CalMTA

2024 ANNUAL REPORT

Market Transformation RISING

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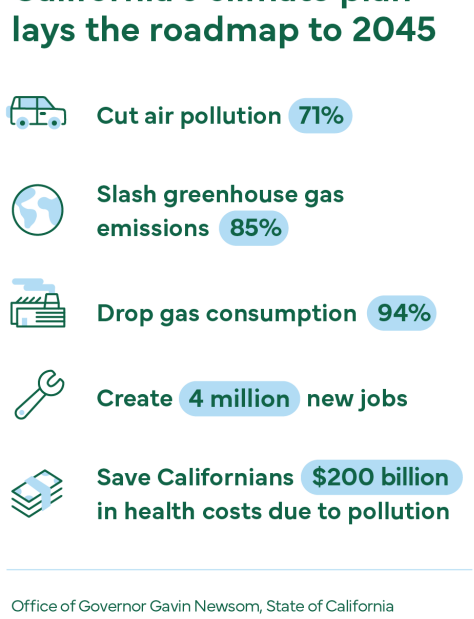
SECTION 01

Introduction

CalMTA completed its second start-up year of developing a market transformation (MT) portfolio to deliver high-impact solutions that further California's clean energy economy and climate goals in 2024.

Figure 1. California's climate plan



Office of Governor Gavin Newsom, State of California

The past year was one of putting infrastructure into action. The foundational activities and groundwork laid in the previous year enabled CalMTA to reach a major milestone with the submission of two fully developed market transformation initiative (MTI) plans to the California Public Utilities Commission (CPUC) for approval. Four additional market transformation ideas were vetted and developed in 2024 and are poised to reach completion as MTI Plans for submission to the CPUC in late 2025 and early 2026.

As CalMTA progresses towards implementation of its first initiatives, the potential for MT to generate lasting, market-wide impacts across the entire supply chain for targeted ideas or products is becoming evident. Our market transformation approach is unique within the California energy efficiency landscape, and CalMTA has identified its distinct role to contribute to the State's goal of reaching economy-wide carbon neutrality by 2045.

The proposed MTIs, Induction Cooking and Room Heat Pumps (RHPs), are the start of a cost-effective MT portfolio for California that will deliver substantial benefits for energy efficiency, decarbonizing the built environment, and supporting a healthy electricity grid beyond what can be achieved by traditional energy efficiency programs alone.

> *If implemented, the Induction Cooking and Room Heat Pumps MTIs are expected to produce over $1 billion in Total System Benefit (TSB) to California over their lifetimes. These MTIs will also contribute to the State's decarbonization goals with two important electrification technologies and advance equitable outcomes.*

Finally, CalMTA issued a second Request for Ideas (RFI) to allow interested parties to share their recommendations for cost-effective, energy-efficient technologies and practices to be considered for development as MTIs. Initial scoring and prioritization of these ideas resulted in the four top ideas being presented to CalMTA's Market Transformation Advisory Board (MTAB) for consideration at their final meeting in 2024.

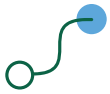
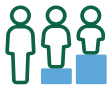
CalMTA plans for one to two of these leading ideas to progress to Advancement Plan development in 2025.

As we mark the second year of advancing our market transformation portfolio, we are excited to share our accomplishments in this 2024 Annual Report and continue on our quest to catalyze market change for the climate-friendly energy future California needs.

See pages 36–38 for a full summary of work completed in 2024 as forecasted in our 2024 Operations Plan.

2024 AT A GLANCE

Table 1. CalMTA quarterly achievements

	Q1	Q2	Q3	Q4
MT idea development activities 	Kicked off implementation of Strategy Pilots for Induction Cooking and Room Heat Pumps	Launched and publicized second RFI	Completed initial scoring on the 2024 RFI submissions and 2023 submissions that were held over	Presented new MT ideas to MTAB for review and feedback
MT plan development 	Published three Advancement Plans: Induction Cooking, Room Heat Pumps and Commercial Rooftop Units (CRTUs)	Published MTI Evaluation Framework	Published Commercial Replacement & Attachment Window Solutions (CRAWS) and Residential Heat Pump Water Heating (HPWH) Advancement Plans	Filed CPUC Application for approval of MTI Plans for Induction Cooking and Room Heat Pumps after addressing final MTAB comments
MTAB activities 	Recruited MTAB members to fill four vacancies resulting from one-year term expirations	Provided support and review of the 2025 Annual Budget Advice Letter (ABAL)	Reviewed the Residential HPWH, CRAWS, and Foodservice Water Heating Systems Advancement Plans	Provided feedback on the two MTI Plans and the scoring and prioritization of the new MT ideas
Engagement activities and development 	Presented or hosted at four industry events to connect and align with stakeholders	Attended or presented at six industry conferences or events	Launched *Idea to Initiative* campaign to preview and discuss key portions of the MTI Plans with MTAB and CalMTA stakeholders	Met with 12 key program administrators and other efficiency program leads
Policy/document development 	Released Stage 1 Disposition Report	Published the 2023 Annual Report and the 2024 Operations Plan	Filed the 2025 ABAL with the CPUC	Developed and submitted a Solicitations Protocols document
Equity lens 	Released environmental and social justice (ESJ) Listening Session Report (for fall 2023 events)	Held second round of ESJ Listening Sessions	Presented a white paper on CalMTA's equity approach at the ACEEE Summer Study on Energy Efficiency in Buildings 2024	Recruited and seated CalMTA's Equity Sounding Board
Evaluation 	Finalized the MTI Evaluation Framework	Presented and discussed program-level KPIs and scorecard with MTAB	Recruited and formed the Evaluation Advisory Group and charter	Developed Evaluation Plans for the two MTI Plans with input from MTAB and the Evaluation Advisory Group

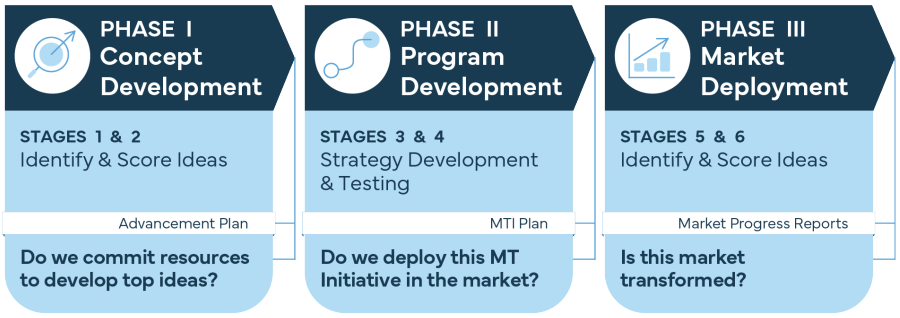
SECTION 02

Developing MTIs for lasting market change

In 2024, CalMTA conducted extensive research and development on several MT ideas with a strategic approach so the resulting plans, when implemented, will complement and amplify existing programs and create collaborative pathways to align with ongoing efforts throughout the State.

CalMTA uses a three-phase MTI development process to select and develop promising MT ideas that have high potential to create long-lasting change. The process includes a stage-gate model to help manage program risk, maximize the use of resources, increase transparency in our work, and support MTI creation from concept to program development to market deployment, and the eventual market exit.

Figure 2. MTI development/deployment process



Six ideas representing targeted efficiency technologies or practices moved through various stages of Phase I: Concept Development and Phase II: Program Development during the year.

- Room Heat Pumps and Induction Cooking have concluded Phase II: Program Development with the creation of MTI Plans and are under review via an Application with the CPUC for approval to move to Phase III: Market Deployment.
- Advancement Plans for four more ideas were completed and approved allowing them to move to Phase II: Program Development. The CalMTA team is now conducting research and investigation to determine viability for MT and inform eventual MTI Plans.

One to two additional ideas are being considered for MT development and are projected to progress to Advancement Plan development in 2025.

CalMTA's first MTIs: From ideas to initiatives

CalMTA drew on extensive guidance and direction from the MTAB and oversight by the CPUC Energy Division, as well as 18 months of development, research, outreach, and analysis, to complete the first two MTI Plans for Room Heat Pumps and Induction Cooking. The process that each of these MT ideas underwent to reach this major milestone is detailed in the sections below.

Figure 3. Room heat pumps and induction cooking technologies

PHASE I: CONCEPT DEVELOPMENT

The Room Heat Pumps and Induction Cooking MTIs were selected from ideas submitted through a public solicitation process and recommended for expedited Advancement Plan development based on market transformation alignment, a clear role for CalMTA to bring long-term value for California, and commercial readiness. Advancement Plans for both the Room Heat Pumps and Induction Cooking ideas, describing the research and other investigation needed to develop the ideas into full MTI Plans, were finalized in February 2024 after MTAB review and a public comment period from December 6 - 20, 2023.

PHASE II: PROGRAM DEVELOPMENT AND MTI PLAN FORMATION

Phase II: Program Development research and analysis took place for the Room Heat Pumps and Induction Cooking ideas throughout 2024. To more fully understand market barriers, ensure the potential MTIs had viable market leverage points and sound program logic, and prepare for assembly of full MTI plans, the CalMTA team completed the following Phase II activities throughout the year:

- Market Characterization Studies were developed for each MTI to better understand key barriers and opportunities, and to inform development of market adoption forecasts. The research conducted for these studies included a literature review, secondary research, in-depth interviews with market actors and subject matter experts, focus groups, consumer surveys, "secret shopping" research, and Delphi panels.
- Product assessments outlining the availability of appropriate products for California markets, potential bill impacts, and technical barriers to accelerating market adoption of the targeted products.
- Plans were created for both the Room Heat Pumps and Induction Cooking MTIs that describe CalMTA's plans for third-party evaluation. Per the MTI Evaluation Framework, CalMTA developed these preliminary evaluation plans with input from the Evaluation Advisory Group. Final evaluation plans will be developed by independent third-party evaluators to be selected by competitive bid after the MTI advances to Phase III: Market Deployment. More evaluation details are described in the Evaluation section.
- Engagement with:
  - various market actors including manufacturers, distributors, and installers,
  - entities across California and beyond to inform on progress and set expectations for program alignment during implementation, including regular meetings with investor-owned utility (IOU) representatives and other efficiency portfolio leads and implementers, and
  - ESJ community representatives through Listening Sessions and direct outreach in support of CalMTA's equity lens. More on the equity component of these MTI Plans is included in **Section 03: An Equity Lens**.
- Regular information sharing and feedback solicitation on the evolving MTIs at nine MTAB meetings throughout the year, all of which allowed opportunity for public comment.
- Strategy Pilots to test market strategies before finalizing MT theories were deployed. Prior to implementing, CalMTA created detailed plans available for comment followed by public webinars to share information about the Strategy Pilots.

1. Chefluencer Event Testing was identified as a Strategy Pilot in the Induction Cooking Advancement Plan. It sought to learn from and build upon the Building Decarbonization Coalition's (BDC) "Chefluencer" program, which uses experienced chefs to lead engaging, multilingual, culturally relevant cooking demonstrations using induction stovetops at live events. This pilot aimed to determine if Chefluencer cooking demonstrations would change public opinion, build awareness of the benefits of induction cooking, or influence future purchasing decisions.

Figure 4. Chefluencer Strategy Pilot

CalMTA partnered with the Building Decarbonization Coalition to host a series of 12 Chefluencer events throughout California between August – October 2024. At the close of each event, a survey was deployed to gather attendee experiences, gauging their opinions on induction cooking and their likelihood to purchase an induction appliance in the future. In total, 270 surveys were completed. Initial findings about the Chefluencer Strategy Pilot can be found in the Chefluencer Event Testing Strategy Pilot Report.

Figure 5. RHP Self-Installation Strategy Pilot

2 Room Heat Pumps Self-Installation Practices was identified as a Strategy Pilot in the Room Heat Pumps Advancement Plan. This pilot tested the ease of self-installation and the relative portability of products for tenants who own them. CalMTA partnered with three organizations with existing connections to ESJ communities and that currently support space conditioning upgrades for multifamily and small single-family residences. CalMTA procured RHPs from manufacturers and partners recruited participants to self-install the units and share feedback on their experience through surveys distributed at key intervals after product installation.

As of December 2024, 147 RHPs were successfully installed, with participants most frequently completing their installation in two hours or less, with an average time of 66 minutes. Additional initial findings from the Room Heat Pumps Self-Installation Practices are available in this status update from December 2024.

Figure 6. Room Heat Pump Self-Installation Strategy Pilot Partner Organizations

EL CONCILIO CALIFORNIA

Redwood Energy

USGBC CA U.S. GREEN BUILDING COUNCIL CALIFORNIA

3 Geographic Targeting Using Energy Star Retail Products Platform (ESRPP) for Room Heat Pumps and Induction Cooking was identified as a Strategy Pilot for Room Heat Pumps and Induction Cooking. The Strategy Pilot aimed to determine whether the ESRPP platform could serve as a viable intervention strategy to motivate certain geographic areas, including ESJ communities, once the MTIs move into market deployment. CalMTA aimed to leverage ESRPP's existing functionalities to gather statewide data and test the feasibility of motivating retailers to stock lower-priced products in designated ESJ-dominant zip codes through tailored incentives.

Participation agreements were secured with The Home Depot, Best Buy, Lowe's, and Nationwide requiring retailers to provide CalMTA with full category sales data for all participating stores in the target regions.

Should study results indicate that this intervention strategy is both feasible and effective, the approach could be used across California through the deployment of CalMTA-developed MTIs, offering midstream incentives to influence stores in ESJ communities to stock and promote more affordable products. A summary of the work undertaken and a status of progress for this ongoing Strategy Pilot is available in this status update from December 2024.

FINAL MTI PLANS COMPLETED AND SUBMITTED VIA APPLICATION TO THE CPUC

The final Room Heat Pumps and Induction Cooking MTI Plans were completed and published on December 20, 2024 following MTAB review in November. These plans describe the business case supporting the MTI and the market development and evaluation activities that would be implemented during Phase III: Market Deployment. As shown in Figure 7, each MTI Plan includes nine appendices that provide detail on research findings, evaluation and forecasting methodologies; program strategy, coordination, and management; and feedback from MTAB members.

Figure 7. MTI Plan Appendices

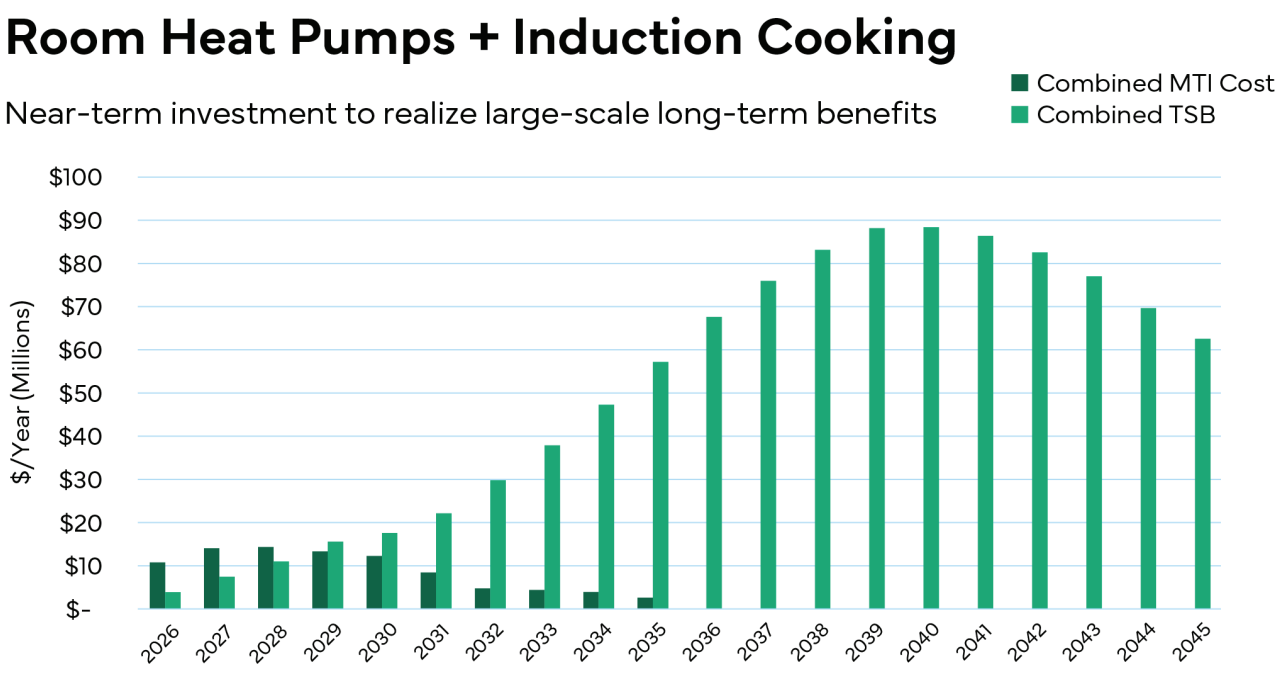
Value of the Room Heat Pumps and Induction Cooking MTIs

The Room Heat Pumps and Induction Cooking MTIs are estimated to deliver a combined $1 billion in TSB to California over their 20-year lifetime with an estimated total cost of roughly $100 million (the lifetime of the MTI is estimated from 2026-2045; costs include an additional two years of development expenses from 2024-2025). They both meet cost-effectiveness measures using the Total Resource Cost Test (TRC), Program Administrator Cost Test (PAC), and Societal Cost Test (SCT). More information about the cost-effectiveness measures is available on CalMTA's MTI Evaluation FAQ webpage.

In addition, these two MTIs offer increased efficiency and decarbonization solutions for existing homes, including households that might otherwise not be able to access electrification, and seek to remove barriers to large-scale residential decarbonization that are not as easily addressed through traditional energy efficiency programs.

The graphic below illustrates the estimated investment and TSB timeframe for investment in the proposed MTIs.

Figure 8. Combined Room Heat Pumps and Induction Cooking MTI cost estimate and market impact by year



Total System Benefit

The Total System Benefit (TSB) is the dollar-value metric that measures energy savings, grid benefits and reliability, and greenhouse gas (GHG) impacts. In 2021, the CPUC announced plans to use this approach to evaluate the State's energy efficiency programs. In the past, the CPUC's metrics were based on kilowatt-hours, kilowatts, and therms, but this new TSB approach encourages programs to target high-value load reductions without directly comparing one fuel source against another (i.e., gas vs.electricity). It focuses on the benefits to the "total system," rather than one particular fuel source.

About the Room Heat Pumps MTI

The Room Heat Pumps MTI will accelerate market adoption of this technology, which provides both heating and cooling for small single-family and multi-family households. Room heat pumps provide efficient heating and cooling, performing the same functions as room heaters or window/room air conditioners, and can be self-installed in standard wall outlets without a panel or service upgrade. Key aspects of the MTI include:

- The technology fills a critical heat pump product gap to help California reach its goal of six million heat pumps installed by 2030, due in part to the following factors:
  - These 120V products mitigate electrical infrastructure challenges, especially for multifamily properties.
  - Because they do not require professional installation or system upgrades, they are an affordable heat pump option for tenants and smaller single-family and multifamily households compared to mini-split and other HVAC systems.

- The MTI leverages and builds upon new market entrants and national momentum, enabling rapid deployment and scalability.
- Product enhancements targeted through the MTI's manufacturer engagement could provide additional benefits, such as air filtration, use of lower-global warming potential (GWP) refrigerants, and demand response capability.

These products will also be a valuable addition to energy efficiency, weatherization, and climate resilience programs, particularly those benefitting ESJ communities. In addition to filling a technology gap for renters and cost-constrained consumers, room heat pumps can eliminate the need for households to run inefficient devices like electric resistance heaters, which drive up electrical bills. Incenting retailers to stock and market more affordable models makes the technology more accessible. The future inclusion of air filtration capabilities will help improve indoor air quality (IAQ), which will especially benefit areas with poor environmental health.

The Room Heat Pumps MTI is expected to cost $62.8 million, with a forecasted TSB of $521 million through 2045. This MTI is projected to be highly cost-effective. Its TRC of 5.46 means that for every dollar spent on the program, there are $5.46 in energy system benefits.

About the Induction Cooking MTI

The Induction Cooking MTI seeks to accelerate the market adoption of induction cooktops and ranges to provide a high-quality cooking experience and a more efficient technology than traditional electric resistance and gas stoves. The initiative also aims to reduce GHG emissions and provide enhanced health, safety, and other non-energy benefits afforded by induction technology. Key aspects of the MTI include:

- Induction cooking serves as a linchpin to the full home electrification needed to achieve California's decarbonization goals.
- The MTI leverages and builds upon new market entrants and national momentum, enabling rapid deployment and scalability.
- Driving market demand for battery-equipped 120V products will enable off-peak usage and can mitigate challenges in moving from gas to electric cooking.

- Induction technology also offers significant non-energy benefits, such as low-temperature cooking surface and improved IAQ.
- MTI interventions will move the market to shift induction products from a high-end niche technology to mass adoption and provide a cooking experience on par or superior to incumbent gas products.

As developed by CalMTA, the Induction Cooking MTI also yields significant benefits to ESJ communities. Incenting manufacturers to develop 120V battery-equipped products will lower the cost of adoption and provide additional benefits including off-peak charging and increased resilience. Encouraging retailers to stock and market more affordable induction products makes the technology more accessible to more households. Increased availability of affordable induction products will equip programs that serve ESJ communities with more and better electric cooking options. Finally, transitioning the market away from gas cooking will mitigate negative health impacts (like childhood asthma), which disproportionately impact ESJ communities.

The Induction Cooking MTI is expected to cost $37.4 million, with a forecasted TSB of $537 million through 2045. The MTI is expected to be cost-effective. Its TRC of 1.12 means that for every dollar spent on the program there are $1.12 in energy system benefits.

Ideas in development

Four additional MT ideas continued to take shape in 2024 as they advanced through CalMTA's development process from Phase I: Concept Development into Phase II: Program Development. Advancement Plans for all four of these ideas were approved and published after MTAB review and public comment, as shown in Table 2:

Table 2. Advancement Plans completed in 2024

Advancement Plan	MTAB review	Public comment	Finalized
Commercial Rooftop Units	MTAB reviewed in November 2023	December 6 – 20, 2023	February 2, 2024
Residential Heat Pump Water Heating	MTAB reviewed in June 2024	June 10 – July 11, 2024	September 17, 2024
Commercial Replacement and Attachment Window Solutions	MTAB reviewed in June 2024	June 10 – July 11, 2024	September 17, 2024
Foodservice Water Heating Systems Advancement Plan	MTAB reviewed in July 2024	July 8 – 21, 2024	October 17, 2024

These four Advancement Plans began implementation throughout 2024. Market research, product, and technology assessments are now underway.

Assuming these ideas pass the rigor of the aggressive research and vetting process taking place in Phase II: Program Development, CalMTA forecasts detailed plans for these initiatives will be ready for CPUC approval on a rolling basis from late 2025 through the first half of 2026. Details on the research, analysis, and activities that were completed for each idea in 2024 are included in the next sections.

Advancement Plan development

Advancement Plan development occurs during Phase I: Concept Development for CalMTA's three-phase development process. The Advancement Plan summarizes available information and essential research activities for a proposed MTI that CalMTA recommends advancing from Phase I: Concept Development into Phase II: Program Development.

The plan represents the stage gate deliverable describing the scope of work for research, testing, and stakeholder engagement that will be needed during Phase II to develop a full MTI Plan for approval by the CPUC for Phase III: Market Deployment.

The initial research efforts outlined in the Advancement Plans will inform the long-term potential of the technology or practice before CalMTA recommends whether to advance the MT idea further. All MT Advancement Plans are reviewed by the MTAB and made available for public comment before they are finalized by CalMTA and authorized to move to Phase II by the CPUC.

Figure 9. Phase II MT idea technologies and systems

Advancement Plan development, cont.

CalMTA performs extensive research and analysis to develop Advancement Plans, resulting in plans that include the following essential information:

- Key characteristics of the MT idea including initial product or service definition and preliminary market transformation theory
- Identified gaps in knowledge that need to be filled before an MTI Plan could be written for CPUC approval
- Research and program development plan including technology assessment, market research, and strategy pilots
- External program review and stakeholder engagement
- Potential risks and mitigation
- Preliminary estimates of market adoption, total system benefit, and cost-effectiveness
- Estimated costs and work plan for activities in Phase II that will fill the knowledge gaps and refine expected results

Commercial Rooftop Units

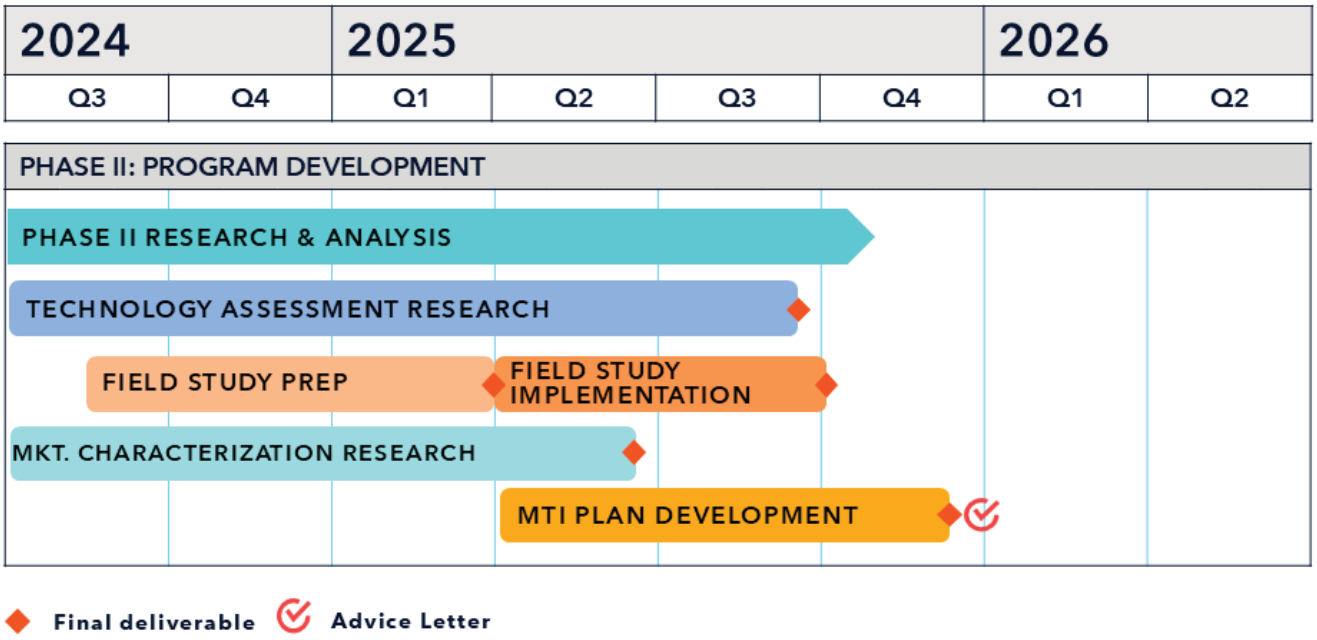
Rooftop units are forced-air systems that package the evaporator, condenser coils, fans, and heating components into a single unit to serve a building's heating, cooling, and ventilation needs. The CRTUs MT idea (formerly Efficient RTUs) seeks to improve supply efficiency, heat recovery, and controls to deliver 10-40% energy savings beyond today's minimum efficiency rooftop standards. CalMTA would partner with existing programs and related efforts to accelerate the acceptance of more efficient equipment, advocate and influence manufacturer product lifecycles, and support the continued advancement of state and federal codes and standards.

KEY ACCOMPLISHMENTS

- The Commercial Rooftop Units Advancement Plan was delivered in the 1st quarter of 2024 and progressed to Phase II: Program Development, following MTAB review, public comment resolution, and CPUC approval.
- Phase II: Program Development research and activities were executed, including:
  - market research including interviews with stakeholders working on CRTUs to confirm market opportunities and barriers
  - literature review to characterize CRTU research objectives
  - technology assessment summarizing existing research and creating a technology data set explaining main features and potential energy efficiency measures for CRTUs
  - completion of over 500 energy models to identify CRTU packages and efficiency measures and building an annual bill impact tool to better understand the energy consumption of CRTU models
  - the launch of a field study on the UC Davis campus which will leverage integrated sensors and Remote Monitoring Systems (RMS) as a data collection tool to understand the performance of heat pump CRTUs, and in parallel will demonstrate and validate the savings potential of RMS systems as a product feature for CRTUs in California

The CRTUs timeline on page 16 details upcoming Phase II research, analysis, and activities including MTI development and projected finalization by the end of 2025.

Figure 10. CRTUs development timeline



Residential Heat Pump Water Heating

Residential HPWHs are two to three times more efficient than conventional gas and electric resistance water heating options.

While residential HPWHs have been available for the past 15 years as energy-efficient alternatives that cut GHG emissions and improve local air quality, they represent only 1-2% of the water heaters sold in California.

KEY ACCOMPLISHMENTS

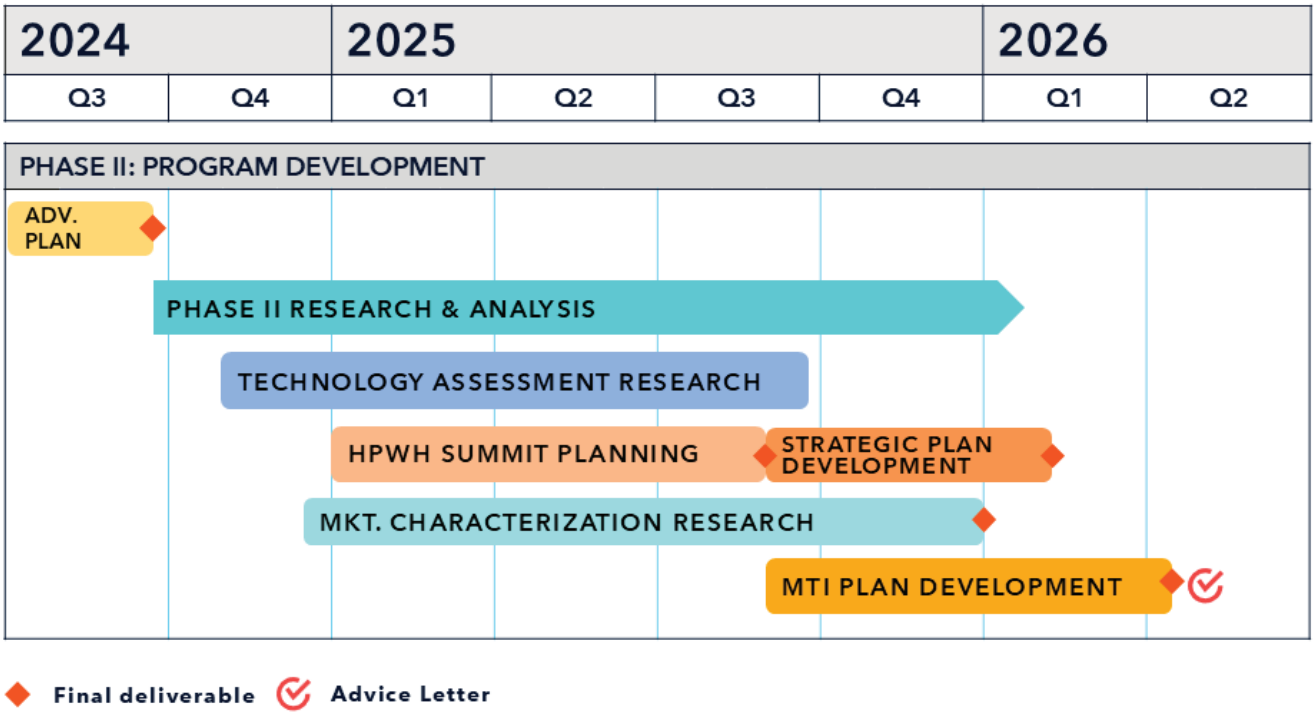
- Phase I: Concept Development activities were completed, including:
  - an external program review to identify programs or efforts aimed at heat pump water heaters in California and nationwide
  - a roundtable discussion with industry experts at the Hot Water and Hot Air Forums to inform planning for the Residential HPWH idea
  - continued coordination with IOU representatives and exploratory discussions with other stakeholders and market actors
- The draft Advancement Plan was completed, reviewed by MTAB, and released for public comment. CalMTA received approval from the CPUC of the Residential Heat Pump Water Heating Advancement Plan in the 3rd quarter 2024, after resolution of public comments, and

progressed to Phase II: Program Development.

- Phase II: Program Development research and activities were kicked off, including:
  - literature and existing data review as part of the technology assessment
  - market research including identification and documentation of program and organizations necessary for HPWH collaboration
  - interviews with program stakeholders, subject matter experts, and manufacturers were conducted
  - preliminary planning activities were identified to host a California HPWH summit in August 2025 with the goal of bringing together parties working on HPWH market transformation

The Residential HPWH timeline below highlights upcoming Phase II research, analysis, and activities including MTI Plan development, which is projected to be completed in the 2nd quarter of 2026.

Figure 12. Residential HPWH development timeline



Commercial Replacement and Attachment Window Solutions

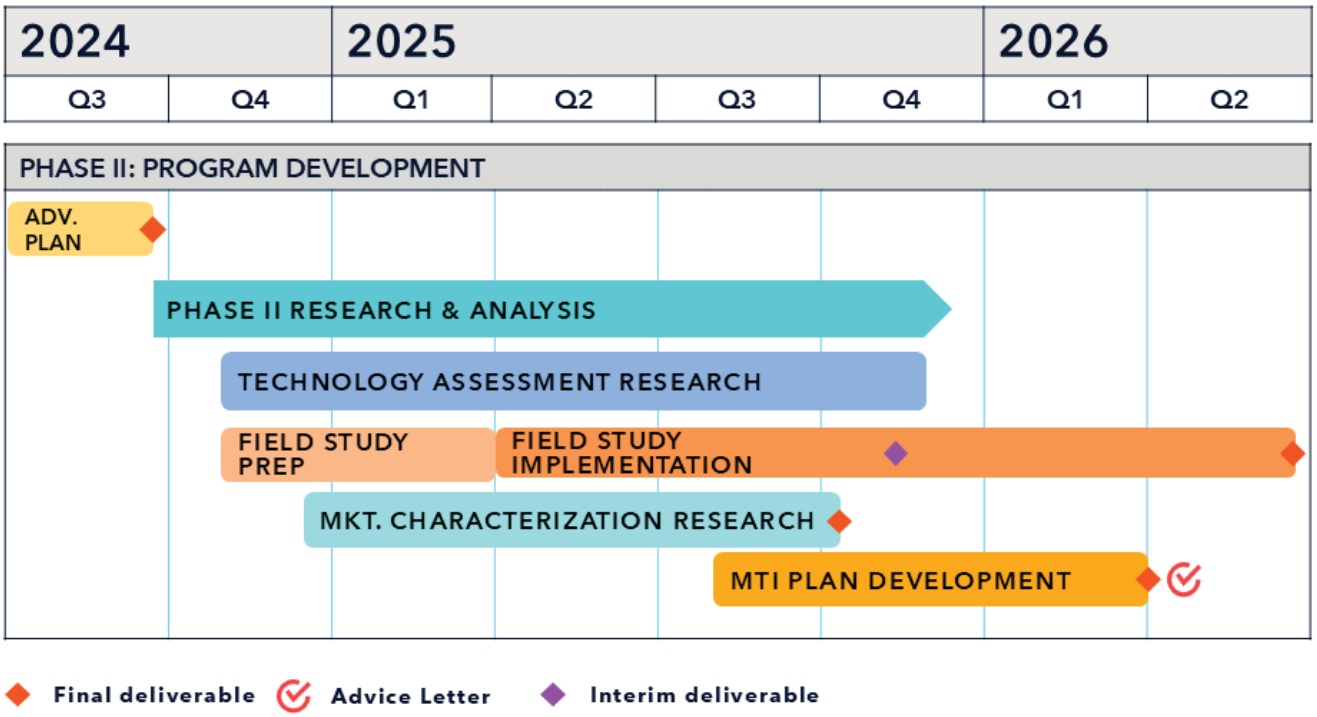
The CRAWS MT idea presents a significant opportunity to improve building envelope thermal performance and downsize heating, ventilation, and air conditioning (HVAC) systems. The technologies of Vacuum Insulated Glass (VIG) and Commercial Secondary Windows (CSW) offer substantial improvements over typical window replacements. Although windows on average comprise approximately 15% of a building's exterior surface, they are responsible for HVAC losses of approximately 40%, which equates to roughly 12% of a typical building's overall energy use.

KEY ACCOMPLISHMENTS

- Phase I: Concept Development activities were completed:
  - development of a conceptual logic model
  - engaging with the Lawrence Berkeley National Lab for the latest research on VIG
  - scoping energy/non-energy benefits modeling for CSW
  - establishing preliminary technical and energy modeling criteria for both VIG and CSW
  - coordination with IOU representatives and engage in exploratory discussions with other stakeholders and market actors
- The draft Advancement Plan was completed, reviewed by MTAB, and released for public comment. CalMTA received approval from the CPUC of the CRAWS Advancement Plan in the 3rd quarter of 2024, after resolution of public comments, and entered Phase II: Program Development.
- Phase II: Program Development research and activities were kicked off, including:
  - literature review for the technology assessment
  - market research including interviews of manufacturers, installers, building owners/property managers and municipal, university, school, hospital buildings (MUSH), and energy service companies
  - preparations for a CSW field study focused on the impact of CRAWS installation at a public school in an ESJ community

The CRAWS timeline on page 19 details upcoming Phase II research, analysis, and activities including MTI development and projected finalization by the end of 2025.

Figure 13. CRAWS development timeline



Foodservice Water Heating Systems

Restaurants are extremely energy-intensive, using five to seven times more energy than other commercial buildings, with water heating alone accounting for up to 20% of that demand. In California, the foodservice industry predominantly relies on gas for heating water, with 75% of establishments using it as their primary fuel source. This results in a staggering 340 million therms of gas consumption annually, emitting 4.8 million tons of carbon dioxide.

In early 2024, CalMTA continued development of the Foodservice Water Heating Systems Advancement Plan, including all the research activities required as part of the Advancement Plan development process.

KEY ACCOMPLISHMENTS

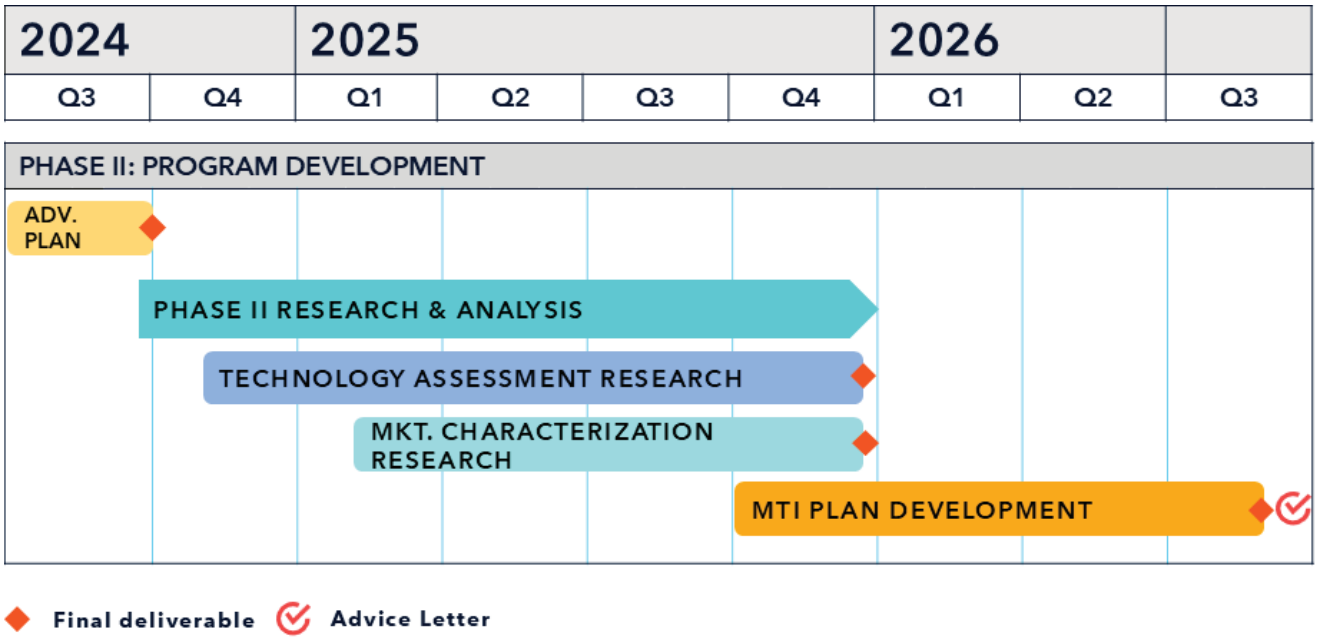
- Phase I: Concept Development activities were completed, including:
  - development of a conceptual logic model
  - connecting with key market actors to test some assumptions and get perspective from the field
  - initial activities to inform market characterization research and product assessment plans were started
  - coordination with IOU representatives and exploratory discussions with other stakeholders and market actors

- The draft Advancement Plan was completed, reviewed by MTAB, and released for public comment. CalMTA received approval from the CPUC of the Foodservice Water Heating Systems Advancement Plan in the 3rd quarter of 2024 and entered Phase II: Program Development.

While Phase II research and activities began in 2024, questions from the CPUC and the MTAB regarding the target market and certain program strategies led to a modified schedule and approach for Phase II that would limit overall budget expenditures and include interim reviews of research findings.

The Foodservice Water Heating Systems timeline below shows upcoming Phase II research, analysis, and activities planned for the coming year, including a timeline for MTI Plan development and completion, should Advancement Plan implementation continue.

Figure 14. Foodservice Water Heating Systems development timeline



Efficient Streetlighting: *no longer being considered*

Notably, the Efficient Streetlighting idea that was proposed and recommended for advancement at the January 25, 2024 MTAB meeting is no longer among the current group of forming MTIs. This idea was held after questions about the potential initiative were raised during the Advancement Plan development. While developing the preliminary logic model, barriers were identified but viable intervention strategies to overcome those barriers were elusive given the complex nature of the market, varying ownership structures, and other challenges. Efficient Streetlighting was revisited with the priority ideas put before the MTAB in September and November 2024, but did not receive the needed support to advance.

Upcoming ideas

CalMTA issued a second RFI in 2024, allowing interested parties to share their recommendations for cost-effective, energy-efficient technologies and practices to be considered for development as MTIs. Stage 1 scoring was completed for: (1) submissions to the 2024 RFI, and (2) submissions from the 2023 RFI that had been held. The resulting 12 highest-scoring ideas, listed in Table 3 below, were presented and discussed in the Sep. 23, 2024 MTAB meeting.

Table 3. Stage 1 scoring results for 12 highest-scoring ideas

Idea number	Idea name	Stage 1 score
0085	Combination Heat Pumps	8.11
0010	High Performance Windows	7.51
0024	Variable Frequency Drives (VFDs) on all Pumps and Fans > 10 HP	7.32
0193	Building Performance Standards (BPS) Accelerator	7.30
0022	Smart Home	7.14
0188	Reflective Insulation for Windows	7.09
0142	Agricultural Irrigation as a Flexible Demand Load	6.81
0218	Sustainable Outdoor Lighting	6.78
0133	Thermal Energy Storage as a Distributed Energy Resource	6.60
0118	Very High Efficiency Dedicated Outdoor Air Systems (DOAS)	6.51
0080	Smart Electric Panels	6.44
0222	Residential Smart-Splitting	5.49

With guidance from the MTAB, four ideas from the 12 discussed advanced in the scoring process: Combination Heat Pumps, Variable Frequency Drives, Building Performance Standards (BPS) Accelerator, and Thermal Energy Storage. Stage 2 scoring and prioritization of the top four ideas was presented at the Nov. 20 & 21 MTAB meeting.

Looking ahead, in the 1st quarter of 2025 CalMTA will deliver a Phase I update describing the next batch of ideas that were prioritized for Phase I: Concept Development in collaboration with MTAB. With input from MTAB members and agreement to move forward, we will progress through the MTI development process as outlined earlier in this section of the report. With these new ideas, CalMTA will complement the portfolio characteristics of our current set of ideas in development. A comprehensive summary of idea solicitation, scoring, and assessment is available in the RFI 2 Phase 1 Disposition Report.

CalMTA scoring process

CalMTA has a two-stage scoring and selection method in Phase I: Concept Development described in the MT Framework with additional steps to provide clear guidance to submitters and support CalMTA's portfolio development.

- The CalMTA team reviews submitted ideas to ensure basic requirements are met, primarily that the ideas would save energy and provide enough information to be scored.
- After this threshold review, initial Stage 1 scoring of each idea is done to provide a basis for ranking them so that only those with the best potential are advanced to Stage 2 scoring. The Stage 1 scores are based on a clear set of criteria (see below) using the CalMTA team's expertise and judgement to identify the concepts most likely to be effective MTIs.
- During Stage 2 scoring, CalMTA, in collaboration with the MTAB further vets the top ideas. These are assessed with additional rigor around TSB and cost-effectiveness potential. The Stage 2 scores are based on preliminary estimates developed using secondary data sources, research, and energy modelling.
- Highly ranked ideas from Stage 2 scoring move on to Advancement Plan development, which takes place over several months and describes the research and investigation needed to form a full MTI Plan.

Figure 15. CalMTA scoring process

Visit CalMTA's Phase I: Concept Development page to view a full list of the scoring criteria.

Evaluation

Evaluation is essential to the success of MT efforts. Accordingly, CalMTA and the CPUC will oversee rigorous and strategically focused evaluation, measurement, and verification (EM&V) practices to ensure MTIs deliver cost-effective energy savings for California's ratepayers. Evaluations inform adaptive management and continuous improvement of MTIs and provide insight for ongoing investment decisions. Moreover, they support strong management accountability with visibility for stakeholders to understand how MTI implementation is progressing.

EVALUATION FRAMEWORK

The California MT Framework, adopted in CPUC Decision 19-12-021, calls for setting clear savings goals and other MTI metrics to ensure a high level of accountability, and ongoing evaluation to reduce program performance risk. In 2024, CalMTA laid the foundation to ensure this outcome through creation of an Evaluation Framework, that was developed in close collaboration with the MTAB.

The Evaluation Framework describes the policies, principles, and high-level approaches that will be utilized to assess CalMTA's portfolio of MTIs. It was directly applied in 2024 in the development of Evaluation Plans for the Room Heat Pumps and Induction Cooking MTIs.

EVALUATION ADVISORY GROUP

In late 2024, CalMTA also recruited and seated the Evaluation Advisory Group - a group of three independent evaluation experts, the CPUC CalMTA contract manager, and the CalMTA market research and evaluation lead - that will provide expertise and unbiased recommendations to CalMTA's management team regarding evaluation plans, as well as planning, selection, and review of third-party MTI evaluation activities. This group contributes to a management and oversight structure that ensures credibility and appropriate independence, avoids any potential conflict of interest, and ensures timely evaluation that can effectively inform decision-making.

Members were selected through an open recruitment and application process and began their three-year terms on October 1, 2024. In the 4th quarter, Evaluation Advisory Group members began their tenure by reviewing and providing feedback on the evaluation plans and market forecasts for the Room Heat Pumps and Induction Cooking MTI Plans.

Evaluation Advisory Group members:

- **Alexandra Dunn** | Director at ILLUME Advising
- **Rafael Friedmann** | Friedmann Clean Energy Consulting
- **Fred Gordon** | Independent MTAB Evaluation Professional
- **Karen Horkitz** | CalMTA Market Research and Evaluation Lead
- **Christie Torok** | CPUC Energy Division Evaluation Lead

SECTION 03

Applying an equity lens

CalMTA made important and significant progress in operationalizing our equity approach in 2024. MT programs historically have focused first on risk-tolerant early adopters to grow market share, with access to a new technology or practice reaching ESJ communities much later, if at all. CalMTA seeks to deliver benefits of efficiency as soon as possible to those communities that have historically not benefitted equally from the outcomes of energy efficiency investments.

We apply an equity lens to MTI development and look specifically at barriers to ESJ community adoption of targeted products and practices. Key activities conducted to support CalMTA's equity intentions are described below. These were also shared at the 2024 ACEEE Summer Study on Energy Efficiency in Buildings in a presentation and white paper titled "An equity lens for market transformation: Delivering ESJ benefits at scale through an integrated program design approach."

Equity integration in MTIs

CalMTA seeks to proactively identify opportunities to include equity considerations in MTI design and implementation. In 2024, CalMTA finalized creation of internal equity-focused guidance that supports an ESJ lens to be applied to logic model development, research, and strategic intervention approaches.

Equity considerations were integrated throughout both the Advancement Plans and MTI Plans this year, with interventions specific to ESJ communities noted within each plan's logic model and evaluation metrics. Both the Room Heat Pumps and Induction Cooking MTI Plans include interventions and metrics to ensure that equity considerations are present in each MTI. See the equity summaries later in this section to learn more about how equity is considered. To track performance and ensure these principles are upheld, equity metrics are also provided.

Environmental Social Justice Community Listening Sessions

Building on a series of listening sessions with organizations serving ESJ communities conducted in 2023, CalMTA held a second series of sessions in June 2024 focused on four MT ideas, which at the time were in Phase I of development: CRTUs, Residential HPWH, CRAWS, and Foodservice Water Heating Systems. These sessions sought to inform the equity component of these MT ideas and ensure that we deliver benefits to ESJ communities, by directly learning from and listening to representatives working within those communities.

At four virtual sessions, representatives working with ESJ communities on energy-related topics provided insights to inform CalMTA's final Advancement Plans for the Phase I MTIs as well as the Phase II activities that will lead to full MTI Plans. The listening sessions resulted in important equity recommendations for each MT idea on topics including education and messaging, barriers to adoption, financing, workforce development, health impacts, and more.

Equity considerations in the Room Heat Pumps MTI Plan

The Room Heat Pumps MTI Plan will support the needs of ESJ communities through:

- the ability of RHPs to provide smaller spaces with efficient heating and cooling
- improved indoor air quality with filtration features
- self-installation and ownership by a renter or homeowner without a skilled electrician or mechanical contractor

It will be an affordable product option to help ESJ communities, including households with limited resources or tenants who have limited control over building decision-making, transition to heat pump technology and ensure that they are included in California's overall heat pump goals. This product is in early commercialization and there is a product gap of affordable form factors that meet the needs of California's climate or dominant window configurations found in many multifamily and small residential homes. The MTI will accelerate this product's adoption across the entire market, but six of the Room Heat Pumps MTI's eight strategic interventions address equity considerations.

Equity considerations in the Induction Cooking MTI Plan

The Induction Cooking MTI Plan will work to serve the needs of ESJ communities and ensure that they are not left behind in California's decarbonization goals.

Induction cooking is currently a premium product with an expensive consumer value proposition. Initial product costs, the need for appropriate cookware and, in some cases, a need to upgrade the home's electrical infrastructure have kept induction cooking beyond the reach of most middle- and low-income consumers. To overcome these barriers, this MTI will address cost and the product availability gap by influencing manufacturer development of affordable 120V battery-equipped products.

The negative health impacts of gas cooking disproportionately impact ESJ communities because of smaller square footage and lack of ventilation in apartments and smaller homes, which result in increased concentrations of gas pollutants. By adopting induction cooking, these products will work to improve IAQ of these homes.

ESJ community needs and barriers are woven throughout all of the proposed interventions, but six of the Induction Cooking MTI's eight total interventions address equity considerations.

Equity Sounding Board

Listening Session input has been invaluable to developing our MT portfolio, but the team recognized the need for ongoing advisement to ensure that equity will be sufficiently considered in our work. In the 3rd and 4th quarters of 2024, CalMTA recruited and seated an eight-member Equity Sounding Board to fill this role.

Equity Sounding Board members were selected from a pool of applicants who advocate for, or work within, ESJ communities. Serving two-year terms, this group will provide professional insight and feedback on selected MTIs and is now guiding CalMTA's outreach to ESJ communities, assisting in avoidance of actions that would cause unforeseen harm, and providing insights into strategic interventions that will bring benefits to ESJ communities through CalMTA's MTIs. Current members met for an orientation in December 2024 and will meet formally three times in 2025 with informal consultations throughout the year. They include:

- **Adriana Ayala, PhD** | Executive Director, Chicana Latina Foundation
- **Alicia Bohigian** | Assistant Program Director, Self-Help Enterprises
- **Dr. Federico Castillo** | Project Scientist and Lecturer, University of California, Berkeley
- **Maria Dahlin** | Tribe Council Member, N'de Apache Tribe
- **Michelle Engel-Silva** | CEO, Proteus, Inc.
- **Elisa Gallegos Jackson** | Nurse, Retired Public Health Nurse, Community Health Educator and Independent Consultant
- **Joaquin Narvaez** | Owner, West Coast Green Builders LLC
- **Johng Ho Song** | Executive Director, Koreatown Youth and Community Center

Figure 16. Equity Sounding Board member organizations

SECTION 04

Stakeholder engagement and collaboration

In 2024, CalMTA continued to effectively communicate and engage with CalMTA stakeholders and other interested parties to listen to, collaborate with, and inform audiences on a regular basis about our work to develop long-lasting and energy-efficient MTIs for California.

CalMTA conducted multichannel communications, education, and outreach to share plans, reports, and updates via CalMTA.org, newsletters, webinars, events, MTAB meetings, and the CPUC service list.

CalMTA worked with energy efficiency stakeholders, market actors, and others to ensure MTIs will complement current activities, avoid duplication, and minimize market confusion. Through ongoing engagement and collaboration, we continued to maximize input on our initiative development and to ensure MTI alignment in the future.

External program alignment and coordination

During each phase of CalMTA's three-phase MTI development process, the team conducts specific engagement activities to ensure seamless external program alignment throughout the process. Described in more detail in Appendix E of both the Room Heat Pumps and Induction Cooking MTI Plans, these activities enable CalMTA to effectively leverage and align with other programs and efforts in the market. See Figure 17 for more detail on alignment and coordination activities by phase.

Figure 17. Engagement activities by phase

Phase 1: Concept Identification	Phase 2: Strategy Development	Phase 3: Market Deployment
• Conduct briefings to introduce CalMTAto interested parties and encourage RFI participation • Identify preliminary set of local, state, and national programs aligned with target market for future coordination • Meet regularly with key parties (e.g., statewide codes and standards team, energy efficiency portfolio directors) • Promote opportunities to participant in MTAB meetings and Advancement Plan public comment periods	• Continue recurring meetings with key parties • Complete additional research to expand list of aligned programs • Conduct direct outreach to external program teams to confirm understanding on alignment • Interview key parties (e.g., program administrators and implementers) in market characterization research • Create opportunities for ESJ representatives to help shape MTI Plans through listening sessions and Equity Sounding Board • Preview key portions of MTI Plans through Idea to Initiative campaign	• Promote opportunities to participate in the CPUC application approval process for the MTI Plans • Monitor market activities to ensure list of overlapping programs stays current • Include and prioritize defined external program coordination approach in implementation RFPs and contracts • Hold and report on regular meetings with program administrators and implementers • Refine coordination strategy as needed based on Market Progress Evaluation Reports

CalMTA initiated Phase I alignment activities for the four developing MT ideas:

1. Initial briefings to introduce CalMTA and encourage participation in implementation requests for proposals (RFPs)
2. Preliminary set of local, state, and national programs identified for future coordination
3. Recurring meetings with key parties:
   - IOU energy efficiency portfolio directors
   - IOU codes & standards working group
   - CalNEXT
4. Promotion of participation in MTAB meetings and Advancement Plan public comment periods

With Phase II MTI development underway and MTI plans developing in 2024, Phase II coordination and alignment activities were conducted for Room Heat Pumps and Induction Cooking to share the outcomes of research, discuss developing market interventions, and collaborate on testing and field studies. Specifically, the external alignment activities completed for these two initiatives included:

- Conducted additional research to expand list of potential overlap with programs
- Deployed Idea to Initiative educational campaign (learn more in Idea to Initiative section below)
- Met with 12 key program administrators and other efficiency program leads between October-December 2024
- Presented details of our approach in ongoing coordination meetings with the Statewide Codes and Standards Program, CalNEXT, and the Energy Savings Assistance (ESA) program leads
- MTI Plan public comment opportunity was provided through the CPUC Application process

Meetings with additional program administrators are planned for early 2025, with deeper engagement next year to secure agreement on coordination for Phase III: Market Deployment of the first two MTIs assuming CPUC approval.

Reports and plans

Throughout 2024, CalMTA continued to share with the MTAB and the public an extensive amount of published plans, reports, and progress updates including the 2023 Annual Report, 2024 Operations Plan, and Quarterly Reports. We deployed multiple strategies and channels to share this information including email newsletter updates, releases via calmta.org, and the CPUC's energy efficiency service list.

In total, 19 reports and plans were published:

- Stage 1 Disposition Report
- Phase 1 Disposition Report
- Induction Cooking Advancement Plan
- Room Heat Pumps Advancement Plan
- Commerical Rooftop Units Advancement Plan
- Commercial Replacement and Attachment Window Solutions Advancement Plan
- Residential Heat Pump Water Heating Advancement Plan
- Foodservice Water Heating Systems Advancement Plan
- MTI Evaluation Framework
- 2023 Annual Report
- Fact Sheet: Meet CalMTA
- Fact Sheet: Induction Cooking
- Fact Sheet: Room Heat Pumps
- Fact Sheet: Commercial Rooftop Units
- 2024 Operations Plan
- Induction Cooking MTI Plan
- Room Heat Pumps MTI Plan
- 1st Quarter Activity Report
- 2nd Quarter Activity Report

Figure 18. Sample of published plans and reports in 2024

Events and conferences

Events and conferences offer opportunities for CalMTA to meet stakeholders where they are and share our plans, efforts, and impact. Throughout the year, CalMTA staff attended 16 industry meetings and conferences, and presented or served as a panelist at 11 of those, to share our work, connect with stakeholders, and initiate opportunities for collaboration and alignment.

Figure 19. Conferences and events attended by the CalMTA team in 2024

Idea to Initiative educational campaign

To support awareness about the development of the Room Heat Pumps and Induction Cooking MTIs and the application filing, CalMTA launched an education campaign in late summer 2024, called *Idea to Initiative*. This three-part series sought to preview and discuss key portions of both the MTI Plans with CalMTA stakeholders prior to release of the draft plans in November 2024.

The MTAB and public were introduced to the critical components of the MTI Plan including:

- **Part 1: Market Transformation Theory and Logic Models** – Part one focused on the MT theory and logic model. Based on a product assessment and market characterization research, the MT theory and logic model represent the basis for the MTIs' strategies and are a visual way of presenting interventions that are necessary to remove barriers, expected outcomes of those interventions, and a pathway to the desired end state.
- **Part 2: Market Progress Indicators and Milestones** – Part two focused on Market Progress Indicators and Milestones that CalMTA will use to track progress toward the expected outcomes in the logic models and confirm market adoption progress.
- **Part 3: Total System Benefit and cost effectiveness** – Part three focused on the MTIs' market forecasts, cost-effectiveness, and TSB calculations.

The campaign included presentations and discussions at MTAB meetings, and development of frequently asked questions and other online resources that provided more information about the MTI Plan components for both Room Heat Pumps and Induction Cooking.

SECTION 05

Operations, policy, and finances

CalMTA performed a wide range of ongoing operational activities including project financial support, contract management and compliance monitoring, and information technology (IT) system development and support in 2024. Key outcomes are below.

- CalMTA released its 2024 Operations Plan, which describes the activities we planned to execute and the milestones we aimed to accomplish throughout 2024.
- CalMTA will procure a variety of services through competitive solicitations in the coming years. A Solicitations Protocols document, which describes how solicitations will be handled including how to avoid conflicts during the procurement process, was developed and submitted to the CPUC for review in 2024. The document outlines the policies and procedures for selecting future implementation and evaluation contractors to ensure fair and competitive RFP processes.
- CalMTA is committed to transparency. To that end, a program-wide key performance indicator scorecard was developed and reviewed with the MTAB in 2024 to track and report on financial performance and progress on operational goals and market progress indicators for MTIs. Because no MTIs are currently in Phase III: Market Deployment, the initial scorecard will focus first on the milestones represented in the 2025 Operations Plan.

Figure 20. Key Performance Indicator Scorecard

METRIC	TARGET	ACTUAL	STATUS
Operational Performance			
1. Percent of Operations Plan milestones achieved (2024)	100%	95%[1]	
2. 2024 budget expenditures ($)	$19.53M	$17.62M	
3. Administration percent of total expenditures (2024)	< 10%	4.5%	
4. Budget accrued to third parties as percent of total program expenditures (2024)	--	9.7%	--
5. Budget accrued to third parties as percent of total program expenditures (2026-2030 cumulative)	--	--	--

[1]Three operational milestones were delayed to 2025 including the 3rd quarter report (delivered in January 2025), the Stakeholder Survey (launched in February 2025), and the CRTU Market Characterization Study (scheduled for release in 4th Quarter 2025). Milestones that were not pursued include public comment and release of the Efficient Streetlighting Advancement Plan, which was drafted but the idea did not to advance to Phase II. In addition, CalMTA did not launch any new Strategy Pilots in 2024.

Market Transformation Advisory Board

The MTAB met nine times in 2024 to review and discuss MTI development, CalMTA budgets and other policies, advancement of our equity lens, and stakeholder outreach and engagement. Key MTAB activities are below:

- Members provided feedback and comments on the two MTI Plans and six Advancement Plans that were approved and published in 2024.
- Members offered feedback on the MT ideas presented as part of the second RFI.
- Members provided support and review of the 2025 ABAL.
- To fill MTAB vacancies resulting from one-year term expirations, CalMTA collaborated with the CPUC to recruit and seat four MTAB members for new two-year terms in April 2024. These include:
  - **Karina Camacho** | Inland Regional Energy Network (I-REN)
  - **Hayley Goodson, TURN** | Ratepayer Advocacy/Protection
  - **Fred Gordon, independent (formerly Energy Trust of Oregon)** | Evaluation Professional
  - **Peter Miller, independent (formerly NRDC)** | Environmental Advocacy
  - Three of the members were current MTAB members that reapplied for their seats and were chosen among other candidates. The Regional Energy Network (REN)/Community Choice Aggregator (CCA) representative, Karina Camacho, was chosen by those organizations to represent them. She replaced Lujuana Medina of the SoCal REN.
- Conflict-of-Interest (COI) activities:
  - In April 2024, CalMTA reviewed with new and existing MTAB members the MTAB Charter and COI Rules, including roles and responsibilities, member expectations, and process for meeting notices, public comment, and meeting notes.
  - In October 2024, MTAB members participated in a survey to solicit feedback on the MTAB COI policy. The results yielded recommendations from CalMTA to update the policy, which were incorporated into the MTAB Charter and COI rules on October 30, 2024.
  - Members again updated their COI declarations and CalMTA, in consultation with the CPUC, also reviewed and updated the compensation and COI policies in the MTAB Charter in November 2024.

CalMTA Market Transformation Advisory Board

The Market Transformation Advisory Board (MTAB) is a requirement of the CPUC decision that set up the CalMTA program. MTAB members provide expertise and unbiased, non-binding recommendations to CalMTA and the CPUC during the design and implementation of MTIs. The nine-member body is comprised of representatives from diverse backgrounds and perspectives working at the intersection of energy efficiency, decarbonization, evaluation, consumer advocacy, and workforce development. CalMTA's 2024 MTAB members were:

- **Karina Camacho**, Senior Staff Analyst at Western Riverside Council of Governments | REN/CCA Representative
- **Cyane Dandridge**, Founder & Executive Director of Strategic Energy Initiatives | Workforce and/or Labor Representative
- **Hayley Goodson**, Managing Attorney with the Utility Reform Network | Ratepayer Advocacy/Protection Representative
- **Fred Gordon**, Independent (formerly Energy Trust of Oregon) | Evaluation Professional Representative
- **Jeff Harris**, Chief Transformation Officer for the Northwest Energy Efficiency Alliance | National/Regional EE Policy Professional Representative
- **Randall Higa**, Codes and Standards Program Manager and lead for Zero Net Energy Strategies at Southern California Edison | IOU Representative
- **Peter Miller**, Independent (formerly NRDC) | Environmental Advocacy Representative
- **Christie Torok**, Regulatory Analyst at the CPUC | CPUC Representative
- **Ky-An Tran**, Analyst for the CPUC Public Advocates Office | CPUC Representative/Ratepayer Advocate

Policy

Throughout 2024, CalMTA continued to ensure our efforts align with current and evolving policies. Policy alignment is an ongoing effort that includes tracking regulation and legislation of interest to CalMTA. Through research, CalMTA's policy staff reviews and summarizes the findings into memos and other materials, ensuring the evolving regulatory landscape in California is understood by CalMTA leadership and MTI program developers.

REGULATORY FILINGS

- Resource Innovations filed on Aug. 19, 2024, the 2025 ABAL on behalf of the CalMTA program, in compliance with directives in Decision 19-12-021. The CPUC Energy Division approved the advice letter on Nov. 18, 2024.
- On December 20, 2024, in accordance with Decision 19-12-021, an Application was submitted to the CPUC requesting approval to begin implementation of the Room Heat Pumps and Induction Cooking MTIs.

  Filed by Pacific Gas and Electric (PG&E), CalMTA's fiscal agent, the Application requests the CPUC to take two substantive actions pursuant to the Decision:
  - Approval of CalMTA's initial tranche of MTIs to transition to the "Market Development" Phase (as required by D.19-12-021, Ordering Paragraph [OP] 9)
  - Release the five-year implementation budget of $250 million authorized in OP 7 and OP 9 of D.19-12-021)

  Procedural requests ask that future MTIs be approved through advice

letters and budgets, including a trigger-based budget advice letter (TBBAL) that would be filed if CalMTA's annual budget forecast substantially exceeds the budget amount approved by the CPUC in the Application for any given year.

CalMTA will be actively engaged in the Application proceeding, which we expect to extend into the 3rd quarter of 2025.

Financials

Figure 21. Forecasted budgets by cost category

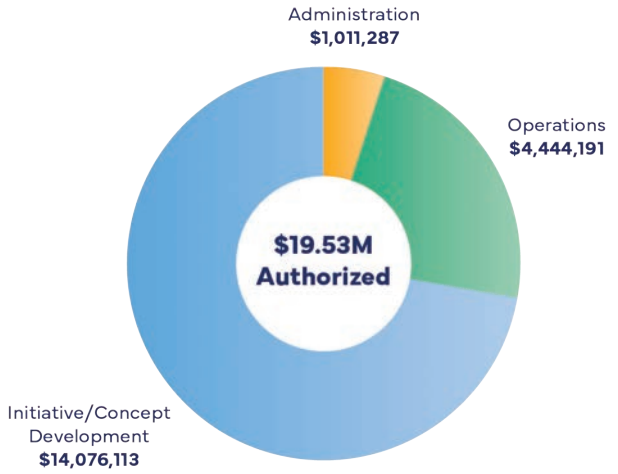
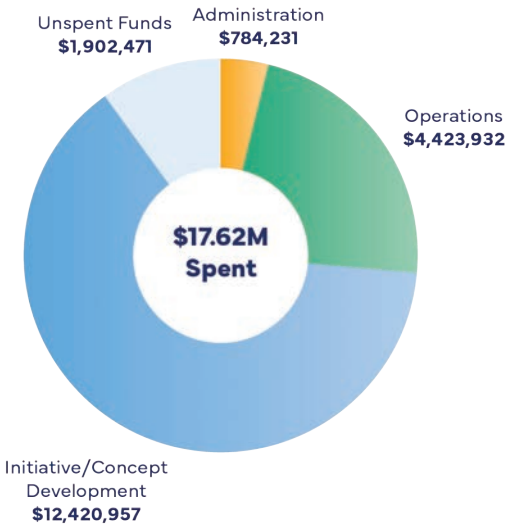


Figure 22. Actual expenditures by cost category



2024 was year two of the startup period for CalMTA with an authorized 2024 budget totaling $19,531,591. The budget was divided among three Cost Categories: Administration, Operations, and Initiative/Concept Development with forecasted budget amounts for each.

In 2024, the CalMTA team met deadlines for major deliverables required by the MT Framework while underspending on budget.

Actual expenditures totaled $17,629,471 with unspent funds of $1,902,471. Lower than forecast administrative spending contributed to the unspent budget dollars, but the largest driver for unspent funds was in the Initiative/Concept Development cost category; specifically, Strategy Pilot dollars that were budgeted but not required (due to efficiency gains, a cancelled pilot activity, and lower than forecasted incentives spend).

A portion of the Strategy Pilot funding – $883,500 – was approved (after a public notification and review process) to be used instead to cover Phase II market research and lab testing activities for Room Heat Pumps, Induction Cooking, and CRTUs.

Fund shifting

CalMTA's 2024 ABAL identified major activities within each cost category and provided a spending estimate for each.

Over the course of the year, as work on deliverables proceeded, adjustments in major activity funding allocations were required to align early estimates with evolving workplans. Details on funding reallocations among major activities were provided in CalMTA's 1st – 3rd quarterly reports. In the final month of the year, $57,000 was moved from the Administration cost category to Initiative/ Concept Development. This was the only reallocation of funds between cost categories; all other funding reallocations were made between major activities within cost categories. Table 4 below shows the funding allocations by major activity that were included in the ABAL, along with the final expenditure amounts for each activity.

Table 4. Summary of ABAL allocations (original spending estimates) and final expenditures by Cost Category and Major Activity

Major activities by cost category	ABAL allocations	Final expenditure amounts	% of original allocations spent
Administration			
1. Routine Financial & Administrative Tasks	$1,011,287.00	$784,230.68	78%
Administration Subtotals	**$1,011,287.00**	**$784,230.68**	**78%**
Operations			
2. Project Management	$868,390.00	$936,290.73	108%
3. MTAB Operations	$510,259.00	$378,743.40	74%
4. Policy	$482,810.00	$566,289.60	117%
5. Stakeholder Engagement and Communications	$1,759,515.00	$1,975,463.54	112%
6. Data Systems Development and Management	$823,217.00	$567,144.69	69%
Operations Subtotals	**$4,444,191.00**	**$4,423,931.96**	**100%**
Initiative/Concept Development			
Concept Development (Phase I Activities)	$4,000,975.00	$4,091,781.39	102%
7. Technology Scanning and RFI Support	$1,055,500.00	$432,326.23	41%
8. Outreach, Reporting, Research	$482,278.00	$562,593.44	117%
9. Preliminary Benefit Analysis & Forecasting Models	$661,751.00	$557,961.28	84%
10. Advancement Plan Development & Reporting	$1,801,446.00	$2,538,900.45	141%
Program Development (Phase II Activities)	$10,075,138.00	$8,329,175.80	83%
11. Program Strategy Development	$5,575,138.00	$6,375,422.58	114%
Policy Development & Evaluation		$285,102.12	
Portable/Window HPs		$2,150,170.80	
Induction Ranges & Cooktops		$2,008,138.71	
ERTUs		$1,350,970.43	
Food Service HPWH		$149,277.21	
Res HPWH		$267,773.97	
CRAWS		$163,989.34	
12. Program Strategy Testing/Pilots	$4,500,000.00	$1,953,753.23	43%
Portable HP Self-Installation Pilot		$658,364.80	
ESRPP for Equity Pilot (Non-Incentive Charges)		$345,154.27	
ESRPP for Equity Pilot Incentives		$646,250.00	
Chefulencer Pilot		$303,984.16	
Available Funding for Future Strategy Pilots			
Initiative/Concept Development Subtotals	**$14,076,113.00**	**$12,420,957.19**	**88%**
Grand Totals	**$19,531,591.00**	**$17,629,119.82**	**90%**

Note: The ABAL didn't break down expenses for Program Strategy Development and Program Strategy Testing/Pilots, but we elected to track expenditures by these subtasks.

SECTION 06

2024 Activities summary

The following list details activities outlined in the 2024 Operations Plan and subsequently completed throughout the year. The table indicates the quarter in which the activity was completed. A half-filled circle shows an activity still in progress.

Three operational milestones were delayed to 2025 including the 3rd quarter report (delivered in January), the Stakeholder Survey (launched in February 2025), and the CRTU Market Characterization Study (scheduled for release in 4th quarter 2025). Milestones that were not pursued include public comment and release of the Efficient Streetlighting Advancement Plan, which was drafted but the idea did not to advance to Phase II. In addition, CalMTA did not launch any new Strategy Pilots in 2024.

Table 5. 2024 Activities summary

	Q1	Q2	Q3	Q4
Measuring success – evaluation				
Finalize the MTI Evaluation Framework	●			
Draft CalMTA program-level Key Performance Indicators & Scorecard for discussion with MTAB		●		
Finalize CalMTA program-level Key Performance Indicators & Scorecard			●	
Recruit and form an Evaluation Advisory Group with charter			●	
An equity lens				
Release ESJ Listening Session Report (for fall 2023 events)	●			
Hold second ESJ Listening Sessions		●		
Release second ESJ Listening Session summary			●	
Recruit and form an Equity Sounding Board				●

	Q1	Q2	Q3	Q4
Administration and operations				
Hold an in-person MTAB meeting (January)	●			
Recruit and seat MTAB members to fill four vacancies	●			
Hold a virtual MTAB meeting (April)		●		
Hold an in-person MTAB meeting (June)		●		
Release a draft 2025 ABAL for MTAB review		●		
Hold an in-person MTAB meeting (July)			●	
Hold a virtual MTAB meeting (September)			●	
Finalize and file 2025 ABAL			●	
Finalize Solicitation Protocols				●
Hold in-person MTAB Meeting (November)				●
Deliver a 2025 Operations Plan				●

	Q1	Q2	Q3	Q4
Stakeholder engagement and communications				
Publish 2023 Annual Report		●		
Publish 2024 Operations Plan		●		
Release a Q1 2024 Update		●		
Release a Q2 2024 Update			●	
Conduct a survey of CalMTA stakeholders				●
Release a Q3 2024 Update				●

	Q1	Q2	Q3	Q4
MT idea development				
Create a staffing plan for CalMTA with roles and reporting structure	●			
Batch 1 Advancement Plan approval and implementation kick off of Phase II work	●			
Finalize and obtain approval for Strategy Pilot work plans and budgets for: • Geographic Targeting Using ESRPP for Portable/Window Heat Pump and Induction Cooking • Room Heat Pump Self-Installation Practices	●			
Kick off implementation of Strategy Pilots	●			
Kick off Advancement Plan development for Batch 2 ideas in Phase I development	●			
Release final Phase I Disposition Report		●		
Obtain MTAB feedback on sectors to target with 2024 RFI		●		
Launch and publicize second Request for Ideas (RFI)		●		
Release two draft Advancement Plans and solicit public comment for: • Commercial Replacement and Attachment Window Solutions • Residential Heat Pump Water Heating		●		
Finalize MTI Plan template		●		
Release two draft Advancement Plans and solicit public comment for: • Foodservice Water Heating • Efficient Streetlighting			●	
Finalize four Advancement Plans for approval and kick off of Phase II activities			●	
Complete Stage 1 scoring on the 2024 RFI submissions and 2023 RFI submissions that were flagged for additional research/refinement			●	
Complete Stage 2 scoring for 2024 RFI ideas and 2023 RFI ideas that were flagged for additional research/refinement				●
Obtain MTAB feedback on prioritization of MT ideas for the next batch of MTIs				●
Publish Market Characterization Studies for: • Induction Cooking • Room Heat Pumps • Commercial Rooftop Units				◐
Post draft MTI Plans for MTAB review and develop comment memo for: • Induction Cooking • Room Heat Pumps				●
File CPUC Application for Phase III: Market Deployment including MTI Plans for: • Induction Cooking • Room Heat Pumps				●

About CalMTA

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

CalMTA works to deliver cost-effective energy efficiency and decarbonization benefits to Californians through market transformation. CalMTA-developed market transformation initiatives also aim to advance State goals on demand flexibility, workforce development, and equity.

Learn more at www.calmta.org

Resources

MTAB Meetings
News and Events
MTI Development Process
MT Ideas in process

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