

Testing New Program Synergies to Overcome Barriers to Equitable Residential Building Electrification

Getting to Zero Forum
May 10, 2023



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TECH Clean California midstream incentives

State of California goals: 6 million heat pumps installed by 2030

Climate ready/friendly homes (3 million by 2030)

40% of TECH funding delivered to low-income households or disadvantaged communities

TECH Clean California mandate: scale space heating and water heating



Spur the Clean Heating Market

Motivate the supply chain

- Contractor incentives that make heat pumps profitable
- Incentive clearinghouse for contractors to make participation simple and straightforward
- Technical and sales training to help incorporate heat pumps into business model

Drive consumer demand

- Statewide marketing campaign to increase consumer awareness and proactive replacement
- Consumer-facing website ([The Switch is On](#)) with contractor and incentive lookups
- Statewide low-interest financing offering leveraging REEL



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Why going beyond an incentive program?

What **barriers** are we up against?



Requires a Market Transformation approach

If our goal is to support market innovation and equitable market transformation, what are our **conditions for success**?



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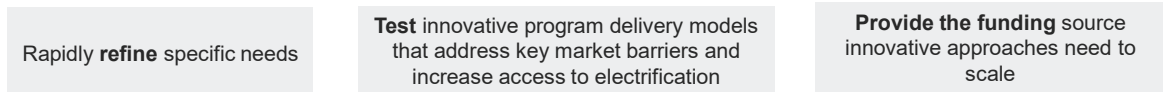
Completing the picture: 3 pillars of TECH

State of California goals: 6 million heat pumps installed by 2030
 Climate ready / friendly homes (3 million by 2030)
 50% of funding delivered to low-income households or disadvantaged communities

TECH Clean California Strategy for market transformation



Encourage deployment of innovation



QUICK START GRANT PROGRAM



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Grant Program Access & Selection

First Solicitation (August – December 2021)

Co-create solicitation process and application with advocacy groups and equity minded partners

- One-on-one interviews and presentation to key groups
- Seek authentic input and partnership for outreach

Prioritize projects with equity focus

- Equity criteria in selection process (population served & implementing organization)
- Focus on addressing barriers that prevent equitable electrification
- Objective of 40% of funding for equity projects

Make applying easy

- Short application template
- Webinar (recorded) and Q&A

Key Results

First solicitation

- 36 proposals received
- 8/11 projects with equity focus
- 73% of total funding toward equity

Second solicitation

- 32 proposals received
- 7/8 projects with equity focus
- 85-100% of total funding toward equity

Grant Characteristics

- \$2M budget (grants only)
- Grant size: \$100,000 - \$250,000



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Quick Start Grants: 2022 Projects



Enabling Faster Installations

- Barnett Plumbing:** Loaner Water Heaters for Emergency Fuel-Switching
- Small Planet Supply:** Standardizing Multi-family Central HPWH Design
- New Buildings Institute:** 120V HPWH Field Test
- IHACI:** Virtual Technician Software Platform

Making Programs More Inclusive

- Redwood Coast Energy Authority:** Air Source Heat Pump Incentives for Unregulated Fuel Customers
- Franklin Energy and MCE:** Augmentation of Income-Qualified Electrification Program

Reducing Energy Costs

- The Energy Coalition:** HPWH and Solar+Storage in Basset and Avocado Heights
- AESC:** Interactive Impacts of HPWH in Manufactured and Mobile Homes

Innovation for Hard-to-Reach Housing

- BlocPower and City of San Luis Obispo:** Better Buildings SLO Pilot
- Revalue:** Green and Healthy Homes
- USGBC-LA:** Electrification in Green and Affordable Homes Program



more at <https://techcleanca.com/quick-start-grants/>

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Learning from implementing the first cohort

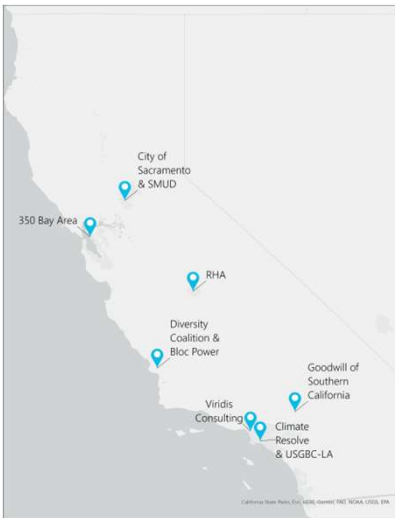
First solicitation	Second solicitation* & ongoing implementation
<p>Communication via equity minded partners is key to success</p>	<ul style="list-style-type: none"> • Longer outreach campaign to collect inputs • Inclusive equity evaluation criteria added • Focus on holistic approach to equity is not a barrier
<p>Small organizations have big ideas, limited staff capacity and limited grant writing skills</p>	<ul style="list-style-type: none"> • Interviews added to selection process • Increased funding for labor costs & grant size (up to \$350,000) • Continue to be flexible in managing scope of work
<p>Outreach & program alignment are common implementation challenges</p>	<ul style="list-style-type: none"> • Peer exchange create a space to problem solve • Integrate pilots within TECH market transformation strategy
Improvements for the future	
<ul style="list-style-type: none"> • Select projects with community members, evaluate with grantees • Language accessibility 	



*From March 2022 to January 2023

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Quick Start Grants: 2023 projects

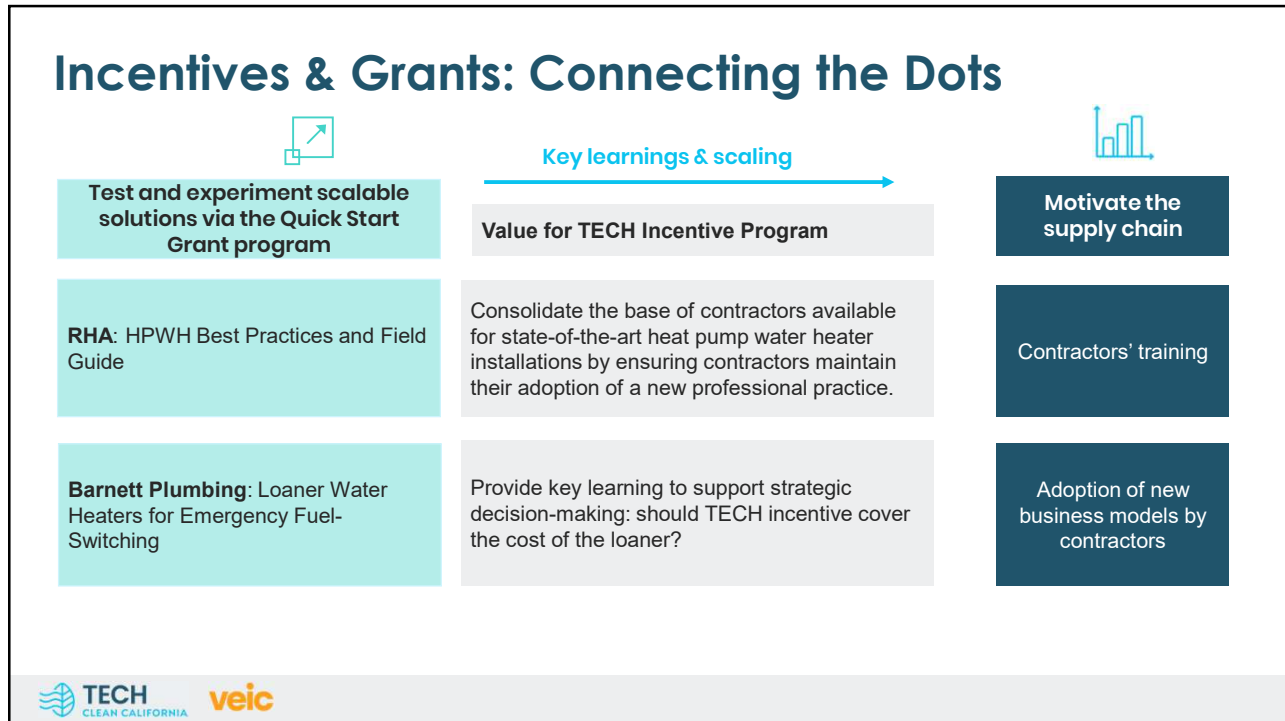


<p>Unlocking access to green financing</p> <p>Climate Resolve & USGBC-LA: Scaling Heat Pump Retrofits in Housing with Cost Barriers</p>	<p>“Meantime” solutions for Renters</p> <p>350 Bay Area: Portable Heat Pump for Renter-Occupied Households</p>	<p>Solutions for Disadvantaged Homeowners</p> <p>City of Sacramento & SMUD: Housing Anti-Displacement and Electrification Integration</p>
<p>Electrifying multi-family properties</p> <p>Heather Village: Leveraging the Power of an HOA to Electrify</p> <p>Bright Power: Aligning Utility Allowances with Electrification</p>	<p>Improving Equitable Outreach</p> <p>Diversity Coalition & BlocPower: Targeted and Inclusive Marketing for Equitable Electrification</p>	<p>Innovation in Workforce Development</p> <p>Goodwill of Southern CA: Career Pathway to Advance HVAC Trades in Heat Pump Services.</p> <p>RHA: HPWH Best Practices and Field Guide</p>

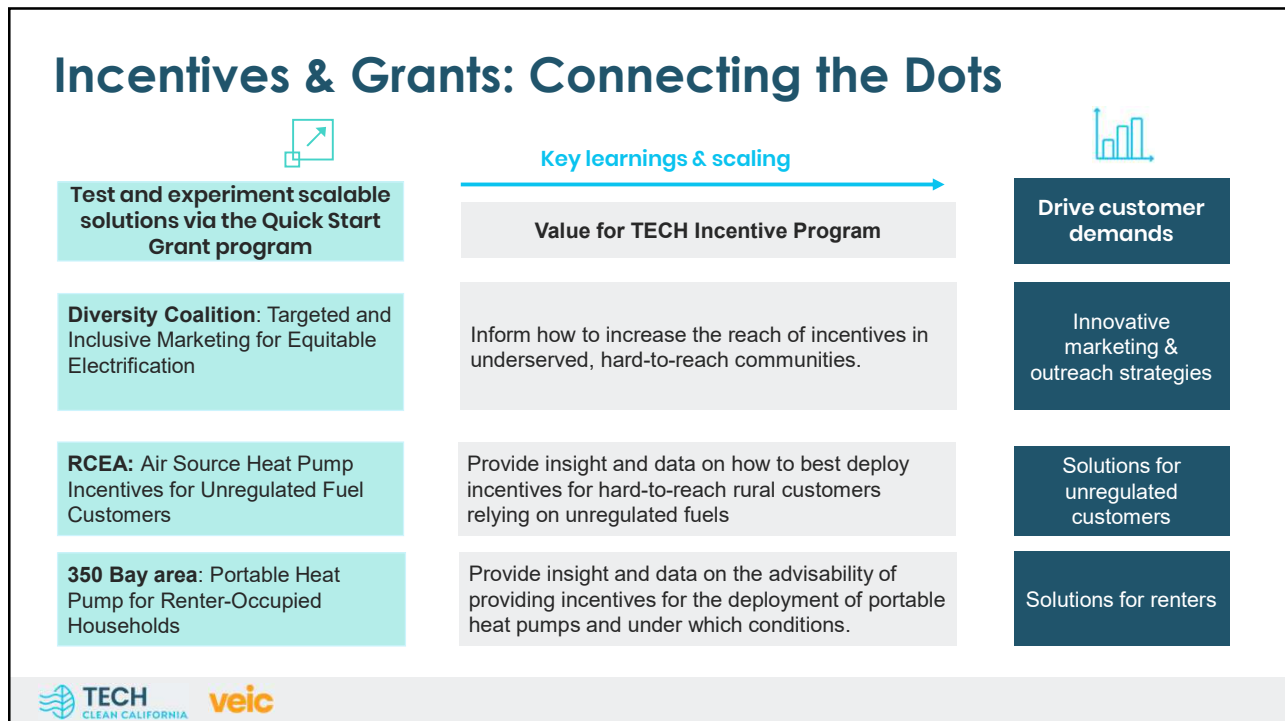


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TECH Team Energy Solutions BUILDING DECARBONIZATION COALITION BUILDING DECARBONIZATION COALITION RECURVE ORIZ veic ARDENNA ENERGY FRONTIER energy ELECTRIFY MY HOME NCI Tre'Laine Energy Outlet

Incentives & Training	Regional Pilots	Reporting & Policy
Clearinghouse & Incentive Layering Energy Solutions Energy Outlet	Finance, Installation, Load-shifting, and Customer Targeting Pilots Energy Solutions veic	Public Reporting Website Energy Solutions
Contractor Management FRONTIER energy	FRONTIER energy ARDENNA ENERGY	Energy Savings Data Analysis RECURVE
Technical and Sales Training ASSOCIATION FOR ENERGY AFFORDABILITY ELECTRIFY MY HOME NCI Tre'Laine	Low Income & Multifamily Pilots ORIZ ASSOCIATION FOR ENERGY AFFORDABILITY Tre'Laine	Statewide Policy Energy Solutions BUILDING DECARBONIZATION COALITION veic Tre'Laine
Consumer Marketing BUILDING DECARBONIZATION COALITION	Quick Start Grants veic	Finance ARDENNA ENERGY FRONTIER energy


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Thank You

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Legislative Background

Legislation

2018: Executive order B-55-18 requires California as a whole to be carbon neutral by 2045.

2018: SB 1477 creates TECH (retrofit) and BUILD (new construction) programs from gas utility cap + trade funding, which are designed to put California on a path for zero-carbon homes by 2045.

CPUC TECH Program

- TECH will serve as the **flagship** program to scale heat pump space and water heating in CA
- 4- year program, May 2021 launch
- Focused on supply chain market transformation
- 40% of benefits directed towards disadvantaged communities
- Single and MF residential housing:
 - In-unit HPWHs
 - HVAC HPs
 - Central HPs for MF



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TECH Goals



- 1** Make installing heat pumps profitable and easy for contractors by streamlining incentive applications and expanding access to trainings
- 2** Demonstrate scalable solutions to key market barriers via regional pilot projects
- 3** Inform CA's decarbonization decision-making and magnify program impacts by leveraging sales and meter data from TECH installations



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TECH Activities



Spur the clean heating market through statewide strategies

Motivate the supply chain

- Contractor incentives that make heat pumps profitable
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- Technical and sales training to help incorporate heat pumps into business model

Drive consumer demand

- Statewide marketing campaign to increase consumer awareness and proactive replacement
- Consumer-facing website with contractor and incentive lookups
- Statewide low-interest financing offering leveraging REEL¹

¹ REEL = Residential Energy Efficiency Loan Program



Create scalable models through regional pilots

Improve targeting and project finance

- Improve targeting and encourage 3rd party business models
- Tariffed-on bill pilot with partner utility

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

Encourage deployment innovation through quick start grants



Inform long-term building decarbonization framework

Develop public reporting site

- Graphics depicting price trends, deployment progress, meter-based impacts
- Downloadable, anonymized program datasets to support public research

Quantify decarbonization benefits

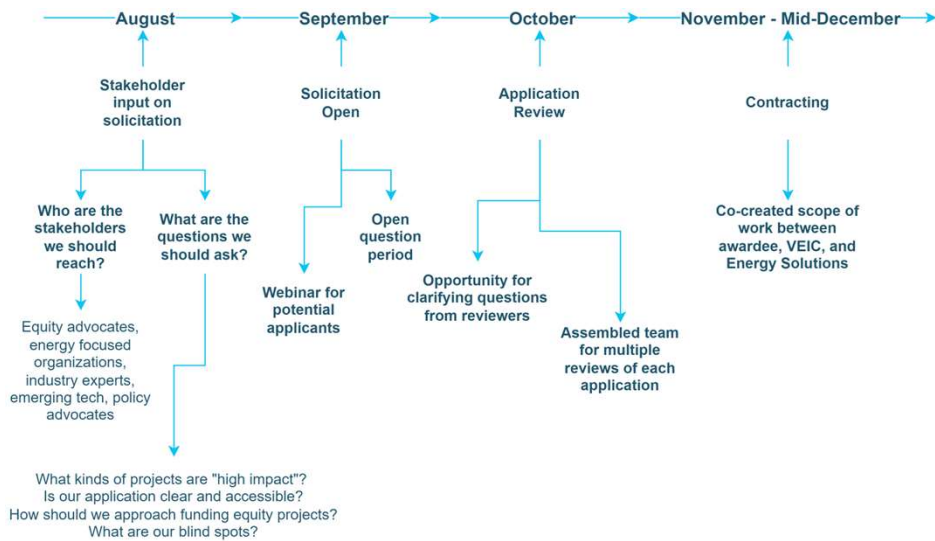
- Analysis of meter-based impacts to quantify:
 - Avoided costs (GHGs, NOx, load-shifting, etc.)
 - Impacts of increased electrical load
 - Customer bill impacts

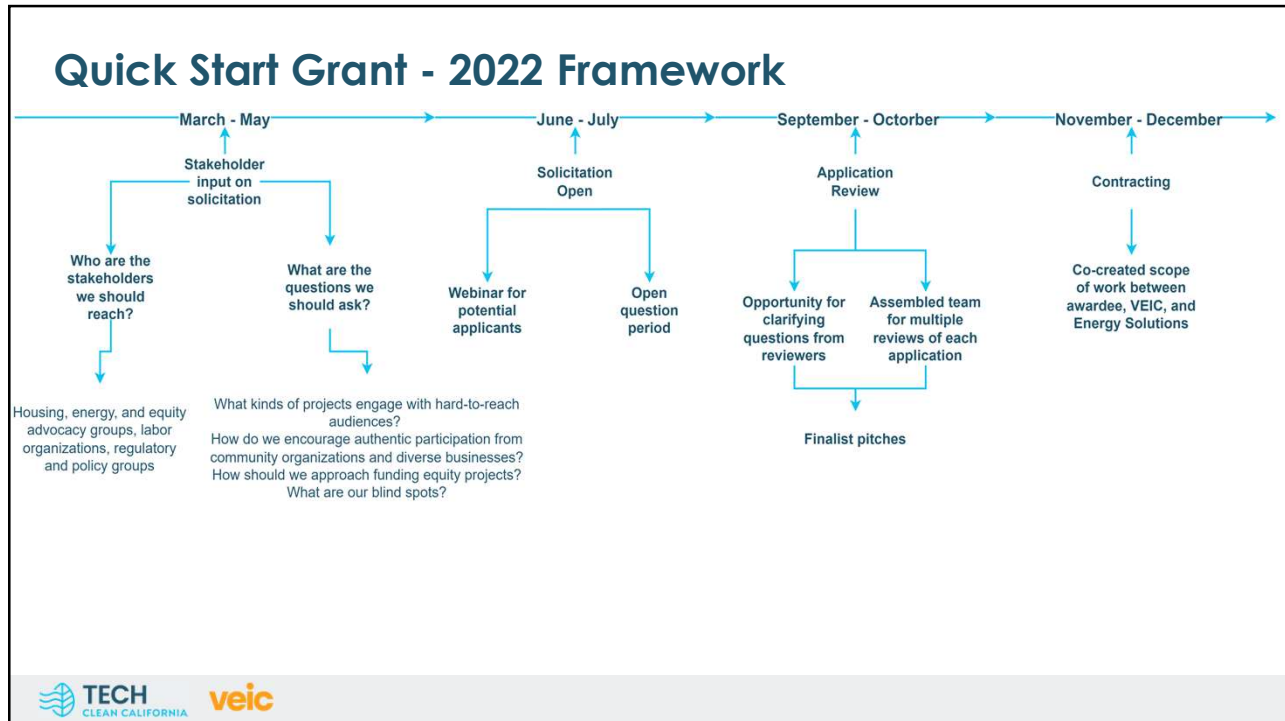
Empower data-driven decisions

- Inform policy/rate proceedings (EE, IEPR, IRP, C&S, low-income, etc.)



Quick Start Grant - 2021 Framework





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VEIC offers high-impact energy solutions that decarbonize buildings, transportation, and utility grids, today.

We help our clients meet their clean energy goals through innovative and equitable solutions that benefit them, their partners, and their communities.

- **Nonprofit founded in 1986** with a mission to generate the energy solutions the world needs
- **National consulting practice working across over 75% of the country** advising states, utilities, Federal agencies, nonprofit organizations, and private industry
- **Program design & implementation for award winning energy efficiency and clean energy programs** including program administrator for Efficiency Vermont & the DC Sustainable Energy Utility; on administration team for California TECH, CalNEXT (statewide electric emerging tech), Hawaii Energy, and Focus on Energy (WI)

Making an impact within each dimension of energy

Energy Efficiency Building Decarbonization
Transportation Electrification Clean & Flexible Grid

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