



## 2nd Quarter 2025

CalMTA continued to make progress on market transformation initiative (MTI) development and operational milestones in the 2nd quarter of 2025, driving us closer to implementation of initiatives and achieving California's goals for cost-effective energy efficiency and decarbonization while supporting aims related to workforce development, and equity.

For previous Quarterly Reports, visit: Resources and Reports

For the 2025 CalMTA Operations Plan, visit: 2025 Operations Plan

# Introduction

Stacey Hobart
Principal of Engagement &
Communications



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

## 2<sup>nd</sup> quarter activities summary



MTI idea development

**An equity lens** 

Administration and operations

**Engagement and communications** 

2 <sup>nd</sup> quarter milestones	Q1	Q2	Q3	<b>Q4</b>
Release 2024 RFI Disposition Report		•		
Complete Strategy Pilot Assessment Reports: Chefluencer & Room Heat Pumps Self-Installation Practices		•		
CRAWS field study kick-off		•		
Host Equity Sounding Board meeting (May)		•		
Open permanent Request for Ideas portal				
Hold MTAB meeting (April)		•		
Seat new MTAB members for those whose two-year terms expired		•		
Hold quarterly update webinar (April)		•		
Launch redeveloped CalMTA.org website		•		

## 2<sup>nd</sup> quarter key outcomes



### **New CalMTA.org website**

The redesigned **CalMTA.org** launched in June

#### **Permanent Request for Ideas portal**

Idea portal is now permanently open for idea submissions

### **2024 Annual Report**

Published CalMTA's 2024 Annual Report in April

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## 2<sup>nd</sup> quarter key outcomes



### **Disposition Report for the 2024 RFI**

Developed responses to MTAB's comments and <u>published</u> in May

### Room Heat Pump Self-Installation Practices and Chefluencer Event Testing Strategy Reports

Published final reports for two CalMTA Strategy Pilots in April

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Section 2.1 Forming initiatives

Alex Wurzel, Program Manager

Elaine Miller, Senior Strategy Manager



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#### Room Heat Pumps outreach:

### **RHP Collaborative**





- Held 3<sup>rd</sup> meeting with RHP Collaborative partners on May 27. Agenda included: CalMTA Installation Pilot Report, New York City Housing Authority's (NYCHA) Packaged Window Heat Pump Pilot Report, research and data gathering, product list, performance of products
  - Sharing data and pilot reports to help others include this measure sooner in their programs
- Held a lunch roundtable aimed at recruiting more utilities to participate:
   Rhode Island Energy & Seattle City Light to join!
- Up next: Product/Project List, meeting in September
  - Will discuss packaged terminal heat pumps (PTHPs), mitigating consumer energy transition costs
- Working with a subcommittee of the Association of Home Appliances (AHAM) and their manufacturer partners to develop consistent and informative RHP labels

## Room Heat Pumps:

# CalMTA

### Research activities

- Completed and published the <u>Room Heat Pumps Self-Installation Strategy Report</u>
  - Key findings and takeaways were presented during the 1st quarter activity report webinar
- Window stock research
  - o Survey of 5,000 completed with intent to build upon data from market characterization study
  - o Gathered data including window type, home type, room location, and utility
  - Received measurements to assist with Tech Challenge parameters for new product
  - Data is being analyzed and processed for inclusion in a memo, with expected completion at end of September 2025

#### **Room Heat Pumps:**

## **Lab Testing**



- Background
  - o Five RHP units testing to new ENERGY STAR heating test procedure
  - Additional load-based testing for part-load performance (or how well a variable speed heat pump operates at partial capacity)
  - o Inform energy modeling for measure packages
- 2<sup>nd</sup> quarter updates
  - All testing is complete and aligned with manufacturer HEER ratings
  - o 3<sup>rd</sup> party data review underway, expected completion soon

### **Room Heat Pumps:**

### **Continuation of RHP Installation Pilot**





Continued RHP Installation Pilot for user data

- Recruited 20 participants to attach data loggers for temperature data, provide monthly bills, and complete a survey
- o Data will provide information on user habits of the RHPs installed for a full summer and winter cycle
- o Data loggers were purchased and shipped, and installation took place in the 2<sup>nd</sup> quarter
- Participants will receive a gift card as incentive to participate

### Room Heat Pumps: Tech challenge development

CalMTA

- Received feedback from key manufacturer on preliminary specs
- Sent revised specs to additional manufacturers for review
- Conducted exploratory meetings with owners of multifamily housing on interest and possible demand aggregation techniques for both RHPs and induction cooking products
- Engaging with CBOs on demand aggregation ideas











## Induction Cooking: Research activities



- CalMTA completed and published the <u>Chefluencer Event Testing Strategy</u>
  <u>Pilot Report</u> to better understand how Chefluencer events can impact
  consumer opinions on their likelihood to consider induction in the future
  - Key findings and takeaways were presented during the 1st quarter activity report webinar
- CalMTA participated in a decarbonization project with Eden Housing and the Association for Energy Affordability (AEA) to collect occupant usage data on their Cooper ranges to learn more about energy consumption of 120V battery-enabled products and inform next-gen products
  - o Data collection and a memo detailing the study, findings, and takeaways from qualitative and quantitative data will be completed in the 3<sup>rd</sup> quarter

### **Induction Cooking:**

### Research activities continued





- CalMTA partnered with other sponsors and Efficiency for Everyone to conduct consumer research targeting "opening price point" (OPP) consumers to better understand cooking appliance preferences and awareness of induction
  - o Data analysis and a memo detailing study, findings, and takeaways will be completed in the 3<sup>rd</sup> quarter

# Induction Cooking: Strategy activities



- ESRPP Strategy Pilot
  - Continued coordination with induction cooking retailers participating in the ESRPP pilot program including discussions of program needs, program influences, and programmatic sales trends
  - Evaluation of the <u>ESRPP pilot program</u> through data analysis and participating retailer interviews
  - Up next: ESRPP pilot evaluation and a final ESRPP strategy report will be completed in the 3<sup>rd</sup> quarter

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# Induction Cooking: Outreach activities

Hosted a Chefluencer demonstration at Let's Connect, a retailer buying event organized by United Stores and Nationwide, which showcased induction cooking for owners/buyers of independent California appliance retailers. Key outcomes included:

- Demonstrated how to sell induction
- Learned about challenges in selling induction
- Learned about overall market trends in induction pricing and product availability
- Learned about independent appliance retailer business practices (sales spiffs, stocking practices, marketing)







## Questions?

**Comments?** 

Section 2.2
MTIs in
development

Nick Fiore, Program Manager

Katie Teshima, Program Manager

Simone Cobb, Program Manager



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## MTIs in development





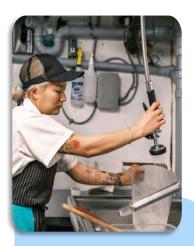
**Commercial Rooftop Units** 



Commercial
Replacement &
Attachment
Window Solutions



Residential Heat Pump Water Heating



Foodservice
Water Heating
Systems



Commercial Building Efficiency Accelerator

Phase II: Program Development

Phase I: Concept Development

# Commercial Rooftop Units (CRTUs): 2nd quarter accomplishments



- Drafted Market Characterization Report, which is a thorough assessment of the market state, supply chain, market actors, and other programs that support the MTI; to be published in August 2025
- Completed first draft of Logic Model & Market Transformation Theory, which
  presents CalMTA's understanding of the interventions necessary to remove
  barriers, expected outcomes of those interventions, and a pathway to the
  desired end state
- Analyzed preliminary field study results from the RTU we installed on the UC Davis campus; reported to MTAB on June 27

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### **CRTUs Market Characterization Report:**

## **Key findings**

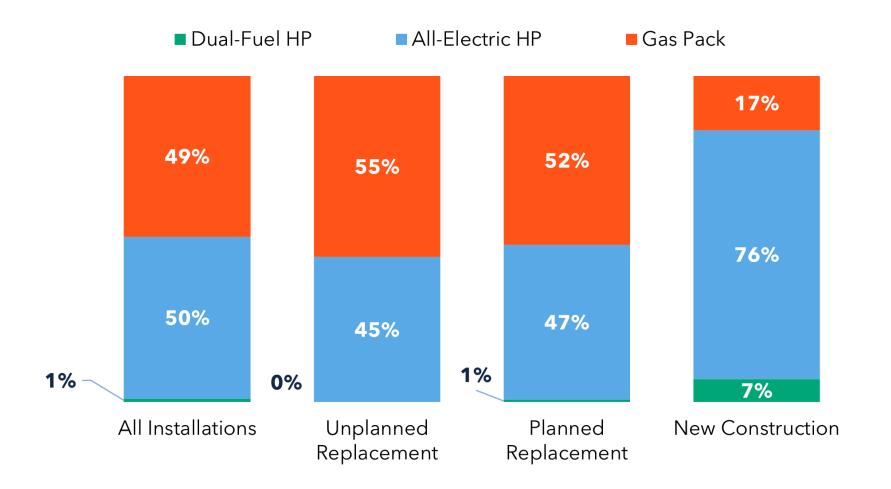


- The RTU market can be subdivided into two markets: custom design/build and two-minute replacements
- Many regulations and EE programs apply to RTUs (T24, Comfortably California, GoGreen Financing)
- Heat pumps are a significant share of the California RTU replacement market (approximately 26-46%)
- Decision-making in commercial buildings is complex; building owners tend to replace on failure while facility managers tend to plan RTU replacements
- There are several barriers impeding the broad adoption of efficient RTUs, which are especially pronounced in the two-minute market: availability and cost
- There is a shortage of experienced HVAC workers, especially during busy summer months
- Cost to install an RTU has many components and equipment pricing must be obtained through a licensed HVAC installer

### **CRTUs Market Characterization Report:**

### California RTU market characteristics:





Contractor sales by fuel type and installation scenario (n=18)

Source: CalMTA HVAC interviews, results weighted by sales

### **CRTUs Market Characterization Report:**

### California RTU market characteristics:





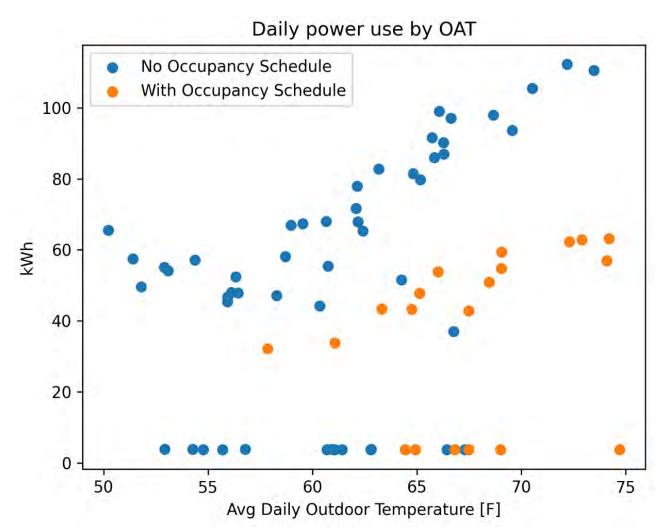
Distributor sales by fuel type (n=5)

Source: CalMTA HVAC interviews

### **CRTUs** preliminary field study results:

## Occupancy schedule





Daily power totals before and after an occupancy schedule was applied

# CRTUs national market actor engagement Who we're coordinating with:





- Consortium for Energy Efficiency (CEE)
- Minnesota Center for Energy and Environment (MN-CEE)
- Northwest Energy Efficiency Alliance (NEEA)
- Nicor Gas
- Northeast Energy Efficiency Partnership (NEEP)
- Department of Energy (DOE)

### Commercial Rooftop Units (CRTUs):

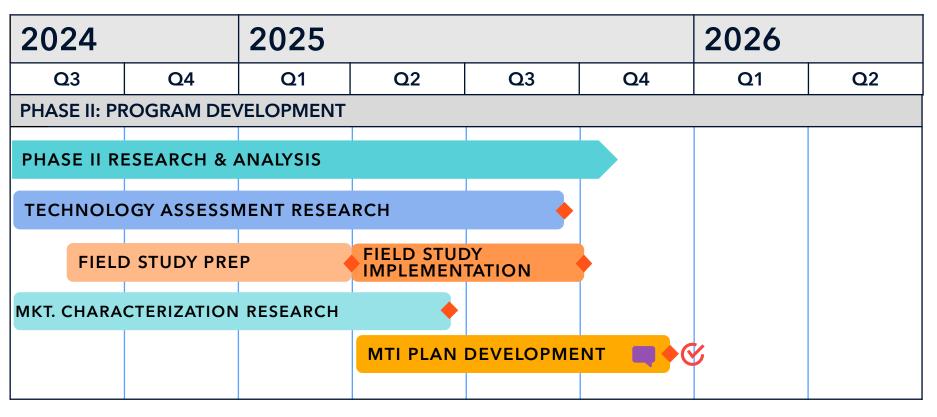
## Next steps in 3rd quarter



- Develop market adoption forecasting model the outputs of which will inform our total system benefit (TSB) and cost-effectiveness forecasts
- Develop market progress indicators (MPIs), which are the metrics we will
  use to track progress and assess the impact of the MTI over time
- Complete product assessment report including bill impacts analysis and product plan that will summarize our findings from Phase II technology research
- Kick off the Idea to Initiative campaign, through which CalMTA will share and discuss key portions of the CRTUs MTI Plan with MTAB and key stakeholders

### **Commercial Rooftop Units**





Final deliverable Advice Letter Public Comment



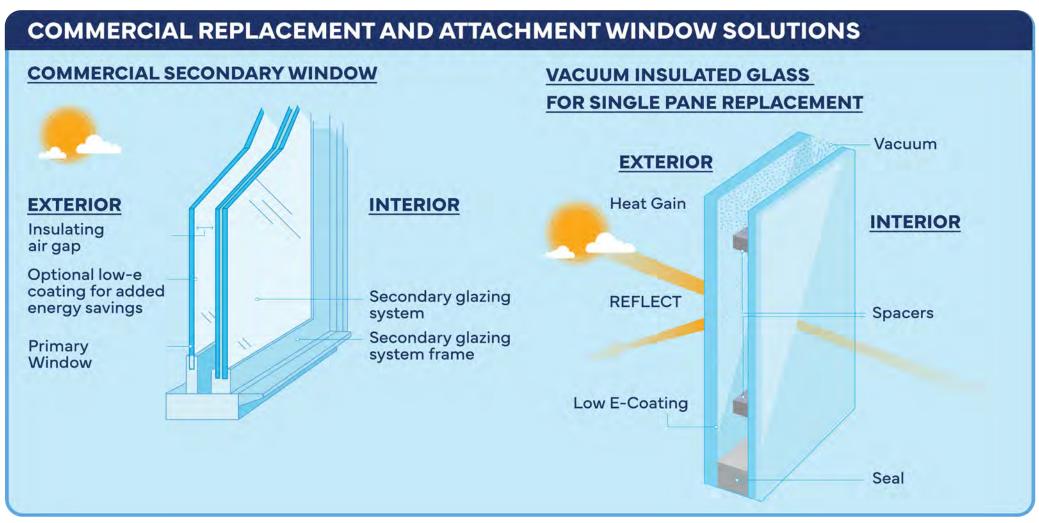
## Questions?

**Comments?** 



### **CRAWS** technologies





## CRAWS 2<sup>nd</sup> quarter accomplishments



#### **Market Research**

- Completed secondary research and literature review
- Completed market interviews with:
  - Municipal, University, School, and Hospital (MUSH) building owners and property managers
  - o Tenants and business owners
  - Window contractors, manufacturers, and ESCOs
- Completed survey of building owners and property managers and began analysis of survey results

#### **Field Study**

 Began Commercial Secondary Window (CSW) installations at our field study site at Madison Elementary in the Madera Unified School District

# CRAWS secondary research and literature review: Key findings



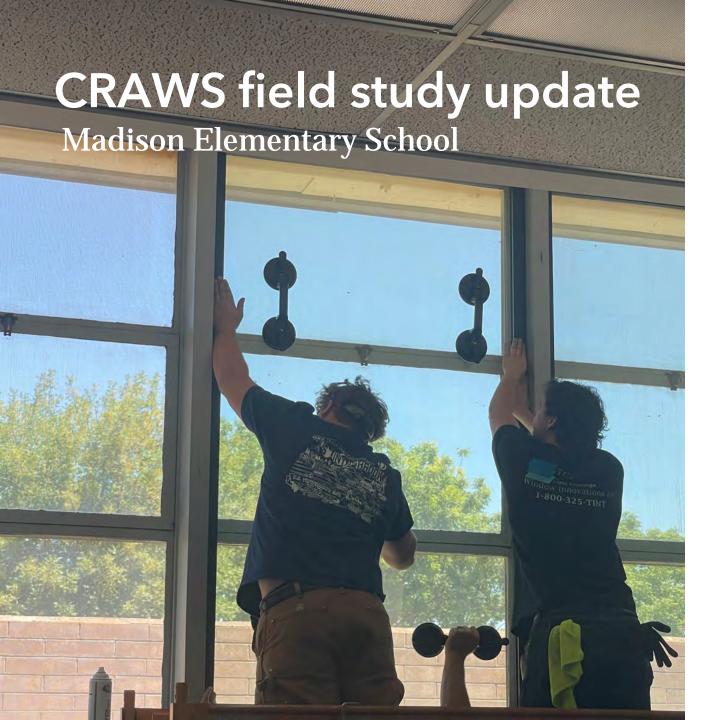
- Window performance has a strong influence on a building's energy use
- Most buildings have single pane windows, and the annual replacement rate is low for a variety of reasons:
  - o high replacement costs
  - o tenant displacement or disruptions
  - o long project timelines
- Long product lifespan also inhibits window replacement
- Awareness and knowledge of commercial secondary window solutions is lacking across the supply chain

## CRAWS secondary research and literature review:

## CalMTA

## Key findings continued

- Additional barriers inhibit the adoption of CSW and VIG, including:
  - HVAC-oriented design focus
  - unproven performance (for VIG)
  - o flexible performance-based building codes
- Misperceptions about the role that windows can play in reducing a building's energy consumption help fuel persistent barriers: windows are viewed as a relatively small contributor to energy savings, while costs are perceived as prohibitively expensive
- Case studies highlight the virtues of secondary windows
- We've identified 4 established manufacturers of CSW, two established VIG manufacturers, and several new VIG companies bringing product to market.





- Identified a local window contractor to participate in mobile assembly and CSW installation
- Completed pre-installation air leakage and acoustic testing
- Began CSW mobile assembly and installation
- Ongoing coordination efforts with Lawrence Berkeley National Lab (LBNL) and Pacific Northwest National Lab (PNNL) to help provide window testing equipment
- Final CSW installations and postinstallation testing are scheduled to begin early in the 3<sup>rd</sup> quarter

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## CRAWS: Next steps in 3<sup>rd</sup> quarter

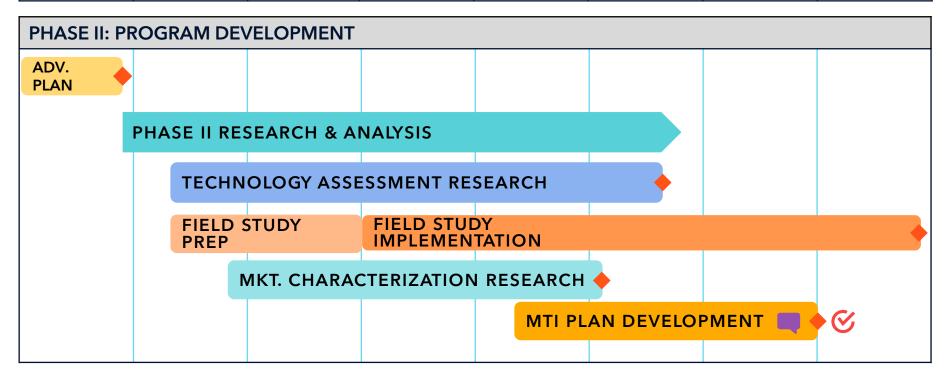




- Finalize product definition and market adoption and product scenarios (MAPS) to begin energy use intensity modeling and planning activities
- Begin drafting the Market Characterization Report, which will be a thorough assessment of the market state, supply chain, market actors, and other programs that support the MTI
- Begin drafting Logic Model and Market Transformation Theory, which will present CalMTA's understanding of the interventions necessary to remove barriers, expected outcomes of those interventions, and a pathway to the desired end state

# Commercial Replacement & Attachment Window Solutions timeline

2024		2025			2026			
<b>Q</b> 3	Q4	Q1	Q2	<b>Q</b> 3	Q4	Q1	Q2	

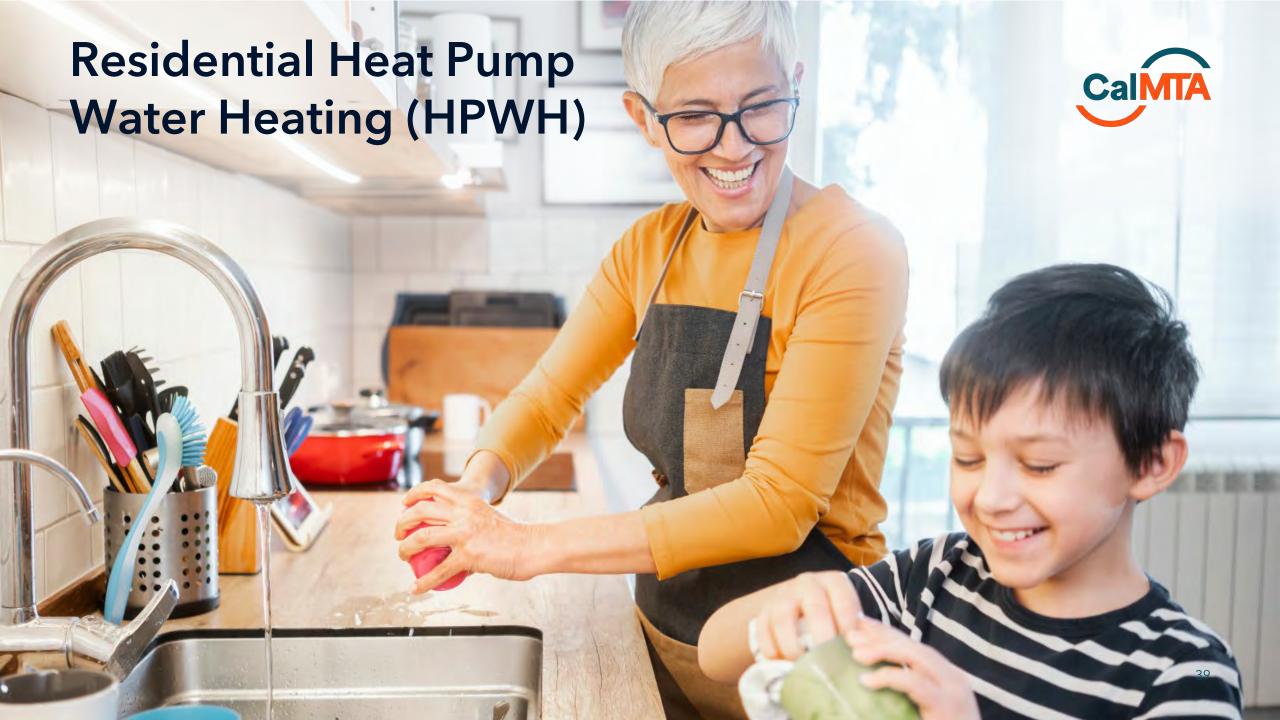






## Questions?

Comments?



# Residential Heat Pump Water Heating: 2nd quarter accomplishments





#### Market research and product assessment

- Completed customer, installer, and building owner/manager surveys to inform baseline market conditions, understand awareness and perceptions and began analysis of survey results
- Completed HPWH reliability assessment and electrical panel readiness assessment, helping to identify key data gaps, and confirm alternative approaches to panel upgrades (given the challenges)
- Began drafting the Market Characterization Report summarizing Phase II research

# Residential HPWH Summit Planning





- Gathering 30-40 market experts by invitation only to identify pathways to accelerate adoption of HPWHs in CA
- Invitations have been extended to a limited group, and we are working with attendees on event pre-work
- Kicked off collaboration with key HPWH programs on the event activities and outcomes
- Detailed meeting plans underway

# Residential Heat Pump Water Heating: Next steps in the 3<sup>rd</sup> quarter

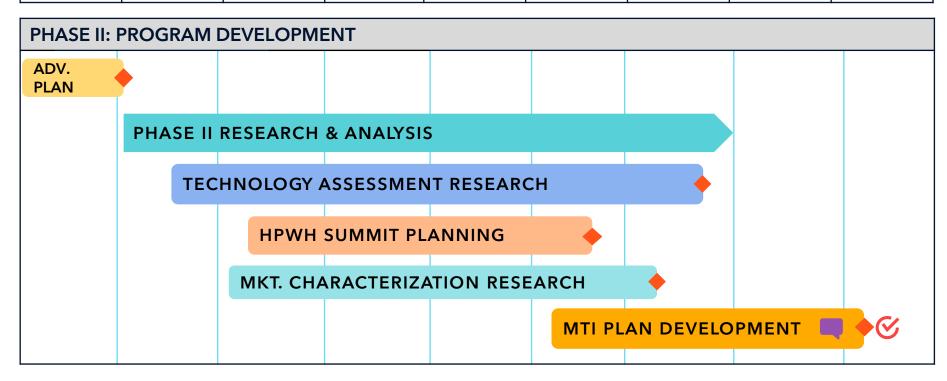




- Host the Residential HPWH Market Acceleration
  Summit to gather and document innovative ideas that
  will inform MTI Plan development
- Finalize product definition and MAPS (market adoption and product scenarios) to begin energy use intensity modeling and planning activities
- Continue drafting the Market Characterization Report summarizing Phase II research, providing a thorough assessment of the market state

#### Residential Heat Pump Water Heating timeline

2024		2025				2026			
Q3	Q4	Q1	Q2	<b>Q</b> 3	Q4	Q1	Q2		



♦ Final deliverable 🧭 Advice Letter 🔃 Public Comment Period



## Questions?

Comments?



#### **Foodservice Water Heating Systems:**

#### 2<sup>nd</sup> quarter accomplishments





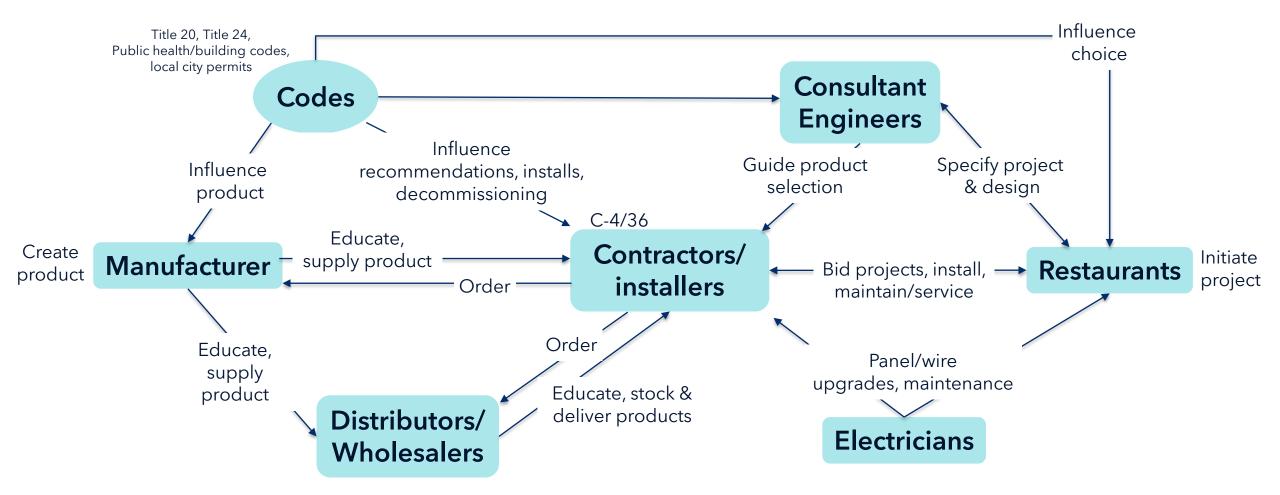
#### **Market Research and Product Assessment**

- Completed technical secondary research, confirming the importance of optimizing distribution systems and reducing hot water load, identifying data gaps related to recirculation loops, and space cooling impacts
- Completed market secondary research to inform market size, penetration, and supply chain dynamics, while identifying key information gaps to address through upcoming market actor interviews
- Launched site surveys to better understand existing system configurations, technical barriers, and hot water demand in real-world settings

#### In-depth finding: Supply-chain dynamics



Current understanding of key players and pathways of WH installation in foodservice



#### In-depth finding: Supply-chain dynamics



#### We will seek more nuanced understandings for:

- Independent vs chain
- Replacement vs new establishment
- Emergency replacement vs timed/early replacement
- Owned vs leased space
- Roles of leasing agents
- Program/incentive supports

#### **Foodservice Water Heating Systems:**

#### Next steps in the 3<sup>rd</sup> quarter

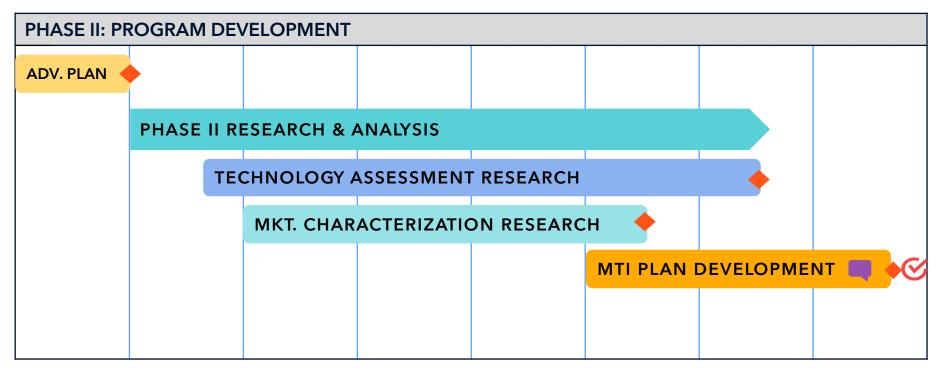




- Leveraging codes and standards update to understand recent developments and potential impacts to the MT idea
- Continue lab testing and leverage existing PG&E efforts to learn about the feasibility of HPWH load shifting in foodservice settings
- Begin market actor interviews to address remaining knowledge gaps related to market landscape, supply chain, and adoption barriers

#### Foodservice Water Heating Systems timeline







## Questions?

Comments?



#### **CBEA 2nd quarter accomplishments**





- Developed initiative name "Commercial Building Efficiency Accelerator" to reflect goals for this MTI
- Developed the <u>draft CBEA Advancement Plan</u>
  - o Presented draft plan at the <u>June 27 MTAB meeting</u>
  - Posted draft plan for public comment, open from June 19 - July 9

#### **CBEA:** Outreach activities





- Participated in CEC's Building Energy Performance Standard Technical Advisory Workgroup to learn about their statewide strategy and how we can align and support it
- Attended USGBC's CalBPS Peer Learning Collaborative Office Hours. Learned about their efforts supporting BPS adoption statewide. This partnership will support standardization of BPS-aligned commercial building efficiency optimization practices
- Attended DOE's Better Buildings Summit and learned about:
  - o commercial building owners' efforts to reduce EUI and emissions
  - resources available that CBEA can leverage, including portfolio and lifecycle planning tools

#### CBEA: Next steps in 3<sup>rd</sup> quarter



- Review and respond to MTAB and public comments via a summary memo
- Finalize and publish final CBEA Advancement Plan for CPUC approval
- Pending Advancement Plan approval, launch <u>Phase II: Program</u>
   <u>Development</u> market research and technology assessment
   activities

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## Questions?

Comments?

Section 2.3
Open RFI & technology scanning

Rick Dunn, Senior Manager, Emerging Technology



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#### Open Request for Ideas (RFI)





- Received three ideas via the <u>open RFI portal</u>:
  - o Condenser Coil Enclosure Redesign
  - Solar Streetlighting with Battery Back-up
  - Self-Funding Clean Energy Plan (SFCEP)
- All submissions were duplicates of or related to ideas previously submitted and archived. New ideas were combined and submitters notified.
- Investigating targeted outreach to encourage submission of novel MTI ideas

#### Technology scanning and screening



- Conducting internal research on Industrial Heat Pumps and Low Carbon Calcined Clay Cement markets and technology readiness to inform potential future MTI development
- Engaged with EPRI, ACEEE, VEIC among others for deeper dive into IHP technology and California applications; attended Efficiency Exchange (EFX), engaging with manufacturers of high temp and steam generating heat pumps
- Investigating portable batteries and power walls with 120V charging and 240V output as potential intervention in Induction, Room Heat Pump and Residential HPWH MTIs and/or a future standalone MTI
- Participated in ETCC Advisor meeting and ETCC 2025 Summit Planning

#### Market Research:

# Industrial Heat Pumps (IHP) and Low Carbon Calcined Clay Cement (LCCC)





#### **Purpose:**

- Both technologies were submitted to CalMTA as ideas during the 2023 RFI. Both ideas scored well but were held for additional research needed to inform TSB estimates
- We built upon existing research from CalNEXT and LBNL to fill knowledge gaps relating to technologies, CA markets and market barriers, and to better understand the opportunities from an MT perspective

#### Goal:

- Assess whether markets, technologies, and impacts have changed since the 2023/2024 assessments
- If the opportunity looks favorable, then we will proceed to estimating TSB

#### Key Research Questions for IHP and LCCC



- 1. What are the addressable CA markets that can be served by available and emerging technologies?
- 2. Are there new learnings or opportunities not identified in earlier research?
- 3. What are the likely beachhead markets?
- 4. What is the TSB associated with addressable and beachhead markets
- 5. What are the structural market barriers impeding adoption?
- 6. Is Market Transformation needed and appropriate to drive adoption?
- 7. What market interventions can be deployed as part of an MTI?
- 8. What are the ESJ impacts and opportunities?

#### **Next Steps for IHP and LCCC**



#### **IHP**

Currently calculating TSB and C/E estimates

#### **LCCC**

 Completing initial market research now; will determine shortly whether to estimate TSB and C/E

 Findings and recommended next steps for IHP and LCCC will be reported in future MTAB meeting (date TBD).

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## Questions?

Comments?



#### **Outreach highlights:**

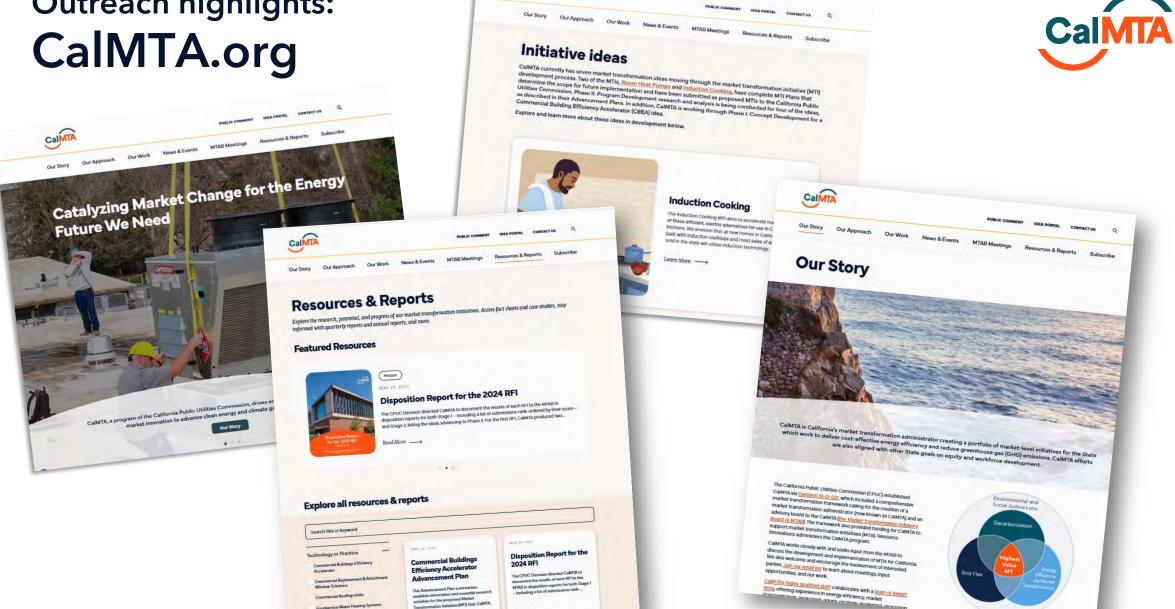
#### Published resources and reports



- 2024 Annual Report
- New fact sheets for <u>CRAWS</u>, <u>Residential HPWH</u>, and <u>Foodservice Water Heating</u> <u>Systems</u>
- <u>1st quarter 2025 activity report</u> <u>webinar</u>
- RHP Self-Installation Practices and Chefluencer Event Testing Strategy Pilot Reports



# **Outreach highlights:**



La by resource Innovations.

MT Planning Planning

CalMTA





#### **Engaging the market**



Conferences and industry events create opportunities to efficiently engage with important stakeholder groups and share information about our work. CalMTA presented at or attended the following events in the 2<sup>nd</sup> quarter:

- SF Climate Week
- Getting to Zero Forum
- CalCCA Annual Conference
- CAEECC Quarterly Meeting

- CEDMC Spring Symposium
- NEEA Efficiency Exchange
- Pacific Coast Builders Conference (PCBC)

#### **Equity Sounding Board engagement**





CalMTA learned from our <u>Equity Sounding Board</u> via both full group meetings and smaller consultations:

- May 15 meeting focused on equity considerations for future implementation RFPs
- Consulting hours used to address:
  - CRTUs and Foodservice Water Heating Systems MTI equity metrics
  - CRAWS market characterization interviewees
  - Bill impact and affordability issues
  - CBEA MT theory/logic model components

#### Administration & operations highlights



- Hired new CalMTA Principal of Policy, <u>Smita Gupta</u>
- Request for Proposal (RFP) activities, including RFP development, user journey, webpage and portal structures, and project timelines
- Application activities included preparation for and responding to intervenor testimony, and planning for the Opening Brief



#### Application update



CalMTA completed significant milestones in support of its application to the California Public Utilities Commission (CPUC), which would authorize market deployment of the Room Heat Pumps and Induction Cooking MTI Plans. Q2 activities included:

- Prepared and filed rebuttals to intervenor testimony
- Prepared and filed errata to address intervenor comments
- Held "meet and confer" session with parties to the proceeding



#### Parties and filings



Party	Filed protest or response	Participated in PHC	Intervenor testimony	Rebuttal testimony
Pacific Gas & Electric Company	None	Yes	No	No
The Utility Reform Network (TURN)	Response	Yes	Yes	No
Cal Advocates	Protest	Yes	Yes	Yes
Jointly: Southern California Edison Company & San Diego Gas & Electric Company	Protest	Yes	No	No
Northwest Energy Efficiency Alliance (NEEA)	Response	Yes	Yes	Yes
California Efficiency + Demand Management Council (CEDMC)	Response	Yes	No	No
Southern California Gas Company	None	Yes	Yes	Yes
Jointly: Bay Area Regional Energy Network & Tri-County Regional Energy Network	Response	Yes	No	No
California Environmental Justice Alliance (CEJA)	None	Yes	Yes	No

#### Next steps



Because no party requested evidentiary hearings, the CPUC proceeding is on track to be completed by early October. Next steps in the process include:

- CalMTA to develop and file opening brief: July 25
- CalMTA to develop and file replies to other parties' opening briefs:
   Aug. 8
- Proposed Decision published for party comments: Sept. 5
- Proposed Decision on CPUC agenda for vote: Oct. 9



## Questions?

Comments?

Financial Reporting

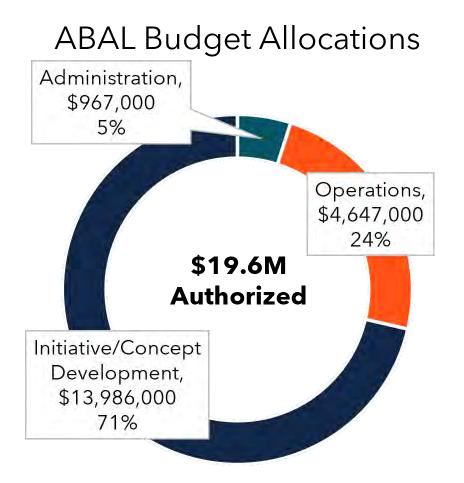
Jim Giordano Principal of Operations

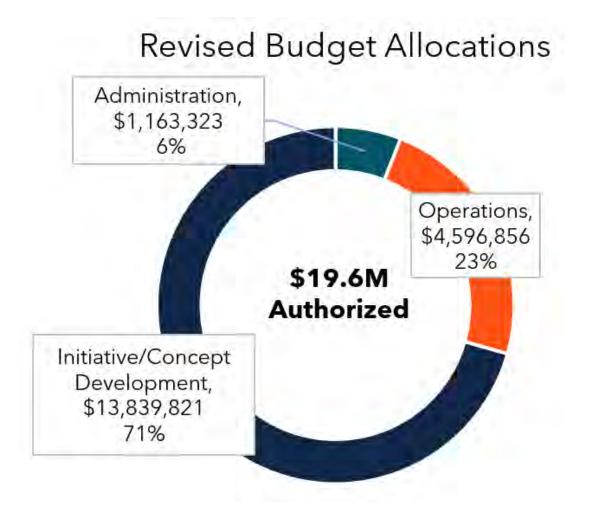


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#### Original & revised budget allocations

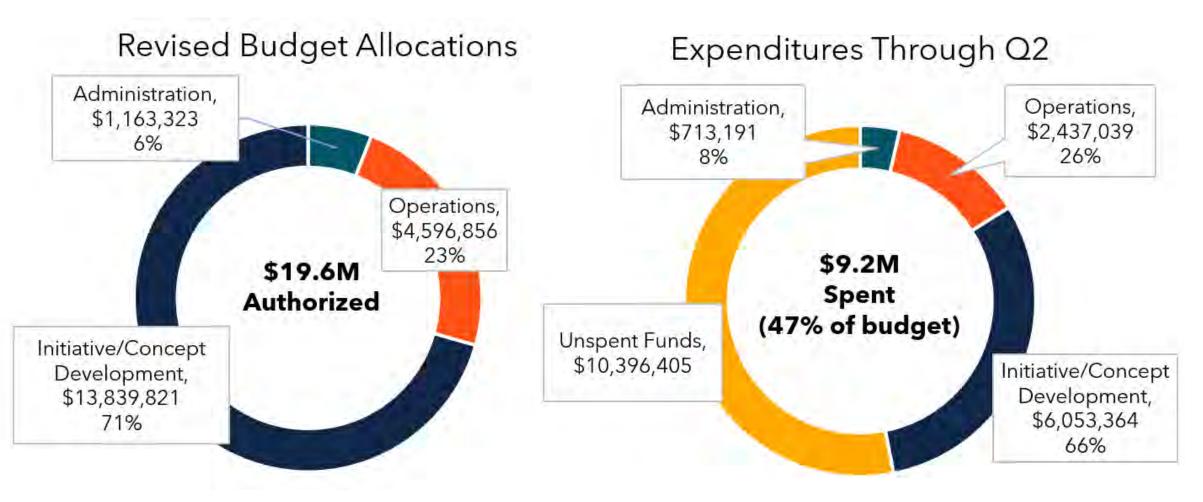






#### Budget & spend through Q2





#### **Administration and Operations**



	Actual Spend R		Revised Budget		
Major Activity	(through Q2)		Allocations		% Spent
Administration Totals	\$	713,191	\$	1,163,323	61.3%
1a. Routine Financial & Administrative Tasks	\$	409,161	\$	823,101	49.7%
1b. Non-Routine Financial & Administrative Tasks	\$	304,030	\$	340,222	89.4%
Operations Totals	\$	2,437,039	\$	4,596,856	53.0%
2. Project Management	\$	444,944	\$	776,436	57.3%
3. MTAB Operations	\$	101,144	\$	301,000	33.6%
4. Policy	\$	322,407	\$	521,267	61.9%
5. Stakeholder Engagement and Communications	\$	1,407,906	\$	2,627,152	53.6%
6. Data Systems Development and Management	\$	160,638	\$	371,000	43.3%

#### **Initiative/Concept Development**



	Actual Spend	Revised Budget	
Initiative/Concept Development Phases	(through Q2)	Allocations	% Spent
Concept Development (Phase I Activities)	\$ 911,623	\$ 2,068,129	44.1%
Program Development (Phase II Activities)	\$ 5,141,741	\$ 11,771,692	43.7%
Total:	\$ 6,053,364	\$ 13,839,821	43.7%

#### Phase I: Concept Development



	Actual Spend		Revised Budget		
Major Activity	(through Q2) Allocations		Allocations	% Spent	
Concept Development (Phase I Activities) Totals	\$	911,623	\$	2,068,129	44.1%
7. Technology Scanning and Research	\$	294,741	\$	614,815	47.9%
7a. Scanning, Outreach, and Engagement	\$	222,704	\$	411,815	54.1%
7b. RFI Management	\$	72,038	\$	203,000	35.5%
8. Preliminary Analysis, Modeling & Forecasting	\$	144,588	\$	576,315	25.1%
9. Advancement Plan Development	\$	472,294	\$	877,000	53.9%

#### Phase II: MTI's 1 and 2



	Actual Spend		Revised Budget		
Major Activity		(through Q2)		Allocations	% Spent
10. Induction Cooking	\$	938,115	\$	2,126,535	44.1%
10a. Market & Technology Research and Engagement	\$	221,463	\$	700,407	31.6%
10b. Ongoing Mkt. Engagement; Updates to MTI Plan	\$	379,402	\$	648,000	58.5%
10c. Midstream Incentives	\$	337,250	\$	778,128	43.3%
11. Room Heat Pumps	\$	689,626	\$	1,352,799	51.0%
11a. Market & Technology Research and Engagement	\$	381,306	\$	672,124	56.7%
11b. Ongoing Mkt. Engagement; Updates to MTI Plan	\$	306,145	\$	630,000	48.6%
11c. Midstream Incentives	\$	2,175	\$	50,675	4.3%

#### Phase II: MTI's 3-6



	Actual Spend		Revised Budget		
Major Activity		(through Q2)		Allocations	% Spent
12. Commercial Rooftop Units (CRTUs)	\$	1,043,915	\$	1,789,000	58.4%
12a. Market & Technology Research & Engagement	\$	785,174	\$	1,260,000	62.3%
12b. Strategy & MTI Plan Development	\$	258,742	\$	529,000	48.9%
14. Commercial Replacement & Attachment Windows	\$	1,019,395	\$	2,279,000	44.7%
14a. Market & Technology Research & Engagement	\$	892,693	\$	1,900,000	47.0%
14b. Strategy & MTI Plan Development	\$	126,702	\$	379,000	33.4%
15. Food Service Water Heating Systems (FSWH)	\$	540,497	\$	1,278,042	42.3%
15a. Market & Technology Research & Engagement	\$	458,402	\$	962,042	47.6%
15b. Strategy & MTI Plan Development	\$	82,095	\$	316,000	26.0%
16. Residential Heat Pump Water Heaters (Res HPWH)	\$	819,420	\$	2,027,316	40.4%
16a. Market & Technology Research & Engagement	\$	720,685	\$	1,356,316	53.1%
16b. Strategy & MTI Plan Development	\$	182,187	\$	571,000	31.9%
16c. Midstream Incentives	\$	7,320	\$	100,000	7.3%



## Questions?

Comments?

# 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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