



Commercial Rooftop Units Market Transformation Initiative

Appendix E: External Program Alignment & Coordination

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List of Abbreviations

Abbreviation	Definition
CARB	California Air Resources Board
C&S	Codes & Standards
CEC	California Energy Commission
CEE	Consortium for Energy Efficiency
CPUC	California Public Utilities Commission
CRTU	Commercial rooftop unit
DOE	Department of Energy
ESJ	Environmental and social justice
HVAC	Heating, ventilation, and air conditioning
IOU	Investor-owned utility
MT	Market transformation
MTAB	Market Transformation Advisory Board
MTI	Market Transformation Initiative
NEEA	Northwest Energy Efficiency Alliance
PDA	Public Document Area
PA	Program Administrator
PG&E	Pacific Gas & Electric
RA	Resource Acquisition
RFI	Request for Ideas
RFP	Request for Proposals
RTU	Rooftop unit
SCAQMD	South Coast Air Quality Management District



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Introduction

This document describes CalMTA's approach to engaging with external entities in order to align Commercial Rooftop Unit (CRTU) Market Transformation Initiative (MTI) development activities and future implementation planning with existing programs and efforts in California as well as nationally.

The Market Transformation (MT) Framework attached to the California Public Utilities Commission (CPUC) D.19-12-021, which established CalMTA, called for MT ideas that are developed to "carefully consider" potential impacts on resource acquisition (RA) program(s) and codes and standards (C&S) implementation. The framework recognizes the value of collaboration within a target market, noting that CalMTA and "any impacted [program administrator(s)], 3P implementers (3PIs) of RA programs, and C&S teams each have a role in charting a course that enhances the efficiency outcomes [...] of the proposed MTI as well as of RA and C&S programs. Each may also have a role in eliminating or minimizing and mitigating any conflict between the MTIs and RA/C&S programs. The parties should work collaboratively toward these objectives as much as possible."¹

In addition to the entities identified above and listed in the decision, CalMTA recognizes other types of activities that require coordination with potential MTIs, including regional programs administered by local municipalities or energy providers, California Energy Commission (CEC) programs, and market transformation or standard setting efforts outside of California, such as programs administered by the Northwest Energy Efficiency Alliance (NEEA) or national collaboratives at the Consortium for Energy Efficiency (CEE). CalMTA also understands that many interested parties not currently active in related markets want to monitor or be engaged with the formation of market transformation initiatives in California.

CalMTA built on this guidance and proactively engaged external program stakeholders at each stage of our MTI development process to effectively leverage and align with other programs and efforts in a mutually beneficial way. CalMTA pursued and will continue to pursue substantial coordination, outreach, engagement, and collaboration with key groups focused on four objectives:

- Maximize understanding of the MT idea development process among key groups and share relevant aspects of the ideas being developed.
- Seek to create opportunities for collaboration through briefings, discussion, and formal mechanisms to receive and resolve feedback.

¹ See D.19-12-021, p. 133.



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- Collaboratively identify and work to eliminate or minimize any conflicts between the programs.
- Collaboratively identify leverage opportunities that ensure resources are deployed effectively across programs that complement each other.

Market transformation views the presence of other programs working in a target market as leverage – the type of “positive overlaps”² described in the Decision. Traditional resource acquisition or incentive programs serve as a point of leverage the MTI will use to drive increased adoption and sustained market change; the strategic market-level interventions identified for the MTI will in turn complement and add value to existing energy efficiency efforts in the state for the mutual benefit of each program.

As such, CalMTA’s coordination with external programs seeks to identify “points of alignment” that explain how an MTI will work synergistically with an existing program and will be critical to successful market transformation implementation in order to: 1) limit consumer and market confusion, 2) enhance the ability of programs to achieve their goals, 3) overcome barriers to a program serving a unique market segment, and 4) ensure effective use of program and CalMTA resources by aligning activities. Because the MT ideas under development vary, their relationship and need for alignment with established or emerging programs in the energy efficiency portfolio vary. However, our approach and process for minimizing overlap of these MTIs with existing efforts and optimizing alignment for the benefit of both the MTI and the established program are for the most part consistent across all MTIs under development.

The sections below describe the types of engagement completed to date as well as plans for formalizing the ways in which the CRTU MTI and current programs will align in Phase III: Market Deployment to maximize leverage and enhance outcomes.

1 Alignment in each development phase

CalMTA conducts engagement activities for each MTI throughout our [three-phase development process](#). Recognizing that Phase III activities will commence after the MTI Plan is approved by the CPUC, we have described the activities that will be undertaken at that time in Section 2.3, “Post-application collaboration and Phase III delivery.” While Phase I activities and preliminary outreach on Phase II activities are complete as of the time this plan was filed, ongoing engagement will take place to further evolve collaborative relationships and understand points of alignment between the MTI and external programs prior to market deployment.

At every phase, this coordination intends to identify points of alignment that: 1) eliminate duplication or redundancy in market activities; 2) ensure that the MTI adds value to the market

² See D.19-12-021, p. 134.



and fills any gaps needed to drive long-term market change; and 3) increase scalability and the efficiency with which desired results are achieved by leveraging existing work.

1.1 RFI to Phase I MT Idea Selection (Aug. 2023 – Feb. 2024)

CalMTA identified the CRTU idea, formerly the Efficient Rooftop Units idea, through a Request for Ideas (RFI) conducted by CalMTA during summer of 2023. Staff officially prioritized this idea in collaboration with the Market Transformation Advisory Board through threshold review, two stages of scoring, and approval to move forward to Phase I. CalMTA initially selected the CRTU idea for rapid “front runner” advancement along with the Room Heat Pumps and Induction Cooking ideas, for which MTI Plans were finalized in December 2024, but opted to extend the development timeline to accommodate the complexity of this market and enable completion of a field study.

During Phase I, CalMTA identified a preliminary set of local, state, and national programs for future coordination and summarized in Section 6 of the [CRTU Advancement Plan](#) that concluded Phase I development.

Channels to engage directly with these and other interested parties during the development and review of the Advancement Plan included direct collaborative meetings that allowed for an exchange of information, as well as formal opportunities to provide feedback on the plan through public meetings and public comment through the CPUC Energy Division's Public Document Area (PDA). These engagements sought to identify additional programs or activities to consider for coordination as well as to assess the extent of potential overlap between the MT idea with current energy efficiency and other related programs. Specifically, CalMTA's external engagement activities included the following:

- **Market Transformation Advisory Board (MTAB) meetings**, which are open to the public, allow CalMTA to share information about developing MT ideas. MTAB members can ask questions and make comments; public attendees can also do so at a designated time and via an online form.
- **Official opportunities to comment** on the CRTU Advancement Plan were offered via the CPUC's PDA site in December 2023. A total of 46 comments were received on the plan from eight submitters, including investor-owned utilities (IOUs) and other interested parties. CalMTA provided a formal response to these [comments and integrated feedback](#) into the final Advancement Plan when possible.
- **Quarterly meetings with IOU energy efficiency portfolio directors** solicited input on the developing CRTU MTI and identified projects/programs with potential overlap or alignment. Energy efficiency directors were briefed on the development of CalMTA's first MTIs during three meetings. Additional meetings were also held in some cases with third-party implementers.



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- **Regular meetings were held with the IOU Codes & Standards working group**, which includes representatives of the Statewide Codes and Standards Advocacy Program and related subprograms. These meetings allow CalMTA to identify relevant codes/standards activities that can be leveraged in each market, ensure alignment and consistency with market actors, and share key findings from each team's product research and testing.
- **Regular coordination calls with CalNEXT** inform participation in CalMTA's RFI and public comment processes and seek to enable collaboration related to CalNEXT's Technology Priority Maps and focused pilot scoping. CalNEXT submitted comments on the draft CRTU Advancement Plan that led to MTI refinements, including incorporation of minimum control requirements into our product definition.

1.2 Phase II Advancement Plan research to MTI Plan finalization

Throughout Phase II, the activities described in Section 2.1 continued but expanded to gain deeper knowledge about other program/research efforts and how they related to the developing MTI. These activities include the following:

- **Expanded research.** The initial list of potentially overlapping energy efficiency programs was expanded through additional research and discovery. These programs and related organizations are currently active in the target market for this MTI and offer opportunities for potential leverage, need for alignment, or co-creation/partnership. Related programs with potential alignment needs are described in Section 3 of this Appendix.
- **Market characterization work.** Structured market characterization interviews with key stakeholders and subject matter experts, including program administrators and implementers, helped inform CalMTA's understanding of the current market as summarized in Appendix D: Market Characterization Report.
- **Direct engagement.** In addition to ongoing meetings with the IOUs' Codes & Standards programs and energy efficiency portfolio directors, CalMTA's MTI research and development efforts in 2025 were supported by individual and small groups of stakeholders working in this market. Because the advanced features of CalMTA's targeted CRTU products are not yet included in traditional incentive programs in California, direct engagement prioritized market transformation, research, and emerging technology efforts from organizations that include the CalNEXT High Efficiency RTU Project Team, the Center for Energy and Environment/Minnesota's Efficient Technology Accelerator, NEEA, the United States Department of Energy (DOE) Commercial Building Heat Pump Accelerator, and the University of California - Davis.
- **Participation in focused working groups.** To streamline and support market alignment, CalMTA is an active participant in several RTU-related working groups. CalMTA is a member of CEE's Heat Pump RTU Project and quarterly Commercial Air Conditioning and Heat Pump Committee meetings. This project seeks to harness the industry's growing interest in advancing higher efficiency heat pump RTU solutions in an effort to demonstrate to manufacturers the demand for heat pump RTU solutions that deliver



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efficiency, emissions reductions, and grid flexibility. CalMTA also participates in a California-focused heat pump RTU working group led by Energy Solutions on behalf of work for PG&E, which convenes periodically to align on statewide strategy.

- **Idea to Initiative Educational Campaign.** To help educate MTAB members, program representatives, and other interested parties about the CRTU MTI Plan, CalMTA undertook a four-month educational campaign with a series of presentations to share vital aspects of the plan. Individual sessions focused on the MT theory and logic model, product assessment, market characterization research, market progress indicators, market forecasts, cost-effectiveness analysis, and other vital components. Information delivered through the Idea to Initiative educational campaign can be found at <http://www.calmta.org/idea-to-initiative>.
- **MTAB and Public Review of Draft MTI Plan.** The Draft MTI Plan was posted for review and comment by MTAB members and the public in the MTAB meeting packet posted Nov. 6 and via the CPUC's PDA site in November 2025. A summary of CalMTA responses to comments from MTAB members and the public are appended to the MTI Plan in Appendix I.

1.3 Collaboration during Phase III delivery

CalMTA's coordination with programs and organizations and response to feedback will be ongoing while the CRTU MTI Plan is pending approval for market deployment from the CPUC. These future activities will continue to inform approaches that will minimize conflicts and create opportunities for collaboration, with a goal of enhancing outcomes for both the MTI and other active programs, bringing more certainty to the IOUs and third-party implementers, and providing the greatest value for program investment to California and its ratepayers. These activities include the following:

- **Documentation of Coordination framework documents.** CalMTA will conduct collaborative workshops with program administrators (PAs) to develop working documents that third-party implementers and PAs will use to execute an agreed-upon coordination approach that minimizes overlaps and supports both entities' desired market progress. These documents will confirm scopes of work in key categories (e.g., manufacturer engagement, incentive approach) for relevant MTIs and external programs with roles and responsibilities delineated. They will be updated throughout implementation as needed to reflect the most beneficial approach to yield MTI and program outcomes.
- **Coordination agreements with external programs.** CalMTA recognizes the need for formal documentation, developed jointly with PAs working in markets that have potential overlap with the CRTU MTI, describing the coordination approach used 1) eliminate duplication or redundancy in market activities, 2) ensure that each MTI adds value to the market and fills any gaps needed to drive long-term market change, and 3) increase



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scalability and the efficiency with which CalMTA and PA offerings achieve their respective goals. The resulting memos will document identified areas of alignment between the CRTU MTI and relevant PAs' portfolios, as well as the agreed-upon approach to mitigating overlap between our respective work. Memos will be updated annually or as needed and will guide the cadence and intensity of coordination efforts based on potential for overlap.

- **Ongoing monitoring and tracking.** CalMTA recognizes that the national energy efficiency market will evolve before this MTI moves into Phase III and will closely monitor planned future programs with potential alignment/overlap to supplement the list of currently identified programs found in Section 3.1. In addition, current programs with potential overlap with the CRTU MTI that may be renewed or rebid before the contract term ends will be added to this watchlist. As new programs launch or existing programs re-launch, we will meet with program administrators and implementation teams to ensure early alignment on implementation planning and coordinate related activities between that program and the MTI. This engagement may result in deeper collaboration that allows for co-creation or co-delivery of mutually beneficial activities, such as workforce development, product testing, or standard setting.
- **RFP planning.** After CPUC approval of the CRTU MTI Plan in 2026, CalMTA will issue a request for proposals (RFP) to solicit an implementation contractor for the MTI. Leading up to that event, CalMTA will use the regular meetings with key stakeholders to further develop details related to the points of alignment between the MTI and energy efficiency programs. Ultimately, this coordination will surface and provide transparency on issues that may need to be addressed in the future.
- **MTI contracting and implementation.** In alignment with guidance in the CPUC MT Framework, the future RFP for CRTU MTI implementation will include a distinct scope of work related to external program coordination and alignment. Describing their approach to this implementation area will require bidders to, as described in the CPUC Decision, "include a discussion of how their potential MTIs would dovetail with existing RA/C&S implementation effort(s)."³
- **Ongoing collaboration.** After the MTI moves into market deployment, CalMTA will continue to monitor the points of alignment to ensure they are addressing all potential overlaps between the MTI and existing California energy efficiency programs. We will report and discuss these efforts through ongoing, regular meetings with IOUs and third-party implementers of related programs, especially for activities that involve end-use customers that may be solicited by or likely to participate in a statewide or local efficiency program. These milestones and ongoing touchpoints will help avoid market confusion, ensure points of alignment stay consistent, and provide an opportunity to adjust strategies, if needed. In addition, coordination with CalMTA will allow us to support

³ See D.19-12-021, p. 136.



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external programs as described in the “Reciprocal support from MTI and CalMTA” column in Table 1 below.

- **Market progress evaluation.** As part of the MTI implementation, a third-party implementer will also be secured to review ongoing activities and measure progress toward MTI objectives. These Market Progress Evaluation Reports are public documents and will be shared with efficiency program leads and other interested parties. If the case should arise that a strategic intervention as described in the logic model does not result in the expected outcomes, the MTI may change course. In that case, CalMTA program managers will work with energy efficiency program leads to adjust as needed.

2 Applying an equity lens

The Adopted MT Framework attached to D.19-12-021 establishes high-level principles that every MTI should aim to achieve, including a directive to “integrate strategies to maximize equity.”⁴ To better understand how to align potential MTIs with environmental and social justice (ESJ) community needs, CalMTA held a series of listening sessions with ESJ representatives in fall 2023. Cross-cutting insight from these sessions informed development of internal guides for integrating equity into MT research practices, logic model development, and intervention strategies, which are now in use across the MTI teams and were referenced throughout Phase II CRTU activities. A [report summarizing key takeaways from the listening sessions](#) is available on CalMTA’s website.

In 2025, formation of CalMTA’s Equity Sounding Board enabled additional engagement that helped shape the CRTU MTI Plan. Comprised of professionals who advocate for or work within ESJ communities, the Equity Sounding Board seeks to ensure that MTIs positively impact ESJ communities by guiding outreach activities, identifying actions that may cause unforeseen harm, and serving as a resource of equity-oriented feedback on CalMTA’s work. In 2025, CalMTA coordinated two consulting sessions with the Equity Sounding Board to help shape logic model inputs for the CRTU MTI, as well as the market progress indicators used to measure success in achieving equitable outcomes.

These consultations yielded important insight into market barriers that need to be removed and the strategic interventions that should be deployed for the MTI to have its desired impact, with a focus on topics with particular relevance to ESJ communities, and how best to track the MTI’s progress from an equity perspective. Specific feedback received and integrated into this MTI Plan includes:

- Limited availability of accessible and experienced contractors in rural or lower-income communities results in higher service costs for businesses that are already cost-constrained. The strategic intervention “Improve installer training materials” is therefore

⁴ See D.19-12-021, p. 102.



linked to a medium-term outcome that specifies not only the general availability of trained and trusted installers across the state, but that there is no cost-premium for services in ESJ communities.

- Businesses in less affluent areas require incentives to afford high-efficiency products, but complex rebate processes with requirements that vary widely across utilities/service providers can be a barrier to contractors who might otherwise promote the technology. CalMTA therefore targets a medium-term outcome in which “upstream incentives address [the] incremental cost barrier for CRTUs.”

3 Priority programs for alignment

Beginning in Phase I of the MTI development process, CalMTA conducted market research to investigate the ecosystem of programs and market activities with potential relevance to the CRTU idea. While prioritizing California-based programs and organizations, this work also captured national and regional efforts that could support the MTI’s scalability and long-term impact on the market. Identification of external programs was conducted by CalMTA’s stakeholder engagement team in close coordination with the market characterization research led by research and evaluation leads.

In developing the market transformation theory for the CRTU MTI, CalMTA identified several priority programs for direct coordination. As explained in Section 1, Phase III: Market Deployment includes strategies to enable the MTI team to work synergistically with these organizations during MTI implementation.

Below is a summary of points of alignment, targeted programs that the CRTU MTI is seeking to align with, and reciprocal support that the program may expect from the MTI.

Table 1. CRTU external program coordination approach

MTI alignment goal	Targeted program(s)	Possible reciprocal support from MTI and CalMTA
Codes and standards programs and other regulatory efforts provide a critical point of coordination and leverage as CalMTA seeks to align MTI activities with California code development/enforcement and collaborate on engagement with federal test procedures, standards-setting, and qualified product lists. We will seek to understand and encourage opportunities to solidify	IOU Codes & Standards Program CEE Commercial Unitary Air Conditioners and Heat Pumps Specification California Air Resources Board (CARB) Bay Area Air District	Support product development/enhancements at the manufacturer level with a focus on products that include CalMTA’s desired features Provide market data as MTI moves into implementation Streamline messaging and point-of-contact for manufacturer engagement and national advocates



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MTI alignment goal	Targeted program(s)	Possible reciprocal support from MTI and CalMTA
efficient commercial RTU technology with desired features through code/standards, including collaboration on national standards, test procedures, and messaging.	South Coast Air Quality Management District (SCAQMD) U.S. Department of Energy/ENERGY STAR While not a regulatory effort, the California Heat Pump Partnership established by the CEC will also be a point of coordination.	
Existing research and development projects/programs provide leverage for CalMTA to develop and launch the MTI more quickly. Collaboration on research, including pilots, will help stakeholders working in this market better understand product performance and necessary enhancements while minimizing duplication of efforts.	CalNEXT (IOUs' statewide electric emerging technologies program) U.S. DOE Better Buildings Commercial Building Heat Pump Accelerator U.S. DOE National Labs (e.g., Lawrence Berkeley National Laboratory or Pacific Northwest National Laboratory) and research universities (e.g., University of California, Davis Western Cooling Efficiency Center) California Energy Commission Electric Program Investment Charge (EPIC) program NYSERDA NYS Clean Heat Initiative	Share market and pilot data Support product development/enhancements at the manufacturer level
Statewide or regional incentive programs that include efficient commercial HVAC products or directly serve the MTI target end-user market can be encouraged to incentivize CalMTA's desired features and lower the upfront cost of adoption.	Comfortably California (IOUs' statewide midstream/upstream HVAC program) Los Angeles Department of Water and Power Business Offerings for Sustainable Solutions	Facilitate manufacturer connections Share market and pilot data Communicate program participant and implementer feedback to manufacturers to influence product enhancements



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MTI alignment goal	Targeted program(s)	Possible reciprocal support from MTI and CalMTA
	Silicon Valley Clean Energy Business Rebates Municipal utility prescriptive RTU incentives (e.g., City of Anaheim and Silicon Valley Power) Southern California Edison Commercial Energy Reduction Initiative (CERI) Program and Willdan's Comprehensive Commercial Program	Provide marketing support (i.e., benefits messaging, educational content, manufacturer assets, collateral templates)

Note: CalMTA views the Statewide Upstream and Midstream HVAC Program (currently known as Comfortably California) as a significant and critical point of leverage for advancing progress toward widespread adoption of RTUs with desired features. Because this program is currently going through a transition in PA and implementation contractor, with an RFP currently in development, we anticipate scheduling working meetings with the PA and implementation team after a contract is in place. We have conducted preliminary meetings with the new PA overseeing this program, PG&E, to ensure awareness of our planned MTI activities during the RFP development and procurement process. We anticipate that the solicitation timeline for the Statewide Upstream and Midstream HVAC Program will precede the timeline for approval of and RFP release for the CRTU MTI; our team will ensure ongoing monitoring and engagement to ensure that the future MTI market deployment scope of work reflects areas of leverage and coordination based on the final Implementation Plan for this key external program.



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