Induction Cooking Market Transformation Initiative

Appendix F: Evaluation Plan

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List of Abbreviations

Abbreviation	Definition
AHAM	Association of Home Appliance Manufacturers
BMA	Baseline Market Adoption
CalMTA	California Market Transformation Administrator
CBO	Community-Based Organization
CEDARS	California Energy Data and Reporting System
CPUC	California Public Utilities Commission
EIA	Energy Information Administration
EM&V	Evaluation, Measurement, and Verification
ESJ	Environmental and Social Justice
ESRPP	ENERGY STAR Retail Products Platform
LI	Low-Income
MF	Multifamily
MPI	Market Progress Indicator
MTAB	Market Transformation Advisory Board
MTI	Market Transformation Initiative
PA	Program Administrator
RECS	Residential Energy Consumption Survey
SF	Single-Family
SME	Subject Matter Expert
TBE	Theory-Based Evaluation
TSB	Total System Benefit
TMA	Total Market Adoption
TRC	Total Resource Cost
TRM	Technical Reference Model
UEI	Unit Energy Impacts

1 Introduction

Market transformation initiatives (MTIs) seek to accelerate market adoption by deliberately inducing structural market changes that produce sustained market effects. CalMTA will adhere to well-established approaches to evaluating market transformation programs, as described in the CalMTA MTI Evaluation Framework.[1] California Public Utilities Commission (CPUC) Decision 19-12-021 (the Decision), which authorized funding for and the creation of a statewide Market Transformation Administrator (CalMTA), includes guidance regarding evaluation of MTIs and the overall market transformation portfolio. It calls for setting clear savings goals and other MTI metrics at the time the CPUC initially approves the MTIs to ensure a high level of accountability, and ongoing evaluation to reduce program performance risk. The Decision also establishes market research and evaluation roles for CalMTA, modeled after the successful approach created by the Northwest Energy Efficiency Alliance (NEEA).

Evaluation is essential to the development and successful management of market transformation programs. CalMTA and the CPUC's Energy Division will oversee implementation of rigorous and strategically focused evaluation, measurement, and verification (EM&V) practices, which will enable CalMTA management and stakeholders to gauge the performance of CalMTA and MTIs, verify incremental impacts, and improve the design and success of future MTIs. The Decision calls for "real-time" market evaluation, which will provide MTI program managers and implementers with continual feedback, allowing them to pivot strategies as needed to maximize the value delivered to California ratepayers.[2] Tracking of proximate and longer-term market progress indicators (MPIs) that are tightly aligned with the MTI's market transformation theory will reduce MTI performance risk and support timely decisions regarding ongoing investment or termination of investment in MTIs.

Per the Decision and the MTI Evaluation Framework, CalMTA and an independent third-party evaluator each have important roles in MTI evaluation. CalMTA conducts market research and develops forecasts of MTI incremental impact and cost-effectiveness, while an independent third-party evaluator is responsible for evaluating market progress and causal influence of the MTI, and for reviewing estimates of MTI incremental impacts and cost-effectiveness. The Decision states that EM&V Plans should be developed with the support of an independent EM&V subject matter expert (evaluator) that is not financially interested or otherwise involved in program implementation. It also states that during Phase III of CalMTA's three-phase development process,

[1] The CalMTA MTI Evaluation Framework includes discussion of and references to these established approaches.

[2] The term "real-time" evaluation has been widely used in California and elsewhere to refer to ongoing program evaluation that provides timely feedback to support ongoing program decision-making, even if it is not literally delivered in "real time." This term encompasses all evaluation activities that provide timely insights to inform ongoing program management and is also sometimes referred to as "embedded evaluation."

the MTA will actively administer each MTI and will provide real-time evaluation and feedback (to the implementers, as NEEA does for its market transformation programs.[3]

This document describes CalMTA's preliminary plan for third-party evaluation of Induction Cooking Market Transformation Initiative (MTI). Per the MTI Evaluation Framework, CalMTA developed this preliminary evaluation plan with input from the Evaluation Advisory Group, a group of three independent evaluation experts; the CPUC CalMTA project manager[4] and the CalMTA market research and evaluation lead. Final evaluation plans will be developed by an independent third-party evaluator to be selected via a competitive bidding process after the MTI advances to Phase III: Market Deployment. CalMTA expects that the third-party evaluator may recommend refinements to the approaches and metrics described in this document.

1.1 Overview

The approach described in this Induction Cooking MTI Evaluation Plan employs theory-based evaluation (TBE), which is widely accepted as a best-practice for market transformation program evaluation.[5,6] TBE relies upon the MTI to have a program theory that clearly identifies the specific theorized market outcomes associated with the MTI strategic market interventions, along with their approximate timing. TBE also assesses causality between the market interventions and observed outcomes.

In addition to the proposed MPIs, this preliminary evaluation plan identifies data sources and evaluation approaches that the third-party evaluator can use to assess market progress, MTI causality, and CalMTA's estimates of MTI incremental impacts and cost-effectiveness. This plan focuses on third-party evaluation activities over the first five years of Phase III (that is, through CalMTA's initial funding period). It does not describe ad hoc market research studies, which will be conducted or managed by the CalMTA MTI team in a timely manner to inform "real-time" strategy decisions.

1.2 Evaluation objectives

The third-party evaluator will employ a TBE approach to assess observed market outcomes in relation to what was anticipated in the Induction Cooking MTI Plan. It will use the MTI program

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[3] California Public Utilities Commission. Decision 19-12-021 December 5, 2019. "Order Instituting Rulemaking Concerning Energy Efficiency Rolling Portfolios, Policies, Programs, Evaluation, and Related Issues." Date of issuance December 12, 2019. 321507615.PDF (ca.gov).

[4] CalMTA Market Transformation Initiative Evaluation Framework April 2024, https://calmta.org/wp-content/uploads/sites/263/Market-Transformation-Evaluation-Framework-FINAL.pdf.

[5] Prahl, Ralph, and Ken Keating. November 2011. *Planning and Evaluating Market Transformation: What the Industry has Learned, and Possible Implications for California.*

[6] Rosenberg, Mitchell (KEMA, Inc.), and Lynn Hoefgen (Nexus Market Research). March 2009. *Market Effects and Market Transformation: Their Role in Energy Efficiency Program Design and Evaluation.* Prepared for California Institute for Energy and Environment Market Effects Program. Microsoft Word - Market Effects and Market Transformation White Paper.doc (escholarship.org).

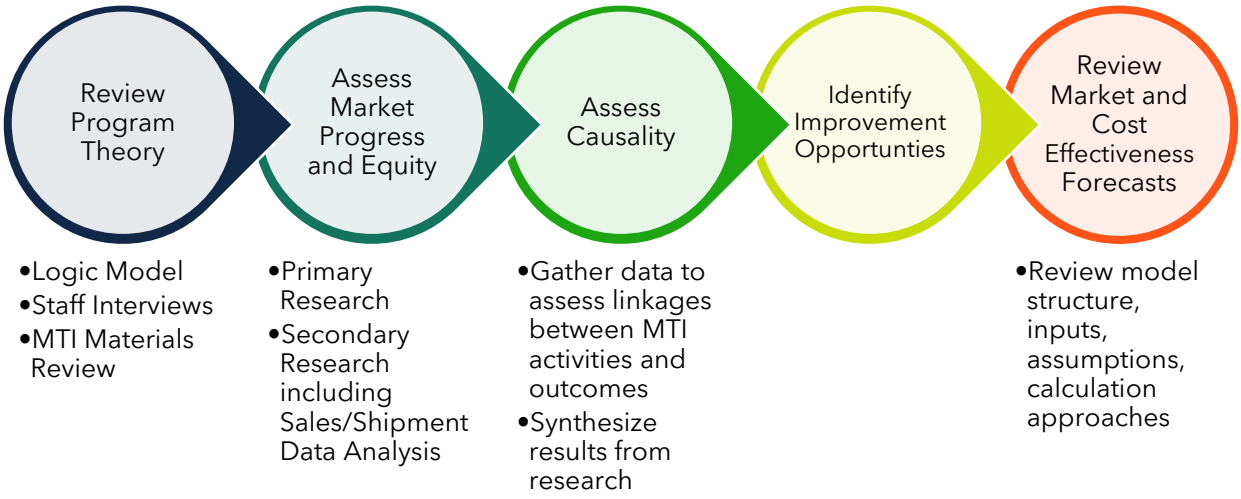
theory as the point of reference, assessing market progress against the theorized short-, medium-, and long-term outcomes and corresponding MPIs, and the extent to which the market interventions addressed the market barriers identified and caused the outcomes theorized in the logic model. The evaluator will conduct ongoing market monitoring via secondary data analysis and primary research to evaluate market progress and causality and, importantly, to provide ongoing market insights that provide real-time information to inform MTI strategy and improve performance. The evaluation will address these high-level objectives:

- Monitor market dynamics and characteristics; assess market developments
- Review and assess the MTI Logic Model and program theory
- Measure market progress and equity, per the MPIs
- Assess MTI causality per the logic model, using evidence-based assessments that use a "preponderance of evidence" approach and established market transformation evaluation best practices[7]
- Identify opportunities to adjust MTI strategy and tactics, to improve MTI effectiveness
- Review CalMTA's baseline and total market adoption forecasts, and TSB and cost-effectiveness model inputs and assumptions
- Assess ancillary benefits and costs

Figure 1 shows the evaluation approach for the first year. First the evaluator will review the program theory/logic model and assess whether the logic model accurately captures the implemented MTI interventions and outputs. During this step, the evaluator will also identify any gaps in MPI baseline data and determine the data needed to assess causality based on the MTI's theory of market transformation. Next, the evaluator will conduct primary and secondary research to measure actual units of adoption and assess equity and other MPIs. Third, the evaluator will synthesize the evidence gathered through multiple lines of research to establish MTI causality and to identify opportunities to improve the MTI's effectiveness. Lastly, the evaluator will review CalMTA's models for calculating incremental impacts and cost-effectiveness and make recommendations for improvement.

[7] TecMarket Works. April 2006. "California Energy Efficiency Evaluation Protocols: Technical, Methodological, and Reporting Requirements for Evaluation Professionals." https://www.cpuc.ca.gov/-/media/cpuc-website/files/legacyfiles/c/5212-caenergyefficiencyevaluationprotocols.doc.

Figure 1. Evaluation process



1.3 Market Progress Indicators and Milestones

During Phase II: Program Development), the Induction Cooking MTI team (the team) created a program theory of market transformation and a logic model, informed by product and market characterization research.[8] The Induction Cooking theory of market transformation describes the strategic approach to achieving the long-term market outcome envisioned by this MTI:

> *By 2035, efficient electric products are the norm when purchasing a cooktop or ranges in California.*

The MTI theory also describes strategies specifically designed to maximize equity.

During Phase II, the Induction Cooking MTI evaluation lead worked with the team to develop a set of MPIs against which market progress and MTI performance can be assessed, along with data sources that can be used to track progress against those MPIs. The team also completed a Baseline Market Characterization study, which established baseline values for many of the identified MPIs.[9]

Table 1 outlines the MPIs derived from the logic model interventions and outcomes, along with associated milestones, in the short, medium, and long term.[10] Equity-focused MPIs are *italicized* to

[8] See Appendix A: Logic Model and the Induction Cooking MTI Plan.
[9] See Appendix D: Market Characterization for Induction Cooking.
[10] Note that while some outcomes do not have associated milestones, all are linked to MPIs. In these cases, the evaluator will rely upon MPI tracking combined with ongoing research and analysis to assess market progress. For example, the evaluator will assess progress on awareness-building by tracking the trends in related MPIs rather than setting a specific awareness target.

highlight their relevance to the environmental and social justice (ESJ) goals of the MTI. Each of the 23 MPIs is numbered with a letter representing different categories of MPIs – as they pertain to the targeted market actor or impact (for example, "M" for manufacturer outcomes, "R" for retail outcomes, etc.). In addition to those classifications, Table 1 categorizes outcomes and MPIs as "Primary Influence" or "Secondary Influence." CalMTA made this distinction to distinguish between market interventions and outcomes that are a primary focus of the MTI and key to assessing MTI market progress and performance, versus those over which CalMTA may have less control. In the case of Induction Cooking, those that pertain to inclusion in California utility programs, electrification-enabling rate structures, and regulatory changes are categorized as "Secondary Influence."

CalMTA also created a comprehensive evaluability map (see the attachment at the end of this document) that includes the MPIs and milestones shown in Table 1, along with the associated data sources that will be used to evaluate the MPIs, Milestones, and causality.

1.4 Data collection and analysis activities

CalMTA identified primary and secondary data collection activities and analysis tasks that would allow the third-party evaluator to evaluate the Induction Cooking MTI. Table 2 lists the evaluation research objectives, along with associated data collection and analysis activities, which are described in the text that follows. We anticipate that the selected evaluator will have suggestions for how to improve this plan.

Table 1. Logic Model interventions, outcomes, MPIs, and milestones

Intervention	Logic Model outcome – primary influence	MPI #	Timeframe	Market progress indicator (MPI)	Market milestone
#1 Accelerate manufacturer development of affordable,120V induction products that fill the product availability gap for California's electrical infrastructure and multifamily market needs	Manufacturers respond to specification with plans for product roadmaps for 120V induction products	**M1**	Short term	Number of manufacturers who respond with plans for product roadmaps	At least one major manufacturer (i.e., LG, Panasonic, GE) includes 120V in its roadmap by 2027.
	Increased availability of affordable 120V induction products	**M2**	Med. term	Number of 120V products available to purchase from major retailers either in-store or online (not only direct from manufacturer) - Battery equipped - Non-battery	At least two MTI qualified120V products are available to purchase from major retailers either in-store or online (not only direct from manufacturer) by 2029
		M3		Incremental cost of battery-equipped 120V induction compared to 240V induction	Average price of 120V battery products is no more than double the average price of gas ranges by 2031
#4 Engage property management firms and building owners through demonstrations, upstream incentives or bulk purchase pricing coupled with marketing support specific to 120V products	MF property management firms and building owners increasingly include 120V products in electrification efforts	**B4**	Short term	Number of agreements in place with key/influential property owners or managers that include 120V products	3 agreements in place with key property owners or managers in California by 2027
#7 Engage ENERGY STAR specification development to support continued product differentiation and increased EE stringency	EPA develops version 2.0 of ENERGY STAR specification for cooking which includes increased efficiency and provisions for 120V range product	**S6**	Med. term	ENERGY STAR version 2.0 specification developed and includes 120V products	ES Spec is updated to 120V products and reflects at least 10% increase in efficiency (reduction in IAEC) by 2030
#8 Engage retail partners to stock and promote 120V induction products and acquire full category sales data to track overall induction cooking adoption	Retail partners stock and sell more affordable products and 120V options	**R7**	Short term	Number of MTI-qualified 120V induction products available through retail (same as M2)	See M2
		R8		Price of 120V induction products in retail	No specific milestone; evaluator will track MPI over time to assess progress
Outcomes resulting from all strategic interventions and awareness-building interventions	Awareness and preference for efficient electric cooking increases	**A11**	Short term	Percentage of LI and non-LI consumers who report they are knowledgeable about induction cooking	No specific milestone; evaluator will track MPI over time to assess progress
		A10		Percentage of induction awareness among property managers	No specific milestone; evaluator will track MPI over time to assess progress
		A11		Percentage of LI and non-LI consumers who state they would prefer to purchase induction type product	No specific milestone; evaluator will track MPI over time to assess progress
		A12		Percentage of property managers who prefer to purchase induction type product	No specific milestone; evaluator will track MPI over time to assess progress

Intervention	Logic Model outcome – primary influence	MPI #	Timeframe	Market progress indicator (MPI)	Market milestone
		A13		Percentage of LI and non-LI consumers for whom health or safety benefits of induction are a top consideration in their preference	No specific milestone; evaluator will track MPI over time to assess progress
		A14		Percentage of property managers aware of health and safety benefits of induction	No specific milestone; evaluator will track MPI over time to assess progress
	Consumers utilize 120V battery-equipped induction products as tool for increased energy benefits (resilience, load flexibility)	**A15**	Long term	Percentage of consumers indicating that resilience and load shifting were influential in the purchase of 120V battery-equipped products	No specific milestone; evaluator will track MPI over time to assess progress
		A16	Long term	Percentage of consumers aware of resilience and peak shifting benefits 120V battery-equipped products	No specific milestone; evaluator will track MPI over time to assess progress
Outcomes resulting from all strategic interventions and awareness-building interventions	Sales of induction and ENERGY STAR electric radiant cooking products increase relative to gas cooking products	**U17**	Med. term	Efficient electric cooking appliance market share (% of full category sales) - 120V Battery - 120V Non-Battery - 240V Induction - 240V ES Radiant	Market share of all efficient electric is 10% by 2029 Market share of 120V 10% by 2031
Outcomes resulting from all strategic interventions and awareness-building interventions	Market share of efficient electric reaches majority of all cooktops and ranges sold in California		Long term		Total efficient electric market share (% of full category sales) reaches 20% by 2033
Outcomes resulting from all strategic interventions and awareness-building interventions	Consumers adopt 120V battery-equipped induction products to realize additional benefits (i.e., resilience, load flexibility)	**U18**	Long term	Units of adoption	No specific milestone; evaluator will track MPI over time to assess progress
Outcomes resulting from all strategic interventions and awareness-building interventions	Average price of induction ranges and cooktops decline	**R5**	Med. term	Incremental cost of 240V options above electric radiant	Incremental cost of 240V options above electric radiant shrinks to less than 10% by 2029
#6 Support inclusion of affordable 120V induction cooking products in California programs especially those targeting multifamily and zonal electrification efforts.	Programs include 120V product as measure, especially in programs that target MF, zonal electrification and LI customers	**P19**	Short term	Number of California program administrators (PAs) who add 120V induction cooktops to their programs	No specific milestone; evaluator will track MPI over time to assess progress
	120V products increasingly used as solution in zonal decarbonization targeted gas infrastructure decommissioning efforts	**P20**	Med. term	Number of zonal projects that use MTI qualified products	No specific milestone; evaluator will track MPI over time to assess progress (increase)
#3 Support advancement of electrification-enabling rate structures to mitigate the impacts of moving from gas to electric cooking	Prevalence of electrification-enabling rate structures grows across the state	**L21**	Med. term	The number of policies or new electrification-friendly rate structures that the MTI supported that are proposed/referenced by utilities, regulatory bodies, etc.	At least three policy forums, partnerships, or opportunities that CalMTA engages with support the change to electrification-friendly rate structures by 2029
Outcomes resulting from all strategic interventions and awareness-building interventions	California Air Resources Board (CARB) and air quality districts set zero emissions appliance standards beyond space and water heating to include the sale of new cooking products.	**S23**	Long term	CARB and air quality appliance standards	No specific milestone; evaluator will track MPI over time to assess progress

Table 2. Research objectives and evaluation activities

Research Objective	Secondary data/ literature review	Homeowner, property manager surveys	Market actor surveys, interviews	PA/SME/ stakeholder interviews	Retailer data collection	Distributor and Manufacturer sales and shipment data	PA program data review	CalMTA forecasting and C/E model reviews
Assess the theory of market change per the MTI logic model	X	X	X	X	X	X	X	
Monitor market dynamics and characteristics	X	X	X	X	X			
Track units of adoption	X	X			X	X	X	
Measure market progress, per MPIs and milestones		X	X	X	X	X	X	
Evaluate equity	X	X	X		X			
Assess MTI causality	X	X	X	X	X	X	X	
Assess incremental MTI impact	X				X	X	X	X
Assess ancillary benefits and costs	X	X	X	X				

2 Market characterization research

CalMTA conducted a 2024 Baseline Market Characterization study[11] of the induction cooking market. That study characterized the market baseline conditions and values for some of the market progress indicators listed above in Table 1. This evaluation plan includes data collection activities that build on the research conducted in that study.

2.1 Secondary data and literature review

The Baseline Market Characterization study included an extensive literature review, drawing from various secondary data sources including the U.S. Census' American Community Survey, the U.S. Energy Information Administration (EIA)'s 2020 Residential Energy Consumption Survey (RECS), and the 2019 California Residential Appliance Saturation Study (RASS). These sources provided insights into appliance saturation levels, behaviors, and other insights relevant to single-family and multifamily California households.

The team also reviewed publicly available technical and market research documents, California regulatory filings, dockets, the California Electronic Technical Resource Manual (eTRM), and conducted searches using tools including Google Scholar, Semantic Scholar, Science.Gov, and general internet research on induction cooking products. Lastly, the team analyzed pricing and product availability by reviewing manufacturer websites and online retailers.

The evaluator will use some of the same sources to inform the MTI Market Progress Evaluation. The evaluator will also, during the literature and secondary data review and throughout the course of their work, attempt to identify additional relevant data sources or literature, including new evaluations or market studies. The rest of this section discusses the data collection activities in more detail.

Data sources may include the following:

- **U.S. Census American Community Survey** (source U.S. Census, accessed annually): The evaluator will use U.S. Census data to develop and refine survey and interview sample designs to reflect California's population. This will ensure that key demographic groups, defined by income levels, geographic areas, and household type and ownership, are appropriately captured.
- **CalMTA MTI program data and materials:** The evaluator will review CalMTA's program-tracking data to measure MPIs and milestones. This data includes information on midstream incentives, engagement and outreach activities (e.g., retailer engagement in the CalMTA technology challenge), and other materials related to MTI activities. CalMTA

[11] CalMTA Induction Cooking Market Characterization Report, 2024. https://calmta.org/wp-content/uploads/sites/263/Market-Characterization-Report-Induction-1.pdf.

and its eventual implementation contractor(s) will capture data that aligns with the activities outlined in the MTI logic model, such as incentives provided, and outreach and engagement conducted.

- **EIA RECS data:** The evaluator can assess broader market adoption trends for induction and other cooking technologies using RECS data. Because RECS is updated infrequently (approximately every five years), its use will be limited, although it should be examined, especially after updates to inform the evaluators' understanding of the market and serve as a broader reference point for long-term trends rather than immediate year-to-year shifts. RECS data will be used to:
  1) Analyze patterns of adoption for induction and other cooking technologies across various housing types (i.e., single-family homes and multifamily units).
  2) Track shifts in consumer preferences over time, offering insights into the market's progression toward induction cooking solutions.
  3) Compare the prevalence of induction cooking to other technologies, such as gas or cooking technologies, to understand market share and potential barriers to adoption.

2.2 Analyze California sales and program data

The evaluator will analyze sales data from multiple sources (i.e., ESRPP and point-of-sale data from Circana) and determine the scope and market coverage, areas of overlap, and any remaining gaps in retail channel data. The evaluator will make recommendations on how to use the data to determine market adoption of induction cooktops and ranges, as well as any other relevant MPIs. PA program data will also be analyzed to understand program-driven adoption levels.

- **ESRPP retailer residential cooking category stocking and sales data:** ESRRP retailers will provide full category sales and stocking data for all electric cooking technologies sold in their California stores. Data will include quarterly sales data, pricing, and market penetration of induction technology. The evaluator will have access to CalMTA's quarterly analysis including sales and price trends, and summary statistics.
- **Circana data:** Circana data sets are based on actual sales for many California retailers, but also include forecasted sales for major retailers, such as The Home Depot, Lowe's, and Best Buy. However, since ESRPP data includes actual sales for these same large retailers, the combination of Circana's forecasted data with ESRPP's actual sales data will provide a more complete and accurate representation of the overall market for cooking technologies in California. The evaluator will work with CalMTA to specify and potentially purchase these data to fill any gaps in retail sales data obtained through ESRPP. By merging these two datasets, the evaluator will be able to measure the total market for both gas and electric cooking technologies, with a particular focus on induction technology, across the entire state.

- **PA program and California Energy Data and Reporting System (CEDARS) data:** The evaluator will assess program participation by compiling program data and California Energy Data and Reporting System (CEDARS) data to account for market interventions by California program administrators that report their impacts in CEDARS. The evaluator will incorporate net-verified savings associated with program participation data into total market adoption estimates to avoid double-counting.
- **Other purchase or shipment data:** The evaluator will work with CalMTA to gather shipment and sales data to assess sales across all channels. This may involve sources such as ENERGY STAR, the Association of Home Appliance Manufacturers (AHAM), or CalMTA-negotiated data-sharing agreements with manufacturers and distributors or bulk purchase agreements.

2.3 Primary data collection: customer and decision-maker surveys

The evaluator will develop a sampling and research plan that allows for longitudinal tracking of key characteristics to measure progress toward achieving MPIs. The evaluator will clearly document data sources, the sampling strategy, and sample frame development so results can build on previous baseline and evaluation findings.

Residential Consumer Survey

The evaluator will field a residential consumer survey in the first year and in alternate years moving forward. The survey should build upon questions from the residential consumer survey used in the baseline market characterization research to allow statistically valid comparisons of changes in adoption, behaviors, attitudes, and knowledge of consumers regarding induction cooking technology. The evaluator will refine the sampling strategy developed for the baseline market characterization study to better align it with the MTI's focus on ESJ communities and incorporate California's Disadvantaged Communities (DAC) designations to enable market progress assessment in these communities.[12] The evaluator will also update the sampling plan to reflect observed changes in the customer segments from the U.S. Census or other data. Table 3 contains the sampling plan from the residential consumer survey conducted during the market characterization, with proportions based on segment quotas. The baseline residential consumer survey achieved 790 completed surveys across single family and multi-family decision-makers out of the planned sample size of 800.

[12] Disadvantaged Communities (DACs), designated by the California Environmental Protection Agency (CalEPA) as per Senate Bill 535, are defined by CalEnviroScreen 4.0: https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40. The baseline residential consumer survey used census data to identify those who live in census tracts or households at or below 80% of the statewide median income. This sampling approach was expedient for the baseline study but the third-party evaluator should refine it, if possible, to better align with the MTI's focus on ESJ communities.

Table 3. Baseline Market Characterization residential consumer survey sample plan[13]

Segment	Percentage	Survey targets
Home ownership status		
Homeowners	55%	440
Renters	45%	360
Income status		
Below low-Income threshold[14]	36%	288
Above low-Income threshold	64%	512
Housing type		
Single-family homes	49%	392
Multifamily homes	49%	392
Other housing types	2%	16
Region/climate zone		
Coastal areas	50%	400
Inland areas	50%	400
Total sample size	**100%**	**800**

Multifamily property manager interviews

The evaluator will interview multifamily property managers in the first year of MTI implementation and in alternate years following that, to build an ongoing understanding of perceived barriers and motivations to the adoption of induction cooking in multifamily housing. The interviews will include property managers that serve both priority and non-priority populations,[15] and will target both coastal and inland multifamily property managers.

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[13] This same survey was used for both the RHP and Induction Cooking Baseline Market Characterization studies.

[14] "Low-income" is defined by CalMTA's 2024 Baseline Market Characterization study as at or below 80% of the median area income. According to Assembly Bill 1550, low-income communities and households are defined as those who live in census tracts or households at or below 80% of the statewide median income or meeting the threshold designated as low-income by the California Department of Housing and Community Development's Revised 2021 State Income Limits.

[15] Priority populations, as defined by the California Air Resources Board, are census tracts categorized as either low-income or disadvantaged communities (DACs). See map here: Priority Populations 2023 (ca.gov). DACs, designated by the California Environmental Protection Agency (CalEPA) as per Senate Bill 535, are defined by CalEnviroScreen 4.0: https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40.

CalMTA completed 15 interviews with property managers in coastal and inland territories as part of the Baseline Market Characterization study, using the sampling plan outlined in Table 4. For that study, which also informed the Induction Cooking MTI, the team was unable to complete any interviews with non-priority property managers in Inland regions.

Table 4. Multifamily property manager interviews sampling plan

Climate region	Coastal	Inland	Total
Priority population	5	5	10
Not priority population	5	5	10
Total	**10**	**10**	**20**

Property manager survey

The evaluator will conduct a survey of California-based multifamily ~~and single-family~~ building owners and property managers who own or manage five or more units during each program cycle. The objective of this survey is to determine adoption trends of induction technologies in the multi-family segment including awareness and attitudes towards induction. During the baseline market characterization, CalMTA used a stratified random sample of property managers, with quotas for climate zone, housing type, classes of properties, types of units (market rate or affordable housing) and utility. CalMTA completed surveys with builders and property managers who owned/managed single-family (n=77), multifamily (n=16) and both single-family and multifamily (n=7) properties. For the first evaluation, the evaluator should attempt to use a sampling strategy similar to the one CalMTA used during the baseline market characterization.

Homebuilder and remodeler interviews

The evaluator will conduct interviews to understand homebuilders' and remodelers' decision-making processes regarding the use and specification of induction cooking products in residential new construction and remodeling projects. The interviews will explore key factors, such as cost, demand, availability, familiarity with the technology, and barriers to adoption, as well as the influence of building codes and energy efficiency regulations.

For the baseline market characterization, CalMTA sampled from the National Association of Home Builders and the National Association of Minority Contractors, along with participant databases from the California Energy-Smart Homes Program and the California Electric Homes Program.

2.4 Primary data collection: stakeholder and manufacturer interviews

Stakeholder, subject-matter experts, and MTI staff interviews

The evaluator will conduct interviews with stakeholders and subject matter experts to inform the market characterization of induction cooking products. These stakeholders and subject-matter experts will include PAs and implementers of California programs that promote efficient cooking; organizations conducting research and development, standard-setting, and pilot efforts supporting deployment of the technologies; and community-based organizations (CBOs) and/or

recipients of pilot funding or other programming. These interviews will inform an understanding of current program offerings and future program changes, customer perceptions and barriers to adoption, and market and technology trends.

Manufacturer interviews

CalMTA conducted interviews with five manufacturers as part of the baseline market characterization study (out of nine identified in the sampling plan). During Phase III: Market Deployment, the third-party evaluator will conduct manufacturer interviews to keep current on manufacturer opinions and attitudes on induction cooking, plans for future products, and perceived barriers and opportunities for induction adoption. In addition, the evaluator will investigate the causal relationship and impact of interventions aimed at increasing product availability and innovation, especially around 120V induction products.

The third-party evaluator will attempt to reach the same nine manufacturers to track changes in attitudes or behaviors relative to the initial CalMTA manufacturer interviews and surveys. The evaluator will also explore if there are additional manufacturers who should be interviewed based on market share, market presence, innovative products, or pricing.

2.5 Primary data collection: retailer data collection

The evaluator should develop a sampling and research plan that will help build an understanding of stocking and promotional trends for induction cooking products in retail stores, as well as attitudes and perceptions of retail staff through interviews.

Brick-and-mortar and online retailer data collection

The evaluator will conduct visits to brick-and-mortar stores and conduct interviews with retail staff to track product availability, as well as stocking, pricing, and promotional practices compared to the baseline study and any subsequent evaluations. CalMTA completed eight in-person visits to big box retail stores in northern and southern California, including The Home Depot (two stores), Best Buy (two stores), Lowe's (one store), Costco (one store), Sam's Club (one store, and IKEA (one store). The evaluator will expand the sample to include additional retailers (i.e., independent retailers participating in ESRPP through the Nationwide buying group); reflect other retailers participating in the MTI's midstream incentive program; and include online retail stores, especially large online retailers like Amazon. Alternatively, the evaluator can recommend web-scraping to extract product information, augmented by retailer interviews, to assess consumer acceptance and stocking practices.

Timeline for data collection and analysis activities

Table 5 outlines the preliminary recommended timing for evaluation activities over the first five years of Phase III: Market Deployment and shows which of these activities were completed in 2024, as part of the Baseline Market Characterization study. This timing reflects CalMTA's current expectations regarding when each activity is likely to provide critical data and insights to inform evaluation of market progress and the ongoing need for MTI market strategy refinements. The

third-party evaluator will update this preliminary schedule over time to address needs for ongoing market insights and progress evaluation, as CalMTA learns from experience and as the MTI implementation evolves.

Table 5. Timeline for data collection activities

Data collection activities		Conducted in Baseline Market Characterization	Year 1	Year 2	Year 3	Year 4	Year 5
Secondary data and literature review		X	X	X	X	X	X
Analyze sales and program data	Sales and shipment data[16]		X	X	X	X	X
	PA program and CEDARS data		X	X	X	X	X
Primary data collection: customer and decision-maker surveys	Residential consumer survey	X	X		X		X
	Multifamily property manager interviews	X	X		X		X
	Property manager survey	X		X		X	
	Homebuilder and remodeler interviews	X		X		X	
Primary data collection: market actors	Stakeholder and manufacturer interviews	X	X	X	X	X	X
	In-store and online shopping/web-scraping)	X	X	X	X	X	X
	Retailer interviews	X	X		X		X

3 Program theory and program implementation review

The evaluator will conduct an initial review to compare the MTI program theory, logic model, and MPIs against the market interventions implemented by CalMTA and the resultant outputs. After conducting MTI staff interviews and reviewing program documents, the evaluator will make recommendations on how to improve the program theory, logic model, and MPIs.

After completing additional market evaluation activities, the evaluator will assess the extent to which the MTI interventions are addressing the market barriers and leading to the theorized outcomes. The evaluator will identify opportunities to improve the logic model and to refine

[16] Anticipated data sources are described in the California Sales and Program Data section.

market interventions to influence the market and make recommendations for doing so. CalMTA will provide the following information (where available) to the evaluator:

- Tools, factsheets, and other MTI outputs
- Implementation and Marketing Plans
- Specifications and manufacturer responses to the technology challenge
- List of key stakeholders with contact information
- List of MTI engagements and relevant Salesforce entries
- Forecast of incremental adoption
- Ex-Ante Impact Calculations
- Cost-effectiveness assumptions
- Any data or perspectives provided by program delivery contractors and partners to date
- Written agreements/contracts with market actors

The data will be reviewed to identify information needs to be addressed in primary and secondary research tasks.

4 Evaluating market progress

Market transformation experience has taught us that well-chosen and vetted MPIs are critical to MTI risk management and success. Yet there has been a tendency to judge market progress primarily on units of adoption. This metric can be a misleading indicator of success for MTIs in their early years because market share and adoption typically increase slowly and accelerate only after addressing critical market barriers, such as – in the case of induction cooking – availability of affordable battery equipped products and consumer awareness of the product's health and safety benefits. Therefore, to appropriately evaluate market progress and ensure accountability, the evaluator must assess short- and medium-term MPIs that align with the logic model. While market adoption of induction cooking is forecasted to take several years to accelerate and become a strong indicator of market progress, the evaluator will assess units of adoption from the outset because they are a primary input of paramount importance to estimating MTI incremental impact and cost-effectiveness.

4.1 Market adoption

Determining units of adoption is a key focus of the evaluation, because defensible measurement is essential for estimating the incremental energy impacts of the MTI. Market adoption estimation is also one of the most challenging components of the evaluation, because the induction and ENERGY STAR electric radiant cooking supply chain includes multiple sales channels including retail brick-and-mortar stores, online storefronts, and direct-to-consumer sales, as well as

wholesale purchase pathways for builders and property owners and managers. To develop a complete picture of the market and calculate units of adoption across all sales channels, the evaluator must identify, procure, and "stitch" together information from multiple sources.

The evaluator will independently estimate market adoption through the following steps.

- **Identify all sales channels.** The evaluator will investigate and identify the complete set of sales channels for induction and ENERGY STAR electric radiant cooking products and competing cooking products.
- **Finalize data sources for each channel.** CalMTA has identified the data sources shown in Table 6 for each of the identified sales channels. The evaluator will investigate and finalize the best data sources for each channel.

Table 6. Data sources by sales channel

Retail sales data	Manufacturer/wholesaler data	Shipment data
ESRRP retailer stocking and sales data	Negotiated data sharing agreements with manufacturers and distributors or bulk purchase agreements with	ENERGY STAR data
Circana data		AHAM data

Descriptions of each data source follow:

- **Retail channel data.** The retail channel includes brick and mortar stores like Home Depot and online retail storefronts. The evaluator will estimate market adoption through this channel using sales data contractually provided to CalMTA from ESRPP-participating retailers – including data from big box retail stores, online retail storefronts, and independent retail stores through ESRPP partner Nationwide. The evaluator will supplement ESRPP data with purchased retail data, as needed, from additional sources like Circana - described in the "Secondary data and literature review" section.
- **Wholesale channel data.** Other sales channels may include wholesale distributors and/or direct online or bulk purchases from manufacturers. The evaluator may have access to data gathered through CalMTA negotiated data sharing agreements with manufacturer and distributor market partners or bulk purchase agreements to estimate data through this channel.
- **Supplementary shipment data.** CalMTA expects sales data from these sources to cover most of the California market, although there may be overlap and/or gaps across the datasets. We also expect some sources of data to include an estimate of their market coverage. To verify the total market size, the evaluator will coordinate with CalMTA to also gather shipment data from another source, such as AHAM, to serve as a point of comparison.

Collect data and identify gaps

The evaluator will assemble the available sales and shipment data, as described above. As with all data, there are expected to be gaps (e.g., non-reporting retailers). If the volume sold through non-reporting retailers as a percentage of the total market size as estimated based on shipment data is significant, the evaluator will identify non-reporting retailers and manufacturers and conduct interviews with a sample of them to estimate how many induction and ENERGY STAR electric radiant products are sold by them each year, to estimate the total sales from non-reporting vendors.

Calculate total units of adoption

The total units of adoption will be calculated by combining the reported sales data analysis and the estimated units of adoption for the non-reporting vendors. The evaluator will review these market adoption estimates and update them annually to calculate market share to assess MPIs.

4.2 Evaluating equity MPIs

Prior to conducting data collection, the evaluator will become familiar with the induction cooking equity MPIs and plan to monitor progress over time. The evaluator will use both primary and secondary data collection to assess the equity Market Progress Indicators (MPIs) shown in Table 7 and will identify other equity MPIs it believes CalMTA should consider.

Table 7. Equity MPIs and associated Data collection activities to evaluate equity MPIs

Market Progress Indicators	Data collection activities
Number of California PAs who add induction cooktops to their programs	California PA interviews
Percentage of LI and non-LI consumers and property managers who prefer electric and induction fuel types (compared to gas)	Residential customer and property manager surveys, property manager interviews, interviews with CBOs
Percentage of LI and non-LI consumers and property managers aware of health and safety benefits of induction	
Share of induction and ENERGY STAR electric radiant products stocked in brick-and-mortar locations; stocking trends are similar in stores in ESJ communities	Retail data gathering (brick and mortar sites and online site visits, sales data analysis), manufacturer interviews
Price of induction and ENERGY STAR electric radiant in brick-and-mortar locations in ESJ communities	Retail data gathering (brick and mortar sites and online site visits, sales data analysis)
The number of policies or new electrification-friendly rate structures that the MTI supported that are proposed/referenced by utilities, regulatory bodies, etc.	Utility rate proposals at CPUC rate proceedings and codes and standards (C&S) proposals at the CEC and CARB proceedings; interviews with policy forums and partnerships

Market Progress Indicators	Data collection activities
Market saturation in DAC communities, compared to non-DAC	Sales and shipment data, program partner data (such as bulk purchases, DAC-serving distributor shipment data, data from CBOs), future RASS data

The evaluator will refine the baseline survey instrument and sampling strategy to ensure market progress can be assessed and representative findings can be developed for low-income and DAC populations.[17] The evaluator should additionally develop findings for populations residing in and stores located in disadvantaged communities (DACs), as defined by CalEnviroScreen[18] and assess equity metrics and report progress in DAC versus non-DAC areas. Disadvantaged communities refers to the areas throughout California which most suffer from a combination of economic, health, and environmental burdens. The evaluator will rely upon a combination of the data collection activities shown in Table 7 to assess changes in retail sales, stocking practices, consumer awareness, non-energy impacts among adopters in ESJ communities, supply chain engagement, and cost reductions.

4.3 Evaluating causality

Causality assessment in market transformation programs is required to firmly link incremental adoption and other changes in the market to MTI interventions. The program theory and logic model include theorized linkages between interventions and market outcomes. By conducting research to assess the MPIs, the evaluator will gather data from multiple lines of evidence to validate those linkages and establish causality between MTI activities and outcomes. The evaluator will assess causality for each MPI where practical to support the overall causality assessment.

The evaluator will conduct causality assessment based on a "preponderance of evidence" approach with methods including: document review; in-depth interviews with market actors, decision makers and stakeholders; and historical tracing. The evaluator will use empirical evidence from all data sources specified in the MTI Evaluability Map (see the attachment at the end of this document) to determine whether observed market outcomes (as measured by the MPIs) can be traced back to MTI interventions and non-MTI market drivers.

For example, to determine whether the Induction Cooking MTI accelerated and increased market adoption of efficient electric cooktops, the evaluator would consider all the available evidence that the MTI interventions the logic model led to the theorized outcomes as well as evidence that those outcomes increased and accelerated market adoption. In addition, the evaluator will

[17] Low-income was defined by the 2024 Baseline Market Characterization Study as at or below 80% of the median area income[17] and low-income segments were screened using customized income thresholds for each county, as defined by the California Department of Housing and Community Development.
[18] CalEnviroScreen | OEHHA.

consider alternative explanations and causes for the observed market outcomes. Consideration of evidence to support alternate explanations of change is important to avoid confirmation bias.

Table 8 provides examples of some of the questions the evaluator may consider.

Table 8. Causality assessment

Causality question	Example data sources/evidence
Did the MTI lead manufacturers to develop affordable 120V products? How?	• MTI salesforce documentation of meetings, conversations with manufacturers regarding Tech challenge • Signed manufacturer agreements • Manufacturer interviews – manufacturers indicate they were influenced by the MTI; didn't previously have firm plans or had different plans
Did the MTI interventions lead to increased availability of affordable induction models and increase adoption by lower income households?	• Retailer interviews – retailers indicate the ESRPP incentives changed stocking and promotional practices • CBO interviews – CBOs indicate more affordable products and greater awareness of health and safety benefits influenced installations
Did the MTI's efforts to build awareness of health and safety benefits of induction cooking lead to greater awareness and market adoption?	• Program materials – messaging research identifies most compelling messaging on health and safety benefits • Awareness of health and safety benefits increases in sync with promotional efforts • Consumer and property managers indicate health and safety benefits affected their adoption • CBO interviews – CBOs indicate more affordable products and greater awareness of health and safety benefits influenced installations
Were the observed market changes caused by non-MTI alternative market dynamics or interventions? What market results could have occurred in the absence of the MTI?	• Historical tracing of observed market changes, including analysis of documentation, program materials, and timing • California program administrator interviews • Market actor interviews

4.4 Forecasting, impacts, and cost-effectiveness review

Incremental market adoption

During Phase II, the CalMTA Induction Cooking planning lead worked with the team to develop a forecast of incremental market adoption and energy impacts. CalMTA has developed forecasts for baseline market adoption (BMA) and total market adoption (TMA), along with estimates of unit energy impacts (UEI) and cost-effectiveness. CalMTA developed *ex ante* estimates of incremental MTI impacts (described in Appendix B of the MTI Plan) using the formula below.

Net Incremental MTI impacts = [(TMA units – BMA units) * UEI] – utility verified impacts

As part of ongoing evaluation efforts, the third-party evaluator will review model inputs, assumptions, data sources, and structure and will identify recommended revisions to improve the accuracy of impact estimates.

Total Market Adoption forecast

CalMTA will develop and regularly update a TMA model, incorporating actual sales or shipment data as it becomes available and then forecasting into future years. The evaluator will use the most recent data available at the time to review TMA.

Baseline Market Adoption forecast

The evaluator will review CalMTA's BMA forecast, including inputs and assumptions, and make recommendations for improvements, according to the guidelines in the CalMTA MTI Evaluation Framework. Specifically, the third-party evaluator will identify any evidence from its evaluation activities that could suggest the need to refine the original BMA forecast. For example, if the MTI causality assessment were to identify a previously unknown significant market influence that preceded or was otherwise wholly independent of MTI market deployment activities, it could indicate the need to re-estimate BMA or otherwise reconsider program attribution and calculation of incremental market impacts.

The BMA forecast is a major determinant of the estimated savings attributable to the program. Given the challenges inherent in forecasting a counterfactual scenario, the BMA forecast may constitute the most significant source of uncertainty surrounding estimated savings. As such, under certain circumstances it could make sense to consider revising the BMA forecast.

However, it can be counterproductive to revise the baseline forecast unless it is truly warranted. The data most readily available to the evaluator are the efficient units appearing in the market over time, and those may well reflect effects caused by the MT program itself. There is a risk, therefore, that evaluators may attribute observed acceleration in efficient market units to an acceleration in the BMA when it is really a result of MTI market interventions. Revising the baseline upward in such a case would lead to underestimation of the program's accomplishments.

Guidelines for considering BMA revision

Recommending a revision to the BMA forecast requires the evaluator to balance the desirability of incorporating relevant new information with the risk of misattributing MTI market effects to extrinsic market changes. To serve the best interests of California, the BMA forecast should be revised only when evaluators have a high level of confidence that one or more initial assumptions were incorrect, or some crucial element of the market changed independently of the initiative and that the MTI did not significantly contribute to an observed change in market adoption. CalMTA identified three scenarios that warrant consideration of revising the BMA forecast and two guidelines for whether the revision should be made. These scenarios and guidelines are detailed in the MTI Evaluation Framework, and the third-party evaluator should review them carefully before reviewing the BMA Forecast.

In the first year, the evaluator will conduct a comprehensive review of the BMA forecasting model approach, along with inputs and assumptions. In subsequent years, the evaluator will revisit the BMA forecast only if it identifies evidence from its evaluation activities that could suggest the need to refine the original BMA forecast.

PA impacts

The evaluator will review net verified impacts attributable to the PAs based on claimed and verified savings associated with claims data from CEDARS and evaluation findings. These impacts will be subtracted from incremental adoption (TMA-BMA) as shown in the equation at the start of this section, ensuring no double-counting of impacts between CalMTA and other PAs.

Per the MTI Evaluation Framework, verified PA impacts reported in CEDARS will be subtracted from incremental market adoption (TMA-BMA) to calculate incremental impacts attributable to the MTI and associated cost-effectiveness. CalMTA will, however, also report total incremental market adoption (TMA-BMA), because the Induction Cooking MTI Plan includes substantial interventions without which inclusion of these technologies in utility resource acquisition would not be possible. Although we have agreed to calculate incremental impacts without utility-verified impacts, it will be important for the third-party evaluator to qualitatively assess the MTI's influence on those PA impacts.

4.5 Cost-effectiveness model

As part of the ongoing evaluation, the third-party evaluator will review the cost-effectiveness model, and the model inputs, assumptions, and data sources, that CalMTA used to calculate cost effectiveness of the MTI. CalMTA's approach is fully documented in Appendix B of the MTI Plan and Attachment B: Market Forecasting and Cost Effectiveness MEMO SUMMARIZING UPDATES to Appendix B.

Evaluating cost-effectiveness involves outputs from the market forecasting model as well as initiative costs, incremental measure cost, avoided cost, load shape, and UEIs. This application of inputs considers the baseline installation conditions, baseline and efficient technologies, fuel types, target sector, and costs incurred by all stakeholders in the MTI implementation. Moreover, both the costs and benefits change over time, due to factors such as effective useful life, regulatory policy, electricity and gas rates, and initiative funding.

During the first evaluation year, the evaluator will review the inputs and assumptions, and the model used by CalMTA that inform the cost-effectiveness forecast, and in subsequent years, any updates made to the models. The review will include the following model inputs:

- **Incremental adoption forecast**. Incremental adoption will be forecasted as an input to the cost-effectiveness model. The evaluator will review this forecast and make recommendations for improvement.

- **Incremental measure costs.** Incremental measure costs reflect the difference in cost between the baseline cooking technology and induction cooktop and range technology. For the full discussion of how the incremental cost was forecasted see Appendix B of the MTI plan. The evaluator will review the incremental costs and cost trends applied in the CalMTA cost-effectiveness model. The evaluator will determine, given recent market data and market conditions, if the cost assumptions are reasonable or need to be adjusted.
- **Unit Energy Impacts.** The methodology to develop UEIs for induction cooking technologies is detailed in Appendix B of the MTI Plan. The evaluator will review unit energy impacts (including savings estimates, load shapes, and effective useful life), and assumptions and methodology to make recommendations for improvements, such as appropriateness of hourly usage profiles used in modeling savings.

4.6 Ancillary benefits and costs

In addition to reviewing the benefits and costs assumed in the MTI cost-effectiveness model, the third-party evaluator should identify and summarize non-energy factors and quantify them where feasible without extensive additional investment in data collection. These may include factors such as changes to repair or service costs, improved indoor air quality and health, and improved safety (for example, from reduced fire or burn incidents), if they prove significant. Elements like service life will already be included in cost-effectiveness calculations.

4.7 Reporting

CalMTA anticipates that the third-party evaluator will produce an annual market progress evaluation report that summarizes findings from the prior year's evaluation research and analysis activities, along with recommendations to improve MTI effectiveness.

Attachment: MTI Evaluability Map

The following definitions apply to the table below.

Primary influence: Primary focus of the MTI; keys to evaluating performance
Secondary influence: other orgs already working on this; the MTI had a hand in the change but different standard of causality
MPI categories:

A: Awareness	R: Retail
B: Building Owners/Property Managers	S: Code/Standard
L: Regulatory	U: Units
M: Manufacturers	

Logic Model outcome – primary influence	MPI #	Time-frame	Market progress indicator (MPI)	Market milestone	Baseline	Data source - MPI	Data source - causality
Manufacturers respond to specification with plans for product roadmaps of 120Vinduction range products	**M1**	Short Term	Number of manufacturers who respond with plans for product roadmaps	At least one major manufacturer (ie, LG, Panasonic, GE) includes 120V in its roadmap by 2027	0	Salesforce documentation; Manufacturer interviews	Manufacturer interviews
Increased availability of affordable 120V induction products	**M2**	Med Term	Number of 120V products available to purchase from major retailers either in-store or online (not only direct from manufacturer) - Battery equipped - Non-battery	At least 2 MTI qualified 120V products are available to purchase from major retailers either in-store or online (not only direct from manufacturer) by ~~2031~~	0	Online shopping and shelf-stocking study	Manufacturer interviews; retailer interviews; Salesforce documentation
	M3		Incremental cost of battery-equipped 120V induction compared to 240V induction	Average price of 120 V battery products is not more than double the average price of gas ranges by 2031	Median price of a standard standalone induction cooktop is $1,049, while the median price of an induction range is $1,329. A 120V induction cooktop with a battery–(standalone cooktop or a range)– has a median price of $4,612.	Online shopping and shelf-stocking study; ESRPP Data	Manufacturer interviews; Salesforce documentation
MF property management firms and building owners increasingly include 120V products in electrification efforts	**B4**	Short Term	Number of agreements in place with key/influential property owners or managers that include 120V products	3 agreements in place with key property owners or managers in California by 2027	0	Salesforce documentation; property owner and manager survey/manufacturer interviews	Manufacturer interviews/property owner and manager survey; Salesforce documentation
Average price of induction ranges and cooktops decline	**R5**	Med Term	Incremental cost of 240V options above electric radiant	Incremental cost of 240V options above electric radiant shrinks to less than 10% by 2029	Unknown; to be measured	Manufacturer interviews	Manufacturer interviews; Salesforce documentation

Logic Model outcome – primary influence	MPI #	Time-frame	Market progress indicator (MPI)	Market milestone	Baseline	Data source - MPI	Data source - causality
EPA develops version 2.0 of ENERGY STAR specification for cooking which includes increased efficiency and provisions for 120V range product	**S6**	Med Term	ENERGY STAR version 2.0 specification developed and includes 120V products	ES Spec is updated to include 120V products and reflects at least 10% increase in efficiency (reduction in IAEC) by 2030	N/A	ENERGY STAR data; Salesforce documentation	EPA Interviews; Salesforce documentation
Retail partners stock and sell more affordable products and 120V options	**R7**	Short Term	*Number of MTI-qualified 120V induction available through retail (same as M2)*	No specific milestone; evaluator will track MPI over time to assess progress	0	Online shopping and shelf-stocking study	Retailer Interviews; Salesforce documentation
	R8		*Price of 120V induction*	No specific milestone; evaluator will track MPI over time to assess progress	Expected to be introduced at/under $1,800	Online shopping and shelf-stocking study	Retailer Interviews; Salesforce documentation
Awareness and preference for efficient electric cooking increases	**A9**	Short Term	*Percentage of LI and non-LI consumers who report they are knowledgeable about induction cooking*	No specific milestone; evaluator will track MPI over time to assess progress	13% LI; 20% non-LI.	Consumer survey; analysis of LI vs. non-LI	Preponderance of evidence from all data sources
	A10		*Percentage of induction awareness property managers*	No specific milestone; evaluator will track MPI over time to assess progress	46%	Property Manager survey	Preponderance of evidence from all data sources
	A11		*Percentage of LI and non-LI consumers who state they would prefer to purchase induction type products*	No specific milestone; evaluator will track MPI over time to assess progress	LI: 16% prefer induction Non-LI: 25% prefer induction	Consumer survey	Preponderance of evidence from all data sources
	A12		*Percentage property managers who prefer to purchase induction type products*	No specific milestone; evaluator will track MPI over time to assess progress	- 50% of all property managers prefer electric or induction to gas	Property Manager survey	Preponderance of evidence from all data sources
	A13		*Percentage of LI and non-LI consumers for whom health or safety benefits of induction are a top consideration in their preference*	No specific milestone; evaluator will track MPI over time to assess progress	LI Health: 2% & Safety 41% Non-LI Health: 10% & Safety: 37%	Consumer survey	Preponderance of evidence from all data sources
	A14		*Percentage of property managers aware of health and safety benefits of induction*	No specific milestone; evaluator will track MPI over time to assess progress	8% health 32% safety	Property Manager survey	Preponderance of evidence from all data sources
Consumers utilize induction 120V battery-equipped range product as tool for increased energy benefits (resilience, load flexibility)	**A15**	Long Term	Percentage of consumers indicating that resilience and load shifting were influential in the purchase of 120V battery-equipped products	No specific milestone; evaluator will track MPI over time to assess progress	Not available	Consumer survey	Consumer survey
	A16	Long Term	Percentage of consumers aware of resilience and peak shifting	No specific milestone; evaluator will track MPI over time to assess progress	Not available	Consumer survey	Consumer survey

Logic Model outcome – primary influence	MPI #	Time-frame	Market progress indicator (MPI)	Market milestone	Baseline	Data source - MPI	Data source - causality
			benefits 120V battery-equipped products				
Market share of induction and ENERGY STAR rated electric radiant cooking products increase relative to gas cooking products	**U17**	Med Term	Efficient cooking appliance market share (% of full category sales) - 120V Battery - 120V Non-Battery - 240V Induction - 240V ES Radiant	Market share of all efficient electric is 10% by 2029 Market share of 120V 10% by 2031	0%	ESRPP qualifying and full-category sales data	All sources
Market share of efficient electric reaches majority for all cooktops and ranges sold in CA		Long Term		Market share (% of full category sales) reaches 20% by 2033		ESRPP qualifying and full-category sales data	All sources
Consumers adopt induction 120V battery-equipped range product to realize additional benefits (e.g., resilience, load flexibility)	**U18**	Long Term	Units of adoption	No specific milestone; evaluator will track MPI over time to assess progress	Not available	ESRPP qualifying and full-category sales data	
Programs include 120V product as measure, especially in programs that target LI customers	**P19**	Short Term	Number of California PAs who add 120V induction cooktops to their programs	No specific milestone; evaluator will track MPI over time to assess progress	5	Salesforce documentation; PA Interviews	Salesforce documentation; PA Interviews;
120V products increasingly used as solution in zonal decarbonization targeted gas infrastructure decommissioning efforts	**P20**	Med Term	Number of zonal projects that use MTI qualified products	No specific milestone; evaluator will track MPI over time to assess progress (increase)	0	Program documentation	Zonal decarbonization program staff interviews; Salesforce data
Prevalence of electrification-enabling rate structures grows across the state	**L21**	Med Term	The number of policies or new electrification-friendly rate structures that the MTI supported that are proposed/referenced by utilities, regulatory bodies, etc.	At least three policy forums, partnerships, or opportunities that CalMTA engages with, support the change to electrification friendly rate structures by 2029	N/A	Documentation of support from policy forums and partnerships, Interviews with policy forums and partnerships;, utility rate proposals at CPUC rate proceedings and C&S proposals at the CEC and CARB proceedings	Interviews with policy forums and partnerships; Salesforce documentation
California Air Resources Board (CARB) and air quality districts set zero emissions appliance standards beyond space and water heating to include the sale of new cooking products.	**S22**	Long Term	CARB and Air quality appliance standards	No specific milestone; evaluator will track MPI over time to assess progress	N/A	Proceedings for CARB and standards setting bodies	Salesforce documentation