

7th Quarterly Stakeholder Meeting

May 18, 2023



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: Relaunching single family Heat Pump HVAC incentives and other activities

Presentation Guidelines:

- This is a webinar format, so please direct your questions to the Q&A feature. We will do our best to answer questions there during the presentation.
- 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

Agenda

- 1 TECH Clean California Overview

- 2 Equity Customer Criteria

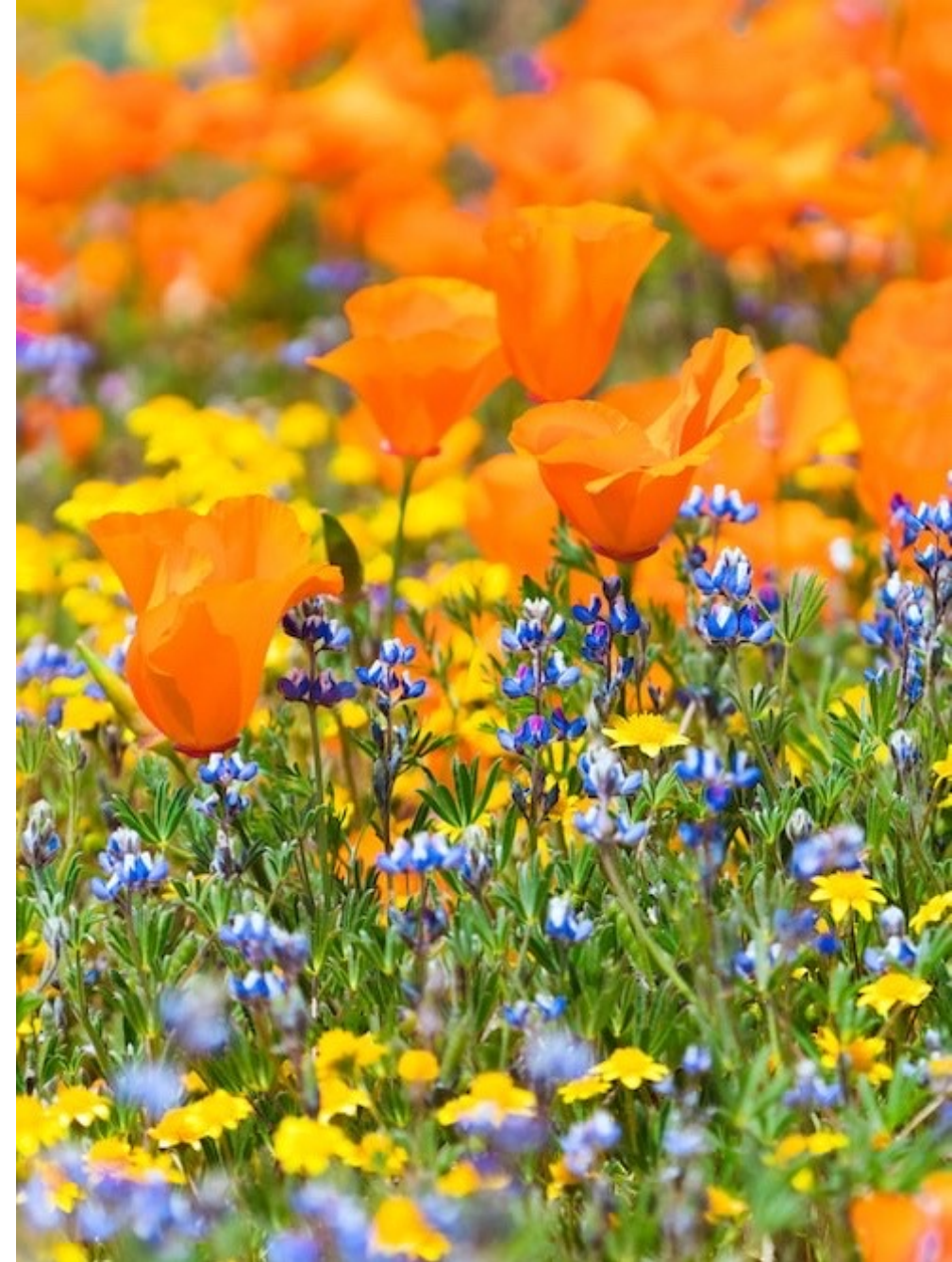
- 3 Relaunch: Program Incentives and Design

- 4 Marketing

- 5 Evaluation

- 6 Pilots and Quick Start Grants

- 7 Q&A



Presenters



Evan Kamei
Energy Solutions



Peter Florin
Energy Solutions



Shweta Sanjeev
BDC



Jen Loomis
Opinion Dynamics



Kalee Whitehouse
VEIC

1

TECH Clean California Overview



TECH Clean California Overview

What is TECH Clean California?

- California’s flagship heat pump market transformation initiative for space/water heating, designed to help put California on a path towards carbon free homes by 2045
- Guiding principles of scale, equity, regulatory simplicity, and market transformation
- Previously, funds were proportionally allocated by gas IOU territory. New funding from state budget enables statewide eligibility

For a more complete overview of TECH Clean California, check out the slides and recordings from our previous quarterly Stakeholder Meetings at techcleanca.com.

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”

TECH Team:



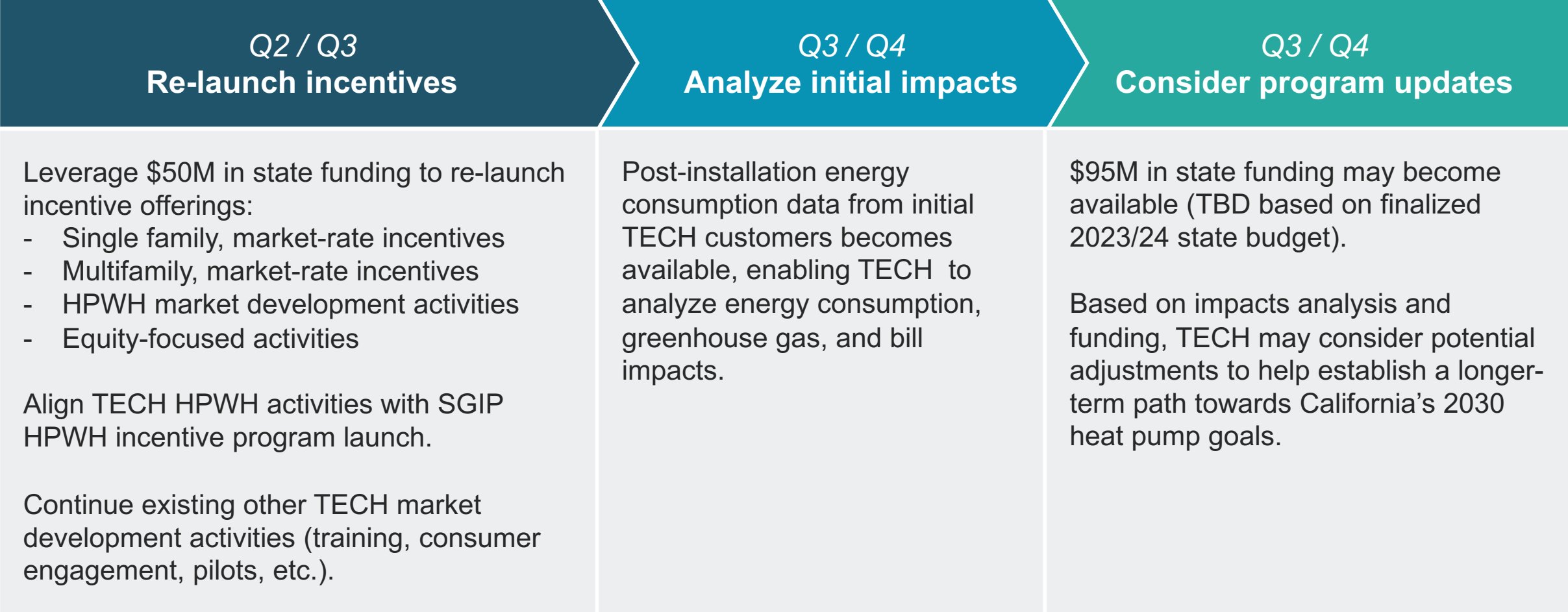
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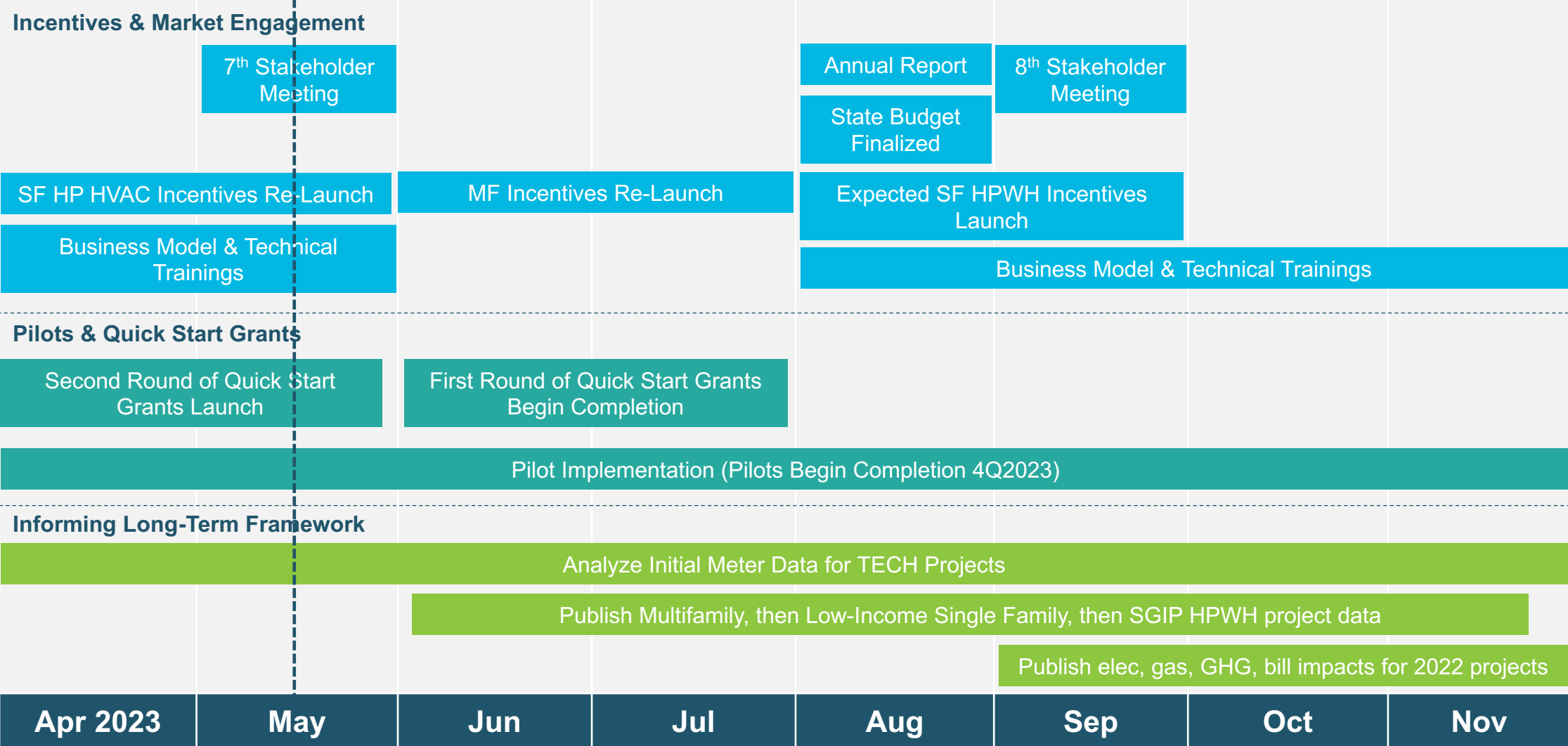
Tre'Laine

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

TECH Clean California's: 2023 Goals and Path forward



TECH Clean California Timeline



2

Equity Customer Criteria



TECH Equity Customer Criteria

CPUC Decision 23-02-005:

- Provides guidance on how TECH can use additional \$50 million of funding.
- 40% of program costs will be spent on "equity customers" at a minimum.
- TECH must use the same definition of "equity customer" as the programs it is supporting.
- This criteria, comprised of existing definitions documented in the CPUC Environmental Social Justice Action Plan, will be used where there is no program TECH Clean California is supporting.

TECH Equity Goals:



Support existing equity programs by leveraging incentives, outreach, and education to gather information and extend program benefits to equity customers.



Foster the network of contractors who serve equity customers and familiarize them with electrification.



Develop a community engagement approach that increases the penetration of heat pump adoption for equity customers and can be scaled.

TECH Equity Customer Criteria

Design Considerations:

- Composed of existing definitions from the CPUC ESJ Action Plan.
- Reflects attributes that are reportable and trackable using data from TECH Clean California installations and existing infrastructure.
- Captures an estimated population of no more than 40% of the state.
- Does not reflect the selection process for Quick Start Grants, for which equity is determined qualitatively.

Attribute	Building Type		
	Single-Family	Multifamily	Other
In a CalEnviroScreen 4.0 Disadvantaged Community	X	X	X
In a Census Tract in highest 10% unemployment rate percentile	X	X	X
Not in SF Bay Area, Greater LA area, Greater Sacramento area, or San Diego County and 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	
Household using a CARE or FERA gas or electricity rate	X		X

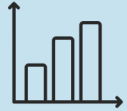
Moving forward, TECH will report on equity metrics on techcleanca.com as well as in future stakeholder meetings.

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Relaunch: Program Design and Incentives



TECH Clean California Activities



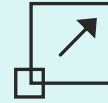
Spur the clean heating market through statewide strategies

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
- 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 Goals- Update to include new totals

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

- **Initial round of incentives demonstrated strong heat pump (HP) momentum in California:**
 - Large set of Statewide heat pump installation and workforce data
 - Over 20k total units incentivized
 - Over 1,400 contractors enrolled
 - 1-year energy consumption data from initial installs should be available in ~Q3 2023
 - Feedback about how to produce a program at scale
- **Relaunch Update**
 - Relaunched single family HP HVAC on April 25
 - Launching multifamily HP HVAC and HPWH in mid-June
 - Launching Statewide single family and multifamily HPWH in Q3



Current Incentive Budgets

- **Single Family Heat Pump HVAC: \$22M**
- **Multifamily HPWH and HP HVAC: \$7M**
- **Statewide HPWH: \$80+ million via SGIP HPWH**
 - \$3 million HPWH carveout from TECH Clean California to support Statewide implementation
 - 50% of the residential budget allocated for equity customers
- **Equity Program: \$8.5M**



Single Family Relaunch Details



Single Family HP HVAC

- Launched April 25th
- **\$1,000/unit**, max. of 2 units per dwelling
- Minimum Efficiency: **TBD**
- Dual fuel systems will be accepted, but only if it is an AHRI matched system with controls to limit furnace operation



Single Family HPWH

- Launch aligned with SGIP HPWH,
- **TECH will provide gap funding** to fill in geographic regions that SGIP HPWH cannot serve
- TECH team will **educate market and customers about demand response requirements** to prepare stakeholders ahead of launch

TECH Single Family HVAC

Incentive Category	Detail
Total budget	\$22 million, no allocations per territory
Incentive structure	Flat! One rate available Statewide
Incentive rate	\$1,000/unit (unit = condenser)
Max incentive/address	\$2,000 (2 units)
Eligible equipment	Title 24 Code minimum
SEER vs SEER2?	Both qualify!
Dual fuel	Eligible if part of a three-component AHRI tested system with the heat pump programmed to provide primary heating
Eligible previous furnace types	Natural gas, propane, wood, electric resistance
Not eligible previous heating types?	No previous heating, heat pump, space heater

TECH SF HVAC Relaunch – Market Feedback

50 finalized projects and 450 additional reservations created to-date

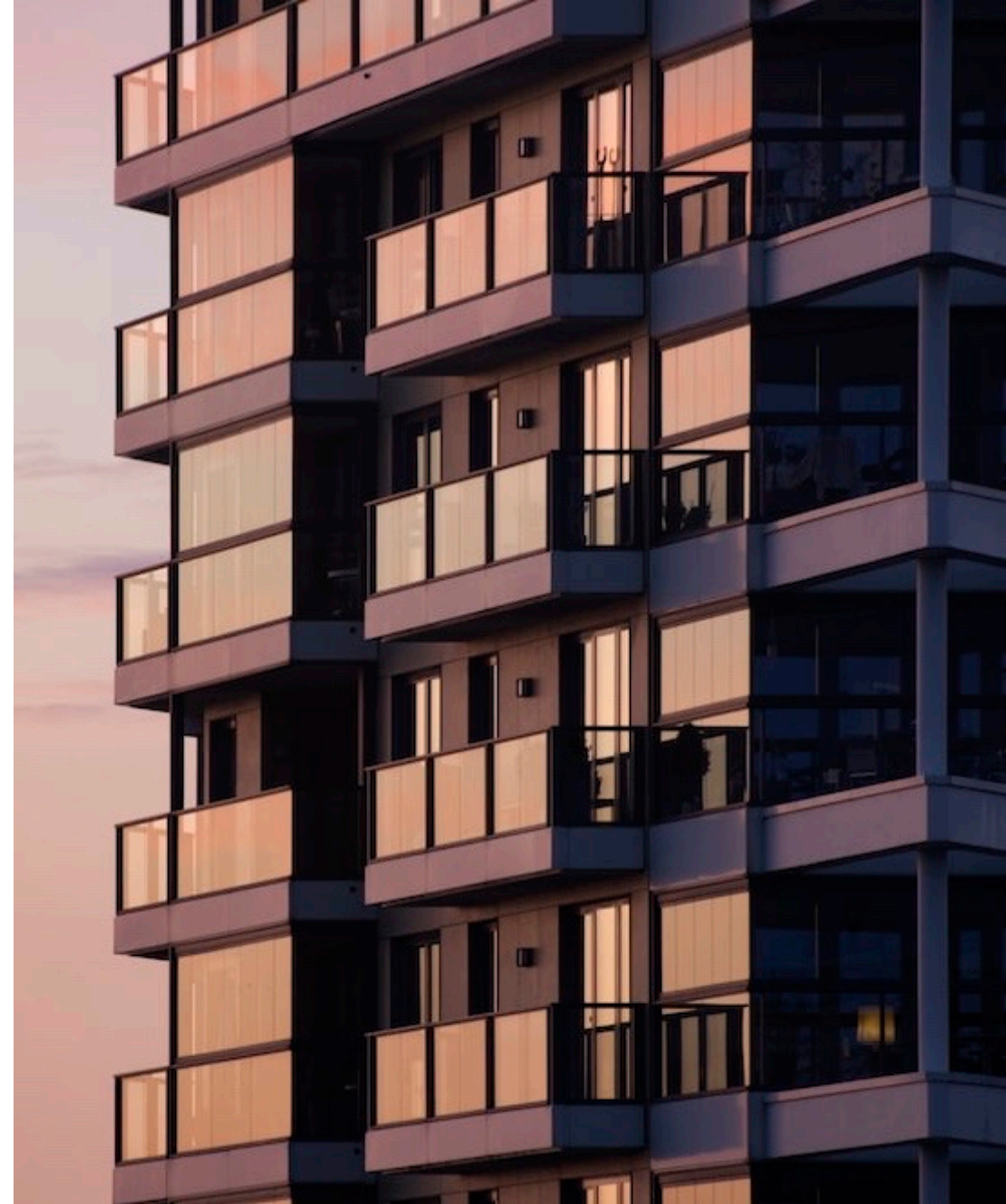
- Market actors are very excited about the flattened incentive design and statewide consistency
- Contractors are supportive of lowering incentives; value program stability
- Most contractors intending to participate despite hurdles, funding limitations in 2022
- Appreciated keeping dual fuel as an option (options are important to opening the HP conversation)

Our Takeaways:

- Strong market support for **simplified incentive design** and geographic eligibility
- Lengthening program runtime / **program stability is critical** for market transformation.
- **Reviewing draft design with market actors for feedback** helped improve program

Multifamily Relaunch

- **Launch:** Mid-June
- **Budget:** \$7 million
 - 75% carveout for equity
 - Allocated in two rounds (split 50/50)
 - \$500k participant/property owner cap
- **Measures:** Same as Round 1
- **Main updates:** moving reservation process from PDF to Salesforce



Multifamily Heat Pump HVAC Details

Incentives for Heat Pump HVAC Systems Serving Individual Apartments

Previous Space Heat Source	System Type		Total Incentive Per System
	Description	AHRI Test Standard	
Non-heat pump systems	Split or rooftop heat pump (ducted or ductless)	210/240	\$2,000
All except PTHPs	PTHP, SPVHP, or unitary through the wall/ceiling heat pump	310/380, 390	\$500 (Single or two-stage compressor) \$1,000 (Variable capacity/inverter-driven)



Eligible measures and incentives are unchanged in relaunch

Incentives for Heat Pump HVAC Systems Serving Multiple Apartments

Previous Space Heat Source	System Type	Total Incentive Per Apartment Served
Non-heat pump systems	HP HVAC equipment serving multiple apartments	\$1,000

Multifamily Heat Pump HVAC Details

Incentives for Heat Pump HVAC Systems Serving Common Areas

Previous Space Heat Source	System Type	Total Incentive Per System
Non-heat pump systems	Split or rooftop heat pump (ducted or ductless)	\$1,800
	PTHP, SPVHP, or unitary through the wall/ceiling heat pump	\$300 (Single or two-stage compressor) \$800 (Variable capacity/inverter-driven)



Eligible measures and incentives are unchanged in relaunch

Current TECH Clean California Incentives Available

Incentive Budget Report

Last updated: 5/15/23 2:40 p.m. PT

Building Type	Product Type	Date first available	Territory Available	Where to enroll?	Incentive Budget (\$)	Reserved Budget (\$)	Non-Reserved Budget Remaining (\$)	% Non-Reserved Budget Remaining
Single Family Residential	Heat Pump Water Heater	Q3 2023	Statewide	TBD	78,968,281	0	78,968,281	100.0%
Commercial	Heat Pump Water Heater	Q3 2023	Statewide	TBD	4,234,719	0	4,234,719	100.0%
Single Family Residential	Heat Pump Water Heater	Dec 2021	SoCal Gas	Enrollment Form	1,500,000	756,450	743,550	49.6%
Single Family Residential	Heat Pump HVAC	Apr 2023	Statewide	Enrollment Form	22,000,000	172,100	21,827,900	99.2%
Multifamily Residential	All	May 2023	Statewide	Enrollment Form	7,000,000	0	7,000,000	100.0%

Please go to incentives.switchison.org to see if you are in a qualifying territory.

Partner Program Incentives

Providing a one-stop shop for heat pump incentives



- \$1,000 per HPWH installed to replace a natural gas or propane water heater
- Available for customers of EBCE, MCE, SVP or CPSF

- Incentives available for HP HVAC and HPWH installations in single family and multifamily residences
- Available for customers of CCCE only
- Kickers available for income qualified customers and panel upgrades

Complete list of heat pump incentives available at incentives.switchison.org

Incentives- What is Next?

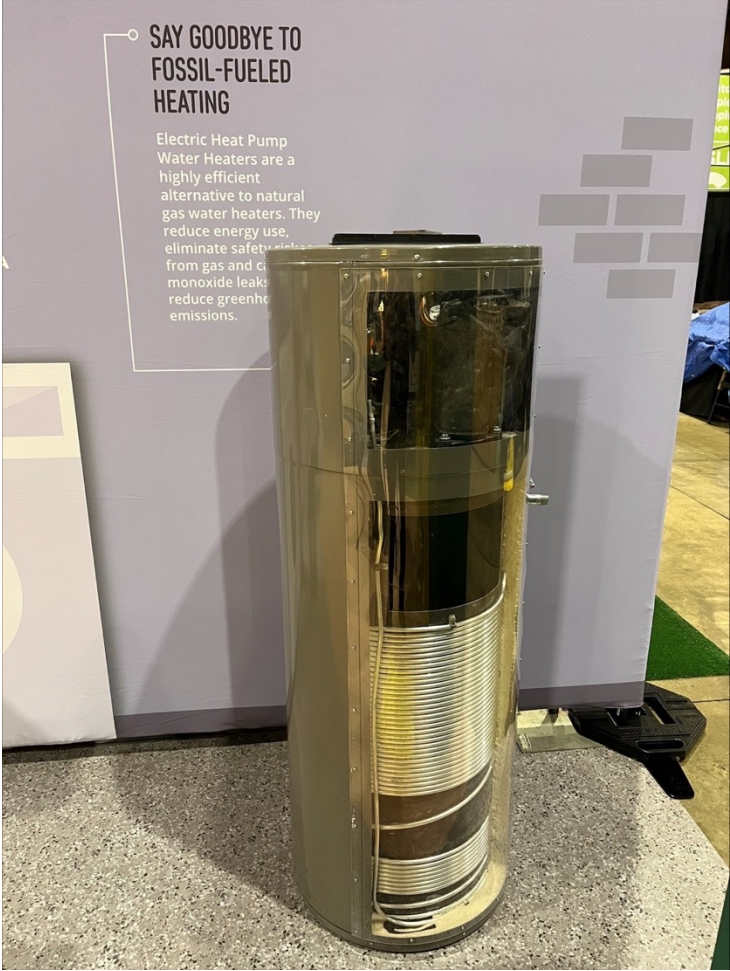


Market Outreach and Collaboration

- **Distributor engagement**
 - 12 distributors trained, estimated to cover ~80% of residential heat pump sales
- **Contractor engagement**
 - Events (Ferguson, Howard Industries, Slakey Brothers, Pace, BayREN)
- **LA County Fair**
 - Partnered with market actors to provide free units for the SCE LA County Fair booth



Market Outreach and Collaboration



Manufacturers

- Some manufacturers are retooling plants to be 100% heat pump focused
- Manufacturers do not see an issue with production capacity and are confident they can meet demand
- Price inflation is similarly affecting both heat pumps and furnaces / gas water heaters
- Some manufacturers are dropping less efficient model lines due to IRA eligibility requirements (25C and home energy rebate programs)
- Main focus of manufacturer marketing dispel old assumptions about heat pumps – i.e., heat pumps are appropriate and effective in cold climates.

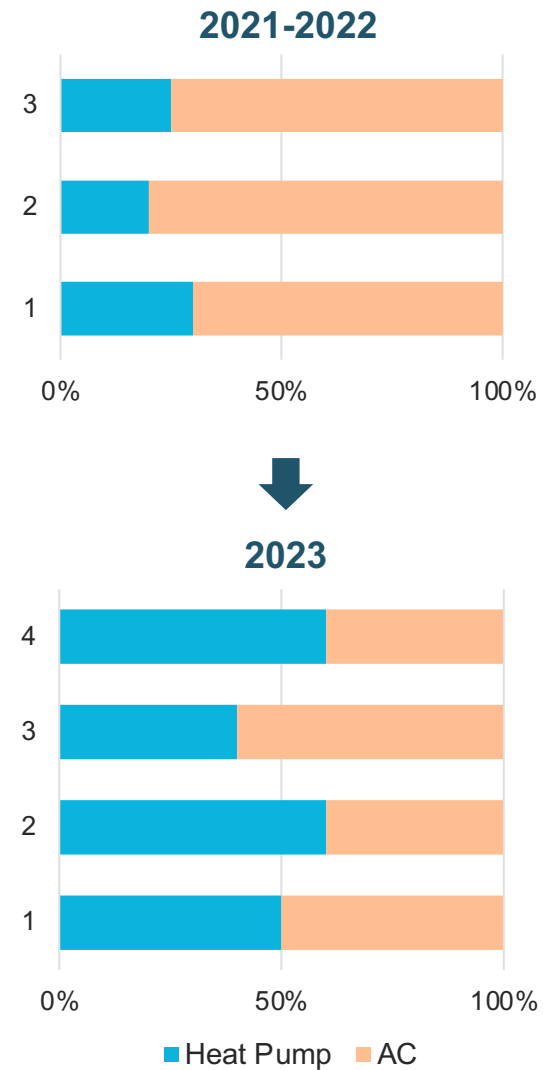
Our Takeaways:

- **Provide manufacturers with forecasted units** the programs will support to ensure capacity
- Capacity / product quality has been hugely increased but is not instantaneous - **manufacturers need to know what to plan for**
- 3-6 month headwinds on eligibility changes to retool production
- **Consider program goals** when determining eligibility requirements

Distributors

Combination of market drivers are increasing their AC:HP stocking ratio

- **Distributors are a key partner in heat pump programs.** They are intimately familiar with the product, the market, and program requirements and are main avenues for education for contractor base.
- **Substantial increase customer demand** for heat pumps, specifically highly-efficient HP
 - Uptick attributed to recent heat pump media and IRA incentives (\$2000 25C tax credit). May take some time for the 25C tax credit to make larger impacts.
 - Some wariness that customers perceive heat pumps as a “panacea.”
 - More nuanced customer education necessary (what measures to prioritize first, etc.)
- **Codes and Standards also driving stocking decisions**
 - Ultra-low NOx (ULN) standards also contributing to heat pump adoption.
 - New 2023 DOE product standards motivated distributors to get rid of AC stock in 2022 and switch purchase orders to heat pumps.
- **IRA Rebate Programs** - Hearing lots of buzz / excitement, but not yet a driver.



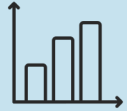
Contractors

- **25c Tax credits:** Most contractors don't approach the tax credit conversation too much
 - Eligibility can be confusing and contractors do not have visibility into customer tax liability, so can't guarantee tax credit
 - Tax credits recognized 8+ months down the line.
- **Home Energy Rebate programs.** More predictability with rebates; upfront payment, but still waiting on program design.
- **TECH / SGIP incentives.** Excited to participate. Incentives “open up the door” to customer conversations.
- **Simplicity is key.** Prefer “flattened” incentives, centralized application system, broad eligibility.

Our Takeaways:

- Prefer **centralized system / platform**
- **Clear rules** that don't change and are consistent across programs
- **Spiffs less important** than predictability
- **Short payment turnaround is key.** Low financial tolerance for long repayment periods

TECH Clean California Activities



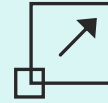
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TECH WE&T 2023

Goal: To increase workforce knowledge, skills, and abilities of HP technologies, build greater capacity and capability of the workforce to be aptly prepared to transact with the equipment, and to improve employment opportunities.



HVAC System Performance
Training
National Comfort Institute



HPWH Training:
ESMAC + “Learn and Earn”
HPWH program



Electrification Sales and
Building Performance Training
Electrify My Home



Multifamily Training:
Association for Energy
Affordability

WE&T Updates

- Concluding Spring 2023 Training Calendar
 - Finalizing Fall/Winter 2023/2024 Calendar
 - Incorporated HPWH load shifting content into ESMAC training to prepare for SGIP HPWH launch
-

- ~200 attendees from ~40 firms
- ESMAC HPWH training: 300 attendees
- HPWH Learn and Earn: 115 units (23 contractors + 10 colleges or other training organizations)



TECH WE&T- ESMAC Partnership

- **ENERGY STAR Manufacturer Action Council (ESMAC)** is a WH manufacturers group, facilitated by ENERGY STAR
- Trainings offered **100% for free** and open to all interested stakeholders—no need to be enrolled in TECH.
- Webinars to include:
 - **Presentation from each manufacturer**, focused on technology features and benefits, appropriate applications, energy efficiency comparison to other water heater types, installation techniques and best practices, service support and warranty, proper maintenance, troubleshooting, and selling strategies
 - **Presentation from TECH and ENERGY STAR**, including overview of TECH and other program incentives



- **Upcoming Trainings** (all 7 - 9 AM PST):
 - May 24th, 2023
 - June 12th, 2023
 - June 28th, 2023
 - Additional dates TBD

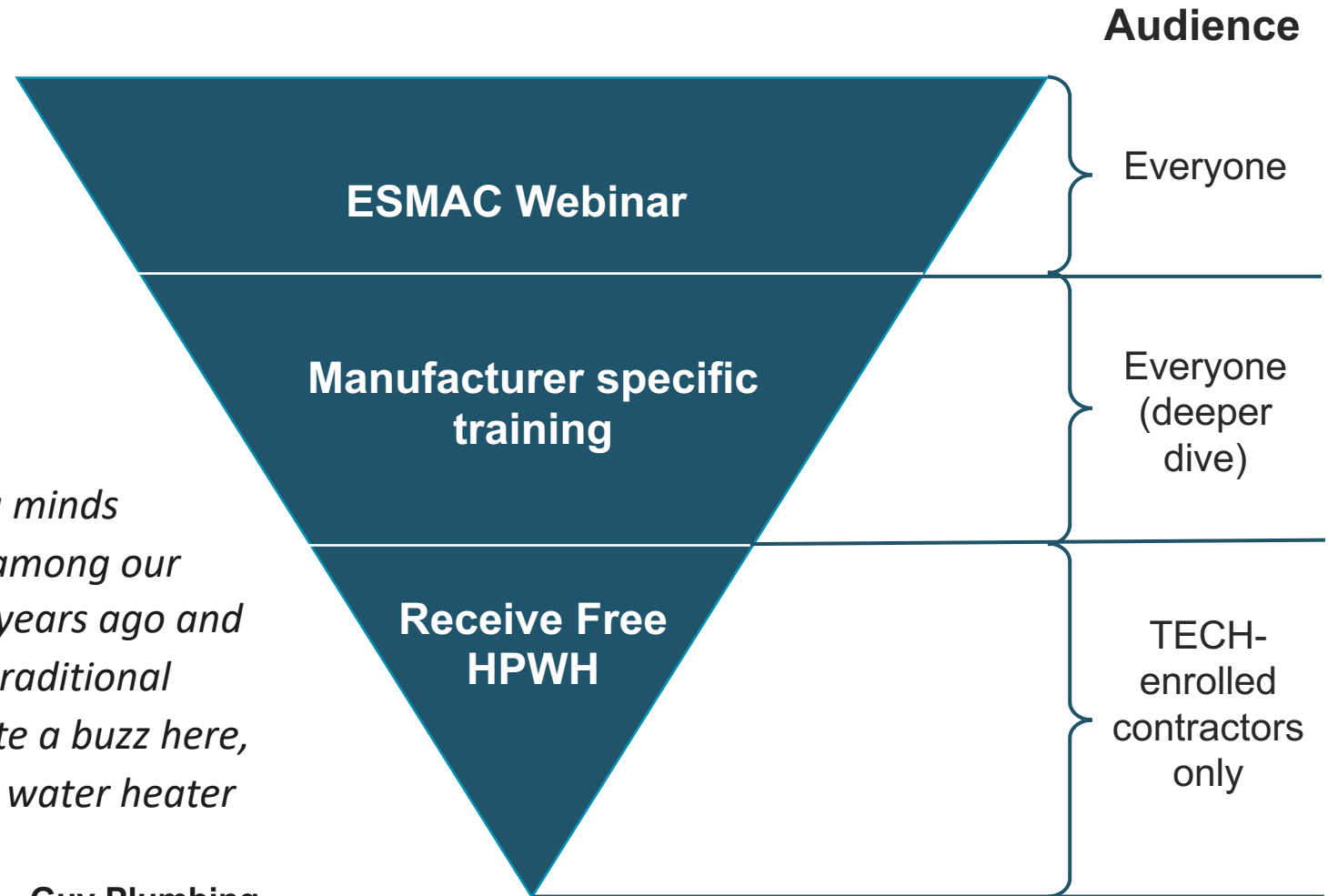
Registration:



HPWH Market Seeding

“ BTW – this is a smart program that is changing minds and attitudes toward heat pump water heaters among our plumbers. Our family business started nearly 75 years ago and we might be among the most conservative and traditional plumbers around! Your program has created quite a buzz here, and we are steadily coming onboard with hybrid water heater replacements for our customers.”

– Guy Plumbing



Next Steps

- Finalizing Fall/Winter 2023/2024 Calendar
- Integrating needs for programs such as QI/QM + SGIP HPWH



Intermission

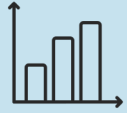


4

Marketing



TECH Clean California Activities



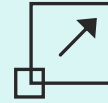
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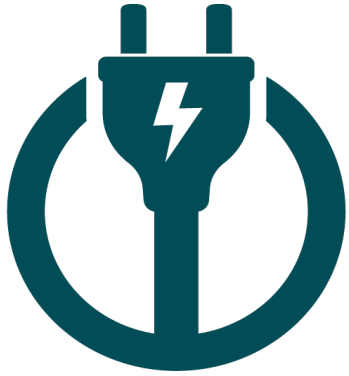
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THE SWITCH IS ON

Shweta Sanjeev
ssanjeev@buildingdecarb.org



The Switch is On



Purpose

To encourage consumers to swap out their fossil fuel-powered appliances for electric appliances.

Campaign Goals

EDUCATION

Drive awareness and educate consumers about electrification.

INSPIRATION

Encourage adoption of electric appliances over gas appliances.

SWITCHING

Support the process of switching to electric from beginning to end.

EQUITY

Web Updates: Home Page



English

[Learn More](#) [Make the Switch](#) [For Contractors](#) [About](#) [Contact](#) [FAQs](#)

SWITCHING TO ELECTRIC
IS **SMARTER**
THAN EVER.

[Learn More](#)



Why Switch To Electric

- Messaging: **Cleaner, Safer, Smarter, Healthier.** Call to Action: **Switch to Electric**
- Simplified UX with easy access to Incentive Finder, Contractor Directory and TECH Contractor Hub

Web Updates: Heat Pumps



ALL THE COMFORTS OF HOME. ONLY BETTER.

Did you know that heating and cooling uses up to 40% of your home's energy? There's a better, more efficient way to keep your home just the way you like it – a heat pump.

A heat pump can both cool and heat your home with a single system. Plus, heat pumps are up to 4x's as efficient as a standard air conditioner or furnace, so you'll use less energy to keep your home comfortable. You can also get better control in heating or cooling only the rooms you want.

There are valuable incentives on heat pump systems across California. It's a great time to make the switch. Find a participating contractor to help you decide if a heat pump is the right choice for you.

[Explore Incentives](#)

[Find a Contractor](#)



Benefits of a heat pump system:

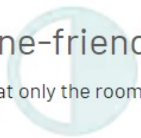
Highly Efficient

Saves You Energy



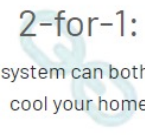
Zone-friendly:

Cool or heat only the rooms you want



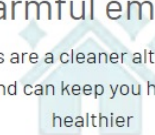
2-for-1:

A single system can both heat and cool your home



No harmful emissions

Heat pumps are a cleaner alternative to gas furnaces and can keep you home safer and healthier



Web Updates: Heat Pump Water Heaters



WATER HEATING

Heat pump water heaters are like water-based batteries—storing energy in the form of hot water



HOT WATER WHEN YOU WANT IT. ONLY BETTER.

Water heating is the second largest energy use in your home. A Heat Pump Water Heater (HPWH) can provide all the hot water you need with a fraction of the energy. A HPWH can be 3x's times more efficient than conventional water heaters and can help you save on the cost of heating your water.

Plus, with incentives available in California, a new heat pump water heater is more affordable than ever. Find a participating contractor to help you decide if a heat pump water heater is the right choice for you.

[Explore Incentives](#)

[Find a Contractor](#)



Benefits of a heat pump water heater:

Highly Efficient –

Saves You Energy



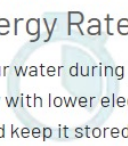
Safer for your home –

Eliminate the risk of carbon monoxide or nitrogen dioxide leaks



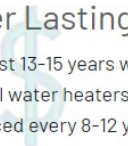
Avoid Peak Energy Rates –

Heat your water during times of the day with lower electricity prices and keep it stored for when



Longer Lasting –

Typically last 13-15 years while conventional water heaters need to be replaced every 8-12 years



Web Updates – For TECH Contractors



GOOD FOR YOUR BUSINESS. GOOD FOR CALIFORNIA.

TECH Clean California rewards contractors for recommending and installing heat pumps in existing single-family and multifamily California homes.

The market is shifting. California is reducing its carbon emissions by investing in heat pump technology for space conditioning and water heating. As a TECH Clean California participant, you'll get the resources and support your business needs to keep up with market trends and attract customers. You will:

- Offset equipment and installation costs by joining TECH Clean California, with incentives paid directly to you
- Receive technical and sales training from manufacturers and world-class instructors
- Get co-branded marketing and outreach materials to build your heat pump sales – at no cost to you
- Boost the value of your business by being listed as a qualified TECH Clean California installer on switchison.org



- Easy to navigate with simplified Menu options
- UX design informed by Opinion Dynamics Contractor Survey
- Incentive Resources Page tracks TECH Program Budget

There is no cost to participate in TECH Clean California. The program is open to B-General Building, C-36 Plumbing, and C-20 HVAC Contractors. For a preview of the contractor participation agreement, [click here](#).

[EXPLORE INCENTIVES >](#)

[SIGN UP NOW >](#)

ALREADY ENROLLED IN TECH?

[Get the tools you need here.](#)

INCENTIVES

[Submit an incentive application](#)
[Incentive Resources](#)

TECH CLEAN CALIFORNIA SUPPORT

Not finding what you need?
[Click here for the TECH Support Center](#)

TRAINING HUB

Find TECH-sponsored trainings and other helpful resources to help build your electrification business

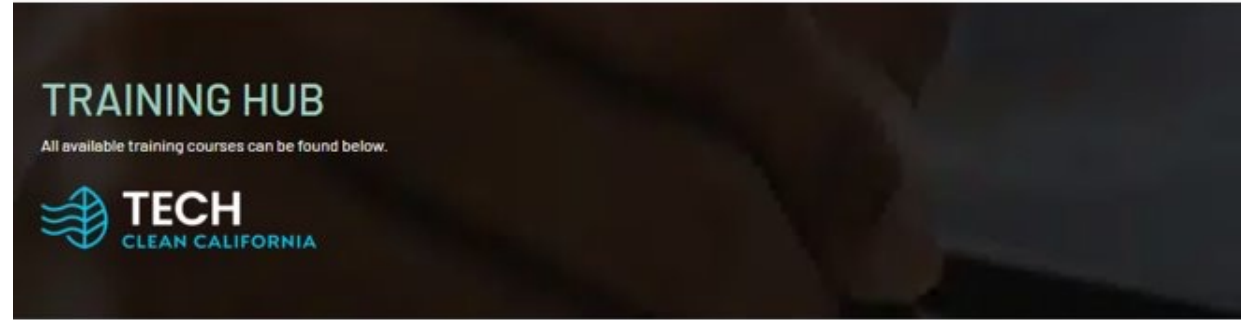
MARKETING MATERIALS

Get TECH Clean California marketing templates to help keep your customers up to date

Training Calendar - For TECH Contractors



- Training Calendar Features
 - Easy to navigate with List view & Calendar view
 - Features: In-person, Field, On-Demand & Live Trainings
 - Searchable by Training provider



TECH Clean California sponsors trainings at **low or no cost** for participating contractors. You can also find useful trainings from equipment manufacturers and industry partners to keep your businesses up-to-date.

Required Participating Contractor Onboarding Training

Participating Contractors are required to take these courses to complete enrollment in TECH Clean California. These videos deliver onboarding training and provide an overview of the initiative and instructions to submit TECH Clean California incentives.

Target audience: Participating Contractors and Support Staff

[MORE INFORMATION AND REGISTRATION](#)



Trainings brought to you by TECH Clean California



Association for
Energy Affordability
(AEA)



**ELECTRIFY
MY HOME**
Electrify My Home
(EMH)



Energy Star HPWH
Manufacturer Action
Council (ESMAC)




National Comfort
Institute (NCI)

Spring Paid Media Launch




- **Overall Message:** Switch to Electric because its Better
- **Themes:**
 - Cleaner = better for the environment
 - Safer = better indoor air quality, healthier home
 - Smarter = efficient, better technology
- **Versions:** Heat Pump, Heat Pump Water Heater, Induction Cooking
- **Flight Duration:** April 17th to June 30th
- **Geographies:** Select cities in Bay Area, Central Valley, Southern California (including inland empire). Layered with contextual targeting
- **Channels:** DirectTV, Facebook, Instagram
- **KPI:** Awareness and Favourability for electrification based on campaign assets



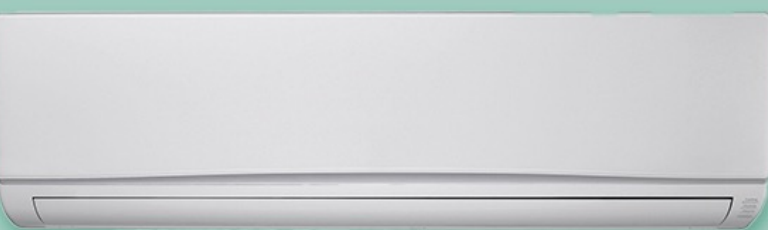
Cool your house with a furnace?

Nope. But a heat pump can.




THE SWITCH IS ON

Switch to electric ▶



Just one unit for heating & cooling



Heat pumps do both. **THE SWITCH IS ON**

Switch to Electric →






Indoor Temp: 72°
Gas Bill: \$0
Heat pumps.
Comfortable in every way.

THE SWITCH IS ON

Switch to Electric →



Hot Water: 24/7
Gas Bill: \$0
Heat pump water heater

THE SWITCH IS ON

Switch to Electric →


Scrub-a-dub your gas bill.
Heat pump water heater.

THE SWITCH IS ON

Switch to Electric →

Cool your house with a furnace?
Nope. But a heat pump can.




THE SWITCH IS ON

Switch to Electric →

Newsletter Launch

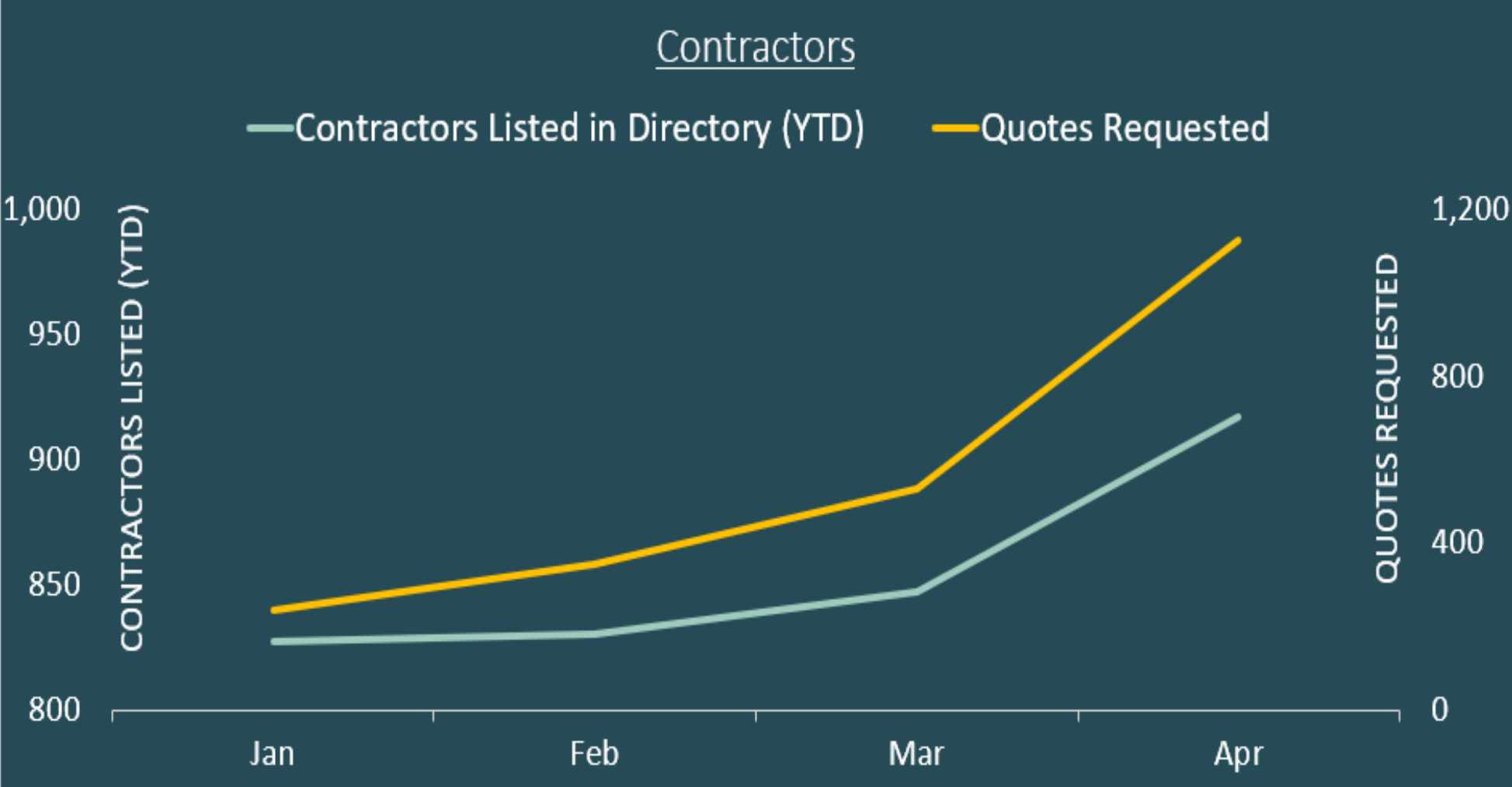


- +400 Launch Audience: SIO Ambassadors & partners in California
- Content:
 - Storytelling – Ambassador Features
 - Timely updates on incentives
 - Themes:
 - Tips to save costs
 - Feature expert advice from contractors/manufacturers
 - Optimize your Electric Home
 - Solutions for Renters
 - Myth busting
- Metrics:
 - Open Rate: 58.8%
 - Click-Through-Rate: 15.2%

Electric Life is the Best Life



2023 YTD Performance Summary



2023 YTD Performance Summary



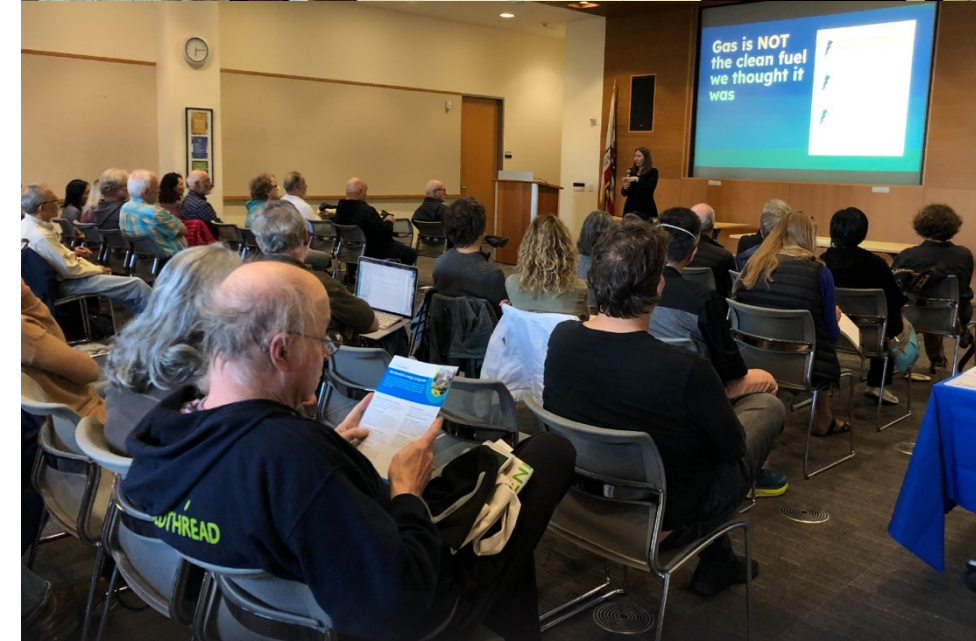
- Average time spent on site: 2 mins, 30 secs
- Top viewed pages: Home Page, Incentives and Find-a-Contractor
- Top 5 CA metros:
 - LA, SF-Oakland-San Jose, Sacramento-Stockton-Modesto, San Diego and Fresno-Visalia
- Audience insights:
 - Homeowners at 84% vs Renters at 16%
 - High home value, almost 25% living in their residence for 1-3 years.
 - Interests include Banking, News & Politics, Cooking and Lifestyle
 - Audience skews female, 40-54 age range

2023 YTD Performance Summary

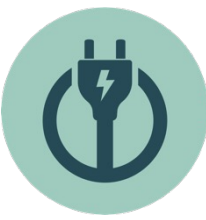


• **Media , Consumer Outreach & Conferences**

- 12 community events with ambassadors and partners in Bay Area and Southern California
 - Approximate audience reach ~1200 visitors
- TECH Media mentions: KNX-LA Radio announcing TECH incentives launch
- SIO Media engagements promoting electrification
 - Audience reach 480.2 Million
- Presented at the Getting to Zero Forum in MN on the role of consumer marketing for residential decarbonization



2023 TECH Activities



Jan - Feb



- ✓ IRA Explainers
- ✓ Web Enhancements - For Contractors
- ✓ Incentive Finder - IRA Tax Credits

Mar - Apr



- ✓ Re-launch Paid Media
- ✓ Web Enhancements - For Consumers
- ✓ Incentives refresh - TECH
- ✓ Launch SIO Newsletter
- ✓ Refresh creative assets

May - Jul



- ⌚ Product Finder with TECH Qualified Products List (QPL)
- ⌚ Resource Hub for Contractors & Consumers
- ⌚ Equity Community Outreach Plan
- ⌚ Paid Media Consumer Awareness Survey
- ⌚ Targeted Video Content

5

Evaluation





Opinion **Dynamics**

Evaluation Update for TECH Clean California

By Jen Loomis, PhD

May 18, 2023



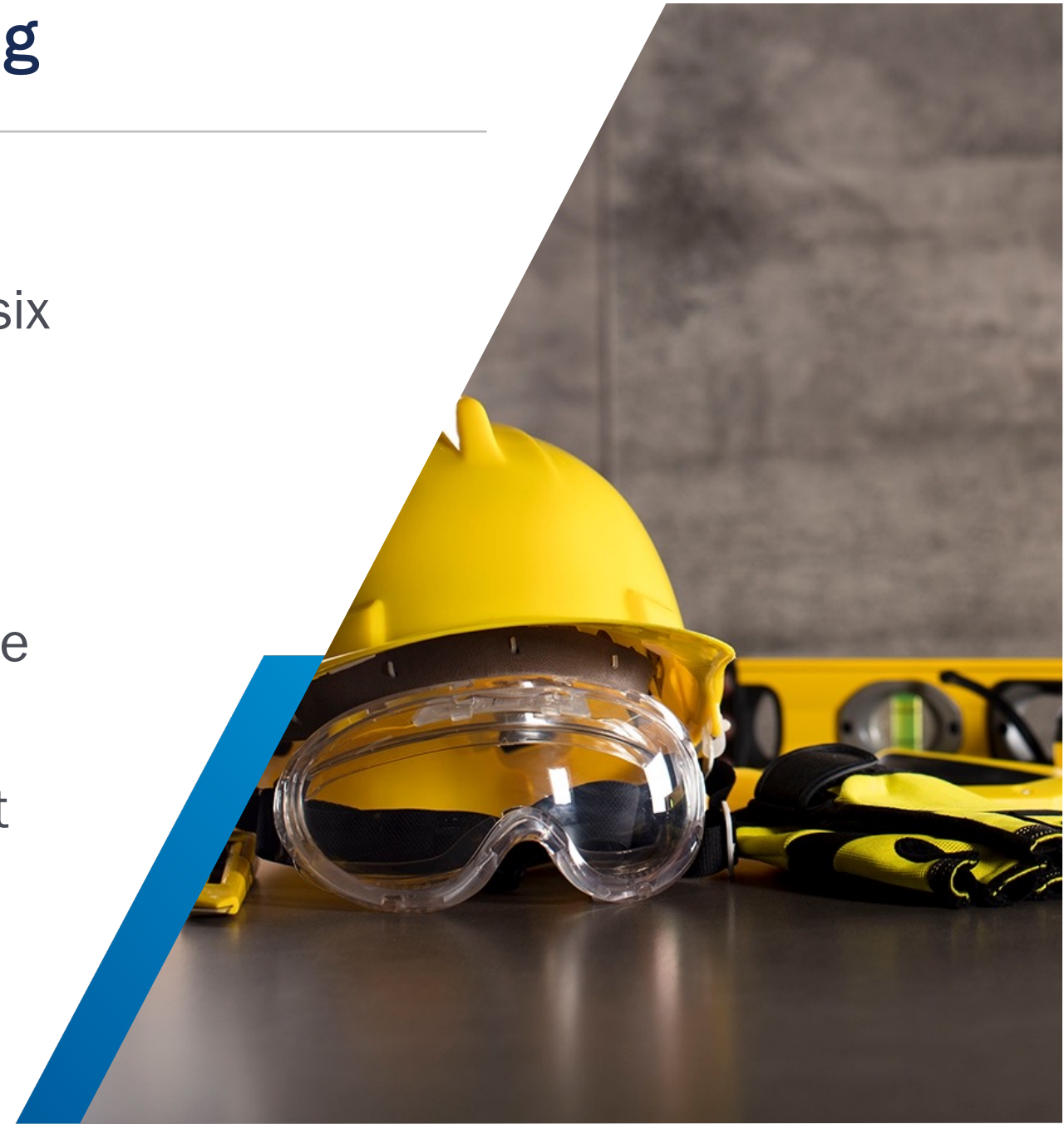
Impact Evaluation



- Finalized our impact evaluation plan
- Posted to PDA on energydataweb.com
- Two goals
 - Evaluate GHG emissions reductions
 - Determine utility bill impacts
- Sample-based circuit-level metering
- Population-level AMI-based modeling
- Develop EM&V Framework for future electrification and decarbonization programs to support scalability

Workforce, Education, and Training

- Assessed how much contractors are applying what they learned on the job six months after training
- Evaluated Electrify My Home's "Cohort Training" Series
- Observed HPWH trainings as part of the contractor giveaways
- Conducting an assessment of pre/post knowledge impacts



Customer Experience Research

- Evaluated single-family customers who had their heat pump at least six months
- Objectives
 - Hear about their experience, how it met their needs
 - Learn if they had any issues
 - Hear about monthly utility bill impacts
- Expected to be available in late June





Opinion **Dynamics**

Contact:

Jen Loomis, PhD

jlloomis@opiniondynamics.com

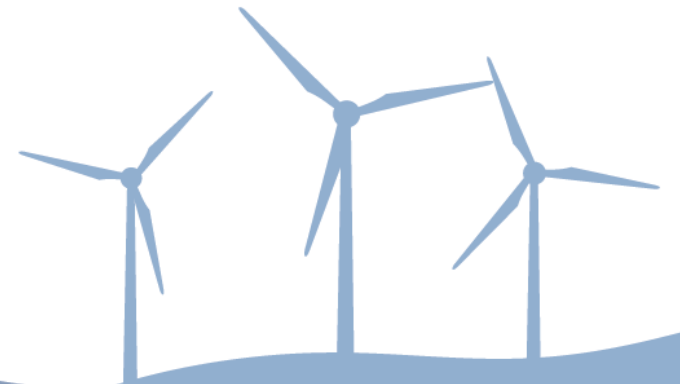
503-943-2125

Find our studies:

On the TECH website

techcleanca.com/public-data/

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



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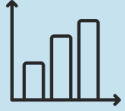
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6

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 HTR 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 Grant Profile: 120V HPWH Field Validation – New Buildings Institute

Project Objective: Independent field verification of energy performance, installation requirements and user satisfaction to support market development and utility programs.

2022 Highlights:

- (3) Manufacturer partners including split and integrated 120V HPWH models
- 32 installation sites throughout CA (SF/MF, CZ 1-6, 8-13, 16)
- Primary barriers – space limitations, permitting and CA plumbing code

May 2023 Update:

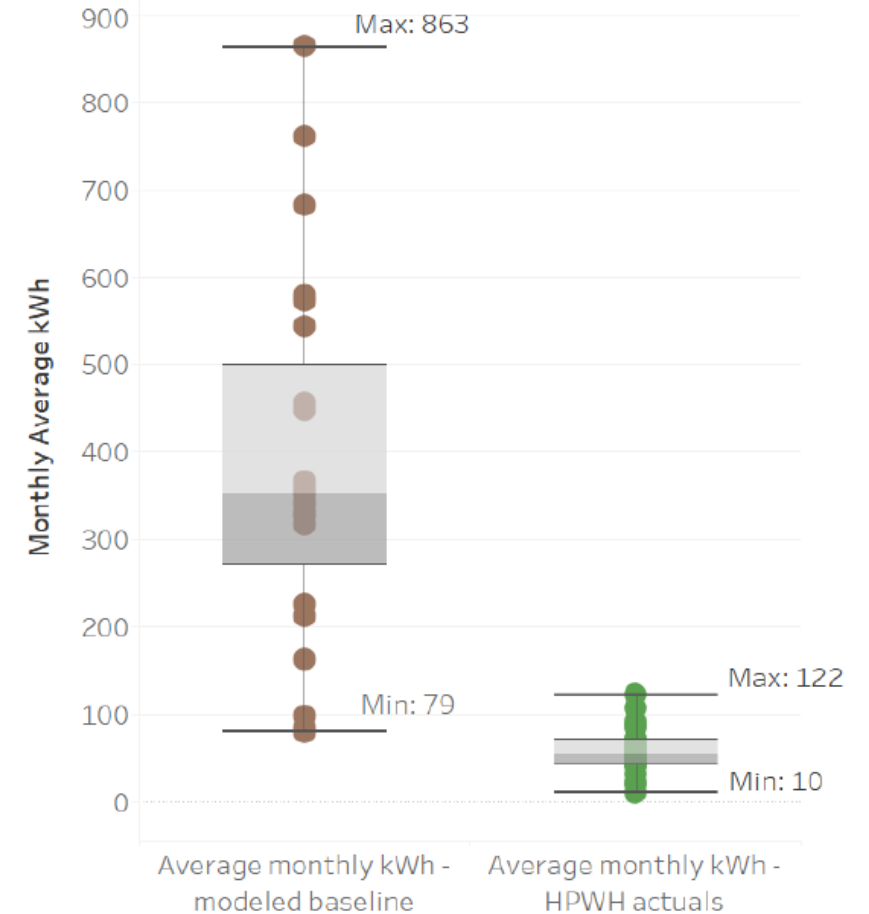
- Finalizing data analysis and drafting final report
- Results provide insights on customer satisfaction, as well as significant equivalent reductions of energy use and even energy costs (different by utility service territory)
- Significant installation cost savings by eliminating potential dedicated 240V circuit run, electrical panel replacement or service amperage upgrade

Quick Start Grant Profile: 120V HPWH Field Validation – New Buildings Institute



- Metered 120V Plug-in HPWHs delivered significantly lower equivalent energy use to modeled gas water heaters
- 60% of respondents rated 120V HPWHs the same or better than their gas water heater
- Most respondents with decreased satisfaction have experienced a specific issue with the HPWH (short-term equipment malfunctions)

Average monthly modeled (baseline) and measured (HPWH) kWh



Quick Start Grant Profile: Loaner Water Heaters for Emergency Fuel-Switching – Barnett Plumbing

Project Objective: Single-family San Francisco Bay area customers committing to a 240V HPWH offered a same-day, no-cost gas loaner water heater installation.

2022 Highlights:

- Increase in conversion rate from <1% to more than 17%
- Targeted primarily at “good candidate” sites
- 149 HPWHs installed / 127 gas loaners

May 2023 Update:

- Draft final report complete
- Additional 56 commitments to HPWH installs in past month (post project) with a 52% conversion rate (loaners + 120V HPWHs)



Pilots and Quick Start Grants: Looking ahead



6

Q&A



Summary and Next Steps

TECH Overview

- Established Equity Customer Criteria
- Multifamily project data published by June
- Electricity, gas, GHG, and bill impacts for many 2022 projects published Q4
- **Next stakeholder meeting:** Focus on data

Program Design and Incentives

- Single family HP HVAC incentives relaunched
- Finalizing Fall/Winter 2023/2024 Training Calendar
- Relaunching Multifamily Incentives
- Integrating needs for programs such as QI/QM + SGIP HPWH

Marketing

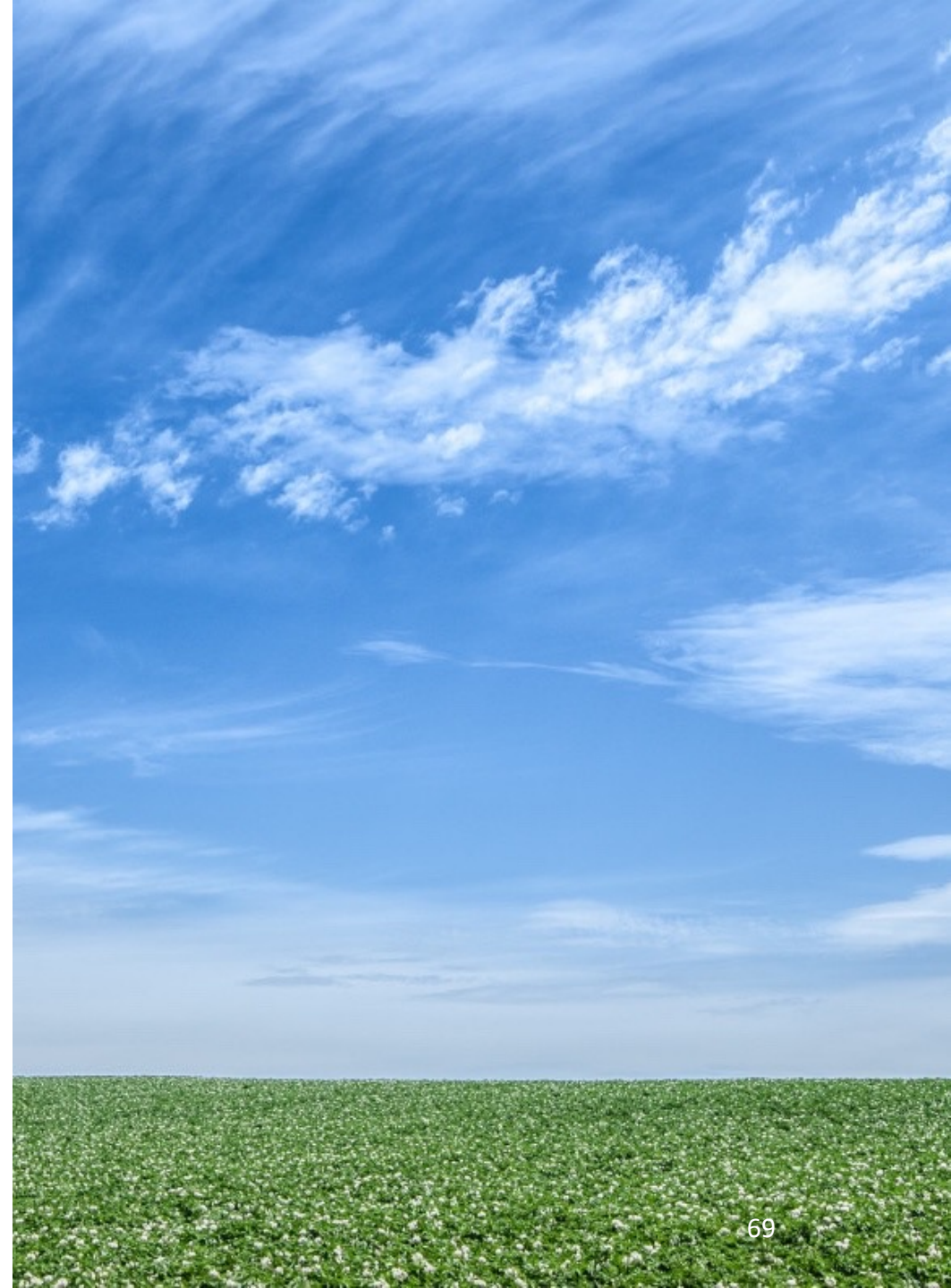
- Product Finder with TECH Qualified Products List
- Targeted video content for contractors
- Consumer Awareness survey based on paid media results

Evaluation

- TECH Impact Evaluation (plan finalized)
- Customer Experience Research Report

Pilots and Quick Start Grants

- Progress reports and materials highlighting four Pilots
- Quick Start Grant Webinar Series



Thank You

For more information or to get involved, contact:

TECH.info@energy-solution.com



Tre'Laine



www.techcleanca.com

Appendix

