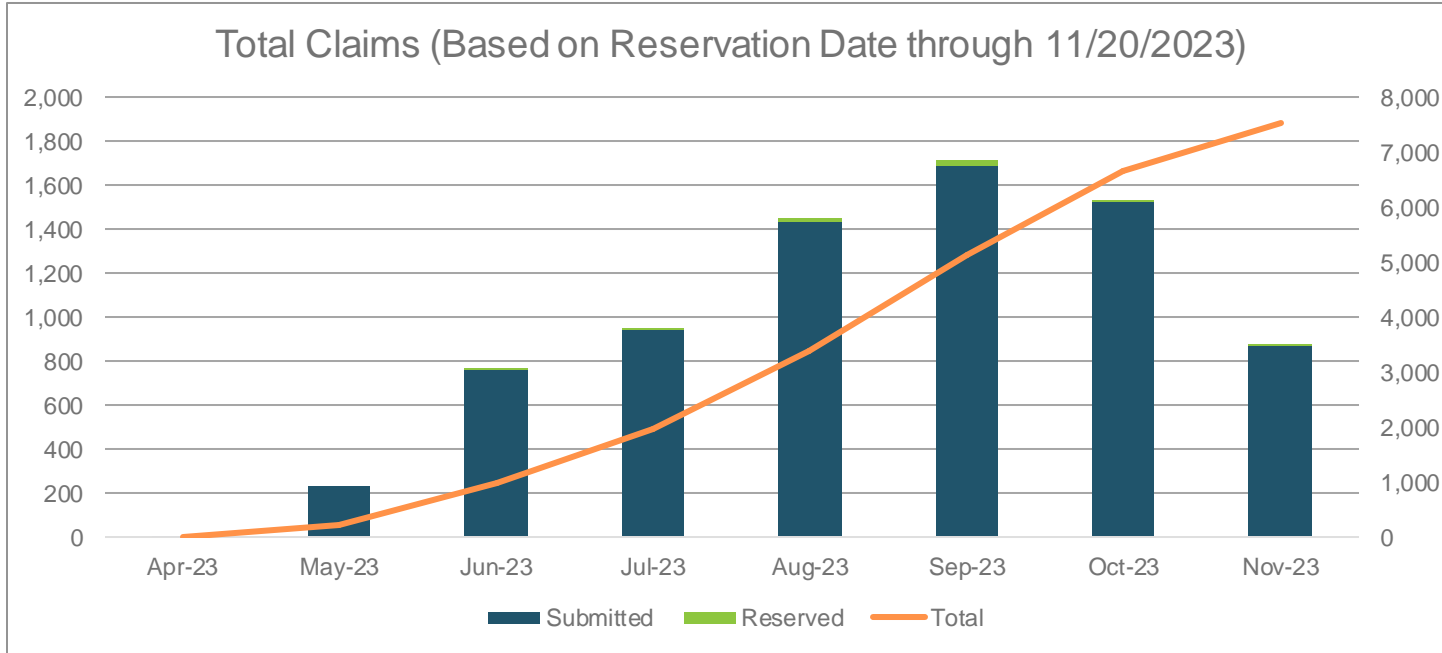


## Multifamily

- Deed-restricted, low-income residential housing and is either:
  - Located in a disadvantaged community
  - Have at least 80% of the building's household incomes at or below 60% of the area median income
- Participated in/are eligible for the MASH or SOMAH

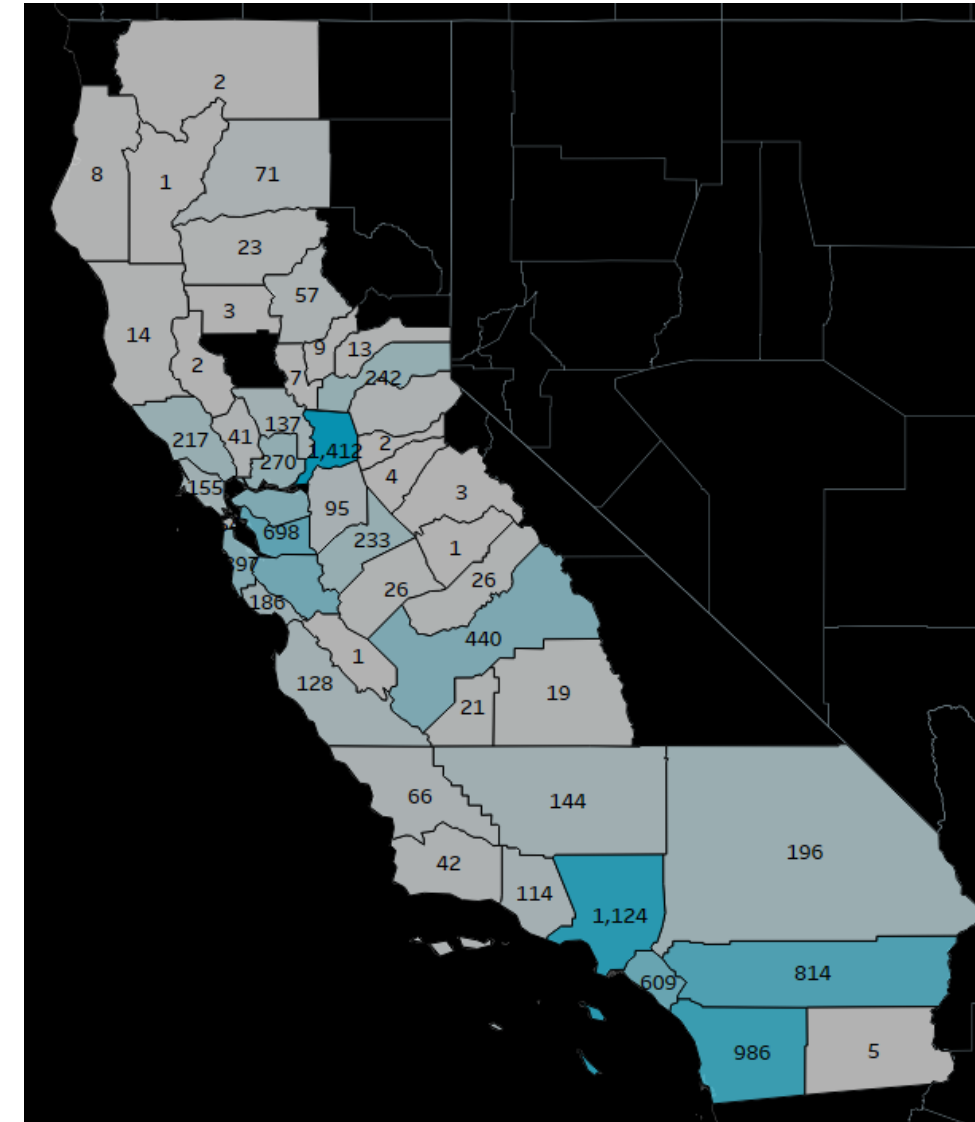
# Single Family HVAC: Stats to Date

8,633 Reservations and Submissions from >380 Separate Participants!



Furnace Left in As Backup?	Total Paid Claims
Yes	910 (15%)
No	4,991 (85%)

Emergency Replacement?	Total Paid Claims
Yes	118 (2%)
No	5,783 (98%)



\*Claims data updated 11/20/23 so it does not include all November reservations and submissions

# HVAC Incentive Program Debrief

## Feedback

- \$1,000 incentive was not enough to justify pulling permits in some regions
- Select regions that saw high performance in first iteration are seeing significant drops in the second release
  - Riverside has a 10% decrease in unit share
  - San Diego has a 7% decrease in unit share
- Still seeing growth in other regions but limited scale

## Next Steps

- Update dual fuel rules to bring them more on par with electric resistance auxiliary backup
- Determine funding for next round, and lean into data to determine structure, with focus on encouraging efficiency / peak demand to support grid resiliency.

# Partner Program Incentives

*Providing a one-stop shop for heat pump incentives*



- \$1,000 per heat pump water heater installed to replace a natural gas or propane water heater
- Available for customers of MCE, SVP or CPSF
- AVA Energy (EBCE) out of funding
- MCE expiring on 12/15/2023

- Available for customers of 3CE only
- Incentive redesign and relaunch underway! Expected to relaunch in late 2023
- Decreased incentives for heat pump HVAC, still stacked with TECH Clean California
- Two pathways for single family heat pump water heaters
- Reduced cap for multifamily customers

**Complete list of heat pump incentives available at [incentives.switchison.org](https://incentives.switchison.org)**

# Impacts of Regional Program



“I believe that the **groundwork we laid** through the BayREN HPWH Contractor Incentive program funded by CCAs like EBCE/Ava allows the statewide TECH program to take it from her and **sets up our region for success**. We now have a **well-worn pathway** for many contractors who see the future for residents switching from gas water heaters to HPWHs. We have delivered on our purpose for our program!” – BayREN

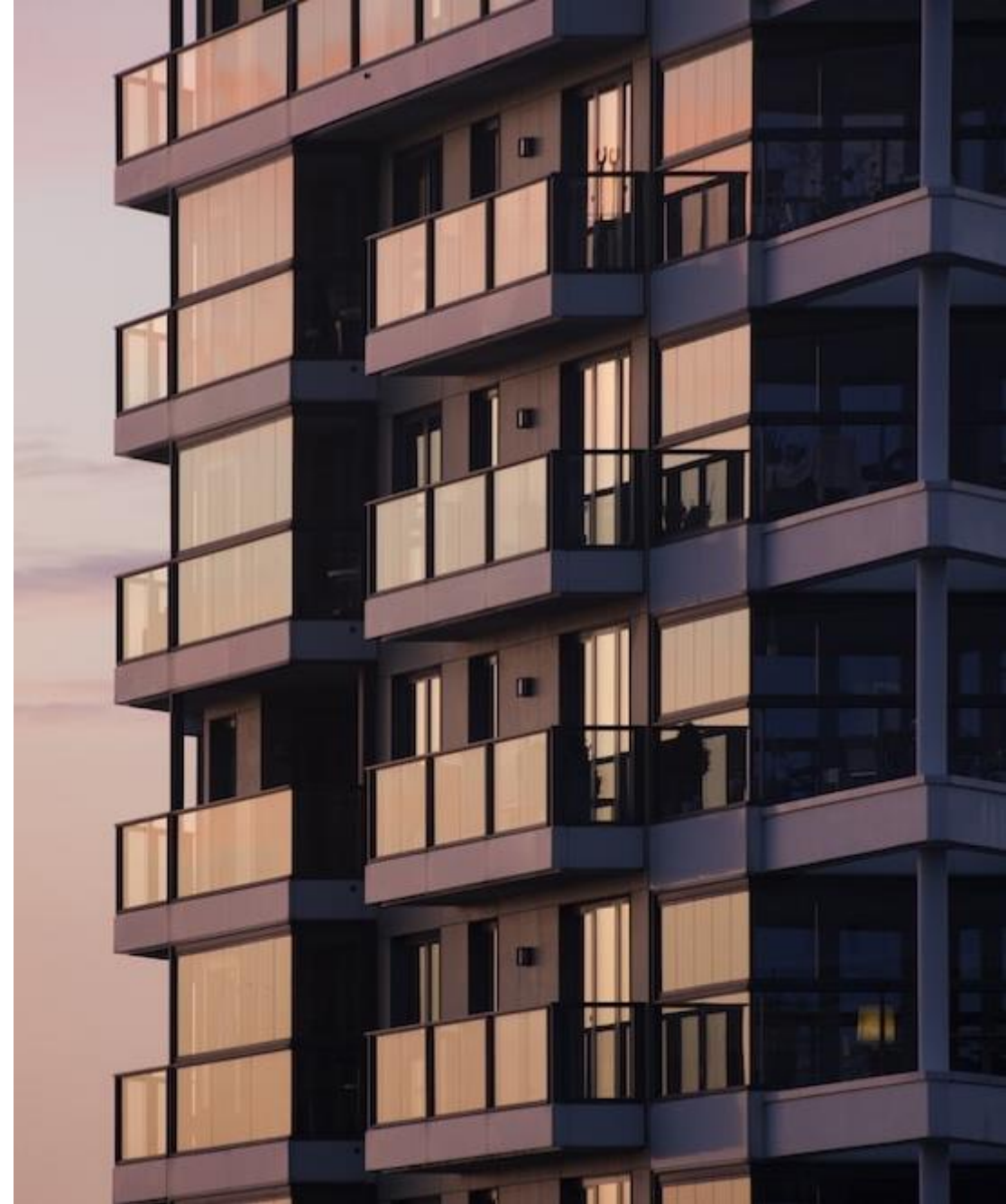
“At Ava, we are now **redirecting our resources to find solutions to some of the remaining challenges to accelerating adoption of electrification technologies** like HPWHs in our service area, such as future DR programs, thanks to the more generous incentives now being offered by TECH.” – AVA

3CE’s Territory experienced a **500% increase in participation in the region after Electrify Your Home launched.**

**Reach out if you are interested in seeing how best to layer incentives in your region!**

# Multifamily Relaunch

- **Budget:** \$7 million, fully allocated
  - **86% allocated to affordable housing** (original carveout of 75%)
    - Multifamily continues to be a major avenue to support equity community installations
  - **Participant/Property Owner Caps**
    - Phase 1: \$500,000
    - Phase 2: \$350,000

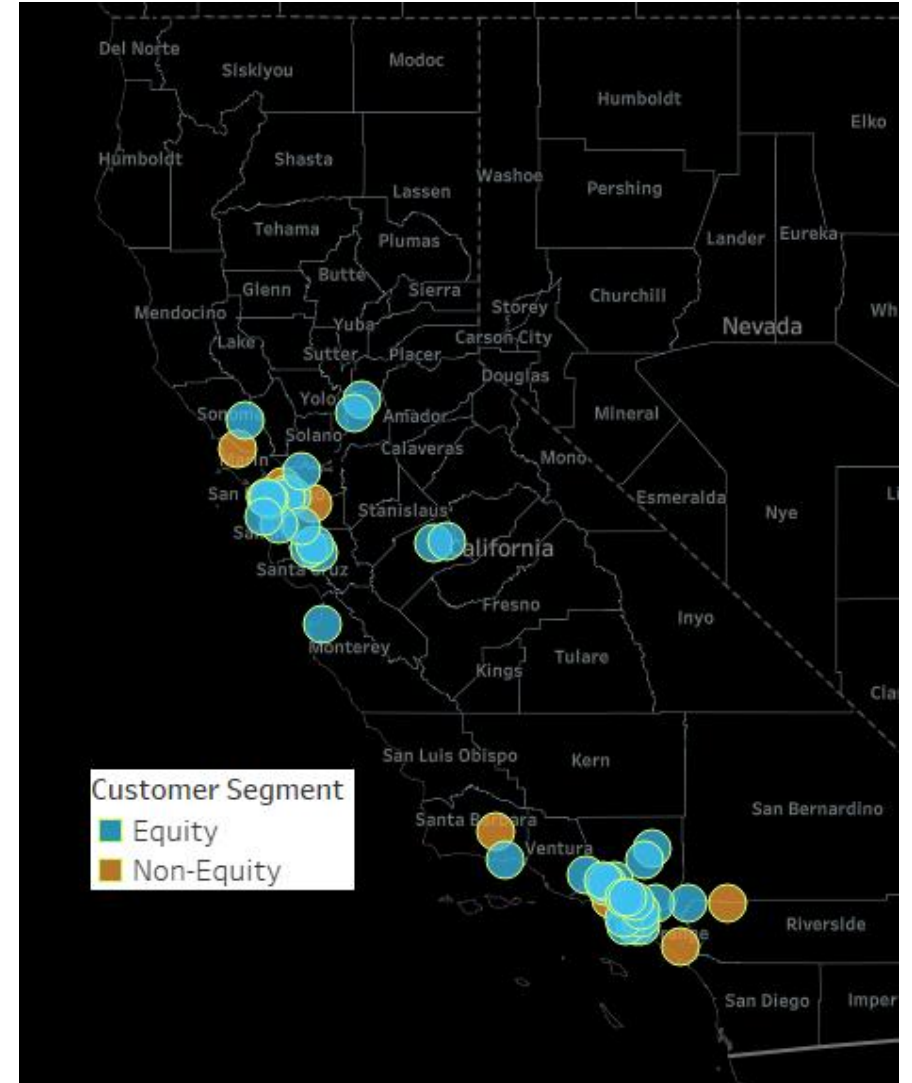




# Multifamily Relaunch: Reservation Summary

Product Type	Subcategory	Unit Total
HVAC	Individual Apartment HVAC	1,276
	Central HVAC (2+ Apartments)	379
	Communal Area (Non-Apartment)	17
	<b>Total</b>	<b>1,238</b>
Heat Pump Water Heater	Individual Heat Pump Water Heater (Apartment and Communal)	263
	Central Heat Pump Water Heater	2,108
	<b>Total</b>	<b>2,371</b>
Electrical	Individual Apartment	705

Customer Segment	Total Incentive	Total Properties
Equity	\$6,075,600 (86%)	46
Non-Equity	\$975,200 (14%)	7



# TECH WE&T/ESMAC Partnership

- **ENERGY STAR Manufacturer Action Council (ESMAC)** is a water heater manufacturers group, facilitated by ENERGY STAR® listed on DOE's Heat Pump Water Heater Program Recognition Page
- ESMAC training model promoted nationally, ensuring consistency in heat pump water heater intro training



## Heat Pump Water Heater Programs

Featured below are the occupations that are available for DOE-recognition, the related open-source content that any program is able to use, and the materials associated with submitting for recognition.

Job Scope	Related BSE Content	Prerequisite Knowledge	Recognition Materials
Heat Pump Water Heater Installation	<ul style="list-style-type: none"> <li>Introduction to Heat Pump Water Heaters</li> <li>Installation of Heat Pump Water Heaters</li> <li>Decision Guidance on Heat Pump Water Heaters</li> <li>HPWH - Load Shifting</li> </ul>	Plumbing	<ul style="list-style-type: none"> <li>Key Concept Knowledge Areas <a href="#">📄</a></li> <li>BSE Recognition Form <a href="#">📄</a></li> <li>Scoring Tool <a href="#">📄</a></li> </ul>

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Marketing



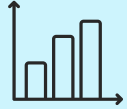
# Paid Media Campaign 2023

Anita Singha

BDC and Energy Solutions



# TECH Clean California Activities



## Spur the clean heating market through statewide strategies

### Activate the supply chain

- Contractor incentives
- Streamlined Incentive Clearinghouse
- Technical and sales training

### Drive consumer demand

- Statewide marketing campaign and website



## Create scalable models through regional pilots

### Improve targeting and project finance

- Target customers using meter-based analysis
- Deploy a Tariffed-On Bill Financing Pilot

### Expand benefits to HTR customers

- Support low-income programs
- Multi-family pilots targeting property owners

### Streamline installation

- Streamline permitting and installation costs
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### Innovation through Quick Start Grants



## Inform long-term building decarbonization framework

### Develop public reporting site

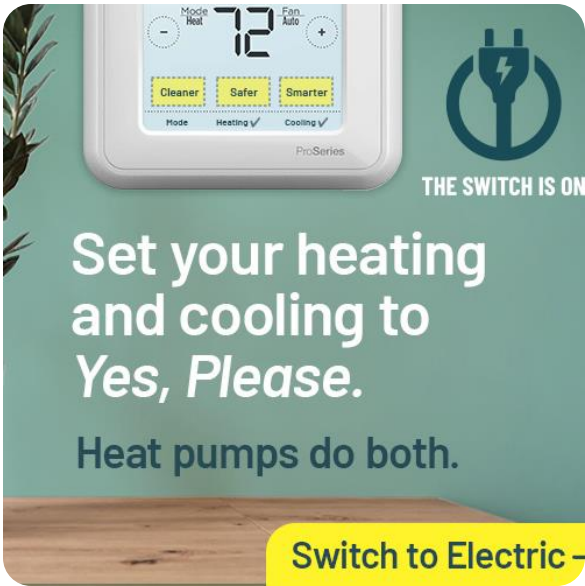
- Inform policymakers and market actors on progress and impacts

### Quantify decarbonization impacts

- Avoided costs, grid benefits, and customer bill impacts

### Inform policy development

- State, regional, and local regulatory policy



## Electric is Better: Cleaner, Safer, Smarter

- In 2023 we developed new campaign creative that simplified the message and leaned into how new electric equipment is just plain **better.**

# Media Plan

## Campaign Elements

Digital ads featuring key electric technologies – Heat Pump HVAC, Heat Pump Water Heaters, Heat Pump Dryers, and Induction Cooking

Video ad featuring all key electric technologies

## Target

- Homeowners
- Eco-conscious consumers/shoppers
- Those in-market for green/energy-efficient appliances
- Persons who are interested in clean energy

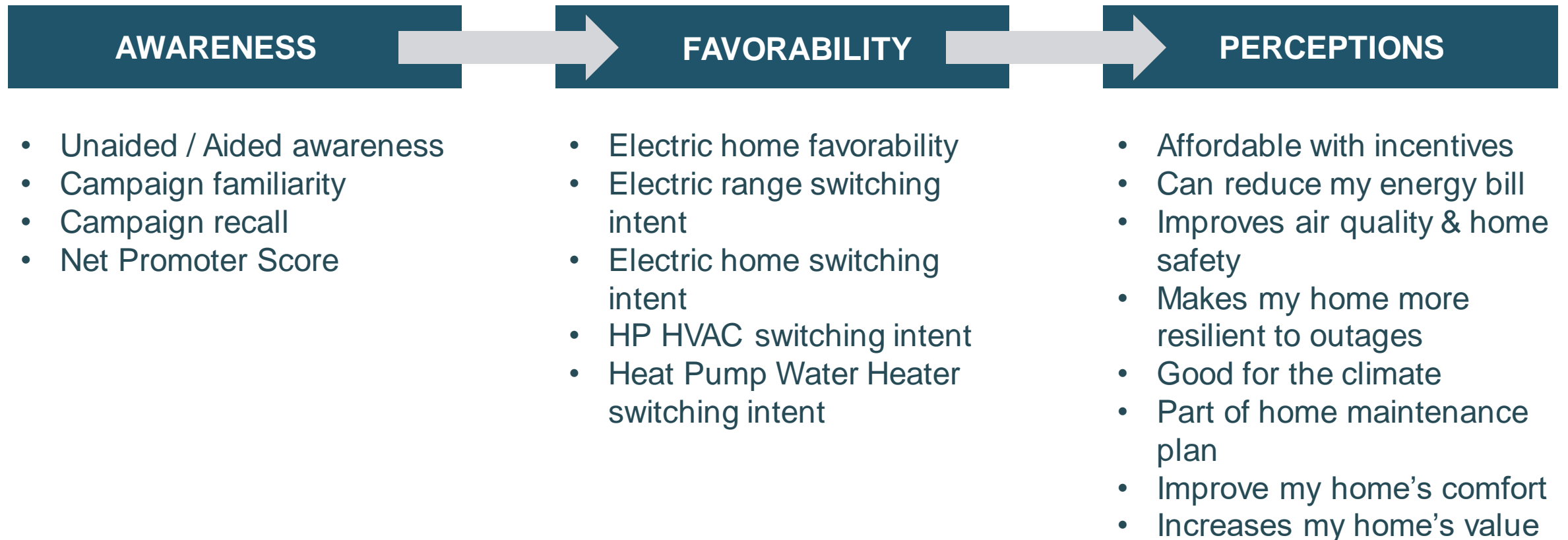
## Messaging

**Switch to Electric** because it's **Better**

- **Cleaner = better** for the environment
- **Safer = better** indoor air quality, healthier home
- **Smarter = efficient,** cost effective, better technology

# Two-Flight Test

Complete home electrification is a lengthy consumer consideration and decision journey. We focused our success metrics on Awareness, Favorability, and Perceptions (vs. demand response metrics such as click-thru-rate or cost-per-click)





# Campaign Execution

## Flight 1

**11 weeks: 4/17 - 6/30**

- Display
- Video
- Tactics:  
Behavioral/Contextual Targeting, Custom Site Retargeting, Lookalike, Connected TV

**Overall Goal 1:** Measure the effectiveness of the campaign across digital media, on how consumers improve their awareness, favorability, and perceptions/consideration of home electrification

### **Geographical Targets:**

San Francisco Bay Area, Central Valley, Southern California (including Inland Empire)

Within these areas, we focused on areas that have number of days where cooling needs are high and climate zone data

# Flight 1 Results

Overall, the Switch is On branding and messaging is memorable, keeping the campaign top-of mind, and making significant lifts in metrics across awareness, favorability, and perceptions.

## Up to +26% lifts across the board for:

- Videos: 15s and 30s
  - 84% Video Completion Rate (industry benchmark: 60%)
- Sole Household decision-makers
- Eco-conscious consumers
- Age Range: 35-44 and 65+ years olds
- Household Income: \$75,000+
- Renters planning to own a home in 2 years
- Central Valley

## Top Takeaways

### 11 weeks: 4/17 - 6/30


- Response with renters planning to own is an audience that shows high potential for targeting, especially in CA
- Short videos did very well, with an 84% completion rate

# Leveraging TECH Pilot Successes

As part of the 8.6 Innovative Customer Targeting Pilot, the pilot team worked with SCE to examine customer meter data to pinpoint customers who were likely to have higher bill and grid savings


Subject: You're Paying More to Be Cool – Now Save Up to \$3,000

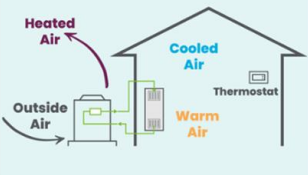
**Now is a Great Time to Upgrade Your Comfort**




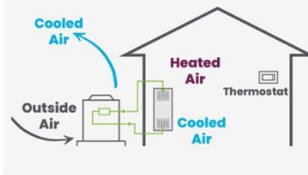
**An update to your heating and cooling system can make big impacts.**  
And right now, you can get up to \$1,000 incentive and a \$2,000 tax credit to upgrade to a high-efficiency heat pump system.

Based on your monthly electricity use, you are paying more than other homes like yours to cool your home.

**SUMMER** 



**WINTER** 





Audience: 278,000 High Cooling Load Customers  
58.4% Open Rate  
1.5% Click Through Rate (CTR)

**Put your solar energy to use and get up to \$3,100\***

California homeowners like you create more solar energy than the grid can use. In fact, every year enough solar energy to power over 300 million hot showers is wasted\*.

Every year, enough solar energy to power over **300 million** hot showers is wasted\*



 = Each icon equals 4 MILLION showers

A great way to take advantage of your excess solar energy is to switch to a heat pump water heater! And you can receive up to \$3,100 in incentives when you make the switch.

Audience: ~40,000 Solar Customers  
59% Open Rate  
3% Click Through Rate (CTR)

# Campaign Execution

## Flight 2

9 weeks: 7/24-9/30

- Same creative mix as Flight 1 for consistency, plus
- Additional behavioral segment targeting with the anonymized SCE data

**Overall Goal 2:** Same as Flight 1 and test hypothesis that more targeted data vs generic geo data would be more impactful

**Enhanced Targeting:** Leveraging the successes of the Innovating Customer Targeting Pilot activities over the past 1 ½ years, the team incorporated the anonymized data from the SCE Pilot targets and Recurve's metering data

**Geographical Targets:** San Francisco Bay Area, Central Valley, Southern California (including Inland Empire) - Same as Flight 1

# Flight 2 Results

Overall, the Switch is On branding and messaging is memorable, keeping the campaign top-of mind, and making significant lifts in metrics across awareness, favorability, and perceptions.

- Lifts across the board, and even higher than Flight 1 with up to +39% skewed results on favorability/perceptions
  - This means we reached more engaged and relevant users with a much higher consideration to switch
- Creatives HPs and HPWH display ads and videos continue to be consistently strong
- This campaign continue to resonate well with sole HH decision-makers, eco-conscious consumers, and age: 35-44 and 65+ years olds

Specific Flight 2 results:

- HH Income: \$50,000 - \$74,999
- Hispanic demographic
- Users/intending to be users of solar

## Top Takeaways

### 9 weeks: 7/24-9/30

- Continue targeting of preferred customer segments with data
- In comparison to flight one web visits increased by 13%
- Favorability for electric homes increased by up to 39%
- Planning to target Hispanic market, with in language ads

# Overall Lessons Learned – Considerations for 2024 Marketing Plan

## Goal 1: Measure the effectiveness of the campaign across digital media, on how consumers improve their awareness, favorability, and perceptions/consideration of home electrification

- Both Flight 1 and 2, we saw up to double-digit lifts across the funnel with specific creatives (HP, HPWH, and videos), sole HH decision-makers, eco-conscious consumers, and ages 35-44 and 65+
- Significant lifts with renters planning to purchase home in 2 years, users/planning to be users of solar, Hispanic, and HH income \$50,000+
- Future Application:** Re-purpose the investment in these creatives and insights on the demographics for even more effective paid media campaigns in the Bay, Central Valley, and Southern CA regions

## Goal 2: Hypothesis that more targeted data vs generic geo data would be more impactful

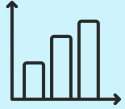
- Targeted customer data, along with Recurve's metering data, from utilities over generic geo data are more effective, up to +39% in Flight 2, in lifting favorability and beliefs in home electrification – this means more engaged and relevant switchers
- Future Application:** Partner with more utilities to implement this type of email, metering data, and paid media retargeting strategy for maximized cost effectiveness and results

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## Highlights from Pilots and Quick Start Grants



# TECH Clean California Activities



## Spur the clean heating market through statewide strategies

### Activate the supply chain

- Contractor incentives
- Streamlined Incentive Clearinghouse
- Technical and sales training

### Drive consumer demand

- Statewide marketing campaign and website



## Create scalable models through regional pilots

### Improve targeting and project finance

- Target customers using meter-based analysis
- Deploy a Tariffed-On Bill Financing Pilot

### Expand benefits to hard to reach customers

- Support low-income programs
- Multi-family pilots targeting property owners

### Streamline installation

- Streamline permitting and installation costs
- Enable load-shifting

### Innovation through Quick Start Grants



## Inform long-term building decarbonization framework

### Develop public reporting site

- Inform policymakers and market actors on progress and impacts

### Quantify decarbonization impacts

- Avoided costs, grid benefits, and customer bill impacts

### Inform policy development

- State, regional, and local regulatory policy



# Quick Start Grants 2023 Projects



## Reaching Renters

**Bright Power** – Aligning utility allowances in regulated affordable housing to promote electrification

**350 Bay Area** – Fast-path approach to heat pump deployment for renters with portable heat pumps and air purifiers

## Novel Financing and GHG Accounting Approaches

**Climate Resolve** – GHG accounting as a tool to scale heat pump retrofits in housing with cost barriers

## Community-Centered Approaches

**City of Sacramento** – Layering multiple programs to enable whole-home electrification and prevent displacement

**Viridis Consulting** – Decarbonizing a multi-owner equity community with HOA governance

**Diversity Coalition** – Targeted and inclusive marketing, educational materials for equitable electrification

## Expanding the Skilled Workforce

**RHA** – Heat pump water heater best practices and field guide

# Quick Start Grant Profile:

## Fast Path to Clean Indoor Air

### 350 Bay Area & Partners

**Project Objective:** Pilot a fast, affordable, and scalable method of improving renters' health, comfort, and indoor air quality by providing portable heat pumps and air purifiers to 30 low-income Bay Area households.

#### Initial Learnings:

- Need for quick and easy solutions in underserved communities
- Residents happy with new A/C
- Installation can be challenging (boxes too big for the car, outlet space availability, 70 lbs.)

#### What's Next:

- Collecting data on bill, energy, and health impacts
- Data collection more difficult than anticipated
- Technology proposed as front runner for 2024 Market Transformation Initiative through CalMTA program



*All photos courtesy of 350 Bay Area*

# Quick Start Grants Webinar Series, Part 2



REDWOOD COAST  
**Energy Authority**



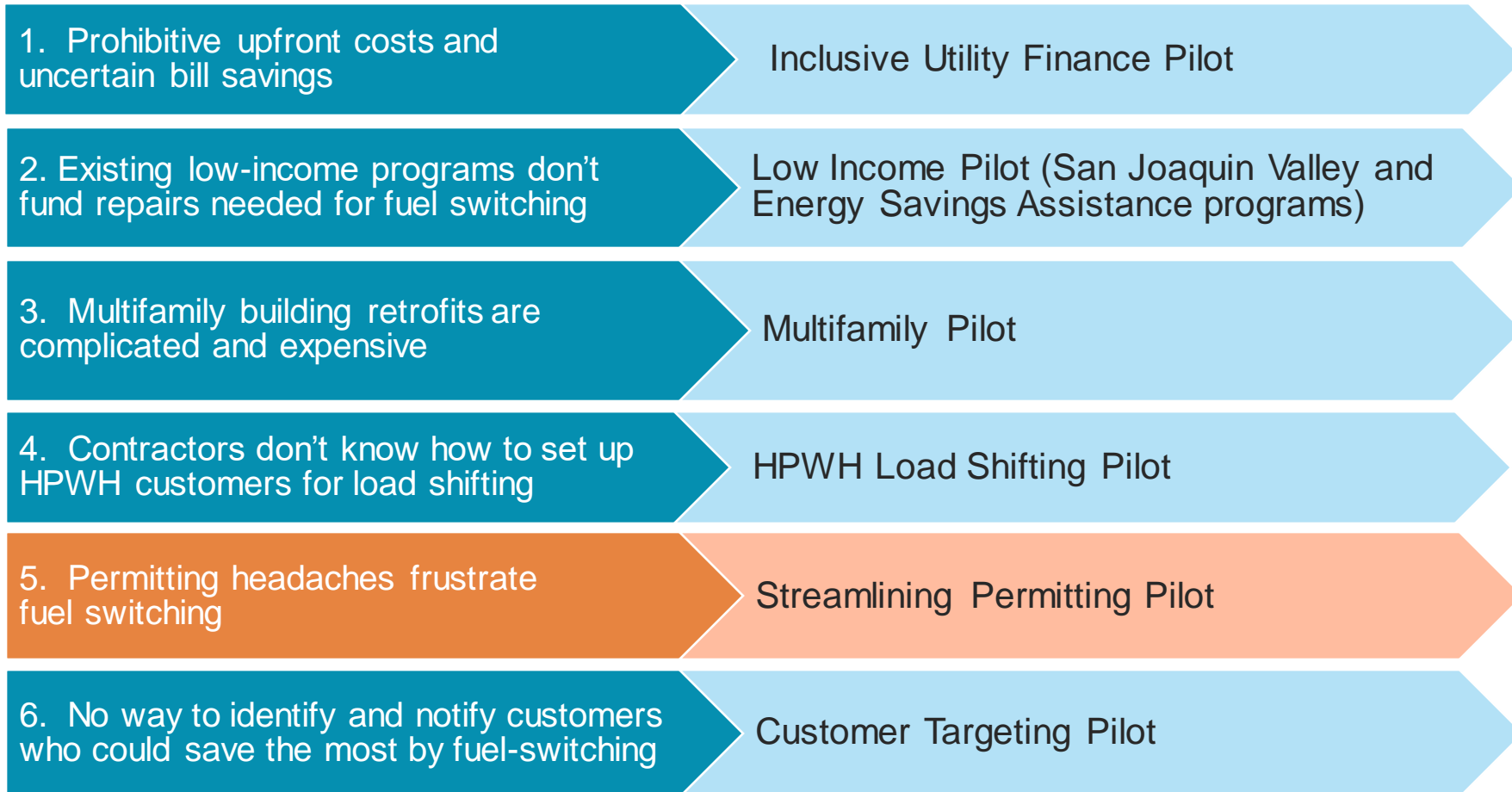
**Revalue.io**

Expansion of outreach and electrification support to rural and Native American communities in Humboldt County

Career training and remediation of home health hazards or code violations in low-income West Oakland households through electrification

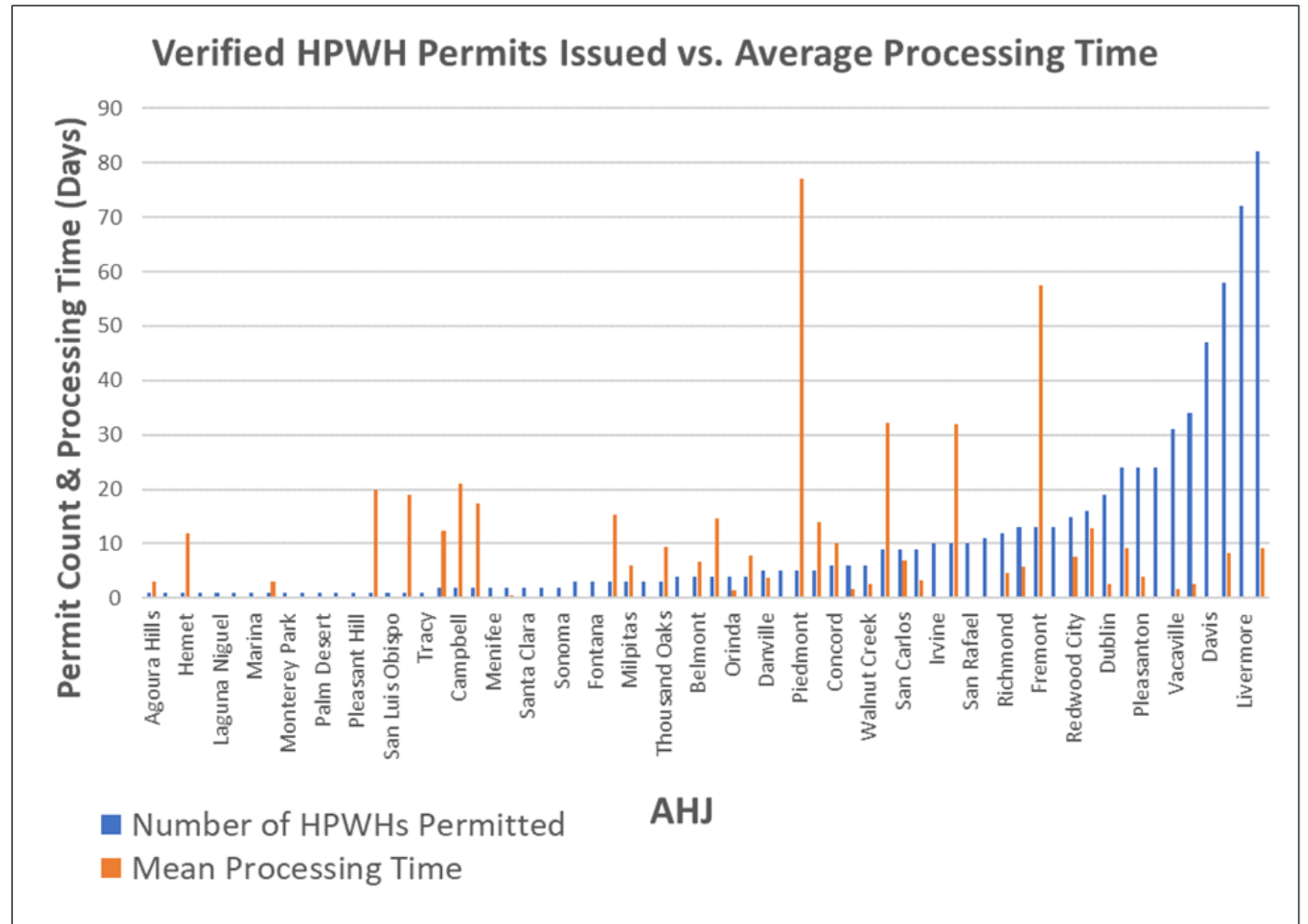
***To be held early in 2024. Watch your inbox for an announcement!***

# TECH Regional Pilots

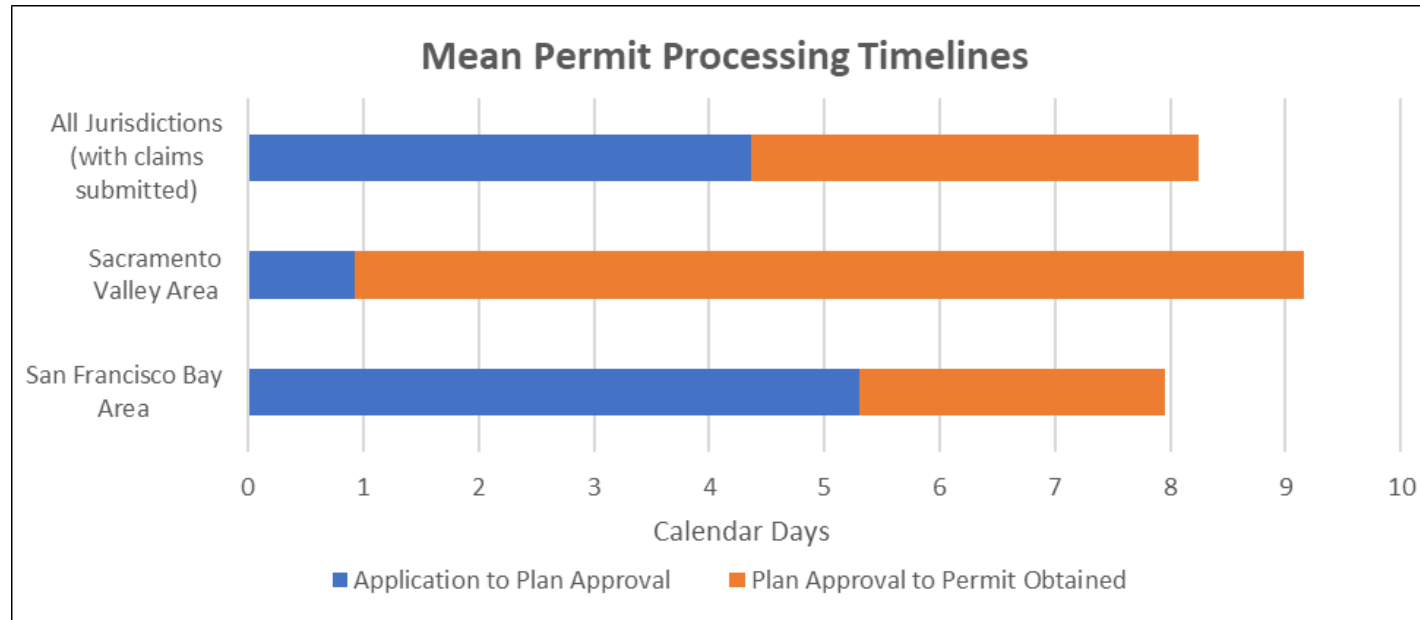


# Pilot Profile: Streamlining Permitting Pilot Final Report

- No/little correlation between quantity of heat pump water heater in a jurisdiction and whether the area has a streamlined process
- Correlation does exist between jurisdictions with shorter permit process times and the level of staff familiarity



# Pilot Profile: Streamlining Permitting Pilot Final Report



- Cumulative processing time to obtain permit is similar across regions, but there are **large regional differences in time to plan approval**
- Different regions need support at different stages of the permitting process

# Pilots and Quick Start Grants: Looking ahead



## December 2023

- Final Pilot Report: Permitting Pilot
- Initial draft of Pilot Learnings Report

## Q1 2024

- QSG Webinar #3:
  - Revalue
  - Redwood Coast Energy Authority

## Q2 2024

- Final Pilot Report: HPWH Load Shifting Pilot
- QSG Webinar #4:
  - Energy Coalition
  - Franklin Energy
  - USGBC-LA
  - AESC

## Q3 2024

- Final Pilot Reports:
  - Multifamily Pilot
  - Customer Targeting Pilot
  - Low Income Pilot

## Q4 2024 +

- Final Pilot Report: Inclusive Utility Investment Pilot
- Scaling lessons learned within TECH Clean California and beyond

# 7 TECH Clean California Resources

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Available online at [techcleanca.com](http://techcleanca.com)



# TECH Clean California Results & Reporting

techcleanca.com/reporting

Resources provided on techcleanca.com aid us in meeting our goals, specifically **communicating with stakeholders, contractors, and informing the framework of long-term policy decisions.**

**Stakeholder Meetings**

**Quarterly Programwide Meetings**

Aug. 30, 2023 Meeting: [View slides](#) | [View recording](#)

May 18, 2023 Meeting: [View slides](#) | [View recording](#) | [View Q&A](#)

Feb. 7, 2023 Meeting: [View slides](#) | [View recording](#)

Oct. 11, 2022 Meeting: [View slides](#) | [View recording](#)

Jun. 29, 2022 Meeting: [View slides](#) | [View recording](#)

Mar. 22, 2022 Meeting: [View slides](#) | [View recording](#)

Dec. 15, 2021 Meeting: [View slides](#) | [View recording](#)

Aug. 12, 2021 Meeting: [View slides](#) | [View recording](#)

**Multifamily Stakeholder Meetings**

Jan. 26, 2022 Meeting: [View recording](#)

**Programwide Reporting**

[Heat Pump HVAC Retrofit Cost Drivers](#)

[Annual Report: Program Year 2021-2022](#)

[Third Party Evaluation Studies](#)

[TECH Clean California: Paving the Way to Heat Pump Market Transformation](#)

[TECH Clean California's Heat Pump Market Transformation Approach: Lessons Learned in Year 1](#)

[Meter-Based Targeting for Beneficial Electrification at Scale](#)

**Quick Start Grants**

[2023 Quick Start Grant Reports](#)

**Barnett Plumbing & Water Heaters:** [Executive Summary \(.pdf\)](#) | [Final Report \(.pdf\)](#)

**Institute of Heating and Air Conditioning Industries, Inc.:** [Executive Summary \(.pdf\)](#) | [Final Report \(.pdf\)](#)

**New Buildings Institute:**

**Pilot Activities**

[Tariffed On-Bill Pilot Meetings & Materials](#)

[Permitting Pilot Meetings & Materials](#)

**Learn More**

[Partner Flyer:](#) Read about opportunities to get involved and partner with the TECH initiative

[Related Programs:](#) Partner programs and more clean energy initiatives

[Reporting Website Summary:](#) An overview of the data available on this website and upcoming additions

[Upcoming Events:](#) Register for stakeholder meetings, webinars, contractor trainings, and more.

[Additional Resources:](#) For consumers, contractors, and more.

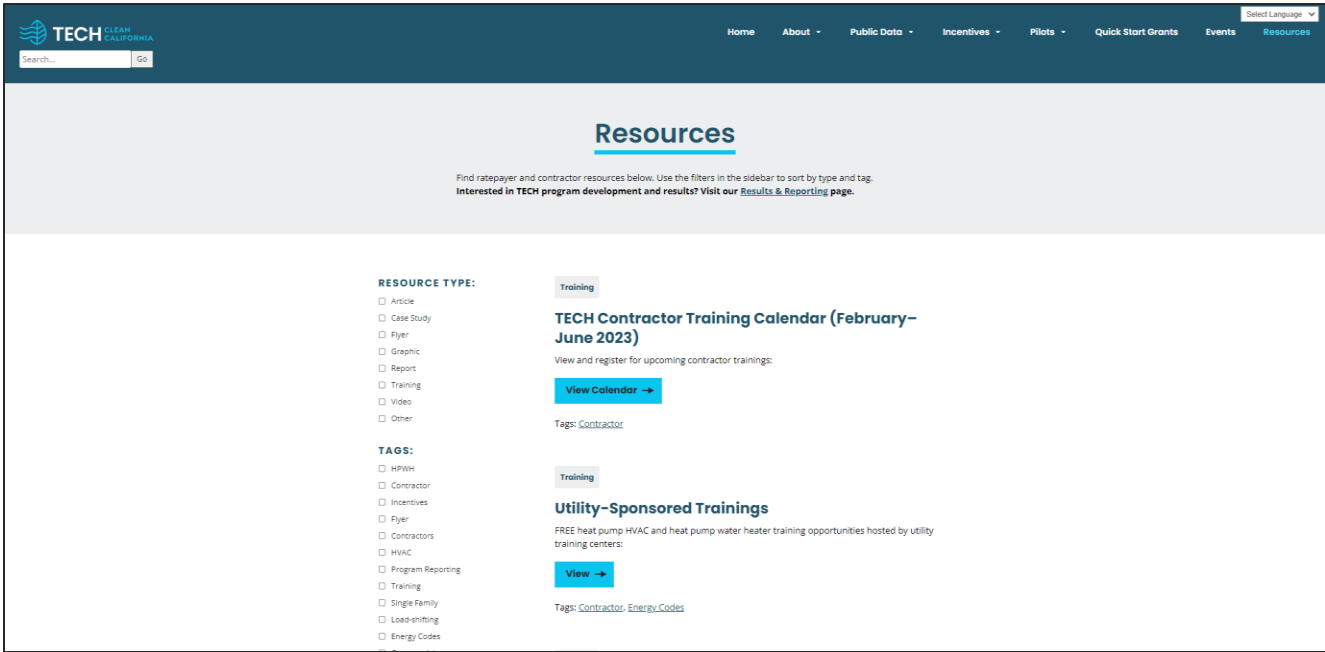
## Find Results & Reports About...

- Stakeholder Meetings
- Workshops
- Program Reporting
- Quick Start Grant Reports
- Pilot Activities

# TECH Clean California Resources

techcleanca.com/resources

Find Flyers, Case Studies, Reports, and More!



## RESOURCE TYPE:

- Article
- Case Study
- Flyer
- Graphic
- Report
- Training
- Video
- Other

## TAGS:

- HPWH
- Contractor
- Incentives
- Contractors
- Flyer
- HVAC
- Program Reporting
- Training
- Single Family
- Partnerships
- Load-shifting
- Energy Codes
- Commercial

**COMING SOON:**  
Distributor and  
Manufacturer  
Resources/Tags

# TECH Clean California Evaluation Studies

[techcleanca.com/public-data/evaluation-studies](http://techcleanca.com/public-data/evaluation-studies)

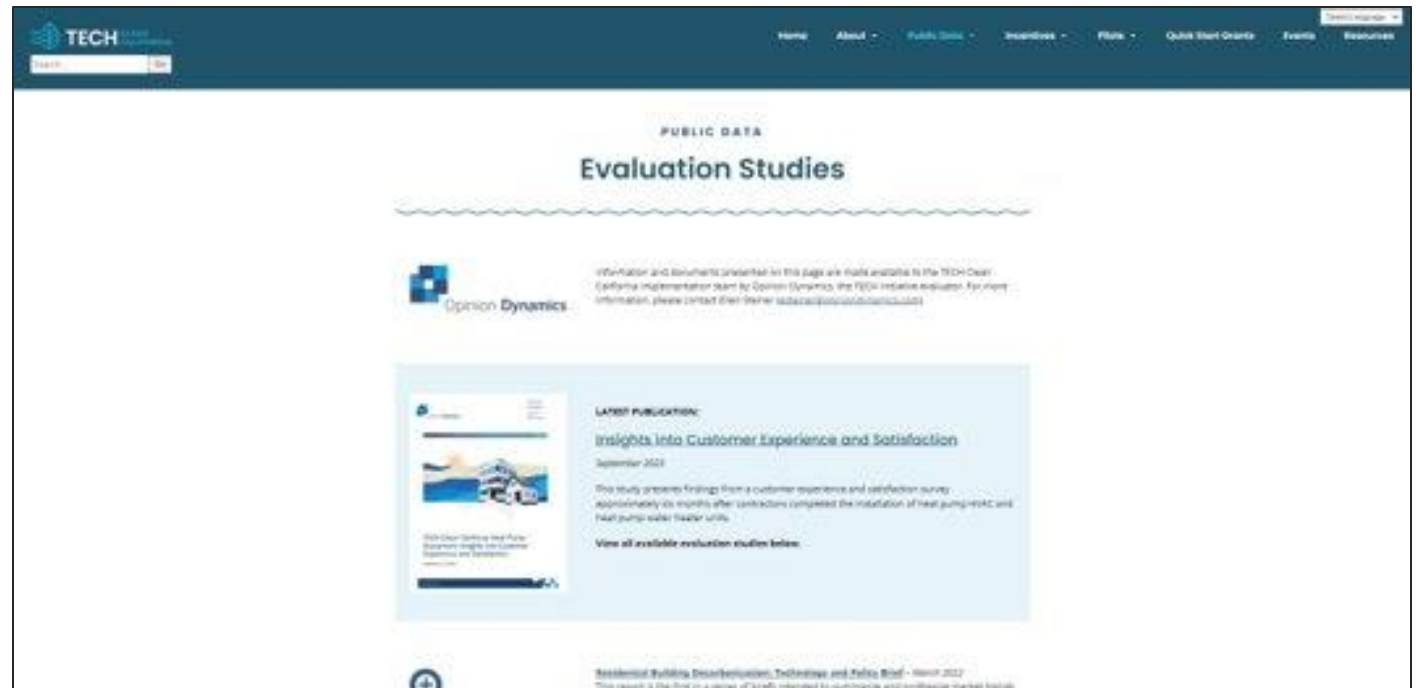
## Dive into Studies About...

- Customer Experience and Satisfaction
- Market Evaluations
- Program Evaluations

...and draw your own conclusions!

**Upcoming:** Customer Experience and Satisfaction Insights Webinar 12/13

Register for events at  
[techcleanca.com/events](http://techcleanca.com/events)



# TECH Clean California Contractor Data

techcleanca.com/public-data/contractor-data

## Find Stats About...

- How many contractors are participating in TECH Clean California
- How many heat pump water heaters have been installed
- How many heat pump HVACs have been installed
- Segmented data for single family, multifamily, and low-income

TECH CLEAN CALIFORNIA

Home About Public Data Incentives Pilots Quick Start Grants Events Resources

Search [Go]

### PUBLIC DATA Contractor Data

Use the interactive tool below to search for contractors who performed heat pump water heater ("HPWH") or heat pump space heating/cooling system ("HP HVAC") installations in your county.

**Customers, are you interested in your own heat pump?**  
Receive quotes from contractors who can claim rebates available near you.

Switch is On: Find a Contractor Tool →

Enter your county to find a nearby participating contractor:

Contractor Name	TECH Program Name				Grand Total
	Single Family HVAC	Single Family HPWH	Multifamily HVAC	Multifamily HPWH	
1st Choice Heating & Air Conditioning Inc	4				4
A 2023's Greenest Heating and AC	30				30
A & P HEATING AND COOLING INC	51	3			54
A and G Air Conditioning	6				6
A Con Air	36	24			60
A Plus General Contractors, Inc	17				17

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Q&A



# Summary and Next Steps

## TECH Clean California Overview

- Upcoming publication of **Annual Report focusing on Year 2** of TECH Clean California
- **New dashboards** of meter-based results (electricity, gas, GHG, utility bill impacts)

## Data Analysis

- Bolster data set with **~20k new installations, meter analysis for 2k projects in Q1 2024**
- Publish **real home vintage and parcel data** on [techcleanca.com/public-data/download-data/](https://techcleanca.com/public-data/download-data/)

## Program Design and Incentives

- Relaunch **multifamily unitary HPWH incentives** on December 12
- Determine **funding for next round**, and lean into data to determine structure

## Marketing

- **Product Finder** with TECH Qualified Products List (QPL) available on [switchison.org](https://switchison.org)
- **Resource Hub** for contractors
- Finalize **2024 Marketing Plan** based on lessons learned

## Evaluation

- December - Results from **project tracking database analysis** and **deemed savings desk reviews**
- Late January - **Incremental cost study** PowerPoint results
- Early 2024 - **Market study report, conduct site visits for the end-use metering study, and begin consumption analysis**, pending available utility data

## Pilots and Quick Start Grants

- **Webinar and final reports** for the second group of completed **Quick Start Grants**
- Publication of **initial Pilot Learnings Report**



**Next Stakeholder Meeting: Q1 2024**

# Thank You

*For more information or to get involved, contact:*

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Tre'Laine



@TECHCleanCA @TECHCleanCalifornia

techcleanca.com

# Appendix

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