

Developing a 120V Induction Range Without Battery for California Markets

Final Report

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Executive Summary

This study looked at the market potential of a 120-volt (V) induction range, without battery, designed to plug into a standard outlet—an appliance that could make electrification possible in households where installing a 240V range or 120V battery range is too expensive or impractical. The team evaluated the adoption barriers and commercialization opportunities in California, with research designed to inform product design, market positioning, and program development strategies that would support future commercialization and market transformation efforts. The study incorporated secondary research, stakeholder interviews, quantitative consumer surveys, and conjoint analysis to better understand consumer acceptance, operational concerns, and preferred product configurations.

Despite some barriers, there are key market segments where this is a viable and desirable product. The findings identified meaningful market potential for the 120V induction range without battery, particularly within smaller households, retrofit applications, older multifamily housing, compact rental units, and accessory dwelling units. Respondents consistently identified installation simplicity, avoided panel upgrade costs, safety, and convenience as key benefits of the technology.

At the same time, the research found that successful commercialization will depend on balancing affordability, cooking functionality, and ease of use. While survey respondents showed willingness to accept moderate cooking performance and behavioral tradeoffs, consumers still preferred a relatively familiar cooking experience. Conjoint analysis showed that a four-burner configuration generated the strongest overall preference, even though most households reported primarily cooking with only one or two burners at a time. Similarly, respondents tolerated moderate cooking performance reductions but showed lower acceptance at longer boil times and higher price points.

Not surprisingly, price emerged as the strongest driver of purchase preference. Consumer interest declined substantially once the appliance price exceeded approximately \$1,500, reinforcing the importance of incentives, rebates, and cost control strategies for broader adoption. The conjoint analysis identified the strongest product configuration as a four-burner range capable of boiling two quarts of water in under seven minutes, priced below approximately \$1,500, that included at least a basic compatible cookware starter set.

The research also highlighted several important adoption barriers. Many consumers remain unfamiliar with induction cooking technology. Respondents expressed concerns regarding cookware compatibility, power-sharing functionality, cooking performance, durability, and the ability to support larger cooking occasions. However, the findings indicate that many of these concerns are related to familiarity and user experience rather than outright opposition to the technology. Notably, the oven preheating sequence recommendation, initially viewed as a potentially significant barrier, had relatively limited impact on overall preference in the conjoint analysis.

The study further identified important market segmentation insights. Respondents younger than 65 years old demonstrated greater openness toward induction technology and stronger perceived fit with the product concept, while older respondents were generally less familiar with induction cooking and more attached to gas ranges. Lower- and middle-income households also emerged as important target markets because of the high value associated with avoiding electrical upgrades and reducing installation costs. Rental housing and multifamily units may represent particularly promising

applications, especially when paired with compatible cookware starter kits and tenant education materials.

The research suggests that early commercialization efforts should prioritize pilot deployments, demonstrations, and user feedback. Stakeholders emphasized the importance of testing power-sharing usability, simplicity, and resident satisfaction in actual residential settings. One manufacturer is already partnering with the New York State Energy Research and Development Authority to pilot an existing 120V induction range without battery in affordable housing units, which may provide valuable early operational and customer experience insights.

Successful market adoption will likely require coordinated efforts across manufacturers, program administrators, distributors, contractors, retailers, and property owners. Manufacturers should prioritize intuitive user experience, affordability, and clear installation guidance. Program administrators may play an important role through incentives, educational materials, pilot deployments, and market awareness efforts. Distributor and contractor training, along with showroom demonstrations and retailer engagement, will also likely be important for building consumer familiarity and confidence.

Abbreviations and Acronyms

Acronym	Meaning
A	Amps
ADU	Accessory dwelling unit
CalMTA	California Market Transformation Administration
CPUC	California Public Utilities Commission
IAQ	Indoor air quality
kWh	Kilowatt-hour
V	Volts
W	Watts

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Introduction

The purpose of this report is to provide a market assessment for introducing a 120-volt (V) induction range without battery into the Californian market. This report documents the market potential, barriers, and early adoption opportunities for a 120V induction range without battery designed to operate on a standard household outlet. A product like this is important for reducing barriers to full home electrification, both for households switching from gas to electric and for those seeking more power-efficient equipment.

The TRC team used a research approach that included both qualitative interviews and quantitative surveys to test the product concept and willingness to pay, as well as provide recommendations to support commercialization and market transformation in California while the California Market Transformation Administrator (CalMTA) study proceeds.

The report is organized into five sections:

1. **Background:** Provides technical, policy, and market context.
2. **Objectives:** Outlines the research questions and intended outcomes.
3. **Methodology and Approach:** Describes the research plan and sampling approach.
4. **Findings:** Summarizes secondary research, findings from interviews, learnings from a current prototype demo, and survey findings.
5. **Recommendations:** Provides recommendations to support product refinement, commercialization pathways, market adoption, and broader market transformation efforts in California, including opportunities for customer education, contractor engagement, utility collaboration, and future research on this topic.

Background

Current Range Market

Ranges are appliances that combine a cooktop and oven, which are common in California kitchens. They are usually available in three standard widths:¹

- 24-inch: A compact option for small apartments or tight kitchens.
- 30-inch: The most common size in single-family and multifamily homes.
- 36-inch: Larger, premium models for spacious kitchens.

Range cooktops run on fuel gas (natural gas or propane) or electricity, each with clear tradeoffs, as noted in [Table 1](#).

¹ 20-inch range is also used in small-unit households but is less common.

Table 1: Types of fuel for kitchen ranges currently on the market.

Fuel Type	Pros	Cons
Gas	Visible flame for control, may work during power outages, has been the consumer preference	Barrier to full home electrification, health concerns
Electricity	Lower greenhouse gas emissions, fewer indoor air pollutants	Majority of models require 240V

Four main cooktop technologies are available today, each with its own benefits and drawbacks, as noted in [Table 2](#).

Table 2: Types of cooktop technology currently on the market.

Technology Type	Pros	Cons
Natural gas/propane	Familiar cooking control and can be inexpensive	Hard to clean, indoor air pollution
Traditional electric coil	Durable and inexpensive	Slower response, less precise control, hard to clean
Traditional electric radiant (glass top)	Easy to clean	Slower response, less precise control, more expensive
Induction	Fast, precise control, cooler kitchen, easy to clean	Requires compatible cookware (cast iron, stainless steel), more expensive

All four technologies are available across the common 24-inch, 30-inch, and 36-inch range sizes; an example of each product type is shown in [Figure 1](#). The electric glass top and induction range may appear similar, but one way to distinguish between the two is that glass-top burners glow red beneath the surface when heated, whereas induction cooktops do not.

Natural Gas/Propane Cooktop Range



Electric Coil Range



Electric Glass Top Range



240V Induction Range



Figure 1: The four available cooktop technologies.

Source: [Frigidaire Ranges and Stoves](#).

Induction Range

Induction ranges use electromagnetic induction in the cooktop to heat cookware. In these stovetops, a magnetic coil is switched on/off/on in a repeating pattern to induce an alternating magnetic field. Because this field will cause metals that are magnetic to heat up, the cookware must be magnetic (i.e., have iron or steel in it). When in operation, the pot will heat up directly without the stove or any elements in the stove heating up. Induction cooking saves energy because of the direct and efficient heat transfer from the pot to the food without the need for conduction from a stove burner element to the pot. Induction stovetops also have accurate, consistent temperature control.

Compared to gas or electric-resistance cooking, induction technology offers faster response times, high efficiency (~85 percent of energy delivered to food) (Lewis 2023), improved safety, and less indoor air pollution. Relative to both gas and electric resistance, this technology provides superior temperature control, safer cool-to-the-touch cooking surfaces, and other advanced features, such as setting exact times and temperatures on each burner (ADROIT Market Research 2025).

Traditional induction ranges are connected via 240V circuits and require a dedicated high-amperage circuit connection to the range location. In renovation situations, installing a 240V electric stove will require the installation of a dedicated 240V circuit. It may also require upgrades to the main electrical panel, especially if combined with other home electrification upgrades. These pose both a cost and installation barrier to customers, particularly in older homes and multifamily units.

In addition to traditional 240V induction ranges, two newer 120V variants have emerged: 120V induction ranges with an integrated battery and 120V induction ranges without battery.

[Table 3](#) shows how the different induction ranges compare.

Table 3: Types of induction cooking range currently in the market.

Induction Range Type	Pros	Cons
240V	Widely available, 36-inch option available	Requires 240V wiring, possible panel upgrade
120V with battery	Standard plug: provides power during outages	Added battery cost and battery life maintenance
120V without battery	Standard plug, lighter without battery, lower price than the battery version	Some performance tradeoffs

The technology under investigation is a 24- to 30-inch, 120V induction range without battery. The outlet specifications are still being considered; 20 amps (A) may provide better performance, but may require slightly more installation effort than a 15A outlet. It also appears that the two current 120V with battery induction range products use a 15A outlet. As opposed to 240V, installing a 120V electric induction range decreases the likelihood of needing to upgrade the electrical panel to compensate for more electrified systems—and is widely available in the California residential market

(Elmore 2025). Most gas ranges are already connected to a standard 120V/15A outlet to power the clock and ignition system. While a 120V/20A induction range may require some electrical work, as it could not use the existing 15A circuit, the upgrades needed may be significantly simpler and less costly than installing a new 240V circuit. This also underscores the value of developing 120V/15A products that could leverage existing infrastructure with little to no electrical modifications.

Pathways to Market Adoption

120V induction ranges without battery present a clear opportunity for electrification efforts without necessarily engaging in costly electrical infrastructure changes, especially within smaller dwellings, including accessory dwelling units (ADUs), multifamily dwellings, and rental dwellings. Before examining the adoption routes, it is important to recognize that market adoption will likely involve a combination of two pathways: a top-down route driven by institutions and a bottom-up route driven by consumers. They reach different segments of the market, respond to different motivators, and may reinforce one another over time. Institutional pathways can drive early deployment at scale, while consumer adoption can accelerate longer-term market acceptance. These pathways should therefore be seen as complementary routes guiding how technology may gain traction in California.

1) Top-Down Route: Through Institutions or Programs

Within the top-down route, a 120V induction range without battery is governed by program administrators, housing agencies, government-funded retrofit projects, or multifamily property owners. These stakeholders make a portfolio-level decision to install 120V ranges within the scope of overall electrification projects in subsidized housing and/or market-rate multifamily housing.

Examples of this pathway include the following:

- Electrification retrofits in affordable housing, managed by community-based organizations, utilities, and housing agencies.
- Municipal or state government decarbonization projects, including weatherization projects serving low-income multifamily residences.
- Models similar to Southern California Edison's Building Electrification Program, which involves energy efficient appliance procurement and deployment by program managers.

This pathway can take advantage of economies of scale and unified governance, facilitating rapid deployment with joint procurement. However, this option depends on government support and administrator collaboration within a decarbonization strategy.

2) Bottom-Up Route: Consumer Market Adoption

Alternatively, technology can be introduced to the consumer market, with consumers purchasing 120V induction ranges without battery. The hypothesized targets of these products would be low- to middle-income homeowners and consumers residing in older homes or smaller living spaces, such as apartments. In addition to landlords, who are frequently the decision-makers, the renter perspective is also important and included in this research, as their preferences can strongly influence landlord decisions and ultimately shape which appliances are offered in rental units. This market is contingent on end user awareness and cost.

This pathway's uptake could be aided by:

- Utilities/state incentives (e.g., Energy Smart Homes)
- Retail and distributor engagement
- End users' education and outreach

Technology Transfer by Market Actor Roles

Key market actors include consumers, builders, property owners/managers, manufacturers, distributors, and program administrators.

Regardless of technological performance, a product cannot achieve broad market success unless consumers choose to adopt it. As a result, understanding consumer perceptions, preferences, and decision-making factors is a critical component of technology transfer research. While manufacturers, distributors, and program administrators influence market availability and awareness, widespread adoption occurs only when consumers perceive sufficient value to incorporate the technology into their daily lives.

Builders and property managers act based on their perception of consumer preferences for costs, appliance types, fuel types, and building codes and standards. If both product availability and market share of induction grows, regulatory agencies like the California Public Utilities Commission (CPUC) can more easily encourage a transition away from the sale of gas cooking appliances and toward induction ranges. If California codes continue to move towards residential electrification while consumers and builders simultaneously increase the value they place on induction cooking, the majority of new construction and replacements could use induction cooktops and ranges.

Manufacturers pay attention to demand signals from consumers and may be motivated to develop induction ranges that can be installed in 120V electrical circuits if they see a notable increase in demand for this technology. Distributors will then stock these models if manufacturers are producing them and property owners are requesting them.

[Table 4](#) lists market actors and their roles in the 120V induction range without battery market, based on the research team's experience with market actors' likely considerations for technology adoption.

Table 4: Market actors and roles in the 120V induction range without battery market.

Market Actors	Role in the Market	Decision Drivers
Consumers	Adopt cooking technologies based on cost, performance, and health impact	Awareness of induction benefits, cost, incentives, and accessible product options
Builders	Choose appliances for new construction and remodels	Feedback from buyers, perceived demand, and affordable models
Property owners/managers	Select appliances for rental units	Durability, cost, tenant preferences, opportunity for incentives to offset cost

Market Actors	Role in the Market	Decision Drivers
Manufacturers	Develop and produce induction products	Demand signals, program partnerships, incentives to develop 120V without battery models
Distributors and retailers	Stock and promote available products	Manufacturer supply, sales trends, space for new models, clear demand signals
Program administrators (e.g., utilities, state programs)	Influence market through incentives, procurement, and education	Key actors to accelerate demand, reduce barriers, and support 120V product development

Objectives

The overall objectives of this market study are to understand the viability, adoption potential, and market needs associated with a 120V induction range without battery in California. The specific study objectives that this research aims to address are as follows:

- What is the present level of awareness and acceptance regarding induction ranges among key stakeholders/market actors?
- What are the main technical, regulatory, behavioral, and economic barriers and drivers to adoption of a 120V induction range without battery?
- Which market segments and use cases represent the strongest early adoption opportunities for 120V induction ranges without battery?
- What product features, price points, and support resources are most critical for market adoption of 120V induction range without battery?

The study characterizes the California market landscape for 120V induction cooking, identifies key customer needs and technical requirements stemming from user preferences, quantifies opportunities for early-market adoption, and provides actionable recommendations on program design, incentives, and manufacturing.

Methodology and Approach

This market study used a mixed-methods approach—combining secondary research, observational research, qualitative interviews, and a quantitative survey—to identify an opportunity space for the 120V induction range without battery in California.

For the secondary research, the TRC team pursued information from a broad array of sources, including existing appliance specification documents, product reviews, sales listings, research reports, previous market research, and government reports. This allowed the project team to

ascertain trends related to cooking technologies, costs, performance, and California-driven electrification objectives.

For the observational research, TRC staff attended an appliance manufacturer’s November 2025 public demonstration for an in-person look at emerging options for 120V induction ranges without battery. At this event, staff observed the company’s messaging, induction range prototypes, and attendees’ reactions.

Market Actor Interviews

The qualitative interviews explored the “top-down” institutional pathway for adoption of a 120V induction range without battery. TRC conducted a series of interviews with key players in the market who participate in program design, execution, and the construction of multifamily buildings or ADUs. Through this pathway, TRC aimed to understand institutional decision-making and related factors influencing program use. The discussion guide is included in [Appendix A](#).

TRC completed 13 targeted interviews. By the final interviews, themes related to adoption drivers, barriers, perceived product value, and priority use cases began to show strong consistency across respondents, indicating sufficient saturation for identifying key market insights and early market opportunities. [Table 5](#) shows details from completed interviews for each segment.

TRC conducted interviews through Microsoft Teams and auto-generated the transcript through the platform. For qualitative data analysis, TRC used a qualitative coding platform called Dedoose to examine drivers and barriers to adoption of a 120V induction range without battery, and to identify segments and housing types that represent the strongest use cases, as reported by interviewed stakeholders

The coding framework allowed for emergent themes to be incorporated as they arose. Analysis was iterative and evolved as we completed the interviews.

Table 5: Targeted market actors and completed interviews.

Segments	Completed Interviews
Range manufacturer/distributor/retailers	2
Program administrator	4
Low-income multifamily builders/facility management	3
Market rate multifamily builders/facility management	2
Owners of small-space living settings (i.e., ADUs, senior living communities)	2

Segments	Completed Interviews
Total	13

Consumers Survey

The quantitative surveys focused on the “bottom-up” consumer pathway for range adoption. TRC conducted a survey of 300 California residents (owners and renters) regarding awareness of induction range technology, interest, and willingness to pay for a 120V induction range without battery. In addition, the survey explored the end users’ openness to switching from gas to induction. To read the survey guide, please see [Appendix B](#).

The research team received a mix of homeowners and renters who self-identified as the primary cooks in their households, and limited respondents to only to households with gas ranges, as these represented possible electrification opportunities. The survey was approximately 15 minutes in length and included mostly closed-ended questions, with up to three open-ended questions.

The research team used a survey panel company to distribute an online screener to the portion of their panel that resides in California. These companies maintain a panel of respondents across the country, including California, who agree to fill out surveys, typically in exchange for points that can be later redeemed for a variety of gift cards. Respondents were required to:

- Reside in California
- Be at least 18 years of age
- Cook at home at least once per week
- Currently have a gas range in their home

The research team collected feedback from low-, moderate- and high-income households, with a focus on moderate to lower income groups, to both reflect the broader population distribution and capture perspectives from households most likely to benefit from a lower-cost, simpler electrification solution. The team established income categories using the median household income for California as a baseline and further adjusted based on household size to better reflect differences in household composition and financial needs. This approach ensured that the survey captured perspectives from households across a range of income levels and living situations and provided a more accurate approach by evaluating income in the context of household size, rather than relying on household income alone. The research team determined California’s median household income of \$118,000 based on 2025 data published by US Department of Housing and Urban Development (2025). [Table 6](#) shows the definition for each income category by income level and household size.

Table 6: Income category definitions by household size.

Income Levels	1 Person	2 People	3 People	4 People	5 or More People
Less than \$50,000	Low	Low	Low	Low	Low
\$50,001 – \$100,000	Low	Low	Low	Low	Low
\$100,001 – \$150,000	Middle	Middle	Middle	Middle	Low
\$150,001 – \$200,000	High	Middle	Middle	Middle	Middle
\$200,001 – \$250,000	High	High	High	High	Middle
\$250,001 – \$300,000	High	High	High	High	High
\$300,000 or more	High	High	High	High	High

The TRC team set quotas for each of the income categories shown in [Table 6](#). Our sample consisted of 60 percent (n=180) low-income households, 30 percent middle-income households (n=90), and 10 percent high-income households (n=30). The sample demonstrated strong representation across low-income groups, as the technology is intended to target households with lower incomes. Table 7 summarizes the proportion of survey respondents by each previously defined income category.

Table 7: Proportion of survey respondents by income categories.

Categories	Number of Respondents	Percentage
Low-Income ¹	180	60%
Middle-Income ²	90	30%
High-Income ³	30	10%

Categories	Number of Respondents	Percentage
Total	300	100%

¹Low-income is defined as households with one to four members earning \$100,000 or less annually, as well as five-member households earning \$150,000 or less annually.

³High-income is defined as single-member households earning more than \$150,000 annually, households with two to four members earning more than \$200,000 annually, and five-member households earning more than \$250,000 annually.

These research approaches provided insight into both the institutional and consumer acceptance pathways for 120V induction range cooking without battery.

Findings

This research revealed a favorable market environment for a 120V induction range without battery, driven by decarbonization policies, existing building electrification challenges, and new construction focused on small-space residential housing. Interview and survey respondents generally expressed strong interest in the product concept and recognized its potential benefits. However, many also expressed hesitation about fully adopting the technology without first seeing and testing a working product. Potential end-user behavioral changes, limited product familiarity, and broader awareness gaps related to induction cooking continue to present barriers to market uptake.

Policy, Health, and Housing Drivers for 120V Induction Range without Battery

California's policy environment and housing situation create a strong market opportunity for this technology. Assembly Bill 1279 requires an 85 percent reduction in greenhouse gas emissions from their 1990 levels by the year 2045 (AB 1279, 2022). Additionally, induction cooking is a particularly energy-efficient electric technology, with the US Department of Energy estimating that induction is up to three times more efficient than gas cooking and up to 10 percent more efficient than conventional smooth-top electric cooking (U.S. Department of Energy, 2023).

Health and safety considerations further support the transition away from gas cooking. Gas ranges produce combustion by-products, such as nitrogen oxides and carbon dioxide, and exposure to nitrogen oxides has been associated with chronic lung disease and childhood asthma (Lewis 2023). In contrast, induction cooking technology eliminates combustion by-products entirely because the heat is produced through magnetic induction, not flame or resistive heating. It also keeps the cooktop surface much cooler, which can significantly reduce accidental burns and reduce fire risk relative to gas or electric coil stoves.

In addition to policy and health drivers, rapid growth in small-space housing creates a particularly strong opportunity for 120V induction technology. Applications for ADU permits grew by 50 percent between 2021 and 2022, and ADUs represented 19 percent of all new homes in California in 2022 (California YIMBY, 2024). New legislation - including SB 1211, AB 2533, and SB 1077 - is expected to continue accelerating ADU development throughout the state.

Housing types such as ADUs, older multifamily buildings, extended-stay lodging, and smaller rental units often face limitations related to electrical capacity. In these situations, installing a traditional 240V electric range may require significant electrical upgrades that increase project cost and complexity. Growth trends within the ADU market further reinforce this opportunity. Interviewed stakeholders involved in small-space housing specifically identified ADUs and compact rental units as promising use cases for the technology because of the importance of both electrical simplicity and compact appliance sizing in these environments.

Existing Induction Range Products and Market Gaps

Although induction technology is relatively mature, there is an underdeveloped market opportunity for a low-power-draw induction range that accommodates the limitations of older residential structures in California.

The most common width for induction ranges in California is 30 inches, with a typical 9,600-watt (W) design rating, equivalent to a 40A circuit rating on a 240V circuit setup (Coast Appliances 2022). This 240V induction range may require running a new electric circuit to the kitchen and an increase in electrical panel capacity, making it an expensive option for most households. The cost for a standard 240V 30-inch electric range is between \$600 and \$3,000, according to a big box store website. A 30-inch 120V induction range with a battery may cost twice that amount, with the cheapest starting at almost \$4,000.

Some current induction range options are shown below in [Table 8: E](#), which is intended to illustrate the gap in the market for a 120V induction range without battery. These selected models include the 120V option with battery from Channing Copper, as well as available smaller (24-inch) induction ranges.

Table 8: Examples of induction range technologies on the market.

Product	Image	Specifications
24-inch smart single wall oven with true convection, fingerprint-resistant stainless steel		Voltage: 240V Electrical requirement: 40A Cooking zone power: 2,000W, 2,000W, 2,000W
24-inch range with induction cooktop, stainless steel		Voltage: 240V Electrical requirement: 40A Cooking zone power: 3,700W, 2,200W, 3,700W.
30-inch battery-equipped induction range		Voltage: 120V Electrical requirement: 15A Energy storage: 5 kWh Cooking zone power: 2,800W, 2,800W, 2,800W)

Source: (Kitchen Aid 2025) | (Copper Channing 2025) | (IKEA 2025)

One manufacturer is currently developing new 120V induction ranges without a battery. They presented several prototypes in November 2025, including 20-inch, 24-inch, and 30-inch designs. Approximately 70 participants attended either virtually or in person, representing utilities, affordable housing developers, city agencies, retrofit program administrators, and nonprofit organizations. The event reflected substantial early market interest in lower-cost electrification solutions capable of avoiding panel upgrades.

The manufacturer emphasized that current performance data remains preliminary and based primarily on internal testing rather than formal laboratory validation. The current prototype operates on a 20A circuit, though future development aims to support operation on standard 15A outlets commonly used with existing gas ranges. The manufacturer also acknowledged the importance of consumer education and plans to develop guidance materials explaining power-sharing functionality and recommended operating practices.

Several technical design decisions remain in progress, including burner sizing and compatibility with different pan diameters. The oven portion of the range includes particularly robust insulation to help quickly reach the set temperature despite the lower wattage available to 120V appliances.

At this time, the product is available for institutional purchase. Initial distribution is focused on building-level procurement rather than retail, reflecting both early interest from multifamily developers and the need to refine the supply chain before offering the product to individual consumers. Early demand signals are emerging; a retirement community in Seattle has reportedly pre-ordered 120 units of the 24-inch model.

CalMTA is also working with manufacturers to accelerate the development of 120V induction ranges that are essential for broader residential electrification. In fact, CalMTA recently had a market transformation initiative approved for 120V induction ranges, both with and without battery, to expand product availability and support adoption in homes that lack available electrical capacity and/or an existing 240V outlet in the range location (CPUC 2025).

Top-Down Route Feedback: Institutional Stakeholder Reactions to the 120V Induction Range Without Battery Concept

The top-down feedback pathway included interviews with stakeholders such as program administrators, housing agencies, government-funded retrofit projects, and market-rate property owners. Stakeholders' reactions to a 120V induction range without battery were generally positive. Of the 13 interviewees, 12 expressed interest in the concept, particularly for small households and electrically constrained retrofit situations where avoiding panel upgrades could significantly reduce installation cost and complexity. Stakeholders viewed the product as a promising, targeted solution aligned with California's broader electrification and decarbonization goals.

Across stakeholder groups, rental housing emerged as the most likely near-term application for the technology. Of the 13 interviewees, 12 independently identified older multifamily housing, ADUs, or smaller rental units as strong candidates. Stakeholders consistently identified the ability to plug into a standard 120V outlet as one of the concept's strongest advantages, particularly in retrofit situations where installing a traditional 240V electric range may require costly electrical upgrades.

Stakeholders also provided feedback regarding appliance sizing. One of the initial research questions was whether consumers would view a 24-inch induction range as an acceptable option, given the prevalence of 30-inch ranges in many residential kitchens. However, both secondary research and stakeholder interviews suggested strong potential demand for compact induction ranges in space-constrained environments. Affordable multifamily stakeholders, independent rental owners, and market-rate multifamily representatives all identified the 24-inch format as particularly attractive for smaller apartments and ADUs where installing a larger appliance could require expensive kitchen modifications. Rapid growth in ADUs and other small-space housing developments further strengthens this market opportunity.

Overall, stakeholders viewed the product as best suited for practical retrofit applications rather than premium kitchen upgrades. One participant described the appliance as “a utilitarian device,” reflecting its strongest alignment with cost-conscious and space-constrained housing environments.

The technology concept tested in the interviews showed several design strategies intended to operate within standard 120V electrical limitations. One of them is a “power sharing” mechanism, a feature that is not present in most electric ranges. Available electrical power is dynamically distributed between burners and the oven depending on cooking demand, which is determined by the number of burners used simultaneously. In addition, if the users need to use both cooktop and oven, it recommends fully preheating the oven before activating cooktop burners, potentially requiring users to modify familiar cooking routines. The most common concern involved the appliance’s “power sharing” design and the recommended sequence of preheating the oven before using the cooktop. Despite strong overall interest in the concept, stakeholders also raised several concerns related to cooking performance, usability, and broader market adoption barriers.

Ten interviewees, representing all stakeholder categories, viewed the additional operating instructions as less than ideal. One affordable multifamily stakeholder remarked, “We’re asking for trouble whenever we introduce instructions to an appliance that previously didn’t need instructions.”

Another landlord said, “The more stuff you have to do like [explaining the “bake and cook” mode], the more stressful it is as an owner...you want to minimize how much you have to go over [with the tenant].”

However, stakeholders did not view these limitations as dealbreakers, but did identify them as potential sources of tenant confusion and increased management burden. All three of the affordable multifamily stakeholders—one market-rate multifamily stakeholder, and one small-space living landlord—expressed concern that the additional operational steps could lead to more tenant complaints or maintenance issues. Several interviewees also questioned whether the appliance would adequately support large meals or gatherings, despite the manufacturer emphasizing that the oven can fit a 20-pound turkey. However, user reactions may differ when interacting with the product directly rather than learning about it through description alone.

One participant, representing a manufacturer with existing 120V induction with battery technology offerings, expressed stronger reservations about the concept, arguing that induction cooking products should support broader cooking needs, including larger households and more demanding cooking situations, to build long-term consumer confidence in induction technology.

Beyond technical performance concerns, stakeholders identified several broader barriers to adoption. One major challenge is the longstanding dominance of gas cooking in California, with over 70 percent market share (Buchholz 2023). People often choose cooking technologies based on what cooking style they learned (family tradition), how their food “should” taste, and how they prepare food (Gill-Wiehl, Price and Kammen 2021). Five interviewees across program administration, multifamily management, and individual landlords mentioned sentimental attachment to open-flame cooking; for example, one interviewee noted that open-flame cooking evokes a sense of comfort and a feeling of home. Several interviewees noted that cultural cooking traditions and familiarity with open-flame cooking may contribute to resistance toward induction technology, particularly among households that associate visible flame with cooking quality or authenticity. This barrier does apply to all types of electric and induction ranges and is not unique to the 120V induction range without battery category.

Furthermore, the perception of “traditional electric” ranges (often viewed as slow to heat food to temperature) tends to influence consumer expectations and negatively affect the reputation of electric cooking overall, including all forms of induction ranges. Nearly all (11 of 13) of the interviewees referenced some form of tenant hesitancy toward induction. This concern was most frequently framed as confusion between induction and glass top electric coil stoves. All three affordable multifamily management stakeholders reported that residents often associate electric cooking with slow response times and poor temperature control.

However, interviewees generally characterized this hesitancy as a familiarity gap rather than entrenched opposition. One market-rate multifamily building owner additionally voiced a concern that replacing a gas range with a lower-power induction range could be perceived by tenants as reduction in housing services if the new appliance is perceived to be less capable. Though the relevant California Civil Code (specifically 1941.1) only mentions having a stove in good working order that can safely function as intended for cooking purposes, the market-rate owner was concerned that local ordinances in places like San Francisco or Los Angeles may determine that a 120V induction range without battery is less capable than the previous traditional range, and could therefore lead to a situation where the owner is forced to reduce rent to compensate the tenant.

Cost also emerged as a major adoption barrier. All 13 interviewees identified appliance cost as a key consideration influencing adoption decisions. Stakeholders consistently noted that without rebates or financial incentives, replacing existing gas appliances would be difficult to justify economically, particularly within rental housing settings. Beyond the cost of the range itself, compatible cookware represents an additional upfront expense. Over half (8 of 13) of the interviewees raised cookware compatibility as a practical transition consideration: Two of the affordable multifamily stakeholders and three of the program administrators noted that requiring tenants to replace pots and pans may create friction, particularly in lower-income settings. Property managers and an individual landlord also noted that even if compatible cookware were provided by the manufacturer, cookware could still be damaged over time or lost during tenant turnover, creating an ongoing challenge.

Finally, another critical barrier is the high cost of electricity in California, which can impact consumer perceptions about the operating cost of electric cooking. California has some of the highest residential electricity rates in the nation. In 2024, average residential rates reached about 30 cents per kilowatt-hour (kWh)—nearly double the US average of approximately 15 cents per kWh (Energy Information Administration (EIA) 2025). Although induction cooking is highly efficient and can offset

some of these concerns, many consumers remain sensitive to electricity prices and are concerned that switching from gas to electricity could increase their utility bills. The US Department of Energy estimates that a typical electric range uses about 281.5 kWh per year, which equals roughly \$85 annually or about \$7 per month at current California electricity rates. These calculations highlight a clear need for consumer education to explain the true operating costs of electric and induction ranges.

Taken together, these findings suggest that the 120V induction range without battery is best positioned as a targeted retrofit electrification solution rather than a universal replacement for all cooking applications. The concept appears strongest in smaller households and electrically constrained housing environments where avoiding panel upgrades significantly reduces installation cost and complexity. [Table 9](#): summarizes the relative suitability of this technology across building types, based on the interviews. Successful commercialization will likely require targeted adoption support alongside the technology itself. Financial incentives and rebates were the most commonly identified support mechanism, while several interviewees additionally recommended tenant education, product demonstrations, trial opportunities, and cookware support to reduce hesitancy and improve familiarity with induction cooking.

Table 9: Interviewed stakeholders' suggested building types suitable for 120V induction range without battery technology.

Building Type	New Construction	Existing Buildings
Single family (small)	No	Yes
Single family (large)	No	No
Large unit multifamily	No	Yes
Small unit multifamily	Yes	Yes
Affordable multifamily	No	Yes
ADUs	Yes	Yes

Bottom-Up Route Feedback: Consumer Market Survey Results

Current Range Usage

The survey sample aligns well with the housing and household characteristics identified as promising applications for 120V induction range without battery. Approximately three-fourths of respondents live in households with one to three people ([Figure 2](#)), and most respondents reported living in older housing ([Figure 3](#)). While most respondents currently own standard-sized ranges (i.e., 30-inch range; [Figure 4](#)), the research team intentionally limited the share of households with large 36-inch ranges to only 20 percent of the survey sample, because the intended market for the technology is primarily

smaller-space housing environments. Among those with 24-inch ranges (n = 55), the vast majority of respondents reported having four burners (80 percent, n = 44).

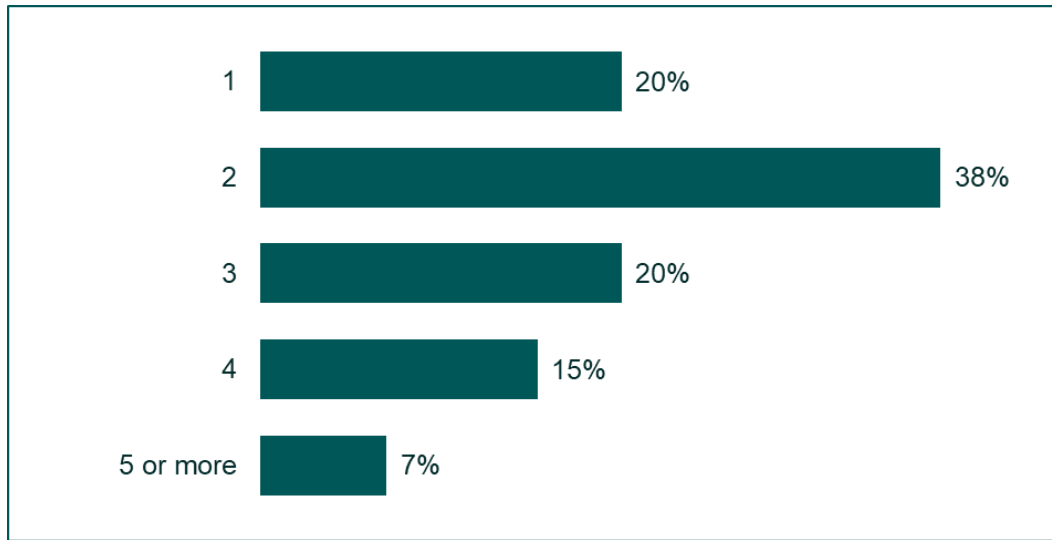


Figure 2: Distribution of respondents by household size (n=300).

A5: Including yourself, approximately how many people currently live in your home full-time, including both adults and children?

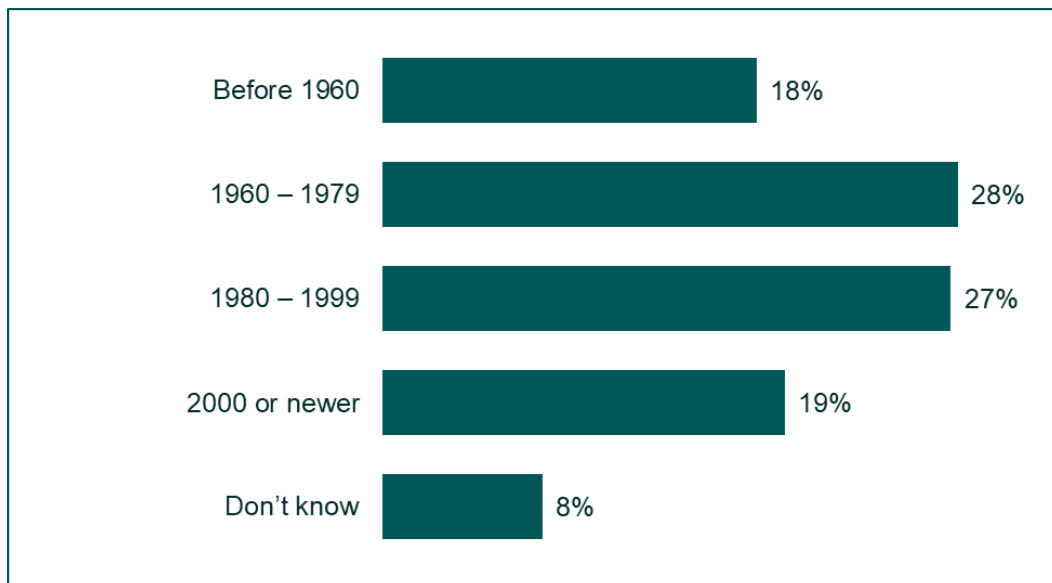


Figure 3: Distribution of respondents' homes by year built (n=300).

D3: Approximately what year was your home built?

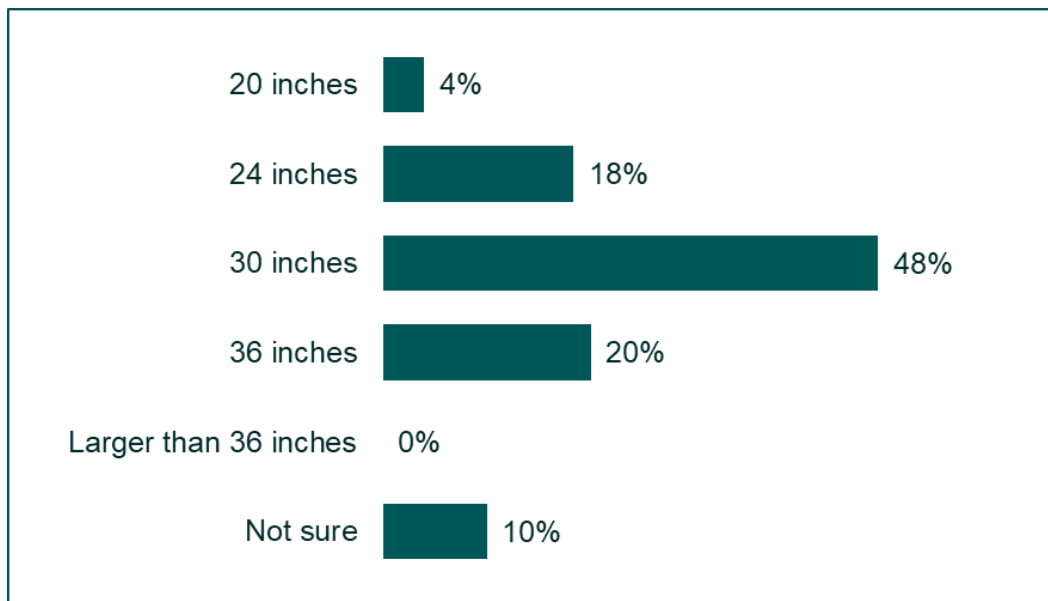


Figure 4: Distribution of respondents' cooking range sizes (n=300).

A10: How wide is your current range (measured left-to-right)?

Note: The research team intentionally limited respondents with 36-inch ranges to 20 percent of the survey sample and excluded respondents with larger than 36-inch ranges, as the technology is primarily intended for smaller-space housing environments.

Cooking behavior findings further support the feasibility of the 120V induction range without battery as a practical electrification solution. Most respondents reported cooking frequently, but the majority primarily use only one (94 percent, n = 283) or two (94 percent, n = 281) burners during normal cooking activities ([Figure 5](#)). Only about one-third of respondents reported using four burners simultaneously during cooking activities. Across all respondents, the average proportion of cooking time spent using four burners at the same time was 5.7 percent while the median was 0 percent, which suggests that this behavior is uncommon for most respondents, with the average driven by a smaller subset of more frequent users.

Most respondents (76 percent, n = 228) indicated that they use the oven and stovetop simultaneously at least some of the time ([Figure 6](#)). However, because simultaneous use of three or more burners was relatively uncommon and represented a smaller share of overall cooking activity, these findings suggest that the power-sharing feature associated with the 120V induction range without battery may be acceptable for many everyday cooking situations, particularly in smaller households.

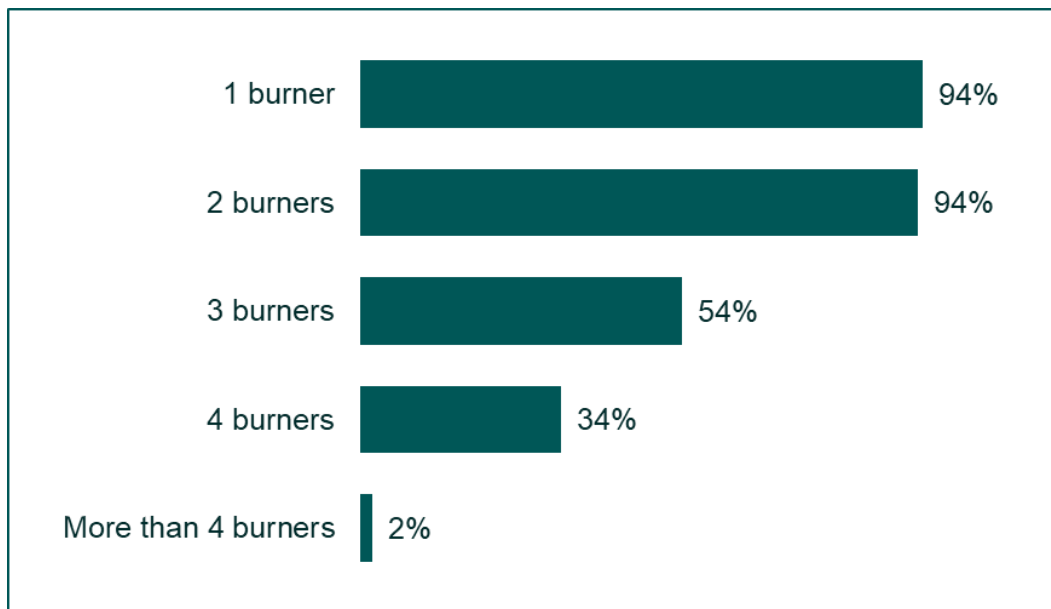


Figure 5: Percentage of respondents using different numbers of burners simultaneously (n=300).

B3. What percentage of time do you use only one burner vs. different numbers of multiple burners at the same time?

Note: Values in the graph reflect the proportion of respondents reporting a non-zero response within each category.

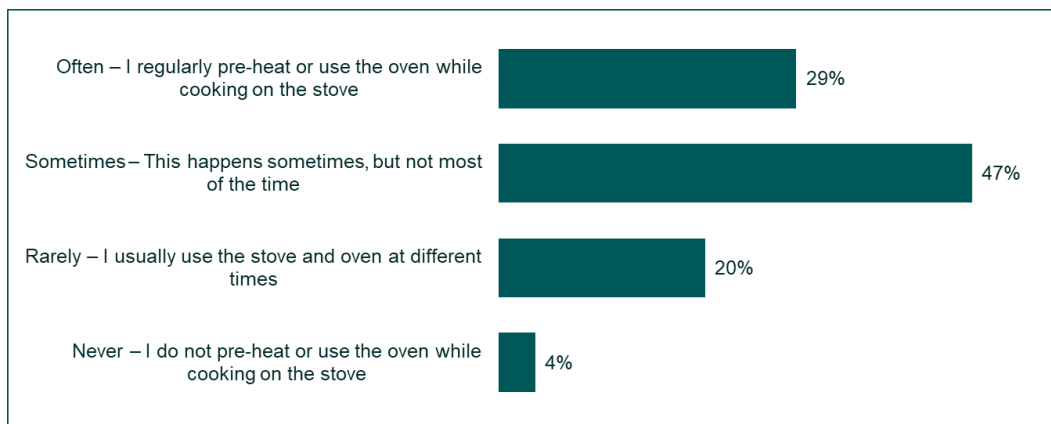


Figure 6: Respondents' use of oven and stove simultaneously (n=300).

B4. When cooking on the stove, how often are you also pre-heating or actively using the oven at the same time (for example, pre-heating the oven while bringing something to a boil on the stove)?

Overall, these findings indicate that the product may be a good fit for many households whose typical cooking patterns do not require frequent use of all burners or simultaneous oven and cooktop operation.

Consumers Show Interest, but Performance and Reliability Concerns Remain

Overall consumer reaction to the 120V induction range without battery was positive. Approximately two-fifths of respondents found the product very or extremely appealing, while a little more than one-quarter viewed the concept as moderately appealing ([Error! Reference source not found.](#)). Similarly, more than two-fifths of respondents believed the technology would be suitable for their home or living situation, while many others expressed uncertainty rather than outright rejection ([Figure 8](#)).

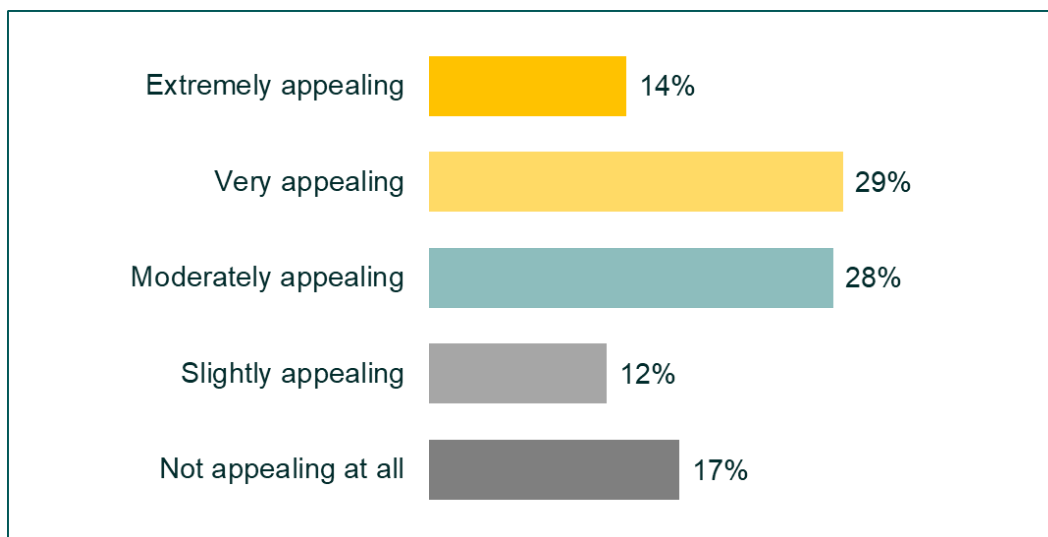


Figure 7: Respondents' perception of the 120V induction range without battery compared to their current gas range (n=300).

C4. After reading the description of the 120V plug-in induction range technology, how appealing is this product compared to your current kitchen range?

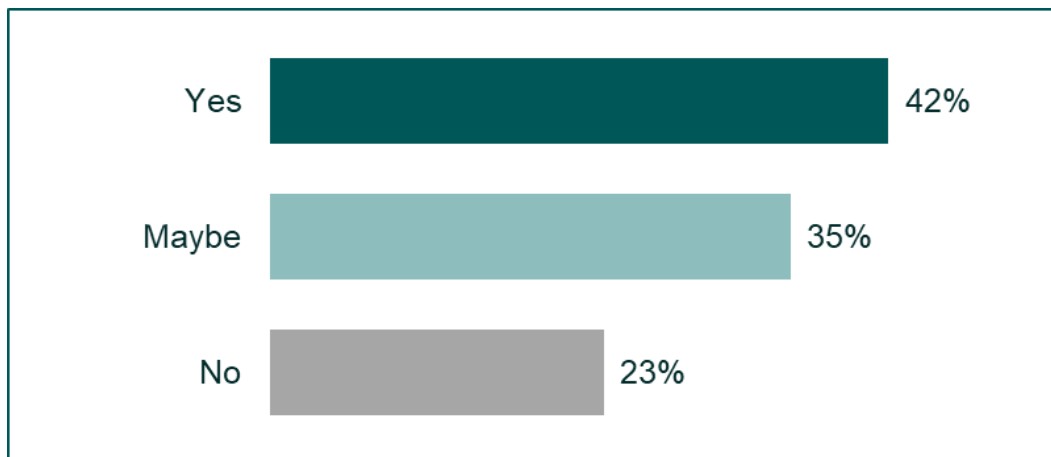


Figure 8: Respondents' assessment of the suitability of the 120V induction range without battery within their homes (n=300).

C5. Do you think this product would be suitable for your home or living situation?

Respondents valued the convenience and ease of use, as well as the health and safety features that an induction range provides. [Figure 9](#) provides a summary of respondents' top-rated features for the technology. The most appealing features to consumers were the easy installation due to the 120V outlet plug-in feature (52 percent, n=155), the easy-to-clean smooth glass surface (52 percent, n=155), and the safety features it offers (49 percent, n=148). Some also mentioned the environmentally friendly aspect (43 percent, n=130), as well as the improved indoor air quality (IAQ) (39 percent, n=117). Among the features respondents valued most, the plug-in feature and easy-to-clean surface stand out. In contrast, cooking performance was not highly ranked, suggesting that the primary driver of interest is the easy installation due to the plug-in feature. This insight may also be useful for informing future marketing efforts.

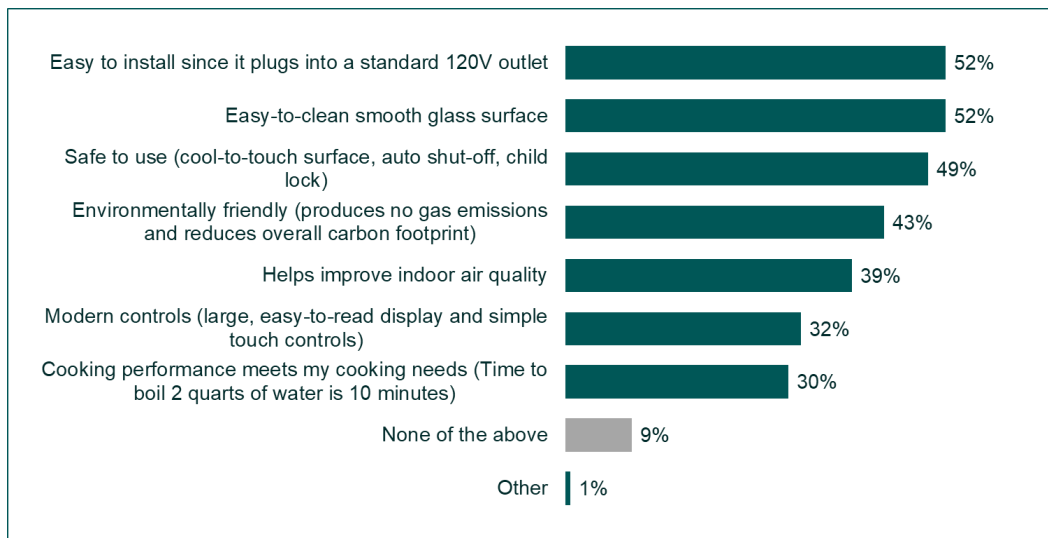


Figure 9: Respondents' top-rated features of the 120V induction range without battery (n=300).

C6. Which features of the 120V Plug-in Induction Range, if any, are most appealing to you? Please select all that apply.

Despite the appeal of some features, respondents also expressed several important concerns related to performance, reliability, and usability. The biggest concerns for respondents about the 120V induction range without battery were overloading the circuit breaker (41 percent, n=123) and risk of damaging the glass top (38 percent, n=113). Other commonly mentioned worries were having to get new compatible cookware (32 percent, n=96) and the durability of the product (32 percent, n=95). Some also expressed concerns related to the performance of the range, like the power sharing feature, time it takes to boil water, as well as the range's ability to cook large meals on special occasions, such as a Thanksgiving meal. Very few (1 percent) also brought up the cost of electricity in California through the "other" option. [Figure 10](#) provides further detail on respondents' concerns related to the technology.

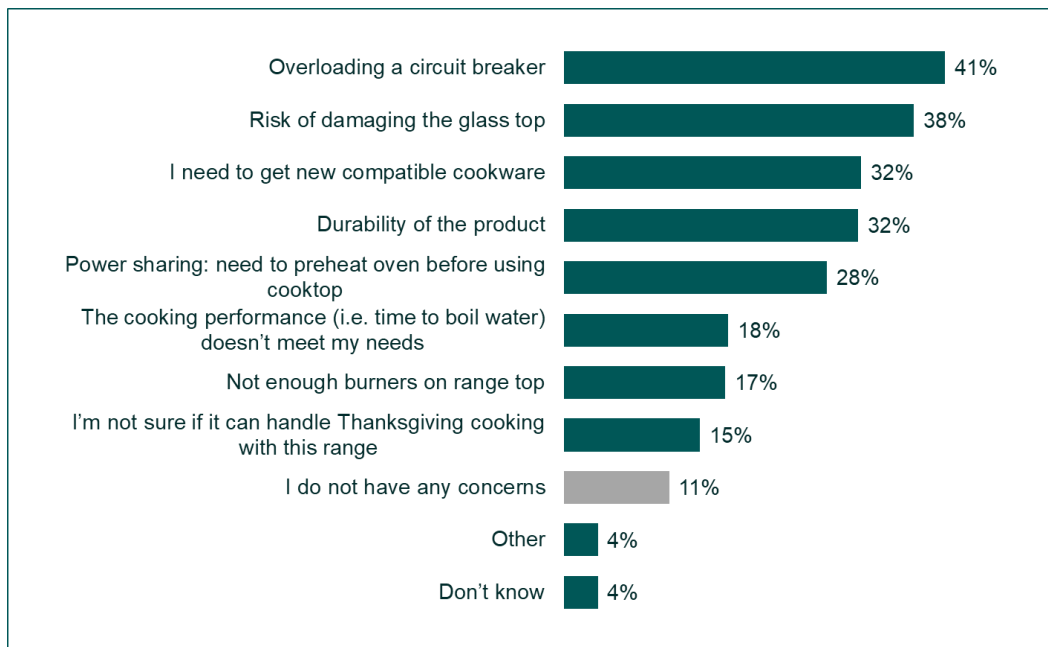


Figure 10: Respondents' concerns on the 120V induction range without battery (n=300).

C7. What concerns, if any, do you have about using a 120V plug-in induction range compared to a gas range? Please select all that apply.

Note: "Other" responses mostly included concerns about their electricity bill (n=5). A chi-square test of independence with Yates' continuity correction showed a significant association between high- and low-income respondents, and selecting "power sharing" as a concern, $\chi^2(1) = 4.95$, $p < 0.05$.

Given manufacturers' interest in senior living facilities as an early adoption market, the research team analyzed the responses specific to the 65 or older age group, shown in [Figure 11](#). Concerns among the 65 or older group were primarily related to compatibility, electrical capacity, and product durability. The most frequently cited concerns included the need for compatible cookware (46 percent, n=37), the possibility of overloading a circuit breaker (46 percent, n=37), power-sharing limitations (36 percent, n= 29), and the risk of damaging the cooktop (36 percent, n= 29). Clear consumer education, product demonstrations, and incentives such as bundled compatible cookware may help alleviate these worries and support adoption.

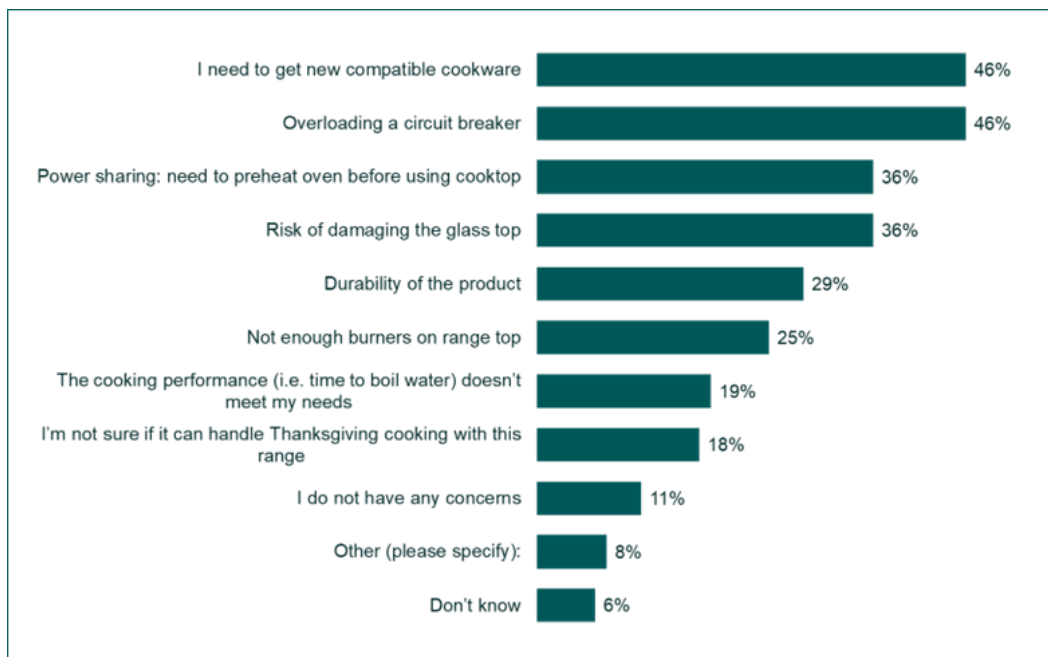


Figure 11: Respondents' (65 or older) concerns about the 120V induction range without battery (n=80).

C7. What concerns, if any, do you have about using a 120V Plug-in Induction Range compared to a gas range? Please select all that apply.

The research team also broke down the responses by income groups and found that high-income respondents were more likely to express concern about the product's power-sharing feature (47 percent, n = 14 out of 30) compared to lower-income respondents (25 percent, n = 45 out of 180), and the results are statistically significant at the 95 percent confidence level. This may reflect a stronger emphasis on performance and convenience among higher-income groups, who may have greater expectations for product capabilities.

Despite these hesitations, the findings suggest that many consumers may be willing to accept moderate performance tradeoffs if the product delivers meaningful installation and affordability advantages. For example, while respondents expressed concern regarding power sharing, actual cooking behavior suggests that simultaneous high-load cooking occurs relatively infrequently for many households.

The findings also suggest that consumer concerns are often tied to unfamiliarity rather than outright opposition to the technology. Many respondents requested additional information regarding price, warranty coverage, maintenance, cookware compatibility, and energy savings. These findings indicate that increasing familiarity and reducing uncertainty may significantly improve adoption potential.

Providing Compatible Cookware Improves Induction Acceptance Among Renters

Early in the research, stakeholders suggested that providing compatible cookware could be a potential strategy to support induction range adoption in general; the TRC team explored this as one of the study's hypotheses. Survey results show that providing compatible cookware has a larger

impact on renter acceptance than on homeowner purchase likelihood (Figure 12). Homeowners may view cookware cost as relatively minor compared to the overall appliance investment, particularly since they are more likely to view an induction range as a long-term household upgrade. In contrast, renters may view cookware as a more personal expense and may be less willing to invest in compatible cookware for an appliance they do not own. As a result, including compatible cookware appears to reduce transition barriers more meaningfully within rental housing settings.

The findings further indicate that renters may be more open to the technology than homeowners, particularly when cookware compatibility barriers are addressed. Providing induction-compatible cookware modestly improved homeowner purchase likelihood and more substantially improved renter acceptance of landlord-installed units. Specifically, 12 percent of renters increased their interest with compatible cookware, compared to only 2 percent of the owners.

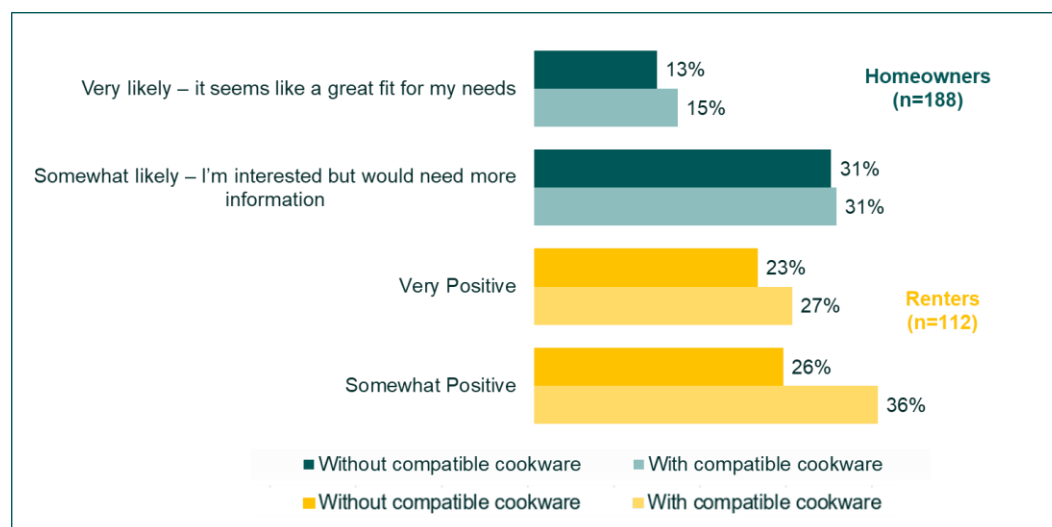


Figure 12: Proportion of homeowners likely to install and proportion of renters with a positive sentiment toward installing a 120V induction range without battery in their homes (n=300).

C8-C8a and C13-C13a combined: How likely are you to purchase a 120V plug-in induction range for your home when it's time to replace your current kitchen range?/How would you feel if your landlord installed a 120V plug-in induction range in your unit, without and with compatible cookware provided?

Awareness and Familiarity with Induction Technology Remains Limited

Survey findings indicate that awareness of induction cooking technology in general remains relatively limited within the market. Only about one-third of respondents reported being familiar with induction ranges, while nearly half had heard of the technology but did not know much about it (Figure 13). Older respondents were significantly less familiar with induction cooking and more likely to prefer gas ranges compared to younger respondents.²

² For statistical testing, the TRC team collapsed familiarity responses into two categories: "Yes, familiar" and "All other responses" (including "sort of familiar" and "not familiar"). Respondents were grouped into age groups of 18 to 44 and 45 or older.

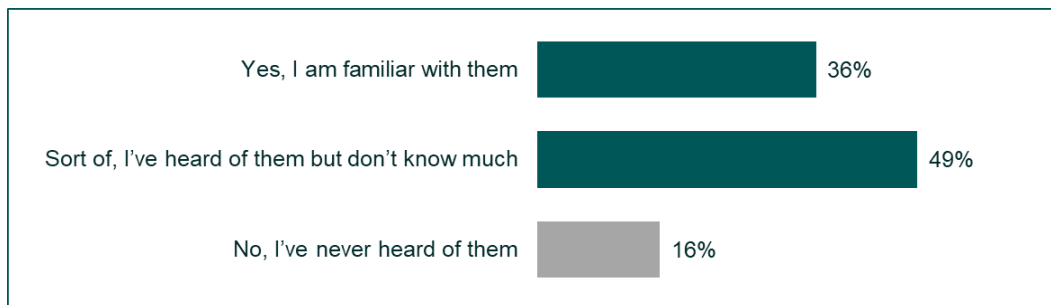


Figure 13: Respondents' familiarity with induction ranges (n=300).

C1. Are you familiar with induction ranges?

Note: A chi-square test of independence with Yates' continuity correction indicated a statistically significant association between age group and product familiarity, $\chi^2(1) = 8.69$, $p < 0.01$.

Among respondents familiar with induction cooking, perceptions were generally mixed but leaned moderately positive overall. Respondents who viewed induction favorably most often cited safety, IAQ, reduced heat, and ease of cleaning as key benefits. Respondents who preferred gas ranges typically cited familiarity, reliability during power outages, cookware flexibility, and perceived durability.

These findings suggest that education, demonstrations, and familiarity-building efforts will likely play an important role in broader market adoption. These barriers to induction cooking must be addressed alongside the previously discussed barriers unique to the 120V induction range without battery. Many concerns raised by respondents appear to stem from uncertainty regarding how induction technology functions in real-world cooking situations.

Respondents Under 65 Years Old Are More Likely to Be Early Adopters

To identify whether there were certain demographics that were more interested in the 120V induction range without battery, the research team broke out the responses by age groups. For statistical testing, responses to the question regarding whether the product would be suitable for respondents' living situations were collapsed into two categories: "Yes" and "All other responses" (including "maybe" and "no"), and respondents were grouped into age groups of 18 to 64 and 65 or older.

Younger respondents appear to show higher interest in the product, suggesting stronger openness to adoption within this demographic. Respondents younger than age 65 were significantly more likely to say yes when asked whether the product would be suitable for their living situation compared to those who were 65 or older. The results are statistically significant at the 95 percent confidence level. This uneven distribution in sample age may indicate that the product could resonate more with younger users, who tend to be more willing to engage with new technologies and are typically more receptive to innovative features ([Figure 14](#)).

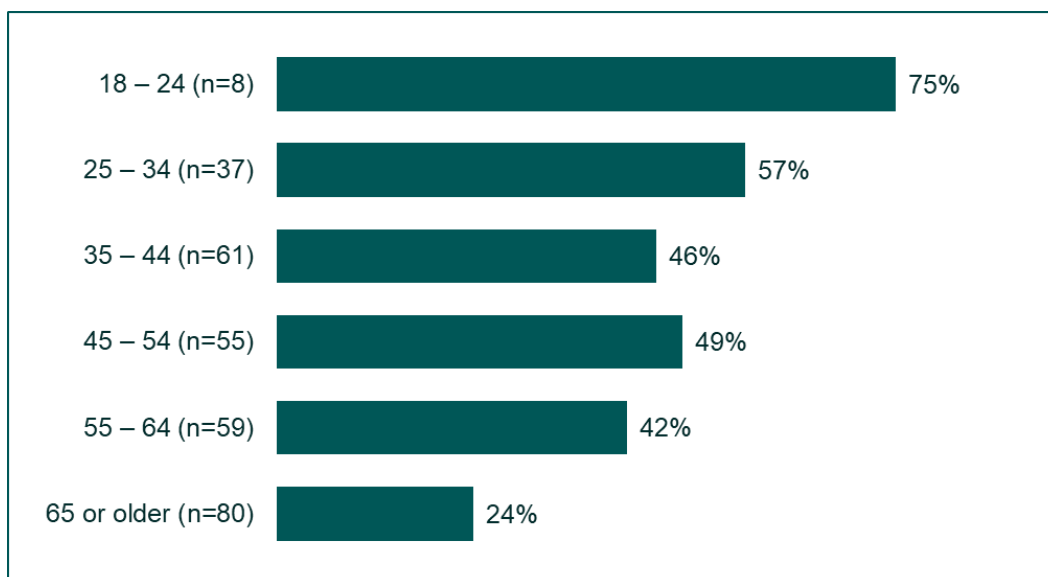


Figure 14: Distribution of respondents who believe the product would be suitable for their home by age (n=300).

C5. Do you think this product would be suitable for your home or living situation?

Note: A chi-square test of independence with Yates' continuity correction showed a statistically significant association between age group and perceived product suitability, $\chi^2(1) = 13.91$, $p < 0.001$.

Demonstrations, Retail Presence, and Education Will Be Important for Commercialization

The survey findings suggest that real-world demonstrations and retail visibility could be important components of successful commercialization of the 120V induction range without battery product. Respondents reported relying heavily on manufacturer and retailer websites, in-store visits, online reviews, and recommendations when evaluating kitchen appliances ([Figure 15](#)). Most respondents also indicated that they typically purchase appliances through physical retail channels, such as big box stores (70 percent, n=132) and warehouse clubs (41 percent, n=78).

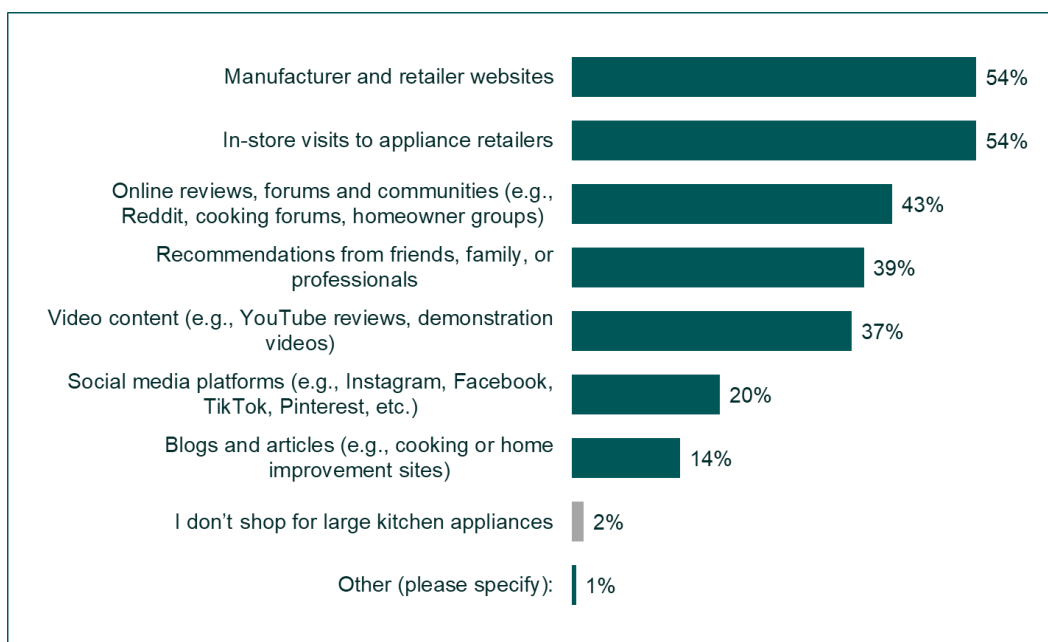


Figure 15: Homeowner respondents' preferences for finding information on kitchen appliances (n=188).

C11. Where would you go to find more information about kitchen appliances such as ranges, if you needed a new range in the future? Please select all that apply.

These findings suggest that showroom demonstrations, floor models, pilot programs, and customer reviews may significantly improve awareness and consumer confidence. Because many consumer concerns were related less to the technical capabilities of the product and more to uncertainty about how it would affect their cooking routines, allowing consumers to see and interact with the technology may help reduce uncertainty and improve acceptance.

Consumer-Preferred 120V Induction Range Without Battery Configuration for California

The research team used a choice-based conjoint analysis to understand how consumers evaluate tradeoffs among different product features associated with the 120V induction range without battery. This method presents respondents with a series of hypothetical product configurations and asks them to select their preferred option, allowing the research team to estimate the relative importance of factors such as price, cooking performance, appliance size, and operating characteristics (e.g., preheating the oven prior to using burners; compatible cookware set provided). The conjoint analysis helps identify which features are most important in purchase decisions and provides insight into the combinations of attributes most likely to support market adoption. Since homeowners are more likely to serve as the primary purchase decision-makers for this product, the research team presents the conjoint analysis findings from just the homeowner respondents in this section.³

³ Both owners and renters completed the conjoint exercise in the survey. This section only presents owner's result.

Overall, homeowners appear more tolerant of moderate cooking and behavioral tradeoffs than stakeholders expected, provided the product remains affordable and maintains a reasonably familiar cooking experience. Features initially viewed as potential adoption barriers, such as the oven preheating sequence, had less impact on preference than expected, while price remained by far the strongest driver of purchase interest.

The conjoint analysis tested five attributes: price (\$500; \$1,000; \$1,500; \$2,000; and \$2,500), number of burners (two burners, three burners, four burners, and six burners), time to boil two quarts of water⁴ (5 minutes, 7 minutes, 9 minutes and 11 minutes), compatible cookware set provided (none, three pieces, four pieces and five pieces), and oven preheating requirements (no need to preheat and need to preheat). Among all tested attributes, price had the greatest influence on respondent preference, accounting for approximately 41 percent of decision importance. Preheating behavior was the second most influential factor at roughly 27 percent, followed by cooking time at approximately 11 percent. The compatible cookware set and oven preheating requirements had comparatively smaller impacts on overall preference. [Figure 16](#) shows the detailed results, with the importance scores adding up to 100 percent across all five attributes.

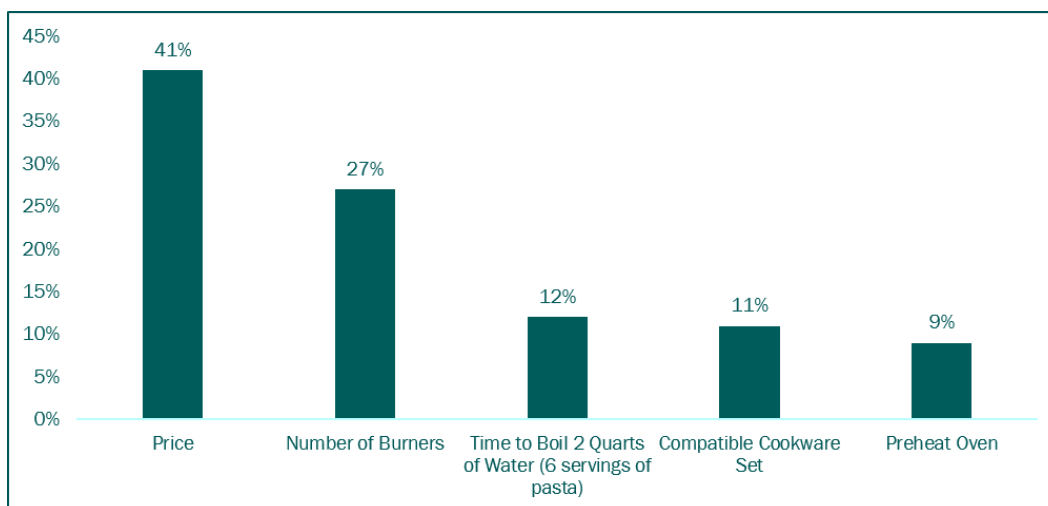


Figure 16: Relative importance of product attributes (owners, n = 188).

Next, the research team conducted a sensitivity analysis for each product attribute by holding the other four attributes constant while varying the levels of the tested attribute. This generated preference shares, which can be interpreted as simulated market share under idealized conditions (i.e., equal brand awareness, equal distribution access, and no differences in marketing or availability). Results should therefore be interpreted comparatively across attribute levels rather than based on the absolute preference share values themselves.

For example, [Figure 15](#) shows the impact of the oven preheat requirement while holding all other attributes constant at a three-burner configuration, a nine-minute boil time for two quarts of water, and a price of \$2,000. Under this scenario, preference share decreases from 47 percent when no

⁴ Six servings of pasta.

preheating is required to 42 percent when a preheating sequence is required. The key finding is not the absolute preference itself, but rather the approximately 5 percent decline in preference associated with adding the preheating requirement. This decline represents the estimated impact of that preheating requirement.

Starting with the least influential attribute (the oven preheating requirement, as shown in [Figure 17](#)), requiring users to preheat the oven before using both the oven and cooktop was the biggest concern, but had relatively limited impact on overall preference share. This suggests two things: First, respondents generally viewed behavioral adjustment associated with the preheating sequence as acceptable. Second, the estimated preheating duration of approximately 12 minutes was not viewed as a major barrier by most respondents.

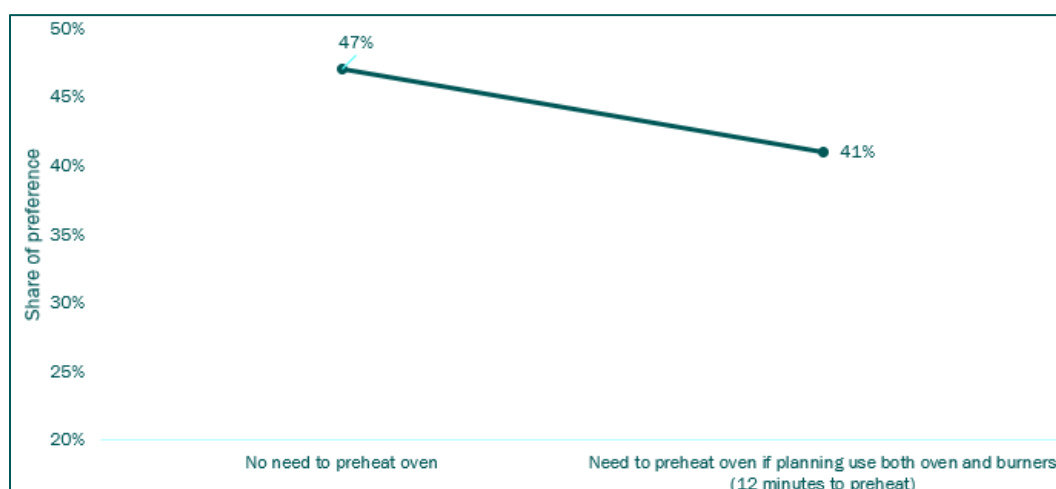


Figure 17: Sensitivity analysis of preheat oven (owners, n = 188).

Providing compatible cookware sets had a modest but consistently positive impact on preference share ([Figure 18](#)). Preference increased from 41 percent when no cookware was included to 46 percent when a five-piece compatible cookware set was provided. The results suggest that including cookware can help reduce transition barriers and improve overall product appeal, although the magnitude of impact was smaller than factors such as price or cooking performance.

The relatively gradual increase in preference share also indicates that owners do not value having compatible cookware included, while incremental increases beyond a basic starter set provided diminishing additional benefit. This aligns with survey findings that owners are less motivated by compatible cookware and renters are strongly motivated by compatible cookware.

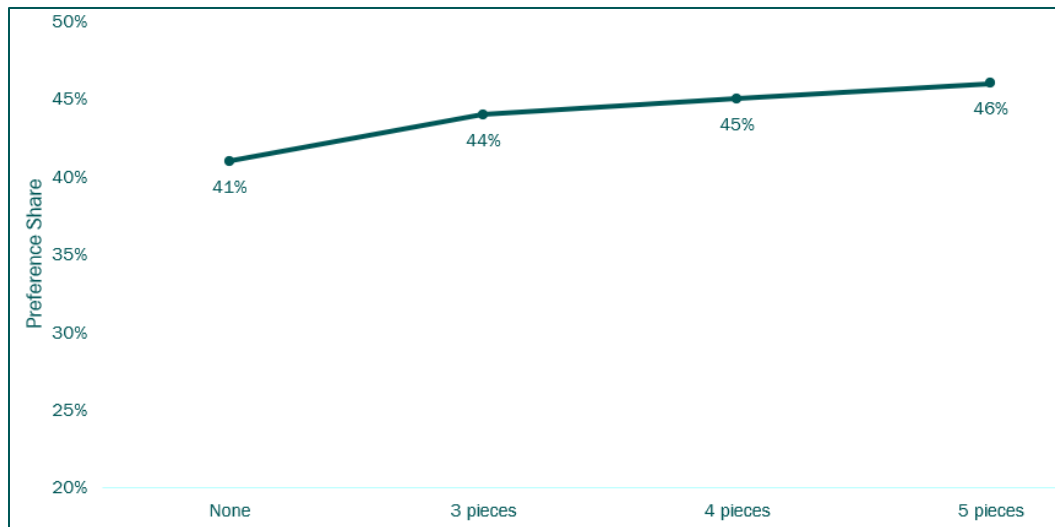


Figure 18: Sensitivity analysis of compatible cookware set (owners, n = 188).

Time to boil water had a noticeable impact on preference share, particularly at longer boil times ([Figure 19](#)). Preference remained relatively stable between 5-minute and 7-minute boil times, both generating a 44 percent preference share. However, preference declined to 41 percent at 9 minutes and dropped more substantially to 36 percent at 11 minutes.

These results suggest that respondents were generally comfortable with moderate increases in cooking time, but preference decreased once boil times became noticeably longer than conventional cooking expectations. The sharper decline at 11 minutes indicates a threshold where slower cooking performance begins to meaningfully affect product appeal.

The findings align with qualitative interview feedback, where stakeholders expressed some willingness to accept modest cooking performance tradeoffs in exchange for easier installation and avoided panel upgrades, but remained sensitive to usability impacts that could disrupt everyday cooking routines.

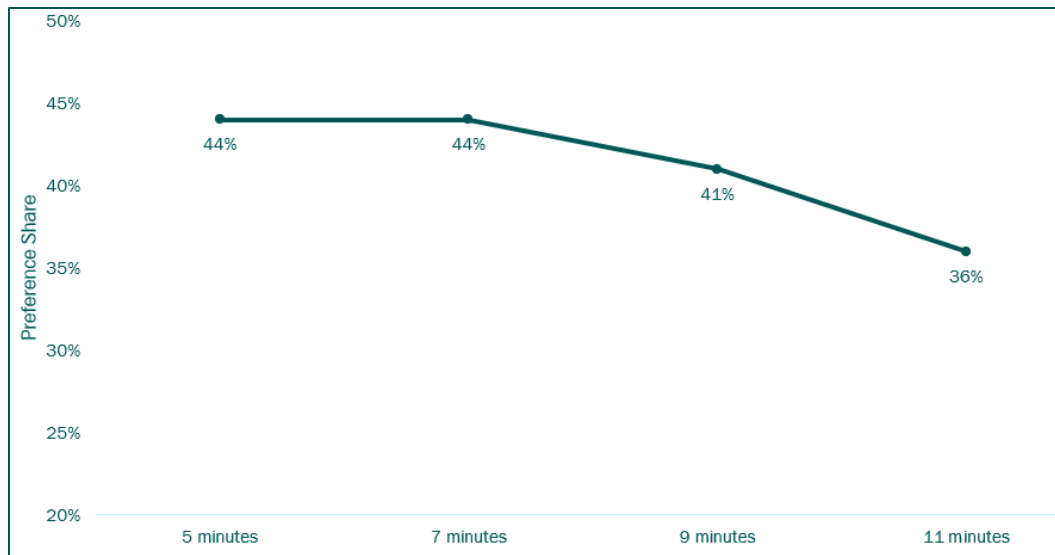


Figure 19: Sensitivity analysis of cooking time (owners, n = 188).

Number of burners had a meaningful impact on preference share, with preference increasing as additional burners were added (up to four burners), as shown in [Figure 20](#). Preference share increased from 34 percent for a two-burner configuration to 41 percent for three burners and peaked at 48 percent for four burners. Preference then declined slightly to 44 percent for a six-burner configuration.

These results suggest that respondents viewed four burners as the preferred number. Preference increased substantially when moving from two to four burners, while the increase from four to six burners was relatively modest. Although most respondents reported typically using only one or two burners at a time, four-burner ranges were also the most common configuration currently owned by survey respondents. This suggests that consumers may evaluate cooking appliances based not only on typical cooking behavior but also on what they are used to, what they consider “normal,” and whether the appliance can accommodate occasional higher-demand cooking situations. As a result, having four burners appears to represent an important expectation for a standard cooking range, even when fewer burners are used during most cooking occasions.

The findings align with qualitative interview feedback, where stakeholders emphasized the importance of maintaining a familiar cooking experience while recognizing that the product is best suited for smaller households and space-constrained housing environments.

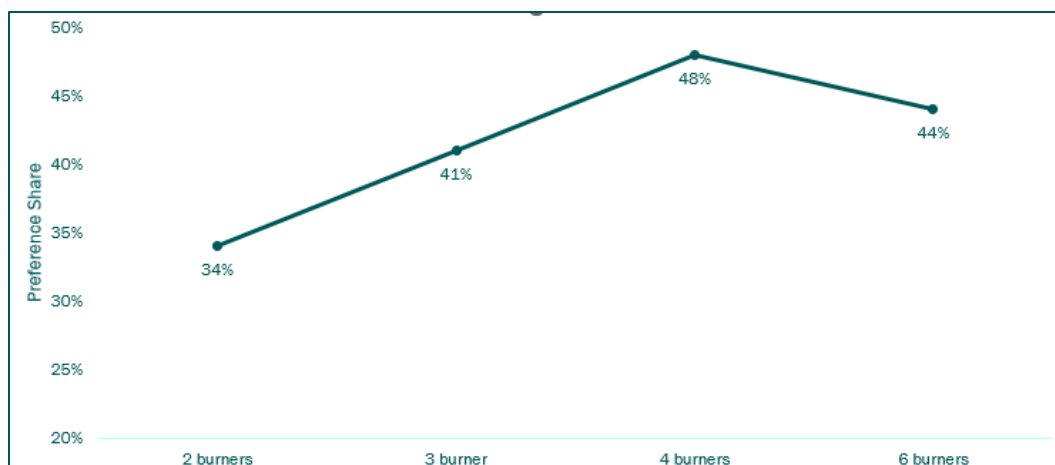


Figure 20: Sensitivity analysis of number of burners (owners, n = 188).

Price had the largest impact on preference share among all tested attributes ([Figure 21](#)). Preference declined steadily as price increased, dropping from 64 percent at the \$500 price point to 61 percent at \$1,000 and 54 percent at \$1,500. Preference decreased more sharply beyond \$1,500, falling to 41 percent at \$2,000 and 37 percent at \$2,500.

These results indicate strong price sensitivity among respondents, particularly once the product exceeds approximately \$1,500. While respondents showed some willingness to pay a premium for the convenience of avoiding panel upgrades and easier installation, higher price points substantially reduced overall product appeal.

The findings align closely with qualitative interview feedback, where stakeholders consistently identified upfront equipment cost as one of the largest barriers to adoption, especially in rental and multifamily housing settings where appliance replacement decisions are highly cost driven. The results also reinforce the importance of rebates, incentives, or bulk procurement strategies in improving market adoption potential for the product.

The results of the pricing analysis are particularly relevant for the 120V induction range without battery, as battery-equipped 120V induction ranges currently available in the market are substantially more expensive, often exceeding \$4,000. The ability to offer a lower-cost product while maintaining acceptable cooking functionality may therefore represent one of the key characteristics of the non-battery design.



Figure 21: Sensitivity analysis of price (owners, n = 188).

When taken together with results of the other survey questions and the stakeholder interviews, the conjoint analysis suggests that the 120V induction range without battery has the strongest market potential as an affordable, easy-to-install retrofit solution for smaller and electrically constrained housing. Respondents were generally receptive to the concept, particularly when the product reduced or avoided the need for panel upgrades and major electrical work.

Across the tested attributes, the preferred product configuration for homeowners consisted of a four-burner range with maximum power capable of boiling two quarts of water in under 9 minutes, no need to include a basic compatible cookware starter set, and a price point below approximately \$1,500.

As with all conjoint analyses, the results should be interpreted within the context of the attributes and levels tested in the exercise. The analysis assumes that the respondents evaluated product purchase decisions primarily based on the attributes presented in the conjoint scenarios. In practice, consumers may also consider additional factors not included in the study, such as brand familiarity, aesthetics, reliability perceptions, prior experience with induction cooking, retailer availability, warranty coverage, or recommendations from contractors, property managers, or peers.

In addition, conjoint responses reflect stated preferences within a hypothetical decision-making environment rather than actual purchasing behavior. Real-world adoption decisions may also be influenced by external factors, such as available rebates, installation support, housing constraints, or future electricity prices.

Finally, respondents evaluated the concept based on descriptions and images rather than hands-on experience. Actual user perceptions may change after interacting with a commercially available product in a real cooking environment.

Recommendations

These research findings suggest that the 120V induction range without battery addresses an important gap in California's building electrification market, particularly for electrically constrained retrofit applications where traditional 240V electric ranges may require costly panel upgrades. The 120V induction range with battery offers a similar solution while providing greater cooking capacity, but at a higher cost. During interviews, stakeholders generally viewed the technology positively and identified strong market potential within ADUs, older multifamily housing, smaller rental units, and other space-constrained residential settings. Survey findings similarly indicate that the product is best aligned with consumers seeking practical and affordable electrification solutions.

Across both the qualitative interviews and quantitative survey, the strongest value proposition for the product was not necessarily induction cooking itself, but rather the ability to electrify cooking without requiring major electrical upgrades. Respondents consistently identified the standard 120V plug-in feature as one of the most appealing aspects of the 120V induction range without battery. The findings suggest that future positioning and marketing efforts should therefore emphasize installation simplicity, retrofit compatibility, and avoided panel upgrade costs rather than positioning the product primarily as a premium cooking appliance.

This research also suggests that the technology is best positioned as a targeted retrofit electrification solution. Respondents under the age of 65 demonstrated greater openness toward induction technology and higher perceived suitability for their homes, while older respondents were generally less familiar with induction cooking and more attached to gas ranges. This suggests that younger households may represent a stronger early-adopter segment, while older consumers may require additional education and familiarity-building efforts. For applications in senior housing or retirement communities, it will likely be important to emphasize user education and onboarding to ease the transition from traditional cooking appliances.

Both stakeholder interviews and the conjoint analysis identified price as one of the strongest drivers of purchase preference, with interest declining substantially at higher price points. The conjoint results suggest that the strongest product configuration would include a relatively affordable price point (\$1,500), four burners, moderate boil times (9 minutes to boil 2-quart of water), and intuitive power-sharing functionality (user friendly preheating instructions). Further survey findings suggest that most households primarily cook using one or two burners at a time, indicating that the power-sharing feature may be acceptable for many everyday cooking situations. However, concerns regarding cooking performance, large meals, and behavioral adjustments remain important psychological barriers that should be proactively addressed through product design, demonstrations, and educational materials.

Education and trust-building will play an important role in commercialization. Many respondents were unfamiliar with induction technology or confused it with traditional electric coil stoves. Respondents also expressed concerns regarding circuit overload, cookware compatibility, durability, and cooking performance. Because many of these concerns are based on perceptions or expectations rather than being purely technical, pilot programs, demonstrations, showroom displays, and customer reviews may help reduce uncertainty and improve confidence in the product.

Overall, successful adoption of a 120V induction range without battery will require coordinated engagement across manufacturers, distributors, program administrators, contractors, and property

owners. Alignment across these market actors will help reduce friction, improve confidence in the technology, and support broader market adoption over time.

Product Recommendations

Research findings suggest that the product should be positioned and designed primarily as a practical retrofit electrification solution optimized for smaller households and electrically constrained housing environments. The strongest consumer interest centered on installation simplicity, avoided panel upgrades, affordability, and convenience rather than premium cooking functionality.

Manufacturers should prioritize affordability as a core product consideration. Conjoint analysis showed strong price sensitivity, particularly once price points exceeded approximately \$1,500. Keeping the product within a more accessible price range will likely be important for broader market adoption—particularly among lower- and middle-income households and within rental housing settings—as indicated by interviewed property owners.

The current product design aligns well with common household cooking behavior. Most survey respondents reported primarily cooking with one or two burners at a time, suggesting that high simultaneous cooking loads may be less common than consumers perceive. However, conjoint results showed a strong preference for a standard four-burner configuration, likely because consumers associate four burners with a familiar and complete cooking experience.

While actual cooking behavior may not require four high-powered burners, maintaining a four-burner design remains important from a consumer acceptance and marketability perspective. Product development should therefore consider prioritizing preserving a familiar cooking format and everyday usability, even if lower-power operation or power-sharing functionality remains necessary. A four-burner configuration should likely remain part of the product roadmap, as it meaningfully improves perceived functionality and overall product appeal.

User experience associated with power-sharing functionality should be treated as a core design consideration rather than simply a technical limitation. Several landlords and stakeholders expressed concern regarding the amount of behavioral adjustment required from tenants, particularly related to oven preheating and simultaneous cooktop use. Manufacturers should consider incorporating clear visual indicators showing when the appliance is operating in power-sharing mode, along with simple controls that allow users to prioritize either oven or cooktop performance. Early field testing may wish to evaluate multiple power-sharing approaches to better understand which configurations feel most intuitive and least disruptive in real-world cooking environments.

Consider developing clear communication materials that explain electrical requirements, cooking performance, and installation specifications. Interviewees emphasized the need for specification sheets that clearly distinguish between peak load, operating load, and circuit requirements in order to reduce confusion among contractors, distributors, and property owners.

The research also suggests that cookware compatibility remains an important transition issue, particularly in rental housing settings. Including at least a basic induction-compatible cookware starter set modestly improved homeowner purchase interest and more substantially improved renter acceptance. However, stakeholders noted that cookware replacement may remain an ongoing challenge over time due to tenant turnover, lost cookware, or residents bringing incompatible

cookware into the unit. To that end, **consider providing induction-compatible cookware with the appliance and developing a plan for ongoing replacement or access to compatible cookware, particularly in rental housing settings.**

Finally, the research team recommends **replicating the CalMTA field study (Cal MTA, 2026) previously conducted on battery-equipped 120V induction ranges, with the non-battery version** to build stronger evidence based on the technology's real-world performance and market potential. Findings from a field study would provide technical insights that cannot be fully captured through interviews or secondary research and could help inform future product development, program design, and market deployment strategies.

Program Recommendations

These research findings suggest that program support and market education will be critical to broader adoption. Because many consumer concerns are related to familiarity, trust, and perceived usability rather than outright opposition to the technology, pilot programs and educational efforts may play an important role in reducing adoption barriers.

The project team recommends **beginning with site-level pilot deployments** in the range of approximately 10 to 30 units, coupled with metering and resident satisfaction follow-up research. These pilots would help evaluate real-world cooking behavior, user adaptation, installation challenges, and longer-term resident satisfaction. Pilot deployments should ideally include induction-compatible cookware starter kits, multilingual QuickStart guides, onsite demonstrations or training sessions, and simple educational materials explaining induction cooking and power-sharing behavior. Early user feedback from other states will support the success of this technology. One manufacturer is currently working with the New York State Energy Research and Development Authority on a pilot program deploying a newly developed 120V induction range without battery with multiple size options in affordable housing units. Feedback from these early users will provide valuable insights into real-world cooking behavior, usability, performance expectations, and overall customer acceptance.

Program administrators should consider **including 120V induction ranges without battery in all-electric appliance incentives and related electrification benefits.** Depending on manufacturer pricing, financial incentives will likely be essential for broader market adoption. Stakeholders consistently identified upfront equipment cost as one of the largest barriers to market uptake.

Consider engaging retailers, distributors, and contractors early in the commercialization process and providing product training, floor models, and demonstration opportunities to increase consumer awareness and confidence. The findings also suggest that retailer, distributor, and contractor engagement will play an important role in commercialization success. Survey respondents indicated that they frequently rely on retailer websites, in-store visits, demonstrations, and online reviews when evaluating kitchen appliances. Similarly, most respondents reported purchasing large appliances through big box retailers and warehouse clubs. This suggests that physical retail presence, floor models, distributor training, contractor education, and demonstration opportunities may significantly improve awareness and adoption.

Marketing and educational materials should proactively address the concerns most frequently identified in the research, including circuit overload concerns, cookware compatibility, cooking

performance, durability, and large-meal cooking capability. Messaging should emphasize installation simplicity, retrofit compatibility, safety benefits, and avoided panel upgrade costs, as these emerged as stronger drivers of consumer interest than premium cooking performance.

Program administrators may also benefit from **prioritizing outreach toward households with occupants younger than 65 years old and smaller-space housing markets**, which showed higher openness toward induction technology and stronger perceived fit with the product concept. Older consumers may require additional familiarity-building efforts and demonstrations to increase comfort with induction cooking technology.

Consider developing a coordinated commercialization strategy that engages manufacturers, distributors, contractors, program administrators, and property owners early in the introduction of the 120V induction range without battery. Ultimately, successful commercialization of the 120V induction range without battery will require coordinated engagement across manufacturers, distributors, contractors, program administrators, and property owners. Manufacturers must provide clear technical specifications and user-friendly designs; distributors and contractors need sufficient training and support; and program administrators will play a critical role in aligning incentives, streamlining program pathways, and supporting customer education. Coordination across these market actors will help reduce friction, improve confidence in technology, and support broader market adoption over time.

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Appendix A: Discussion Guide

To support the CalNEXT 120V non-battery Induction Range Market Study, the research team conducted interviews with stakeholders who influence the selection, procurement, installation, and support of kitchen cooking equipment in residential buildings. This discussion guide presents the questions that may be covered during each interview.

The 120V non-battery Induction Range Market Study seeks to understand how the introduction of 120V non-battery induction range may expand access to electrified cooking in California, particularly in buildings where panel or wiring upgrades are costly or impractical. The study will explore two potential pathways for market adoption: (1) program-driven adoption through affordable housing, incentive programs, and retrofit initiatives, and (2) consumer-driven adoption through retail markets supported by incentives and awareness efforts.

The objective of this interview is to understand:

- Initial reactions to the 120V non-battery induction range concept, including perceptions of its functionality, appeal, and fit within participants' specific building or operational contexts
- The decision-making processes that shape cooking appliance selection
- Barriers and drivers to adopting 120V non-battery induction range
- The types of resources, incentives, or support that may be needed to encourage adoption of the 120V non-battery induction range across different market actors

This guide follows a semi-structured interview method. Interviewers will use the common set of core questions in section A and then select from sections B, C, or D depending on the role of the participant (e.g., supplier, program administrator, or building owner/management). Interviewers may adapt the sequence or wording of questions based on the interviewee's background and expertise. shows a breakdown of the questions by research topic.

Table 10: Discussion guide research question crosswalk.

Research Topic	Interview Questions
Decision drivers and key roles in appliance selection	A1, A1a, A2, B1-B3, C1-C2, C4 D1-2
Market awareness and perceptions of induction cooking	A3, A3a, B3, B3a, C2, C2a, D4, D4a
Barriers to adoption (technical, economic, operational)	B4-B6, C5, D3, D6-7
Building- or program-level constraints and considerations	C1-C2, C4-6, D1, D3, D6

Research Topic	Interview Questions
Opportunities related to avoiding panel upgrades (120V plug-in feature)	A3a, B6–B7, C4, D6, D8
Resource needs and information gaps	B6, C6, D8
Pilot or early deployment readiness	B5, C3, D5, C6, C7a, D8
Low-income housing-specific considerations	D9

The research team conducted 13 interviews with key market actors involved in program design, implementation, and building decisions, including a mix of:

- Kitchen appliance manufacturers, distributors, and retailers
- Program administrators
- Low-income multifamily builders/facility management
- Market-rate multifamily builders/facility management
- Owners, builders, or designers of other small-space living settings (e.g., ADUs, extended-stay hotels, senior living communities)

This guide reflects a semi-structured interview method, whereby the interviewer will plan to ask similar questions to all interviewees, but they are also able to adapt questions for individual interviewees based on the interviewee’s unique expertise and/or feedback.

Recruiting Instructions

TRC recruited interviewees by performing outreach using contact information gathered through referrals from project team members who have existing professional relations with industry stakeholders. We additionally attempted to expand the project sample population by using the “snowball” recruitment method, where we asked interview participants if they know of any relevant contacts who would be interested in participating in this research project.

TRC recruited participants via both email and telephone calls. The following fielding guidelines will be used to recruit customers:

- Attempt each record no more than three times on different days of the week and at different times.
- When calling, we will leave messages on the first and fourth attempt.
- Experienced interviewers should attempt to convert “soft” refusals (e.g., “I’m not interested” or immediate hang-ups) at least once.
- Calling hours will be from 9:00 a.m. to 5:00 p.m., based on local time zones.

Once an individual agrees to participate in the interview, the research team sent a meeting invitation with a Teams link. This email specifies that the interviewee should plan to use a computer so as to be able to view the interviewer’s screen, which will be used to view reference material and images together during the call.

Interview Guide

A: Background and Context

Thank you for taking the time to speak with us today. We are conducting research on the potential for 120V non-battery induction ranges in California. These ranges can be installed using a standard outlet.

We are speaking with a variety of individuals to understand opportunities, challenges, and market needs related to adopting a 120V non-battery induction ranges. Your insights will help inform product development, program planning, and outreach strategies.

At the end of the interview, we will confirm your email and send a Tango electronic gift card as a thank-you for your participation.

Before we begin, do you have any questions for us today?

To help with accurate note taking, is it okay if I record this conversation?

To start, can you please introduce yourself and describe your role at your organization?
[If not brought up] How does your role relate to decisions about kitchen appliances, renovations, or equipment upgrades?
Can you briefly describe the types of buildings, customers, or facilities you typically work with?
How familiar are you with induction range?

B: Manufacturers/Distributors/Retailers

For these next few questions, I would like to discuss your experience with cooking appliances

Can you take me through the kinds of products you are currently selling or supporting?
Do you plan to produce (for manufacturer)/carry (distributor and retailer) any induction ranges or countertop induction products?
[Probe]: Types of products stocked, brands, size (any 20, 24 inches), number of burners.
How do customers typically learn about and choose cooking appliances through your place?
Are there specific selling points that customers tend to respond well to?
[Probe]: In-store interaction, online listings, contractor recommendations, retailer-staff knowledge.
[If not mentioned] Who are your typical customer?
3. How familiar are your customers with induction cooking appliances today?
[IF FAMILIAR] What feedback have you heard from customer?
[Probe]: Performance, speed, safety, noise, cookware compatibility, prior experiences.
What challenges come up when promoting induction ranges?
[Probe]: Price sensitivity, limited demand, training needs, product availability, contractor influence, Electrical needs.
[Insert 120V non-battery induction range concept, screen share]

PowerPoint Slide with 120V induction range, and key features next to the range:



Key Features:

- **Easy Installation:** Plugs into a regular wall socket – no special wiring, no panel upgrade.
- **Compact Size:** Available in 24 inches or 30 inches. Designed to fit smaller kitchens or homes that want a full range but with a smaller footprint.
- **Power Sharing:** You can cook on multiple burners at the same time. When more than one burner (or the oven and cooktop) are on together, the range automatically shares power between them.
 - This may reduce the maximum power on each burner during simultaneous use.
 - To get the fastest preheat, it's best to preheat the oven first before using both oven and cooktop together.
- **Cook Performance:** Boils 4 cups of water in about 7 minutes in full power, or 12 minutes in power sharing mode.
- **3 Burners:** Features 3 burners/zones sized to fit common pots and pans.
- **Energy Efficient:** Uses less energy than traditional gas or electric stoves. Offers up to 85 percent efficiency improvement compared to standard 240V induction ranges.
- **Safety Features:** Cool-to-touch surface, no open flame, automatic shut-off, pan and spill detection, and child lock.
- **Modern Controls:** Large, easy-to-read display and simple touch controls.
- **Easy to Clean:** Smooth glass surface for quick wipe-downs.
- **Health/Environmental Benefit:** Produces no gas emissions, helping to improve IAQ while reducing your overall carbon footprint.

After reviewing this induction range concept, what are your thoughts? Does anything stand out?

What would make it easier for your team to promote or sell these products?

[Probe]: Product samples, hands-on demonstration units, marketing collateral, manufacturer training, utility rebates, cookware included.

Are there particular customer segments you think would be most interested in a product that does not require panel upgrades? Why?

[Probe]: Renters, small apartments, affordable housing, multifamily, seniors, smaller kitchens, property managers.

I'd like to ask specifically about the power-sharing feature. Do you have any concerns about how it works? What are your thoughts on the recommended sequence of preheating the oven before using the cooktop?

C: Program Administrators (Utilities, State Agencies, Implementers)

Next I would like to talk to you about how cooking appliances may fit within your programs.

How, if at all, do cooking appliances currently fit into your electrification, or decarbonization programs?

[Probe]: Fuel-switching rules, incentive eligibility, measure cost-effectiveness, health or indoor air quality framing.

Are you familiar with induction range?

[If not familiar, give the intro] Induction ranges heat pots and pans using electromagnetic energy instead of gas flames or electric coils. The cooking surface itself stays relatively cool. The heat is created directly in the cookware. Most induction ranges on the market today use a 240V electrical circuit. Installing one usually requires special wiring or an electrical panel upgrade. A few induction ranges are available that plug into a standard 120V outlet, but these models currently rely on large built-in batteries and often cost more than \$6,000. We are exploring interest in a new type of 120V, non-battery induction range. This potential product would plug into a standard household outlet, be similar in cost to typical 240V induction ranges and would not require an electrical upgrade.

Have you evaluated or supported induction cooking in the past?

[IF YES] What did you learn from that experience?

[Probe]: Customer response, contractor engagement, equity considerations, technical performance, etc.

[Insert 120V non-battery induction range concept, screen share]

After reviewing this induction range concept, what are your thoughts? Does anything stand out?

Where do you think this range might be a good fit within your programs or customer segments?

[Probe]: Affordable housing, multifamily retrofits, etc.

What program or policy barriers could limit adoption of this technology?

I'd like to ask specifically about the power-sharing feature. Do you have any concerns about how it works? What are your thoughts on the recommended sequence of preheating the oven before using the cooktop?

What types of resources or evidence would be most helpful to support program decision-making?

[Probe]: Case studies, pilot data, resident satisfaction ratings, etc.

Would you be open to exploring pilot deployments or demonstrations of 120V ranges?

[IF YES] What conditions would need to be in place to make that feasible?

D: Building/ADU Owners and Property Management/Designers

Next I will ask a few questions about how cooking equipment decisions are made in the buildings you own or manage.

Could you describe your building/ADU?

[Probe]: Type of building structure, Age of the building, tenants, etc.

What type of cooking appliance does your building/ADU currently use?

[If gas] Have you considered replacing gas stoves with electric?

In your experience, what matters most to residents or tenants when it comes to cooking equipment?

[IF YES] Do preferences vary across different resident groups or properties?

[Probe]: Reliability, ease of use, heating speed, temperature control, safety concerns, indoor air quality.

Can you describe how decisions are made when replacing or upgrading cooking appliances in your buildings?

[Probe]: Typical triggers (end-of-life, tenant turnover), who approves purchases, vendor relationships, budget constraints, and decarbonization goals.

What challenges come up when replacing stoves or ranges in your buildings?

[Probe]: Electrical capacity limits, panel upgrades, space constraints, labor cost, unit access scheduling.

How familiar are you with induction cooking today?

[IF FAMILIAR] What impressions or experiences have you had?

[Probe]: Demonstrations, resident feedback, contractor recommendations, performance concerns.

[If not familiar, give the intro] Induction ranges heat pots and pans using electromagnetic energy instead of gas flames or electric coils. The cooking surface itself stays relatively cool. The heat is created directly in the cookware. Most induction ranges on the market today use a 240V electrical circuit. Installing one usually requires special wiring or an electrical panel upgrade. A few induction ranges are available that plug into a standard 120V outlet, but these models currently rely on large built-in batteries and often cost more than \$6,000. We are exploring interest in a new type of 120V, non-battery induction range. This potential product would plug into a standard household outlet, be similar in cost to typical 240V induction ranges, and would not require an electrical upgrade.

[Insert 120V non-battery induction range concept, screen share]

After reviewing this induction range concept, what are your thoughts? Does anything stand out?

[Probe on number of burners, size, etc.]

One key feature of 120V induction ranges is that they can be installed using a standard outlet, potentially avoiding panel upgrades. How relevant is this feature for the buildings you own or manage?

[Probe]: Usefulness for older buildings, lower-disruption retrofits, avoiding construction in occupied units.

What concerns might you or your residents have about switching to induction?

[Probe]: Cookware compatibility, learning curve, repair expectations, noise, durability, tenant breaking glass top.

I'd like to ask specifically about the power-sharing feature. Do you have any concerns about how it works? What are your thoughts on the recommended sequence of preheating the oven before using the cooktop?

What types of support or resources would help you feel more comfortable adopting 120V induction ranges?

[Probe]: trial units, rebates or bulk pricing, free cookware, staff training, resident education materials, extended warranties, funding for old appliance removal.

[For Low-Income ONLY]

How do funding sources, reporting requirements, or affordability restrictions influence decisions about appliance replacement?

CLOSE: Close Interview

Those are all the questions I have for you today.

Is there anything else you want to mention that you think we did not already address?

Are there any other people or companies that you would recommend for us to speak to?

[If YES] Can we follow up with an email to get their contact information from you?

As a thank you for your input, we'd like to send you a \$100 Tango gift card, which is an online card that can be applied to a wide variety of businesses or nonprofits of your choice.

Alternately, we could also donate \$100 to your local United Way in the name of your choice.

Which would you prefer?

Thank you again for your input. Have a nice day. [TERMINATE CALL]

Appendix B: Survey Guide

Survey Learning Goals

- Collect end user's awareness of induction, including perceptions of its functionality, concerns, and any training opportunities.
- Identify key factors influencing willingness to adopt or recommend the 120V range, such as cost, performance expectations, installation ease, and compatibility with tenant or resident needs.
- Explore perceived barriers to adoption of the 120V range, including number of burners and cooking performance.
- Collect feedback on potential improvements to the 120V range concept design, messaging, or delivery model that could enhance market acceptance across different resident groups.

Methodology

To quantify end-user perceptions and acceptance of 120V non-battery induction ranges, TRC conducted a survey of 300 California residents (both homeowners and renters) who are the primary cooks in their households. The survey explored household-level awareness, interest, and willingness to adopt 120V induction ranges, as well as perceived barriers and motivators.

To recruit respondents for the survey, we used a survey panel company (i.e., Dynata), to distribute an online screener to the portion of their panel that resides in California. These companies maintain a panel of respondents across the country, including California, who agree to take surveys, typically in exchange for points that can be later redeemed for a variety of gift cards. They maintain a database of characteristics for each member of their panel, to narrow down potential respondents based on location, income, and/or other characteristics. With the screener we used to determine eligibility for the survey, this is a cost-effective and time-efficient way to reach a specific audience for research purposes. Screener criteria for individual respondents include:

- Must reside in California
- Must from households with four or fewer occupants.
- Must be at least 18 years of age
- Must cook at home at least once per week
- Must currently have a range in their home

Feedback is collected from both moderate-to-high income households and low-to-moderate income households, with a goal of at least 50 percent of respondents coming from the low-to-moderate income group, in order to mirror the income distribution of the general population.

Table 11 summarizes how the survey questions align with the research questions.

Table 11: Consumer survey research questions crosswalk.

Research Questions	Survey Questions
What are the primary concerns, needs, and motivations of end users regarding adoption?	B3, B4, B5, B6, B8, C3, C6, C7, C14, C15
What is the potential acceptance of 120V induction ranges without battery among end users?	C1, C2, C3, C4, C5, C8
Which market segments and use cases represent the strongest opportunities for early adoption?	A3, A4, A5, A6, A7, A9, A10, A11, A12, B1, B2, B3, B4, B7, C4, C5, C6, C7, C8, C8b, C8c, D1, D2, D3
What existing market trends and California-specific building codes may affect adoption?	C1, C2, C3
What are the main technical, regulatory, behavioral, and economic barriers and drivers influencing adoption in residential applications?	A7, B6, C1, C2, C3, C7
What product features, price points, and supporting resources (e.g., training, marketing, installation guidance) are most critical to enable adoption?	B5, B6, C3, C6, C7, C9, C10, C11, C12, C13, C14, C15

Fielding Instructions

The following list outlines the steps TRC took when administering the online survey.

- Program and test the survey in Qualtrics.
- Test the survey programming internally prior to any survey fielding.
- Examine the responses of the first 10 percent survey respondents closely and modify the survey if needed.

Survey Body

Programmer Note: All questions will be forced response unless otherwise noted.

Intro. Thank you for your willingness to participate in this survey! We are conducting this survey to better understand consumers' use of kitchen equipment. We first need to ask you a few questions to ensure you meet the study criteria.

To begin the survey please click "Next."

Section A: Screener

A1. Which state do you currently reside in? If you live in more than one, select the state that is your primary residence.

[TERMINATE IF NOT CALIFORNIA]

A2. Please select the county where you currently reside. If you live in more than one, select the county that is your primary residence.

[ADD OPTIONS FOR COUNTIES IN CALIFORNIA]

A3. What is your age?

- 4. Under 18 years old **[TERMINATE]**
- 5. 18 – 24
- 6. 25 – 34
- 7. 35 – 44
- 8. 45 – 54
- 9. 55 – 64
- 10. 65 or older

A4. Do you own or rent your home?

- 11. Own
- 12. Rent
- 13. Don't know **[TERMINATE]**

A5. Including yourself, approximately how many people currently live in your home full-time, including both adults and children?

- 14. 1
- 15. 2
- 16. 3
- 17. 4
- 18. 5 or more **[No more than 10 percent of survey quota]**

A6. What is your annual household income?

1. Less than \$50,000
2. \$50,001 - \$100,000
3. \$100,001 - \$150,000
4. \$150,001 - \$200,000
5. \$200,001 - \$250,000
6. \$250,001 - \$300,000
7. \$300,000 or more **[No more than 10 percent of the survey quota]**
8. Don't know **[TERMINATE]**

A8. Are you the person primarily responsible for cooking in your household?

1. Yes, I do half or more of the cooking
2. No, someone else does most of the cooking **[TERMINATE]**
3. Don't know **[TERMINATE]**

A9. How often do you cook in your home? Your best guess is fine.

4. **Daily:** I cook almost every day (5+ days a week)
5. **A few times a week:** I cook 2- 5 days a week
6. **Once a week:** I cook 1 time a week
7. **Rarely:** I cook less than once a week
8. **Never:** I do not cook at all **[TERMINATE]**

For your reference, ranges are appliances that combine a cooktop and oven. Their cooktops can run on gases (natural gas or propane) or electricity.

A11. Which type of range do you currently use?

[Programming note: have image for each type of cooking stove shown]

1. **Natural or propane range:** Uses natural gas or propane. you can see an open blue flame when cooking.



2. **Electric coil stove:** Has raised metal coil burners that glow red when hot. [TERMINATE]



3. **Electric smooth-top stove:** Has a flat, glass-ceramic surface with heating elements underneath; the surface glows red when on. [TERMINATE]



4. **Induction stove:** Has a smooth, flat surface like a glass-top stove but heats pots and pans using magnetic energy; the surface itself doesn't get very hot. [TERMINATE]



5. Other (please specify): [TEXT RESPONSE] [TERMINATE]
6. None of the above [TERMINATE]

A12. How wide is your current range?

1. 20 inches (usually 2 burners)
2. 24 inches
3. 30 inches
4. 36 inches [TERMINATE]
5. Larger than 36 inches [TERMINATE]
6. Not sure

Section B: Cooking Habits

B_Intro. Congratulations, you are qualified to take the survey! The next section will ask about your cooking habits and the type of cooking range or equipment you currently use.

Please click “Next” to continue.

B1. What type of cooking do you do most often on your current range? *Please select all that apply.*

1. Baking
2. Frying/sauteing

3. Boiling/steaming
4. Stir frying
5. Grilling
6. Other (please specify): [TEXT RESPONSE]

B2. How many burners does your current stove have? This includes the warming zone if there is one.

1. 1 burner
2. 2 burners
3. 3 burners
4. 4 burners
5. More than 4 burners

B3. About what percentage of the time do you use multiple burners at the same time? Your best estimate is fine. The percentage should add up to 100 percent.

Number of Burners Used at the Same Time	Percent of Time
1 Burner	
2 Burners	
3 Burners	
4 Burners	
More than 4 Burners	

B4. Do you typically use the oven at the same time while cooking on the stove?

1. Yes, I often use the oven while cooking on the stove
2. Sometimes, but not always
3. Rarely, I typically use the stove only
4. No, I never use the oven while cooking on the stove

B4a. Do you typically preheat the oven before using cooktop?

5. Yes
6. No

B5. What do you like about your current cooktop part of the range? Please select all that apply.

[RANDOMIZE]

1. It heats up food quickly
2. It provides precise temperature control
3. It is easy to clean and maintain
4. It has a modern and stylish design
5. It has enough burners for my needs
6. It is reliable and long-lasting
7. It is affordable to buy
8. It has convenient features (timers, lights, controls, etc.)
9. Other (please specify): [TEXT RESPONSE]
10. None of the above [EXCLUSIVE]

B6. What challenges, if any, have you experienced with your current cooktop part of the range? Please select all that apply.

[RANDOMIZE]

1. It takes too long to heat up
2. The temperature control is not precise
3. It is difficult to clean and maintain
4. It does not have enough burners for my needs
5. It is outdated or lacks modern features
6. It requires frequent repairs
7. It is noisy during operation
8. The burners or oven do not always work properly
9. The controls or settings are confusing
10. The oven is too small
11. Other (please specify): [TEXT RESPONSE]
12. I have not faced any challenges with my kitchen range [EXCLUSIVE]

B7. Please rate your satisfaction with your current kitchen range **overall**.

13. Very dissatisfied
14. Dissatisfied
15. Neither satisfied nor dissatisfied
16. Satisfied
17. Very Satisfied

B8. Based on your experience, how long does it typically take to bring a small saucepan (about 4 cups of water) to a boil on your current range?

1. Under 5 minutes
2. 5 to 6 minutes
3. 8 to 12 minutes
4. More than 12 minutes
5. Don't know

Section C: Concept Test

Next, we would like to learn about your thoughts and opinions on induction kitchen ranges. Ranges are appliances that combine a cooktop and oven. Their cooktops can run on gases (natural gas or propane) or electricity.

C1. Are you familiar with induction ranges?

1. Yes, I am familiar with them
2. Sort of, I've heard of them but don't know much
3. No, I've never heard of them

C2. [C1 = 1 or 2] How do you think induction ranges compare to other types of ranges (e.g., gas or electric)?

1. Induction ranges are much better
2. Induction ranges are somewhat better
3. They are about the same
4. Induction ranges are somewhat worse

5. Induction ranges are much worse
6. Not sure, I don't have enough experience with induction ranges

[ASK C3 IF C2 = 4 or 5, SOMEWHAT OR MUCH WORSE]

C3. In what ways are gas or electric coil or electric flat top range better than induction ranges?
Please select all that apply.

[RANDOMIZE]

1. They are more affordable to purchase
2. They are more durable
3. They are compatible with all types of cookware and don't require special cookware
4. They are more widely available for purchase
5. They have more familiar controls
6. Gas stoves are more reliable in homes with frequent power outages
7. They are better suited for my cooking methods, please explain [TEXT RESPONSE]
8. Other (please specify): [TEXT RESPONSE]

C4_Intro.

In the next section, we'd like to show you a new induction technology and ask for your thoughts.

Many homes and apartments want to switch from gas cooking to electric induction range, but most induction ranges today need a high-powered electric circuit (240V). It can be expensive to add in many kitchens that only have 120V outlets.

Introducing a 120 Volt (120V) Plug-in Kitchen Induction Range. It comes with 24-inch model and 30-inch model. As with other induction ranges, it heats your pots and pans using magnets instead of fire or traditional electric coils. **Unlike traditional induction ranges, this model works on a standard 120V outlet, the same kind you use for a blender or microwave oven.**



Key Features:

- **Easy Installation:** Plugs into a regular wall socket – no special wiring, no electrical panel upgrade.
- **Available in Multiple Sizes:** Available in 24 inches or 30 inches. Designed to fit smaller kitchens or homes that want a full range but with a smaller footprint.
- **Power Sharing:** You can cook on multiple burners at the same time. When more than one burner (or the oven and cooktop) are on at the same time, the range automatically shares power between them.
 - This may reduce the maximum power on each burner during simultaneous use.
 - To get the fastest preheat, it's best to preheat the oven first before using both the oven and cooktop together.
- **Cook Performance:** Boils 4 cups of water in about 7 minutes in full power, or 12 minutes in power sharing mode.
- **3 Burners:** Features 3 burners/zones sized to fit common pots and pans.
- **Oven Size:** Spacious enough to accommodate a 20-pound turkey
- **Safety Features:** Cool-to-touch surface, no open flame, automatic shut-off, pan and spill detection, and child lock.
- **Modern Controls:** Large, easy-to-read display and simple touch controls.
- **Easy to Clean:** Smooth glass surface for quick wipe-downs.
- **Health/Environmental Benefit:** Produces no gas emissions, helping to improve indoor air quality while reducing your overall carbon footprint.

C4. After reading the description of the 120V Plug-in induction range technology, how appealing is this product to you?

1. Extremely appealing
2. Very appealing
3. Moderately appealing
4. Slightly appealing

5. Not appealing at all

C5. Do you think this product would be suitable for your home or living situation?

1. Yes
2. Maybe
3. No
4. Not Sure

C6. Which features of the 120V Plug-in induction range described previously, if any, are most appealing to you? Please select all that apply.

[RANDOMIZE]

1. Easy to install since it plugs into a standard 120V outlet
2. Safe to use (cool-to-touch surface, auto shut-off, child lock)
3. Easy-to-clean smooth glass surface
4. Compact size that is great for small spaces
5. Cooking performance meets my cooking needs (Time to boil 4 cups of water in 7 minutes)
6. Modern controls
7. Environmentally friendly (produces no gas emissions and reduces overall carbon footprint)
8. Helps improve indoor air quality
9. Other (please describe): **[TEXT RESPONSE]**

C7. What concerns, if any, do you have about using a 120V Plug-in induction range? Please select all that apply.

[ALLOW MULTIPLE]

[RANDOMIZE]

1. Cooking performance doesn't meet my cooking needs (Time to boil 4 cups of water in 7 minutes)
2. Power sharing mode: extended cook time if multiple burners or oven is in use
3. Cost of 120V induction range

4. Compatibility with my existing cookware
5. Safety concerns on induction technology
6. Safety concerns on electrical safety or overloading a standard outlet
7. Durability or long-term reliability of the product
8. Not enough burners on range top
9. Repair costs
10. I prefer gas stoves
11. I prefer traditional electric stoves
12. I'm not sure if it can handle Thanksgiving cooking
13. Other (please specify): [TEXT RESPONSE]
14. I do not have any concerns [EXCLUSIVE]
15. Don't know [EXCLUSIVE]

C8. [Only to Owners] How likely are you to purchase a 120V Plug-in induction range for your home?

1. Very likely – it seems like a great fit for my needs
2. Somewhat likely – I'm interested but would need more information
3. Neutral – I could go either way
4. Somewhat unlikely – it doesn't fully meet what I'm looking for
5. Very unlikely – I don't see it fitting my home or cooking style

C8a. [Only to Owners] How likely are you to purchase a 120V Plug-in induction range for your home, if it comes with compatible new cookware?

6. Very likely – it seems like a great fit for my needs
7. Somewhat likely – I'm interested but would need more information
8. Neutral – I could go either way
9. Somewhat unlikely – it doesn't fully meet what I'm looking for
10. Very unlikely – I don't see it fitting my home or cooking style

C8b. [Only to renters] How would you feel if your landlord installed a 120V Plug-in induction range in your unit?

11. Very Positive
12. Somewhat Positive
13. Neutral
14. Somewhat negative
15. Very negative

C8c. [Only to renters] How would you feel if your landlord installed a 120V Plug-in induction range in your unit, if they provide compatible cookware?

16. Very Positive
17. Somewhat Positive
18. Neutral
19. Somewhat negative
20. Very negative

C9. If you had to guess, what price would you expect for this product?

1. Under \$1,000
2. \$1,000 - \$1,499
3. \$1,500 - \$1,999
4. \$2,000 or more

C10. What additional information or resources would you find helpful or beneficial when learning about 120V Plug-in induction ranges? Please select all that apply.

[RANDOMIZE]

1. Cooking performance demos (e.g., videos, recipes, real-world tests, in-store displays)
2. Information on cookware compatibility
3. Information on energy cost savings of 120V induction ranges
4. Safety certifications and reliability data
5. Guidance on installation, electrical requirements, or outlet safety
6. Maintenance and cleaning tips
7. Customer reviews

8. Expert opinions or product reviews
9. Warranty and service information
10. Price
11. Environmental benefits of using a 120V induction range
12. Other (please specify): [TEXT RESPONSE]
13. I feel like I have enough information on the 120V induction range technology [EXCLUSIVE]

C11*. Where would you go to find more information about kitchen appliances such as ranges, if you need one in the future? Please select all that apply.

[ALLOW MULTIPLE]

[RANDOMIZE]

1. Manufacturer or brand websites
2. Retailer websites (Amazon, Best Buy, Home Depot, Lowe's, etc.)
3. Online forums or communities (e.g., Reddit, cooking forums, homeowner groups)
4. YouTube reviews or demonstration videos
5. Social media platforms (e.g., Instagram, Facebook, TikTok, Pinterest, etc.)
6. Blogs or articles from cooking or home improvement websites
7. Recommendations from friends, family, or colleagues
8. In-store visits to appliance retailers
9. Professional advice (contractors, electricians, kitchen designers)
10. Consumer reports or independent product review websites
11. Home improvement shows or magazines
12. Other (please specify): [TEXT RESPONSE]
13. I don't shop for large kitchen appliances [EXCLUSIVE]
14. Don't know [EXCLUSIVE]

C12*. Where do you typically shop for large kitchen appliances like ranges? *Please select all that apply.*

[ALLOW MULTIPLE]

[RANDOMIZE]

1. Online retailers (e.g., Amazon, Wayfair, Walmart.com, etc.)
2. Big-box stores (e.g., Home Depot, Lowe's, Best Buy, etc.)
3. Specialty appliance stores
4. Local or independent appliance retailers
5. Warehouse clubs (e.g., Costco, Sam's Club, etc.)
6. Secondhand or refurbished appliance stores
7. Directly from manufacturer websites
8. Through recommendations from contractors or interior designers
9. Other (please specify): [TEXT RESPONSE]
10. I don't shop for large kitchen appliances [EXCLUSIVE]
11. Don't know [EXCLUSIVE]

C13. Do you have any other thoughts or feedback about this 120V non-battery?

[OPEN END] [OPTIONAL]

C14. Below is a list of features for a range. Please select the top three that are most important to you.

1. Easy to install (plugs into a standard outlet, no panel upgrades or special wiring required).
2. Number of burners
3. Energy efficient and lower heat waste
4. Reduces utility bills
5. Advanced safety features
6. Cooking performance
7. It fits into my current kitchen space
8. Smooth, flat surface for easy cleaning
9. Large, easy-to-read controls/display for adjusting settings
10. Environmentally friendly (produces no gas emissions and reduces overall carbon footprint)

11. Helps improve indoor air quality
12. Stylish and modern design

C15. In the next section, you will see a series of range configurations. Each set includes a mix of features. For each set, please select the option you would most want in your home. If you don't like any of them, select "none" option.

Attribute	Level 1	Level 2	Level 3	Level 4	Level 5
Stove Type	Gas stove	Electric Coil	Electric Flat Surface	Electric Induction	
Size	20 inch	24 inch	30 inch	36 inch	
Number of Burners	2	3	4	6	
Minutes to boil a small saucepan of water	5 minutes	7 minutes	9 minutes	11 minutes	
Price	\$500	\$1,000	\$1,500	\$2,000	\$2,500

Example:

(1/9) Below are three sets of cook range (cooptop and range). Each set includes a mix of features. Please select the option you would most want in your home. If you don't like any of them, select "none" option.

Option 1		Option 2		Option 3		None of these options
Stove Type	Electric Induction Stove	Stove Type	Electric Flat Surface Stove	Stove Type	Gas Stove	
Size	24 inch	Size	20 inch	Size	36 inch	
Number of Burners	6	Number of Burners	4	Number of Burners	2	
Cooking Time	7 minutes to boil a small saucepan of water	Cooking Time	12 minutes to boil a small saucepan of water	Cooking Time	5 minutes to boil a small saucepan of water	
Price	\$1000.00	Price	\$2500.00	Price	\$2500.00	

Section D: Demographics

In this last section, we would like to ask a few questions to get a better understanding of you and your household.

D1. Which of the following describes your home?

1. Single family detached house
2. Townhouse, or row house: shares walls with neighboring unit, but not roof or floor
3. Duplex, apartment, or condo (2 to 4 unit building)
4. Apartment or condo (5 or more unit building)
5. Mobile home or manufactured housing
6. Accessory Dwelling Unit (ADU)
7. Other (please describe): **[TEXT RESPONSE]**

D2. What is your race/ethnicity? Select all that apply.

1. White or Caucasian
2. Black or African American
3. Hispanic/Latino
4. Asian or Pacific Islander
5. American Indian, Alaskan Native, or Native Hawaiian
6. Middle Eastern or North African
7. Other (please describe): **[TEXT RESPONSE]**
8. Prefer not to answer

D3. Approximately what year was your home built? *Your best guess is fine.*

1. Before 1960
2. 1960 – 1979
3. 1980 – 1999
4. 2000 or newer
5. Don't know

Appendix C: Survey Results Details

Respondent Characteristics

Table 12: Distribution of respondents by home ownership type.

Home Ownership Type	Number of Respondents	Total Respondents	Percentage of Respondents
Own	188	300	63%
Rent	112	300	37%

A4. Does your family own or rent your home?

Table 13: Distribution of respondents by age.

Age Group	Number of Respondents	Total Respondents	Percentage of Respondents
Under 18 years old	0	300	0%
18 – 24	8	300	3%
25 – 34	37	300	12%
35 – 44	61	300	20%
45 – 54	55	300	18%
55 – 64	59	300	20%
65 or older	80	300	27%

A3. What is your age?

Table 14: Distribution of respondents by household size.

Household Size	Number of Respondents	Total Respondents	Percentage of Respondents
1	60	300	20%

Household Size	Number of Respondents	Total Respondents	Percentage of Respondents
2	113	300	38%
3	60	300	20%
4	46	300	15%
5 or more	21	300	7%

A5. Including yourself, approximately how many people currently live in your home full-time, including both adults and children?

Table 15: Distribution of respondents by home type.

Home Type	Number of Respondents	Total Respondents	Percentage of Respondents
Single-family detached house	195	300	65%
Apartment or condo (5 or more unit building)	59	300	20%
Duplex, apartment, or condo (2 to 4 unit building)	26	300	9%
Townhouse, or row house (shares walls with neighboring unit, but not roof or floor)	11	300	4%
Mobile home or manufactured housing	8	300	3%
Accessory Dwelling Unit (ADU)	1	300	0%
Other (please specify):	0	300	0%

D1. Which of the following describes your home?

Table 16: Distribution of respondents by race and ethnicity.

Race and Ethnicity	Number of Respondents	Total Respondents	Percentage of Respondents
White or Caucasian	182	300	61%
Hispanic/Latino	63	300	21%
Asian or Pacific Islander	40	300	13%
Black or African American	30	300	10%
Middle Eastern or North African	4	300	1%
American Indian, Alaskan Native, or Native Hawaiian	3	300	1%
Other (please specify):	3	300	1%
Prefer not to answer	0	300	0%

D2. What is your race/ethnicity? Please select all that apply.

Table 17: Distribution of respondents' home by year built.

Home Year Built	Number of Respondents	Total Respondents	Percentage of Respondents
Before 1960	54	300	18%
1960 – 1979	83	300	28%
1980 – 1999	82	300	27%
2000 or newer	58	300	19%
Don't know	23	300	8%

D3. Approximately what year was your home built?

Table 18: Distribution of respondents by kitchen range size.

Kitchen Range Size	Number of Respondents	Total Respondents	Percentage of Respondents
20 inches	12	300	4%
24 inches	55	300	18%
30 inches	143	300	48%
36 inches	60	300	20%
Larger than 36 inches	0	300	0%
Not sure	30	300	10%

A10. How wide is your current range (measured left-to-right)?

Cooking Behavior, Satisfaction, and Challenges

This section presents results on survey respondents' current practices and usage patterns, as well as their satisfaction and challenges with their current kitchen range. The team aims to use this information to understand respondents' cooking behavior, along with identifying key factors and behaviors that may influence the adoption of the 120V induction range without battery.

Most of the respondents said that they cook frequently, with almost three-fifths of respondents cooking daily (58 percent, n=173) and about two-fifths of respondents cooking a few times a week (39 percent, n=118). Only several respondents cook once a week (2 percent, n=6) or rarely (1 percent, n=3).

Respondents said that the type of cooking they do the most often is frying or sautéing (84 percent, n=251). Respondents also often boil or steam (73 percent, n=218), as well as bake (65 percent, n=196) and stir-fry (60 percent, n=181). The least common type of cooking reported was grilling (36 percent, n=108). This suggests that many households do use the oven to bake from time to time, and they may potentially need to change their cooking behavior if they were to switch to a 120V induction range without battery, due to the power sharing feature.

The research team also asked respondents about the number of burners on their current kitchen range. The most common number of burners that respondents in our sample have is four burners, with more than three-fourths of respondents reported having four burners on their current range, including warming zone when applicable (77 percent, n=232). Some respondents reported having more than four burners on their kitchen range (17 percent, n=50), while several respondents reported that they only have one (0 percent, n=1), two (4 percent, n=11), or three (2 percent, n=6) burners on their range.

However, it is not common for respondents to use all burners simultaneously. The research team asked respondents to estimate the percentage of time they use a certain number of burners simultaneously while cooking. For this question, the research team uses the term “reported usage” and “average usage share” to report results. “Reported usage” is defined as the percentage of respondents who reported a value greater than 0 for a given category, while “average usage share” refers to the average reported usage among respondents with non-zero responses. Most respondents primarily cook using only one or two burners at a time, with 94 percent of respondents reporting usage of each. Among respondents reporting using one or two burners, the average usage shares were 57 percent and 33 percent, respectively.

Some respondents reported occasionally using three or more burners at a time; however, the use is less common, with only 54 percent, 34 percent and 2 percent of respondents reporting use of three, four, and more than four burners respectively. [Figure 5](#) summarizes the percentage of respondents by the number of cooktops used simultaneously. These higher burner scenarios account for a smaller share of cooking activity, with an average usage of 16 percent, 16 percent, and 21 percent, respectively. Cooking with one or two burners appears to be the most common behavior among respondents, both in terms of reported usage and average usage share. Since scenarios where respondents cook with three or more burners occur less frequently, the power sharing feature should not be a problem when switching to a 120V induction range without battery, especially since these scenarios tend to make up a smaller share of overall cooking activity.

The majority of respondents were generally satisfied with their current gas kitchen range. About one-third of respondents reported being very satisfied (34 percent, n=103) and more than half of the respondents reported being satisfied (54 percent, n=161) with their range overall. Only a small portion of respondents reported being neither satisfied nor dissatisfied (10 percent, n=29) or dissatisfied (2 percent, n=7).

To better understand which features respondents value most in their current cooking range, the team asked respondents what they liked about their current cooktop. [Figure 22](#) summarizes the cooktop features that respondents valued most in their current kitchen range. The majority of respondents stated that they like it because it is a gas range (70 percent, n=206), consistent with the sentimental attachment of gas brought up in the stakeholder interview. Other commonly cited reasons include their cooktop being reliable and long-lasting (55 percent, n=161), that it quickly heats up food (53 percent, n=155), easy to clean and maintain (49 percent, n=144), and its ability to cook multiple dishes simultaneously without feeling limited (43 percent, n=125). This suggests that respondents showed importance in having a gas range. Respondents also seem to consider overall convenience to be a highly important factor when choosing a kitchen range that would be appropriate for their household. However, it is worth noting that about two-thirds of these respondents reported having limited familiarity with induction ranges, suggesting that some of the features they value most in gas ranges may not necessarily be absent in induction ranges, but rather less recognized or understood.

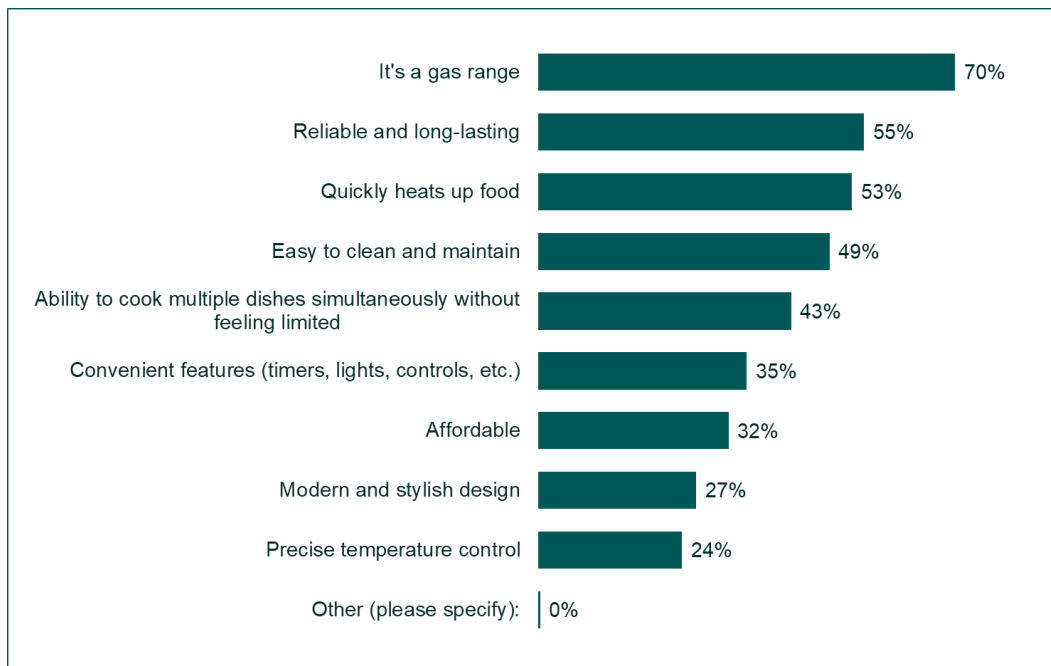


Figure 22: Cooktop features respondents valued in their current kitchen range (n=294).

Note: Percentages may sum to more than 100 percent because respondents were allowed to select more than one option.

B6. What do you like about the cooktop on your current range? Please select all that apply.

The research team also asked respondents whether they had experienced challenges with the cooktop in their current kitchen range to help identify current pain points associated with gas ranges. Additionally, the findings may help inform future marketing efforts by highlighting how the technology could address these challenges. More than two-fifths of respondents reported that they have not faced any challenges with their current cooktop (43 percent, n=130). For those who reported challenges, respondents commonly mentioned their cooktop being difficult to clean and maintain (22 percent, n=67) or that their burners or oven do not always work properly (14 percent, n=41). Some also mentioned the lack of precise temperature control (11 percent, n=32) and outdated or lacking modern features (11 percent, n=32), as well as unpleasant gas smell when cooktop is turned on (10 percent, n=31). [Figure 23](#) summarizes respondents' challenges with their cooktop in more detail.

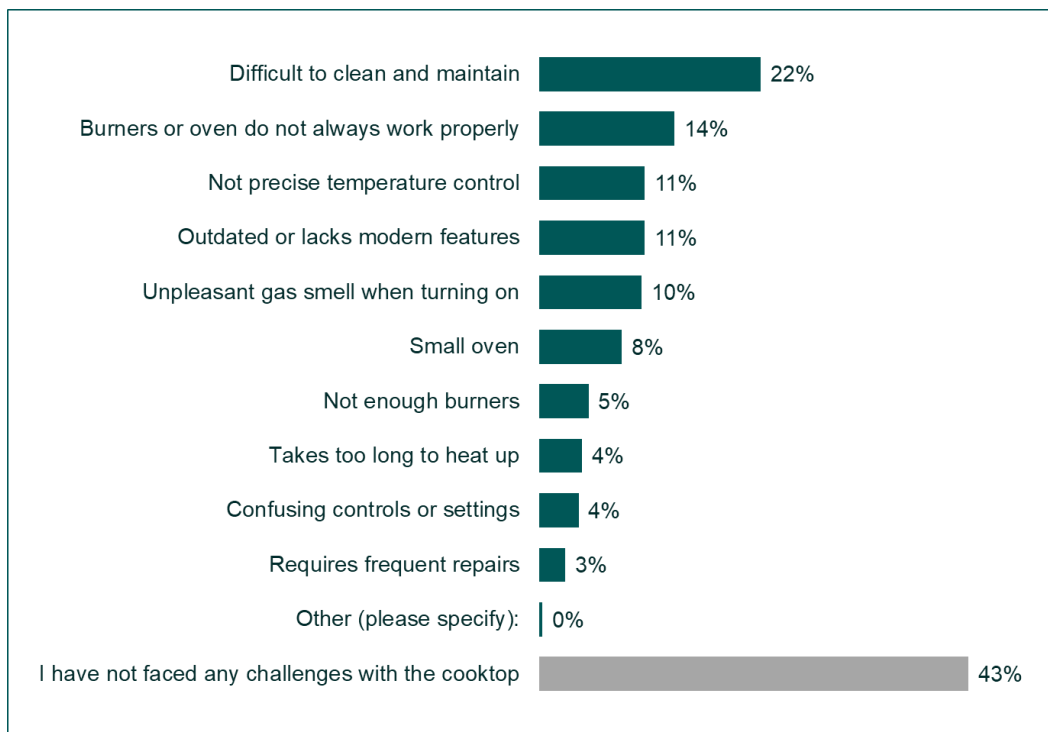


Figure 23: Respondents' challenges with their gas cooktop (n=300).

Note: Percentages may sum to more than 100 percent because respondents were allowed to select more than one option.

B7. What challenges, if any, have you experienced with the cooktop part of your current range? Please select all that apply.

Since the 120V induction range without battery has lower power capacity compared to typical kitchen ranges on the market, the research team asked respondents about their awareness of how much time it takes to bring two quarts of water to a boil. The majority of respondents reported that it typically takes ten minutes or less to bring two quarts of water to a boil on their current kitchen range. These respondents said that it typically takes less than five minutes (19 percent, n=56), five to seven minutes (43 percent, n=129), or eight to 10 minutes (28 percent, n=85). The rest said that it typically takes more than 10 minutes (7 percent, n=21) or that they did not know (3 percent, n=9). This suggests that respondents may not have an accurate understanding of how long it takes to boil two quarts of water on their current range since this typically takes less than five minutes, though it can vary slightly depending on the size of the burner being used.

Awareness and Perceptions of Induction Ranges

This section explores respondents' awareness and perceptions of induction ranges, including their familiarity with the technology, perceived benefits and drawbacks, and overall understanding of how induction cooking differs from traditional gas and electric options. It also examines the extent to which respondents recognize induction ranges as a viable alternative in the kitchen, as well as any misconceptions or knowledge gaps that may influence attitudes toward adoption. Additionally, this section also discusses induction range technology in general and is not specific to the 120V induction range without battery.

Figure 24 summarizes the respondents' familiarity with induction ranges by age.

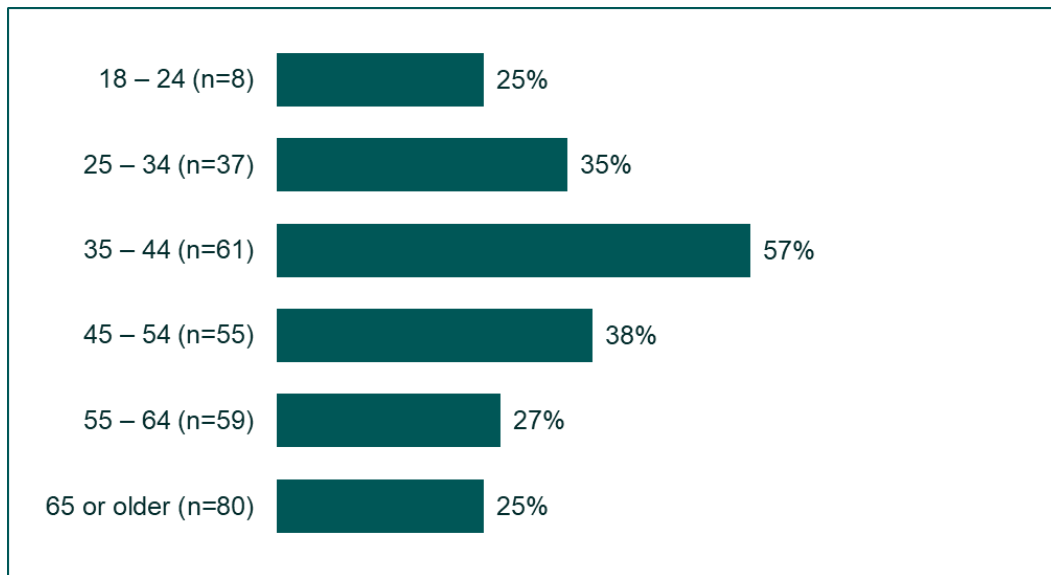


Figure 24: Respondents' familiarity with induction ranges by age (n=300).

C1: Are you familiar with induction ranges?

The team asked respondents who were at least a little bit familiar with induction ranges to compare induction ranges with gas ranges. About two-fifths of respondents thought that induction ranges were somewhat (33 percent, n=83) or much (8 percent, n=21) better than gas ranges. Almost one-third of respondents thought that they were about the same (30 percent, n=60), whereas more than a quarter of respondents (29 percent, n=73) thought that induction ranges were somewhat (24 percent, n=60) or much (5 percent, n=13) worse than gas ranges. Figure 25 provides a more detailed illustration of respondents' views on the two different types of kitchen ranges. However, this suggests a relatively positive perception of induction ranges overall.

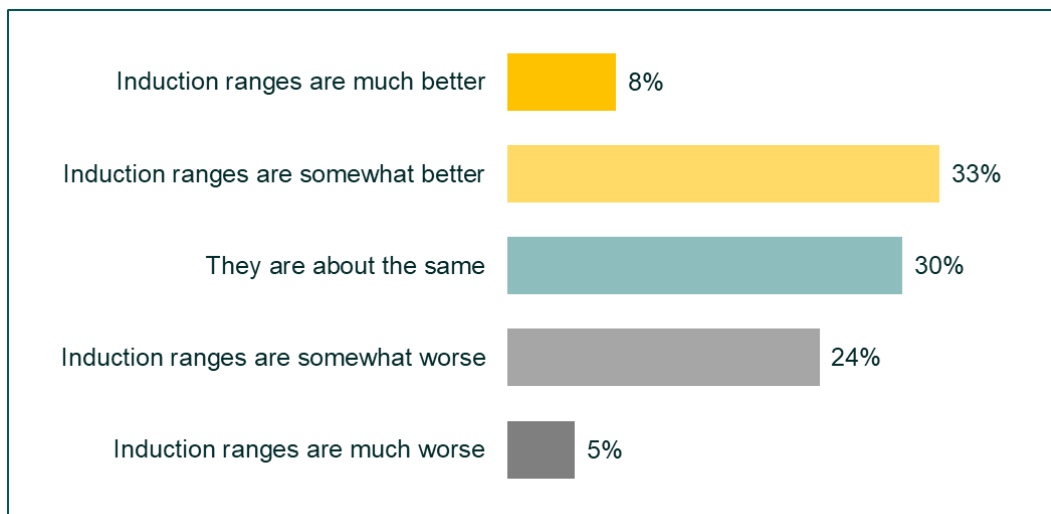


Figure 25: Respondents' views on induction versus gas ranges (n=253).

C2. How do you think induction ranges compare to gas ranges?

The research team asked respondents who indicated that gas ranges were better than induction ranges to explain the reasons behind their view. Respondents' main reasons were related to the reliability, affordability, and familiarity that gas ranges provide. The most frequently cited reasons were that gas stoves are more reliable in homes with frequent power outages (62 percent, n=45), they do not require magnetized bottom cookware (60 percent, n=44), they are more durable (58 percent, n=42), and that they are more affordable (51 percent, n=37). [Figure 26](#) provides further detail on respondents' perceptions of the advantages of gas ranges over induction ranges.

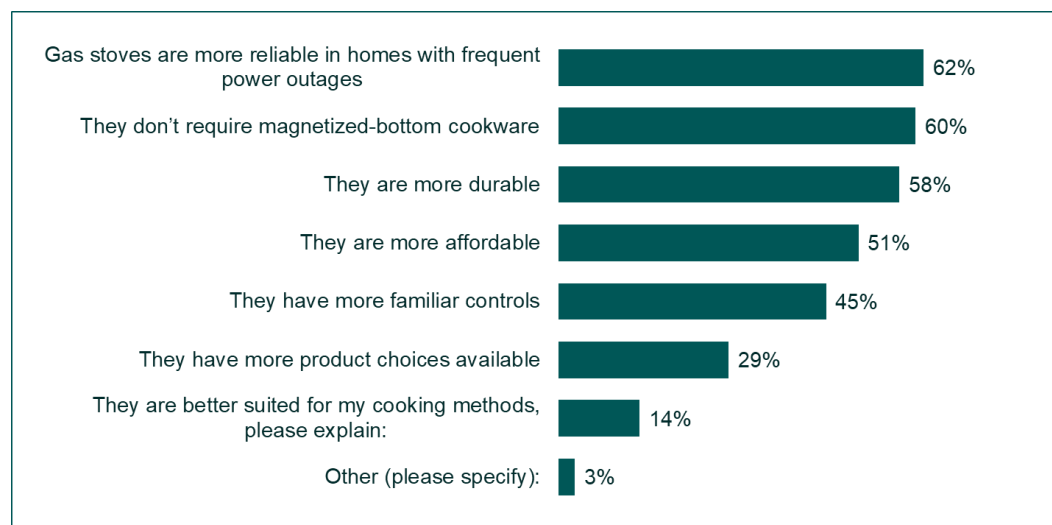


Figure 26: Respondents' perceived advantages of gas over induction ranges (n=73).

Note: Percentages may sum to more than 100 percent because respondents were allowed to select more than one option.

C3. In what ways are gas ranges better than induction ranges? Please select all that apply.

The research team also asked respondents who indicated that induction ranges were better than gas ranges to explain the reasons behind their view. The reasons most frequently mentioned were largely tied to concerns about health impacts and indoor air quality associated with gas appliances. The most commonly cited reasons were that there is no risk of gas leaks (64 percent, n=66), it is easier to clean because of the smooth surface (57 percent, n=59), it produces less excess heat in the kitchen (56 percent, n=58) and that it avoids burning gas indoors (55 percent, n=57). [Figure 27](#) summarizes respondents' perceptions of the advantages of induction ranges over gas ranges in further detail.

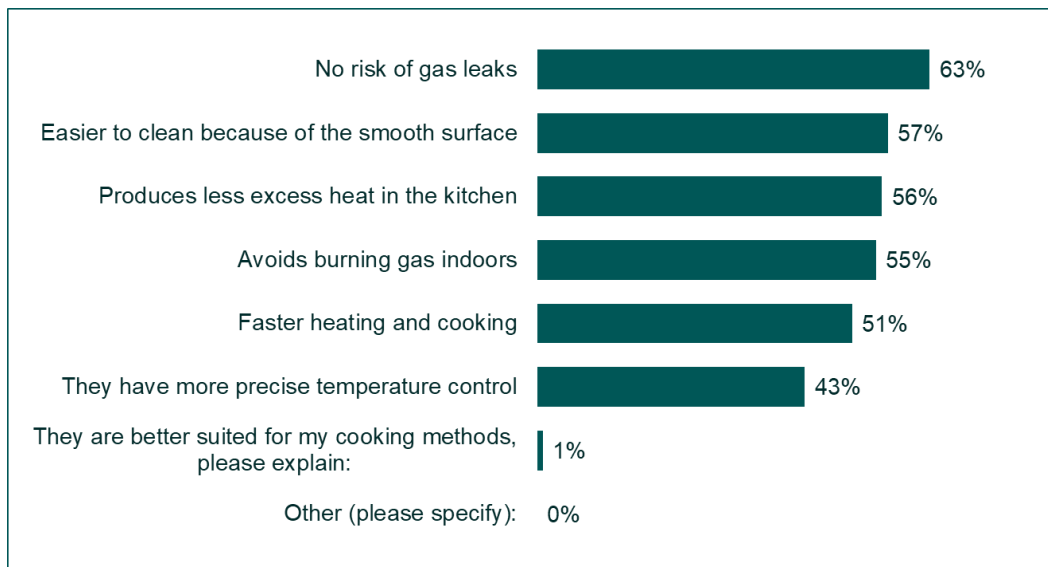


Figure 27: Respondents' perceived advantages of induction over gas ranges (n=104).

Note: Percentages may sum to more than 100 percent because respondents were allowed to select more than one option.

C3a. In what ways are induction ranges better than gas ranges? Please select all that apply.

Concept Reaction

This section examines the key factors influencing respondents' willingness to adopt induction ranges. It identifies the main considerations shaping adoption, including perceived benefits, potential barriers, and compatibility with respondents' current cooking habits and practices.

The research team asked homeowners two sets of questions regarding their likelihood of purchasing a 120V induction range without battery, both without and with compatible cookware included at no cost. The team wanted to identify whether having to buy a set of appropriate cookware is a significant barrier to adoption. [Figure 28](#) displays the homeowner respondents' likelihood of purchasing the product. Overall, more than two-fifths of homeowner respondents said that they would be very likely or somewhat likely to purchase the product in both scenarios. The percentage of respondents who rated it likely and neutral increased a little, while the percentage of those who rated it unlikely decreased. The percentage of respondents who said they would likely purchase increased from 44 percent (n=82) to 46 percent (n=87) and the neutral percentage rose from 27 percent (n=50) to 29 percent (n=55), whereas the unlikely responses declined from 30 percent (n=56) to 25 percent (n=46). With the slight change in scenario, the conversion rate among homeowner respondents increased slightly, although the difference was not significant.

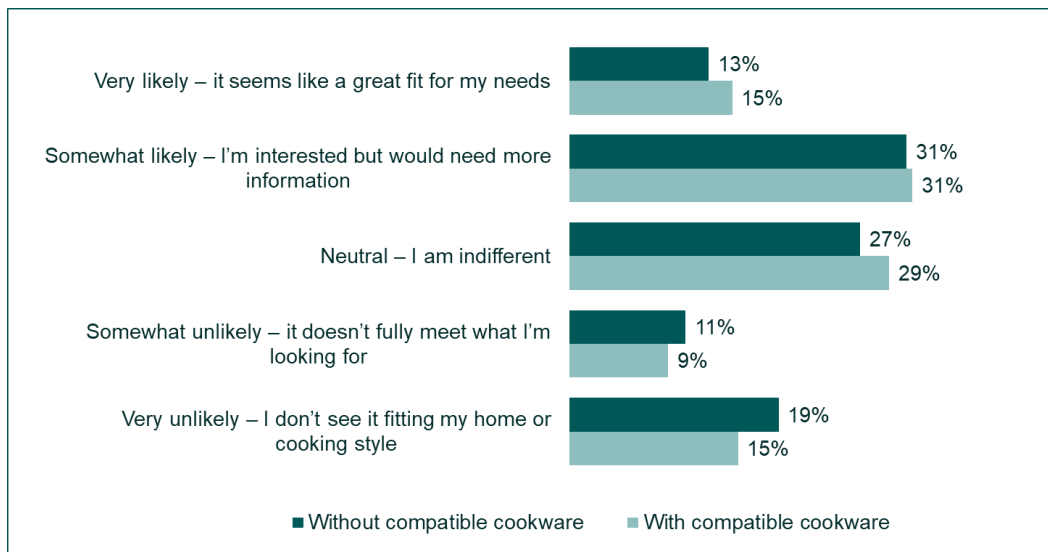


Figure 28: Homeowner respondents' likelihood of purchasing a 120V induction range without battery (n=188).

Note: Percentages may sum to more than 100 percent due to rounding.

C8 – C8a combined. How likely are you to purchase a 120V Plug-in Induction Range for your home when it's time to replace your current kitchen range, without and with compatible cookware provided at no extra cost?

The team also asked renters a similar set of questions, but instead of focusing on likelihood of purchase, the questions explored how they would feel if their landlord installed a 120V induction range without battery, both without and with compatible cookware provided at no cost. [Figure 29](#) illustrates the renter respondents' overall sentiment if their landlord installed the product in their homes. Overall, about half of the renter respondents said that they would be very positive or somewhat positive if their landlord installed the product in both scenarios. The percentage of respondents who rated it positive and neutral increased, while the percentage of those who rated it negative decreased. The percentage of respondents who said they would likely feel positive increased from 49 percent (n=55) to 63 percent (n=70), whereas the neutral and negative percentages declined from 35 percent (n=39) to 27 percent (n=30), and 16 percent (n=18) to 11 percent (n=12), respectively. With the slight change in scenario, the conversion rate among renter respondents increased more significantly compared to homeowner respondents. This suggests that renter respondents are less resistant to the idea of a 120V induction range without battery compared to homeowners and may be more receptive to adoption if provided with a set of compatible cookware.

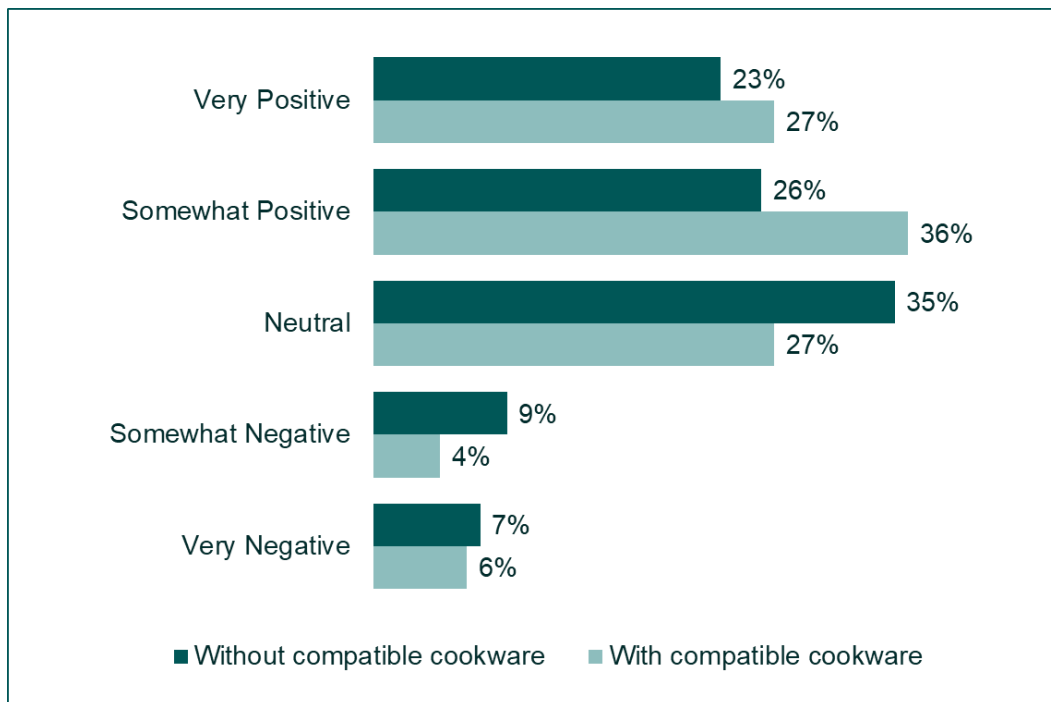


Figure 29: Renter respondents' overall sentiment if their landlord installed a 120V induction range without battery in their homes (n=112).

C13 – C13a combined. How would you feel if your landlord installed a 120V Plug-in Induction Range in your unit, without or with compatible cookware to use?

The team asked homeowner respondents to estimate the expected price of the 120V induction range without battery. This allows the research team to understand consumers' perceptions of the product's value and help identify potential mismatches between consumer expectations and the actual intended price point, which can influence purchase interest and adoption likelihood. [Figure 30](#) summarizes the respondents' price estimates for the product. About two-thirds of respondents estimated the price of the product to be between \$1,000 to \$1,999 (67 percent, n=125), which is similar to the actual price of the product—approximately between \$1,500 to \$2,000. One-third of the respondents had inaccurate perceptions of the product's expected price, which suggests that some consumers may have limited familiarity or understanding of the product and its market value.

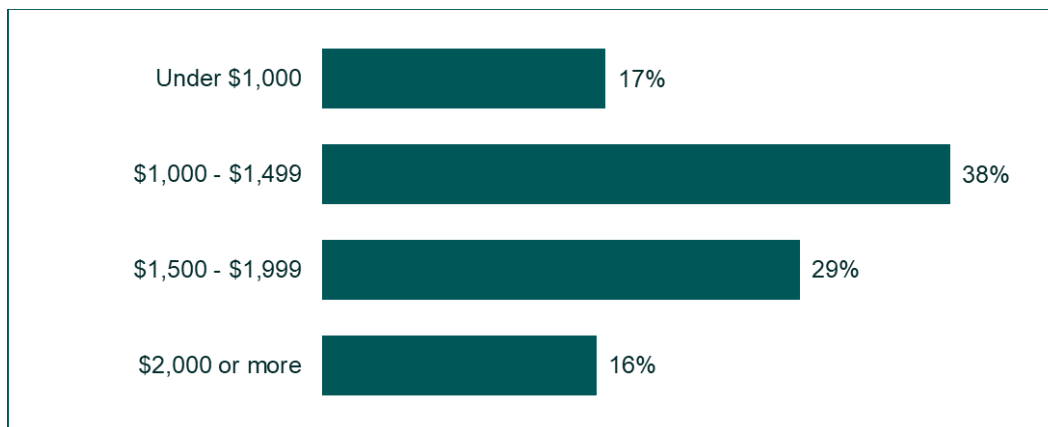


Figure 30: Homeowner respondents' price estimates for the 120V induction range without battery (n=188).

C9. If you had to guess, what price would you expect for this product?

The majority of homeowner respondents mentioned that they would like to learn additional information about the 120V induction range without battery. Respondents mentioned wanting information such as price, warranty, and service information (60 percent, n=113) the most. Other frequently mentioned resources include energy cost savings and efficiency (46 percent, n=87), customer reviews (45 percent, n=85), and maintenance and cleaning tips (38 percent, n=72), as well as cookware compatibility information (38 percent, n=71). [Figure 31](#) summarizes the homeowner respondents' preferences for additional resources in more detail. Since the technology is still relatively new, many respondents appear to have limited familiarity with the product and may require additional information to better understand its features, functionality, safety and overall value. This helps inform the research team of the type of information and knowledge gaps that are currently present in the market, which could help improve consumer awareness and feasibly accelerate adoption.

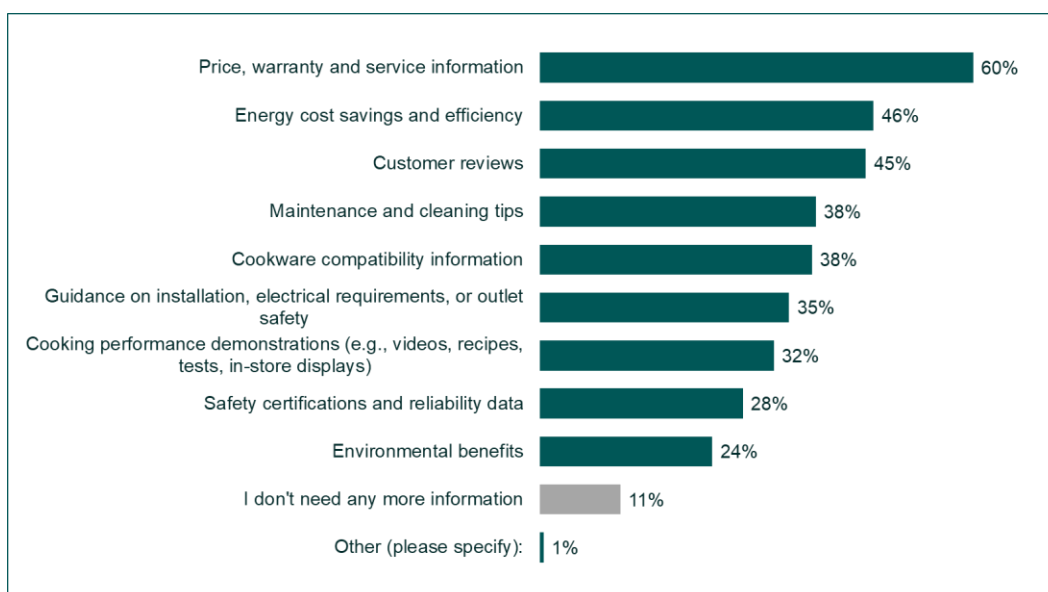


Figure 31: Homeowner respondents' preferences for additional resources related to the 120V induction range without battery (n=188).

Note: Percentages may sum to more than 100 percent because respondents were allowed to select more than one option.

C10. What additional information or resources would you find helpful or beneficial when learning about 120V Plug-in Induction Ranges? Please select all that apply.

The research team also asked respondents where they typically shop for large kitchen appliances such as kitchen ranges. Respondents reported that they typically shop through big box stores (70 percent, n=132) and warehouse clubs (41 percent, n=78). Some also mentioned going to specialty appliance stores (27 percent, n=51), local or independent appliance retailers (22 percent, n=42), or online retailers (19 percent, n=36). [Figure 32](#) shows respondents' preferences for buying large kitchen appliances in more detail. Since the majority of respondents reported typically shop for large kitchen appliances in physical stores, this suggests that in-store demonstrations or retail availability could help improve awareness and accelerate the adoption of the technology.

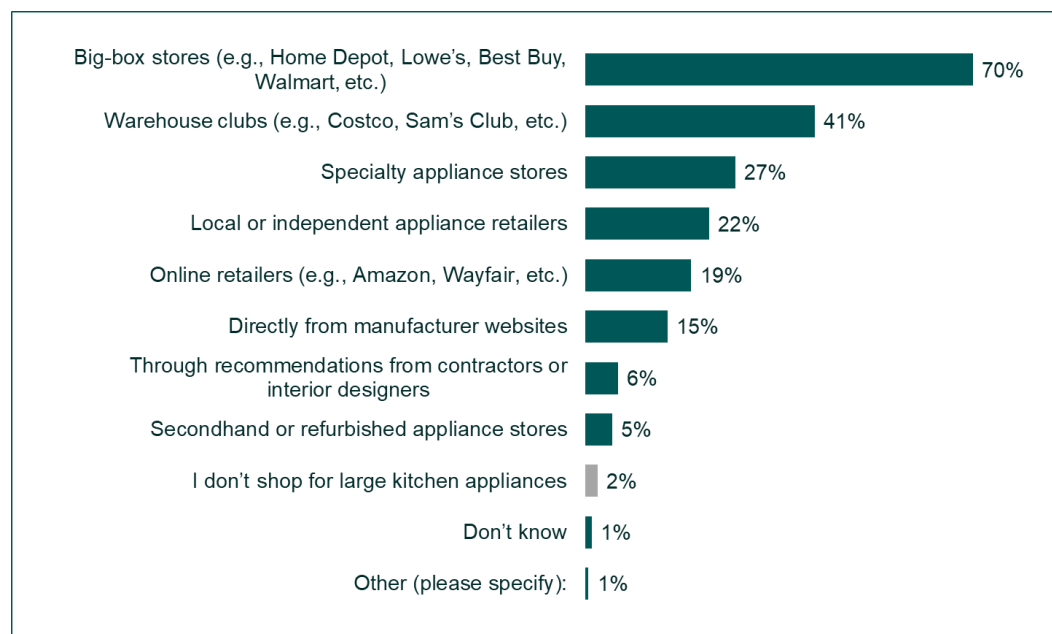


Figure 32: Homeowner respondents' preferences for buying large kitchen appliances (n=188).

Note: Percentages may sum to more than 100 percent because respondents were allowed to select more than one option.

C12. Where do you typically shop for large kitchen appliances like ranges? Please select all that apply.