



Residential Heat Pump Water Heating MTI: Program Partner Webinar

May 28, 2026

Approach to our time together



Topic area	Description
1. Lay of the land	• Guiding principles that influenced strategy design • Overall timeline • Key deliverables and policies
2. Foundational elements of the MTI	• Target market • Product definition • Long-term outcomes and impact
3. Market intelligence and research	• Key findings – Market Characterization Report & Acceleration Summit
3. Barriers and intervention strategies	• Intervention strategies and key activities • Collaboration opportunities
4. Key outcomes	• What we expect to see in the market when successful • Integrated equity approach
5. Discussion and questions	• Words of advice • Areas of concern or excitement

About CalMTA



- Established by the CPUC via Decision in 2019 to **accelerate progress toward California's energy efficiency and climate goals**
- Develops and manages a portfolio of market-level initiatives that work to deliver **cost-effective energy savings, reduce GHG emissions, and align with statewide goals for equity and workforce development**



Resource acquisition and market transformation programs complement each other



RESOURCE ACQUISITION

GOAL: Near-term savings **driven**
through a **specific channel**

SCALE: Program

TARGET: Participants

APPROACH: Save energy through
customer participation

TIMEFRAME: Annual or multi-year

MARKET TRANSFORMATION

GOAL: Long-term savings **driven**
through **structural market changes**

SCALE: Entire defined market

TARGET: All end-users & market actors

APPROACH: Save energy through
mobilizing the market

TIMEFRAME: 10-20 years

How we got here and next steps



Advancement Plan
Completed Q3 2024

**Technology
assessment research**
Completed Q3 2024



**Res. HPWH Market
Acceleration Summit**
August 26-27, 2025

**Market characterization
research**
Completed April 2026

MTI Plan development
Completed Q2 2026



Expected CPUC Decision
Q3 2027

Guiding principles that influenced MTI Plan



Identified opportunities:

- Where CalMTA can be additive and not create additional market confusion
- To create consistency and alignment amongst programs
- That are well-suited for a market transformation organization.

Vision for the future



HPWHs contribute to California goals

- HPWHs play a central role in California achieving its heat pump and electrification goals.
- HPWHs are able to serve the majority of California housing stock.
- The majority of water heaters sold are HPWHs.
- HPWHs installed in California utilize lower-GWP refrigerants and include load-flexibility capabilities.



MTI targets residential market



Product definition



- Focus is on residential HPWH products with the following attributes:
 - Integrated units or split-systems
 - Shared- or dedicated-circuit 120V and/or 240V configurations
 - Certified effective storage volume ≤ 120 gallons
 - Meets Version 5.0 ENERGY STAR® specifications
- Other key product features (load-flexibility capabilities and lower-GWP refrigerants) will be included later.
- MTI scope does NOT include HPWHs used in non-residential applications, commercial water heaters, central water heaters, point-of-use water heaters, or other water heating systems composed of multiple heating units.



Market Research

CalMTA is a program of the California Public Utilities Commission and is administered by Resource Innovations.

Key findings on HPWHs



Low saturation and market share

HPWHs represent <2% of 11+ million residential CA water heaters and an estimated 5-6% of CA annual sales (1.6% saturation of HPWH)

Upfront cost is a top barrier to HPWH purchase

HPWHs are ~ \$1,000+ more expensive or, with professional installation, ~\$4,000 more expensive than alternatives.

Incentives to support are complex

30+ active programs exist. Incentives motivate some, but incentive/program complexities also create barriers.

Key findings on HPWHs (continued)



HPWH fit is uncertain in some existing buildings

Physical footprint, ventilation and condensate needs, and electrical capacity can complicate HPWH installation and may require additional work.

Bill savings are uncertain to most converting from gas to HPWHs

Bill savings are a leading benefit and driver of HPWH adoption nationally, but gas customers worry about bill increases in many California service territories.

Regional variations leave a disconnect from HPWHs and limit broad adoption

Limited customer awareness and installer familiarity persists, impaired by limited HPWH availability, visibility. Greater retail engagement may support BIY/DIY market segments.



AUG. 26-27 • HOSTED BY CalMTA

RESIDENTIAL HPWH

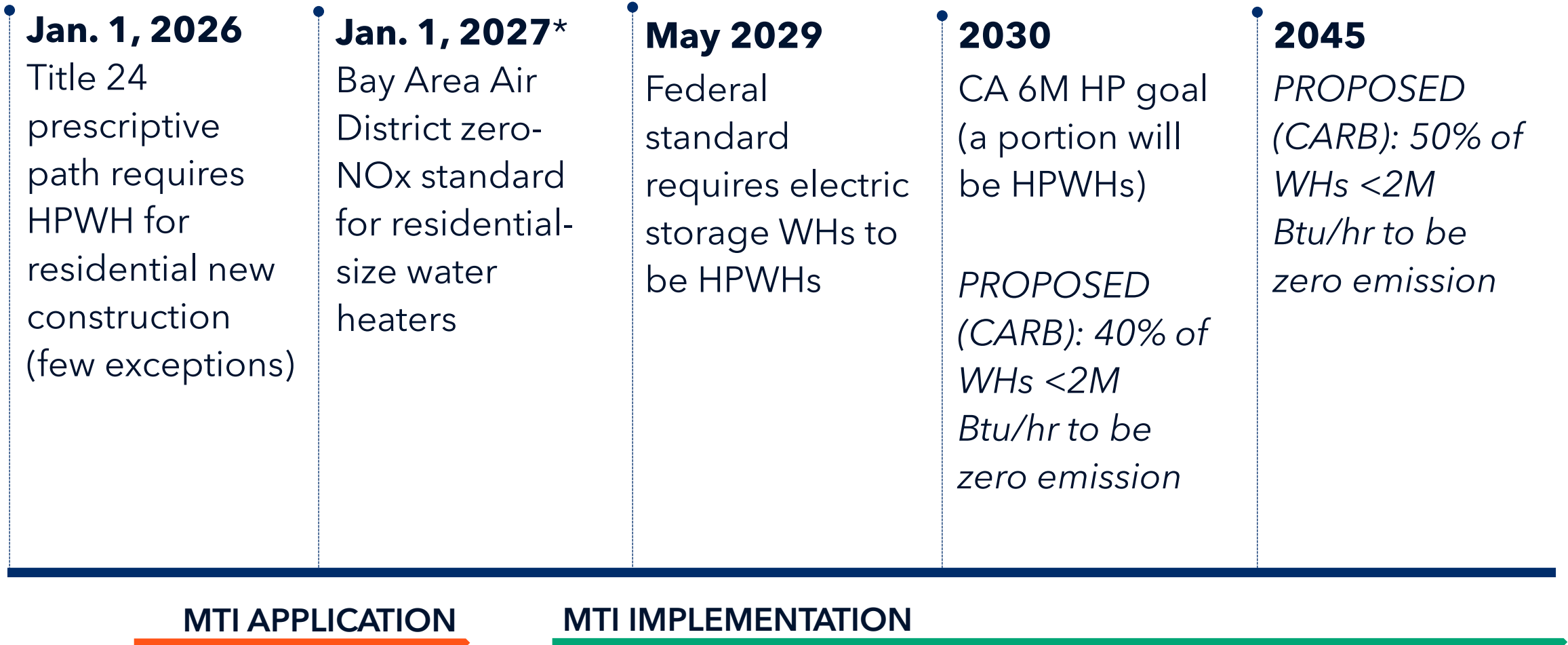
MARKET ACCELERATION SUMMIT

Market assumptions integrated into Plan



- Phase III activities expected to launch late 2027
- Existing HPWH program landscape continues to morph – early Phase III activities include taking inventory of California policies/program/industry activities
 - Programs will have incentives supporting HPWH
- Bill impacts – not all use cases for HPWH currently show bill savings but some do
- Federal standard goes into effect May 6, 2029.

Residential HPWH MTI & Policy Timeline



Market Barriers & Intervention Strategies

Market Barriers



High costs (equipment and installation)

Complex product requirements that customers do not value

Key



Market



Financial



Technology

Customer value proposition and demand result in limited supply-chain business case

Complex and inconsistent California program landscape and requirements for supply chain and customers

Some California housing stock is less than ideal for heat pump water heaters

Strategic interventions

1. Influence product development and match technology to housing stock
2. Aggregate statewide buying power to attract market partners and build momentum in scalable submarkets
3. Develop, support, and coordinate statewide operational infrastructure

A Deeper Dive - Strategic Interventions

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Influence Product Development & Match Technology to Housing Stock

Strategic Intervention 1

CalMTA is a program of the California Public Utilities
Commission and is administered by Resource Innovations.





Influence product development & match technology to housing stock



CalMTA will:

1. Use research tools to assess California housing stock
2. Match housing segments with existing equipment types and identify gaps
3. Support split-system technology development and adoption
4. Leverage existing training efforts to help installers confidently select the right equipment
5. Collaborate with manufacturers and EE programs to develop a product roadmap with a pathway for lower-GWP refrigerant and load-flex solutions.

Product plan examples

Increase market share

- **Develop a custom California housing stock database for the retrofit market** - identify and aggregate attributes that influence ease of adoption in the retrofit market
- **Assess impact of 2025 new construction code** - percentage of new builds that install HPWHs
- **Develop a dynamic tool that prioritizes advantageous HPWH product installation** - based on fluctuating variables, like current electric rates and local codes

Product development

- **Develop a HPWH product expansion roadmap** with manufacturers that matches California's current technology gaps and housing needs
- **Evaluate split-system HPWH equipment installation in the field** using quick-connect refrigerant lines - assess the impact of line set length and refrigerant charge levels on field performance
- **Standardize the CTA-2045-B communication protocol for load shifting** - collaborate with manufacturers to resolve compatibility issues with proprietary systems

A background image showing the backs of several people in an office or meeting environment. They are wearing business casual attire like blazers and button-down shirts. In the foreground, there are yellow sticky notes on a wooden desk, some with handwritten notes like 'Grow' and '11/20/20'.

Collaboration opportunity

Influence product development & match technology to housing stock

- Collaborate with program partners to develop a shared product roadmap
- Leverage existing training efforts to help installers confidently select the right equipment
- Develop shared HPWH product criteria
- Shared recommendation on 120V product



Aggregate Statewide Buying Power to Attract Market Partners & Build Momentum in Scalable Submarkets

Strategic Intervention 2

CalMTA is a program of the California Public Utilities
Commission and is administered by Resource Innovations.





Aggregate statewide buying power to attract market partners & build momentum in scalable submarkets



CalMTA will:

1. Coordinate with existing EE/decarb./equity programs on outreach, training, marketing, and incentives, using collective buying power to reduce equipment/installation costs and drive additional sales
2. In near-term, prioritize easy-to-install submarkets (e.g., existing electric, solar, propane, retail, etc.)
3. Partner with manufacturers to decrease cost and engage supply chain leaders to champion HPWH adoption
4. Apply lessons learned and market experience to enable market actors to confidently expand into other submarkets.



Collaboration opportunity

**Aggregate statewide buying power to
attract market partners & build
momentum in scalable submarkets**

- Development of Scale-Up Plans by submarket
- Partner with manufacturers to decrease cost and engage supply chain leaders to champion HPWH adoption

Capturing the low-hanging fruit

Aggregating market demand by segments



- Homes with electric water heaters
- Homes with propane water heaters
- Homes with solar + storage
- New construction
- Low-income programs/ community-based organization (CBO) aggregation
- Gas water heaters in unconditioned space with optimal rate structure
- Manufacturer/mobile homes with standard tank
- Homes well-suited for 120V product
- Homes requiring split systems
- Homes that have started their electrification journey



Develop, Support, and Coordinate Statewide Operational Infrastructure

Strategic Intervention 3

CalMTA is a program of the California Public Utilities Commission and is administered by Resource Innovations.



Develop, support, and coordinate statewide operational infrastructure



CalMTA will:

1. Develop/support a coordinated statewide system for water heater sales and data collection with supply chain and program partners
2. Share anonymized data with market and program partners to inform resource allocation and program design
3. Collaborate with programs to create consistent, accessible market tools and messaging
4. Align supply chain messaging to ensure a consistent customer experience
5. Coordinate with programs to align on and conduct research.

Collaboration Opportunity

Develop, support, and coordinate statewide operational infrastructure

- Develop/support a coordinated, statewide system for water heater sales and data collection with supply chain and program partners
- Create consistent, accessible marketing tools and messaging
- Align supply chain messaging to ensure a consistent customer experience

Driving impact for ESJ communities



1. Segmentation targets housing stock more prevalent in ESJ communities (e.g., mobile/manufactured or propane-heated homes)
2. Development of new form factors makes HPWHs more accessible to more households (e.g., multifamily residents)
3. Contractor engagement will target workforce in ESJ communities and ensure accessible, multilingual education & training materials
4. Expanding the retail channel will lower the upfront cost of HPWH adoption by making DIY/BIY installation more accessible.

What's next in Phase II?



- Monitor the moving state of the HPWH market
 - Programs
 - Policies
 - Products
- Potentially collaborate on active research and/or pilot activities

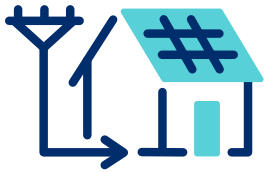


Benefits to California



\$57.1M

in energy-savings benefits



\$8.2M

in grid benefits



\$451.2M

in GHG emissions
reduction benefits

This initiative is projected to deliver about **\$500 million in Total System Benefit** attributable to CalMTA for **an investment of \$46.4M.**

When statewide and co-created benefits are included, **TSB totals \$1.2B.**

It is forecasted to be cost-effective for TRC (1.67), PAC (16.82), Base SCT (2.7), and High SCT (2.69).

Vision for the future



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We need:

- Future data needs for centralization of information (Data Hub)
- Hypothesis (and relevant variables) for target sub markets segmentation tool
- Location for pilot sites on 120V and split systems

We can offer:

- Pilot sites (review AWHI SOW)
- ESRPP data (Bay area vs. State)
 - Retailers
 - Data
- Access to manufacturers (full state vs. region)



Questions & Discussion

Transformative Energy Solutions for the public good

Market transformation is a proven approach that works to remove market barriers so that energy efficient, equitable, and climate-friendly approaches become the new standard practice for all Californians.

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