CalMTA
idea to initiative

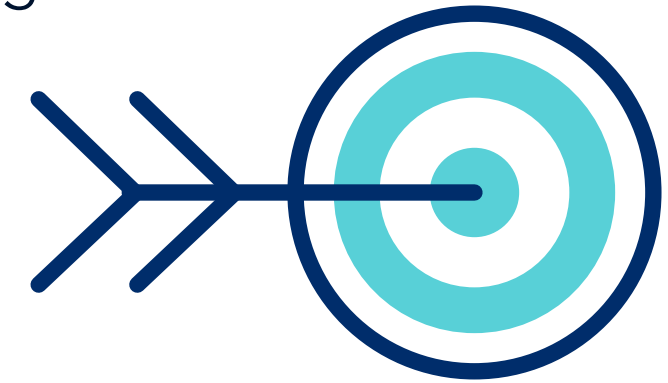
6. CRTUs Market Progress Indicators (MPIs) & Milestones

Cynthia Kan | Contractor, Cadmus Group

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

MPI and Milestone Development

- MPIs are the measurement, not the target
- Milestones represent an MTI's expected outcomes/targets
- Developed with input from:
  - CRTUs team
  - Adoption Forecasting staff
  - CPUC and Evaluation Advisory Group
- Derived from program theory & logic model (PTLM)
  - Each outcome has one or more MPIs
  - Not all outcomes have milestones, but expected trends per the PT are provided



Metrics by strategic intervention:

Engage with manufacturers to develop pathways to affordable RTUs, support trade ally business case, and continue the advancement of HP RTUs

LM Outcome	Time	MPI	Milestone/ Trend
Demonstration project that documents business case and savings	Short	1 - Number of manufacturers partnering with CalMTA on demonstration project	**Three or more manufacturers (of mass market equipment) engage with CalMTA to implement demonstration project by 2028**
		EQ1 - Number of demonstration project RTUs installed in DACs	**50% of demonstration project RTUs installed in DACs by 2029**
		2 – Number of demonstration project RTUs installed with CCC, 20% improved cooling, and/or variable speed features	**150 demonstration project RTUs are installed in CA by 2029, of which 20 include all CRTU features**
		3 - Percent of demonstration project end-users who have installed and used the mobile or desktop app to examine RTU performance.	No specific milestone, program theory relies on majority of users to engage with app
		4 - Number of demonstration project HVAC installation contractors who agree there is a compelling business case for CCC	No specific milestone, program theory requires majority of contractors to agree there is a business case

EQ = equity DAC = disadvantaged community CCC = connected controls and commissioning

Metrics by strategic intervention:

Engage with manufacturers to develop pathways to affordable RTUs, support trade ally business case, and continue the advancement of HP RTUs

LM Outcome	Time	MPI	Milestone/ Trend
Manufacturers see value in partnership and engage on product refinement	Short	5 - Number of manufacturers meeting with CalMTA after demonstration project completion to discuss product refinement	**Two or more mass-market manufacturers meet with CalMTA after demonstration project completion to discuss product refinement by 2030**
Upstream incentives address incremental cost barrier for CRTUs	Med	6 - Incremental equipment price of code-min HP RTUs with and without CCC to distributors from partner manufacturers	**No incremental equipment price for CCC feature to distributors for equipment produced by partner manufacturers by 2031**
Multiple manufacturers incorporate CCC	Med	7 - Number of minimum efficiency product lines including CCC as standard feature (not as an add-on option)	**Three product lines include CCC as standard feature by 2031**
Easy to use customer and contractor interfaces	Med	8 - Percent of customers and contractors self-report CRTU interfaces are easy-to-use	No specific milestone, program theory assumes CCC interfaces will be intuitive and user-friendly

Metrics by strategic intervention:

Engage with manufacturers to develop pathways to affordable RTUs, support trade ally business case, and continue the advancement of HP RTUs

LM Outcome	Time	MPI	Milestone/ Trend
Customers understand and see value in CCC	Med	9 - Percent of potential RTU buyers (building owners and facility managers of buildings with RTUs) who understand and value CCC	No specific milestone, program theory assumes contractors play a pivotal role in influencing customer purchasing decisions and the perceived value of CCC
Customers prefer product offering CCC and general adoption of HP RTUs increases	Long	10 - Market share of all single-zone HP RTUs with CCC (denominator is all single-zone HP RTUs)	**Market share of all single-zone HP RTUs with CCC hits 50% by 2035**
Market share of RTUs with CCC increases and equipment costs are on par with competing product*	Long	11- Installed price of RTUs with CCC	**Installed price of RTUs with and without CCC are within 5% by 2035**
Market share of product incorporating variable speed, controls and IVEC+20% grows*	Long	12 - Market share of RTUs with variable speed, CCC and IVEC+20% (denominator is all single-zone HP RTUs)	**Market share of CRTUs with all features is over 30% by 2040**

*Multiple interventions lead to these outcomes

Metrics by strategic intervention:

Distributor and supply chain engagement

LM Outcome	Time	MPI	Milestone/ Trend
Distribution and standard supply chain channels stock, sell, and promote CalMTA CRTU product	Med	13 - Percent of distributors stocking CRTUs	**60% of distributors stock CRTUs by 2032**
HVAC installers and workforce embrace and market benefits of CCC	Med	14 - Percent of HVAC contractors that include CCC in customer bids by default	**90% of contractors include CCC in 50% or more bids by 2032**
HVAC installers and workforce leverage fault detection and controls, increasing overall HP adoption	Med	15 - Percent of HVAC companies that access customers' CCC to support diagnostics and repairs (Accessing the CCC interface off-site as a step towards addressing the service call)	**20% of contractors utilize customer CCC where available by 2035**

Metrics by strategic intervention:

Energy efficiency program coordination (outside of CA) to create market consistency

LM Outcome	Time	MPI	Milestone/ Trend
Shared industry tiers/specification incorporate CCC, variable speed, and efficient cooling	Short	16 - Number of EE programs outside of California that incorporate CCC, variable speed, and efficient cooling after engagement with CalMTA	**Two EE programs adopt after engagement with CalMTA by 2029**
Decreased costs through competition	Med	17 - Installed price of CRTUs (all tiers) relative to code minimum HP RTU	**Price premium of CRTUs (all tiers) is no more than 30% by 2040.**

Metrics by strategic intervention:

Update contractor training materials to cover CCC and variable speed

LM Outcome	Time	MPI	Milestone/ Trend
Education and training materials developed and incorporated into industry trainings/education; inclusive of ESJ communities	Med	18 - Number of HVAC training organizations (manufacturers, distributors, HVAC industry groups, education institutions, EE programs) that include CRTUs in curriculum	**4 HVAC training organizations cover CRTUs in curriculum targeted to California learners by 2032**
HVAC Installers and workforce are trained, trusted and available for installations across the state without cost-premiums in ESJ communities	Med	19 - Percent of HVAC companies with staff trained on CCC in each IOU service territory	**75% of contractors report staff can support CCC installations and service by 2033**
	Med	EQ19 - Percent of HVAC companies serving DACs reporting staff are trained on CCC	**Percent of HVAC companies with CCC trained staff located in or serving customers in DACs comparable (within 10%) to general population by 2031**

Metrics by strategic intervention:

California program coordination to create consistent incentive offerings

LM Outcome	Time	MPI	Milestone/ Trend
Applicable California programs supporting RTUs align with CalMTA product definition	Med	20 - Number of California EE programs (non-residential HVAC) adopt at least one CRTUs element for incentive eligibility after engagement with CalMTA	**3 California EE programs that target non-residential HVAC adopt at least one CRTUs element (CCC, variable speed, 20%+ cooling efficiency) by 2029**
Title 24 incorporates CCC	Long	21 – Adoption of CCC in Title 24	**CCC is adopted to code by 2037 cycle**

Questions & Discussion