



C.O.O.K: Cooking On 0 Emissions Kilowatts

Cooking fuel preferences, barriers, and opportunities in
immigrant communities

About Kambo Energy Group

Since 2009, Kambo has worked to improve housing, accelerate decarbonization, increase equitable participation and representation of underserved communities in the climate sector, and reduce energy poverty in Indigenous Nations, lower-income households, and immigrant/newcomer communities. Leveraging a boots-on-the-ground, pragmatic approach, Kambo has supported 60 First Nations communities, educated 70,000 BIPOC households, and provided free energy efficiency upgrades to 7,000 lower-income households.

Kambo's Empower Me program is Canada's only energy conservation, awareness, and education program, uniquely designed and delivered by members of diverse, multilingual, and harder-to-reach communities. The program's community-led approach ensures support and engagement efforts are tailored to accommodate members of underserved communities, bridges information gaps, and enables these communities to access resources and opportunities within the energy and conservation sector.

Acknowledgments

We gratefully acknowledge that the research and community engagements that inform this report took place on the traditional and ancestral territory of the x̱mə̀ḵəy̱əm (Musqueam), S̱w̱ wú7mesh (Squamish) and sə́lilwə́tə (Tsleil Waututh) peoples, in what is now referred to as the City of Vancouver and City of Surrey in British Columbia, Canada.

We are grateful to the first peoples who have stewarded these lands since time immemorial and continue to protect the land, water, and community where we live and work.

We are grateful to everyone who participated in our community engagements and helped convene community members for in-person and virtual engagements. Furthermore, we are grateful to the following community-based organizations for participating in and supporting our engagements:

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- Settlement Workers in Schools, Vancouver School Board
- Esaine Mo, Vancouver Gateway Lions Club
- Hong Kong University Alumni, Vancouver branch
- South Vancouver Neighborhood House
- Cantonese Seniors' Group of Killarney Community Center
- Bayanihan Canada
- Society of Punjabi Engineers and Technologists of BC
- Noushin Beheshtipoor, North Shore Community Resources
- Sheenam Bhardwaj, Fairleigh Dickinson University
- Taniya Dehghani, University Canada West
- Leaders of community and cultural groups on WeChat and WhatsApp

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Finally, we express our sincere gratitude to our funding partners, BC Hydro and City of Vancouver, and to our project partners, City of Surrey and Vancity, for enabling this important research.





Purpose of the Research

This research is consistent with Kambo's overarching mission of addressing energy, climate, and housing challenges, particularly within diverse and underserved communities. The study's focus on cooking preferences and the potential transition to electric cooking aligns with Kambo's commitment to fostering sustainable and equitable energy practices.

Furthermore, the research serves as a tangible expression of Kambo's dedication to equity and inclusion. By exploring cooking habits in immigrant and newcomer communities, the study aims to uncover disparities and unique needs. This understanding is crucial for developing inclusive energy solutions that resonate with the diverse

preferences and challenges within immigrant and newcomer communities, ensuring that Kambo's initiatives are culturally sensitive and responsive.

The research outcomes serve a dual purpose, informing the development of future programs and providing Kambo with valuable insights to share with government and utility stakeholders. These findings play a crucial role in advocating for inclusive policies that effectively address immigrant and newcomer households' diverse preferences and challenges. This research underscores Kambo's commitment to making a positive social impact, promoting equity, and advancing sustainable energy practices within the communities it serves.

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Executive Summary

This research constitutes a thorough examination of cooking practices within immigrant and newcomer communities, particularly focusing on their readiness to embrace electric cooking appliances. With a keen awareness of the importance of sustainable energy practices and the unique challenges these communities face, Kambo Energy Group conducted this study to understand current cooking habits. By meticulously analyzing the cultural, social, and economic factors that shape cooking preferences, the research endeavours to provide practical insights and recommendations for facilitating a smooth transition to electric cooking.

The approach is structured around four primary objectives: firstly, to comprehensively understand prevailing cooking habits within immigrant and newcomer communities; secondly, to identify barriers impeding the adoption of electric cooking appliances; thirdly, to propose culturally sensitive strategies for overcoming these barriers and promoting electrification; and finally, to outline opportunities for future research and policy development in this critical domain. This research aims to empower immigrant and newcomer communities with the knowledge and support needed to embrace energy-efficient cooking practices.



Introduction

A. Background and Context

In Canada, immigrant and newcomer communities contribute to the nation's vibrant cultural tapestry, bringing diverse culinary traditions, practices, and values. Central to these traditions is the act of cooking, which serves as a vehicle for cultural expression, community bonding, and the preservation of heritage. However, as these communities navigated the process of settling into their new homes, they were faced with decisions regarding cooking practices and the choice of cooking appliances, particularly between gas and electric stoves. This choice was influenced by a multitude of factors, including cultural heritage, economic circumstances, and environmental considerations.



Against this backdrop, this research explores and seeks to understand the cooking practices, cultural influences, and perceptions related to gas and electric stoves within immigrant and newcomer communities in Canada, with a focus on British Columbia. By delving into the intricacies of cooking preferences and appliance choices, this study seeks to illuminate the factors shaping cooking preferences within these communities and inform unique strategies as the sector seeks to promote the adoption of electric cooking technologies.

B. Research Objectives and Questions

In the pursuit of a comprehensive understanding of cooking practices within immigrant and newcomer communities, the following research objectives served as navigational anchors:

1. Understand current cooking habits, perspectives, values, and approaches within immigrant and newcomer communities.
2. Investigate specific challenges and unique needs related to the electrification of cooking, considering diverse preferences, socio-economic factors, and cultural considerations.
3. Propose practical and culturally sensitive approaches to address identified needs and challenges, offering actionable recommendations for government, utility, and sector stakeholders.

4. Identify potential avenues for further research, policy development, and program initiatives to advance the understanding and promotion of electrified cooking within diverse communities.

These objectives guided the exploration of the following research questions:

1. What are the predominant cooking practices and methods employed by immigrants and newcomer communities?
2. To what extent are cooking practices influenced by cultural and traditional values within immigrant and newcomer households?
3. What are the perceived barriers or challenges hindering the adoption of electric cooking appliances within these communities?
4. What is the current level of awareness and understanding among immigrant and newcomer communities regarding electric cooking technologies?
5. What are effective strategies for engaging and communicating with immigrant and newcomer communities about the benefits of electric cooking?
6. To what extent are immigrant and newcomer households willing to transition from gas to electric cooking if provided with appropriate education and support?



C. Methodology Overview

To investigate cooking practices among immigrant and newcomer communities in British Columbia, a robust methodology was essential.

The research framework combined Participatory Narrative Inquiry (PNI), Health Belief Model (HBM), and Social Cognitive Theory (SCT). The research employed a mixed-methods approach, combining community listening sessions and surveys targeting Cantonese-speaking, Farsi-speaking, Mandarin-speaking, Punjabi-speaking, and Tagalog-speaking immigrant and newcomer populations. Community listening sessions facilitated qualitative insights into cooking practices, cultural influences, and perceptions related to gas and electric stoves. Surveys gathered quantitative data to complement and validate these findings.

Literature Review

The decision between gas and electric stoves extends beyond mere convenience in cooking; it implicates environmental sustainability, public health, and cultural practices. Recognizing the complexity of this choice, a thorough literature review was undertaken to explore the multifaceted dimensions surrounding gas and electric stoves. This comprehensive analysis delves into their respective impacts on indoor air quality, the advantages of electrification, the nuanced preferences of immigrant and newcomer communities, and the pivotal role of education in shaping stove preferences.



The Impact of Gas on Indoor Air Quality

Gas cooking has significant implications for indoor air quality, contributing to environmental concerns and posing health risks associated with the emission of nitrogen dioxide (NO₂), carbon monoxide (CO), formaldehyde (CH₂O), and methane (CH₄).

Nitrogen Dioxide (NO₂) Exposure

Gas cooking processes release NO₂, a greenhouse gas that contributes to global warming and affects air quality. Health risks are associated with elevated exposure levels, especially during winter months when gas stoves are commonly used. Epidemiological studies link long-term NO₂ exposure

to respiratory symptoms, particularly in vulnerable populations like asthmatic children. Health Canada proposes Residential Indoor Air Quality Guidelines (RIAQG) to mitigate risks, suggesting limits of 170 µg/m³ for short-term exposure and 20 µg/m³ for long-term exposure.

Carbon Monoxide (CO) Exposure

Gas cooking poses substantial risks related to CO exposure. CO is an odourless, colourless gas, making it difficult to detect without specialized tools. Combustion of gas produces CO, and malfunctions in gas appliances or poor ventilation can lead to its overproduction. Symptoms of CO poisoning, often mistaken for common illnesses,

include chest pain, dizziness, vomiting, and, in severe cases, fatal overdose. Vulnerable groups, such as the elderly and individuals with respiratory problems, face heightened risks. Over 300 people in Canada die annually due to carbon monoxide poisoning.

Formaldehyde (CH₂O) Exposure

Gas cooking, especially with unvented stoves, contributes to formaldehyde emissions in homes. Formaldehyde, a by-product of natural gas combustion, can break down into carbon monoxide in the atmosphere, contributing to climate change. Elevated levels of formaldehyde during gas cooking can irritate the eyes, nose, and throat. The efficiency of combustion and kitchen ventilation influence emission levels, posing health risks, especially for individuals with conditions like asthma.

Methane (CH₄) Exposure

Gas stoves, even when not in use, release methane, a potent greenhouse gas. Unlike other gases, methane emissions cannot be effectively addressed through ventilation. Surprisingly, more than three-quarters of methane emissions occur during stove inactivity, revealing a significant environmental challenge.

The data from Natural Resources Canada reveals that gas ranges in Canadian homes were responsible for emitting approximately 370,000 metric tons of carbon dioxide equivalent in the year 2020. To put this into perspective, this amount is equivalent to the emissions produced by burning

2,000 railcars' worth of coal. It's noteworthy that this calculation does not factor in the additional emissions of methane gas. Gas ranges represent approximately 1 percent of the total emissions from Canadian homes per year.

In summary, the impact of gas cooking on indoor air quality involves the release of gases with environmental consequences and potential health hazards. Understanding and addressing these risks are crucial for promoting safer and healthier indoor environments.

For relevant literature see the Bibliography, section entitled: The Impact of Gas Emissions

The Benefits of Electrification

Electrification offers a myriad of benefits across various sectors, making a compelling case for prioritizing electric stoves over traditional gas alternatives. One of the primary advantages lies in the significant reduction of greenhouse gas emissions associated with electricity generation. The shift towards cleaner and renewable energy sources, such as solar, wind, and hydroelectric power, inherently reduces the carbon footprint, aligning with global initiatives to combat climate change and achieve sustainability goals.

In terms of energy efficiency, electric stoves outperform their gas counterparts. The conversion of energy into usable heat for cooking is more efficient, resulting in minimized energy waste. This stands in stark contrast to gas stoves, which may experience heat loss during the cooking process,

leading to inefficiencies and increased utility costs over time.

Improved indoor air quality emerges as another key benefit of electrification, particularly in the context of cooking appliances. Electric stoves, being combustion-free, eliminate the release of pollutants associated with gas stoves, such as carbon monoxide, nitrogen dioxide, and formaldehyde. This not only enhances the health and well-being of individuals but also contributes to a cleaner and safer living environment.

Safety considerations further underscore the advantages of electric stoves. Eliminating the risk of gas leaks, a potential hazard with traditional gas stoves, enhances kitchen safety. Gas leaks can lead to fires or explosions if not promptly detected, making electric stoves a safer alternative for households.

Electrification also promotes a diversified energy landscape by allowing for a range of energy sources, including renewables. This diversification enhances energy security, reduces dependence on finite fossil fuel reserves, and fosters resilience in the face of supply disruptions.

The integration of energy storage solutions, such as batteries, represents another noteworthy benefit. Electrification facilitates efficient storage of excess energy generated from renewable sources during periods of low demand, making it available for use during peak demand times.



Cost savings over time become apparent with electrification, particularly in heating and cooling systems. Electrified systems can prove to be more cost-effective in the long run, contributing to economic efficiency alongside environmental benefits. Finally, the quiet operation of electric stoves and appliances compared to their traditional counterparts adds to the overall appeal of electrification. This contributes to reduced noise pollution in urban environments, aligning with the broader goals of creating healthier and more livable communities.

Although electric appliances can be more expensive than their gas counterparts, the numerous benefits of electrification, encompassing reduced emissions, improved efficiency, enhanced safety, and economic advantages, make a compelling case for prioritizing electric stoves as a cleaner, safer, and more sustainable cooking solution.

For relevant literature see the Bibliography, section entitled: The Benefits of Electrification

Immigrant and Newcomer Preferences

As of now, a comprehensive study specifically addressing the perspectives of immigrants and newcomers on the choice between gas and electric stoves in Canada or the United States has not been conducted. The existing information, which is limited to a few articles, primarily draws from anecdotal evidence, individual statements, and experiences shared by community members, culinary professionals, and public figures.

In Canada's National Observer, Vancouver Mayor Ken Sim highlighted the potential consequences of regulations that might hinder individuals of certain cultural groups, such as those of Chinese, South Asian, or Asian descent, from preparing their own culturally appropriate meals at home. He emphasizes the importance of preserving the ability to engage in this basic cultural practice, raising concerns about limiting individuals to enjoying their traditional foods only in restaurants.

In the same article, Rebecca Cui, a new immigrant from China, echoes these sentiments, expressing how bylaws against gas appliances could impede her ability to cook culturally relevant food. She emphasizes the challenge of mimicking her mother's favourite dishes due to the use of different materials, particularly with an electric stove that delivers heat only to the bottom of the pan, altering the flavour.

The debate extends to culinary professionals like Barry Tsang, an instructor of Asian culinary arts, who challenges the notion that gas stoves significantly impact flavour. He suggests that induction stoves distribute heat differently, questioning the traditional association between gas stoves and authentic culinary experiences. Chef Jon Kung, known for his culinary expertise, highlights the advantages of electric cooking, emphasizing its efficiency, ease of cleaning, and rapid heating capabilities. He rejects the critique that gas stove bans would hinder chefs, particularly in cooking authentic Chinese food, as he relies



on induction cooking for an “authentic experience.”

Other chefs, such as Christopher Galarza and Tu David Phu, share their positive experiences with electric kitchens. Galarza emphasizes the improved comfort and lower temperatures in all-electric kitchens, contributing to better mental health. Phu advocates for inclusivity in electrification efforts, particularly for working-class and poor communities, positioning decarbonization as a justice issue.

While there are voices expressing concerns about the potential impact of regulations on cultural cooking practices, particularly among certain immigrant groups, the absence of a systematic study makes it challenging to provide conclusive evidence regarding a widespread cooking preference within these communities. A nuanced understanding of the diverse perspectives within immigrant and newcomer populations would require a comprehensive research effort, including surveys, interviews, and cultural context analysis.

For relevant articles see the Bibliography, section entitled: Immigrant Opinions

The Impacts of Education

The available research on the impact of education on public opinion regarding stove preference is primarily represented by a single study conducted by Data for Progress. It is important to note that this study is based on an American sample and does not specifically focus on any cultural or ethnic group. Nevertheless, the study provides



valuable insights into how awareness and education about the health implications of different stove types can influence consumer preferences.

The findings from the Data for Progress study reveal a noteworthy shift in public sentiment after individuals were informed about the health risks associated with gas stove emissions. Initially, 63% of surveyed adults expressed a likelihood to choose electric stoves in the next decade, while 36% favoured gas stoves, and nine percent considered induction cooktops.

Upon receiving information about the harmful indoor air pollutants released by gas stoves, respondents displayed a changed

perspective. The percentage of individuals favouring electric stoves increased to 72%, showcasing a heightened awareness of the potential health risks. Conversely, the preference for gas stoves decreased to 27%, indicating a substantial impact of education on stove preferences.

While this study does not delve into specific cultural or ethnic groups, it demonstrates a broad trend in preferences influenced by awareness of health and environmental concerns associated with different cooking technologies. It is crucial to recognize that this singular study offers valuable insights into the general American population's response to education on stove-related health hazards. Further research specifically tailored to diverse cultural and ethnic groups could provide a more nuanced understanding of stove preferences within these communities.

For relevant studies see the Bibliography, section entitled: Comparable Research

Considerations Moving Forward

This literature review has provided a thorough examination of the myriad dimensions surrounding the choice between gas and electric stoves. From environmental sustainability to public health and cultural practices, the implications of stove selection are far-reaching and complex. This analysis has uncovered the significant impacts of gas cooking on indoor air quality, as well as the compelling benefits offered by electrification.

However, amidst this exploration, notable

gaps in the literature have been identified, particularly concerning the perspectives of immigrants and newcomers. Recognizing the importance of addressing these gaps, Kambo Energy Group embarked on new research aimed at filling this void. Through surveys and community listening sessions conducted with immigrants and newcomers in British Columbia, Canada, Kambo sought to understand their stove preferences and the underlying cultural considerations. This comprehensive study represents a crucial step towards inclusivity and informed decision-making in the realm of household cooking practices.

Furthermore, this research also examined the influence of education on public opinion regarding stove preference. While existing studies have provided valuable insights, the findings of this project contribute to a more nuanced understanding of how awareness and education shape consumer choices, particularly within diverse cultural and ethnic groups.

In essence, this research was carried out to address the gaps identified in the existing literature, focusing on immigrants and newcomers in British Columbia, Canada. By bridging these gaps, we aim to inform more inclusive and effective policies and programs that promote both reduced emissions and cultural preservation. Through our research efforts, we strive to create a more equitable and informed approach to addressing the unique needs and opportunities associated with gas and electric stove usage in diverse communities.

Methodology

To address the research objectives and fill the identified gaps in the literature, a comprehensive methodology was employed.

1. Theoretical Framework

The Theoretical Framework adopted for this project combines Participatory Narrative Inquiry (PNI), Health Belief Model (HBM), and Social Cognitive Theory (SCT) to explore cooking practices amongst immigrant and newcomer communities in British Columbia. PNI fosters collaboration, allowing individuals to share experiences and cultural nuances. HBM examines community perspectives on health and environmental impacts, while SCT promotes self-efficacy through positive examples, aiming to increase openness to electric cooking.

Acknowledging the influence of cultural norms, traditions, and linguistic subtleties, this framework underscores the importance of adopting culturally sensitive strategies, demonstrating a commitment to recognizing and honouring the distinct context of each community. At its core, the framework prioritizes community empowerment, anticipating that active participation will contribute to sustainable changes in cooking practices and increased openness to electrification.

2. Participants and Sampling

According to Statistics Canada, 197,420 individuals have immigrated to British

Columbia since 2016. The largest number of immigrants fall into five groups: 25,535 are Mandarin-speaking, 20,475 are Punjabi-speaking, 11,820 are Tagalog-speaking, 5,850 are Farsi-speaking, and 4,795 are Cantonese-speaking. These five groups were selected as the focus of this research.

For this research, two sampling strategies were adopted: snowball and randomized sampling. A snowball sampling strategy was employed to select participants for the Community Listening Sessions allowing KEG researchers to garner participation from within communities despite being external to them. For the surveys, a randomized sampling approach was used to obtain a representative sample of households within the targeted communities.

To ensure confidence in the findings with a 5% margin of error, a minimum sample size of 160 participants was identified.

3. Community Listening Sessions

The research employed Community Listening Sessions to gather qualitative insights into cooking preferences within immigrant and newcomer communities in British Columbia, Canada. These sessions, guided by the Participatory Narrative Inquiry (PNI) approach, facilitated collaborative storytelling and active participant involvement, allowing for the exploration of diverse culinary experiences and cultural influences.

Ten Community Listening Sessions were conducted, with each session accommodating up to 15 participants, resulting in a total of 100 participants. To capture the nuances of each linguistic community, two sessions were held for each group.

The sessions served as platforms for participants to share narratives, perspectives, and experiences related to cooking practices. Facilitators guided discussions using open-ended prompts, encouraging participants to reflect on their cooking habits, values, challenges, and preferences. Sessions were audio-recorded with participants' explicit consent, and detailed transcriptions were generated for subsequent analysis.

The questions asked during the Community Listening Sessions are included in Appendix 1.

4. Survey Design and Distribution

Concurrently with the Community Listening Sessions, surveys were distributed to households within each targeted community to gather quantitative data on cooking habits, energy usage patterns, and attitudes toward the electrification of cooking. The survey design aimed to complement qualitative insights with statistically relevant information, ensuring a comprehensive understanding of cooking practices within immigrant and newcomer communities.

Surveys were made available in the preferred languages of each community, enhancing accessibility and inclusivity. The distribution process involved collaboration with local community leaders and organizations to foster community engagement and

ensure language appropriateness.

A total of 158 surveys were completed by immigrants and newcomers currently residing in British Columbia.

The questions asked during the Surveys are included in Appendix 2.

5. Overview of Data Collection and Analysis Procedures

Data recording and transcription measures were undertaken to effectively document information gathered from the Community Listening Sessions. Audio recordings were meticulously transcribed to facilitate in-depth thematic analysis, identifying recurring themes, patterns, and insights within the qualitative data.

Thematic analysis was applied to qualitative data to derive meaningful insights into cooking practices and preferences within immigrant and newcomer communities. Concurrently, quantitative data from surveys underwent statistical analysis to identify trends and correlations, enhancing the validity and reliability of the research findings.

A triangulation approach was employed to integrate qualitative and quantitative findings, ensuring a holistic interpretation of the electrification potential within each linguistic community. This approach enhanced the depth and credibility of the research framework, facilitating nuanced insights into cooking practices and preferences among diverse immigrant and newcomer populations in British Columbia, Canada.

6. Ethical Considerations

In completing this research, ethical principles were upheld to ensure the well-being and rights of the diverse immigrant and newcomer communities involved. Transparent communication, cultural sensitivity, and privacy safeguards were paramount throughout the process. The project was designed to mitigate power imbalances, engage the community, and disseminate findings transparently and accurately. Continuous ethical monitoring ensured adherence to standards and respect for participants' dignity.

7. Limitations

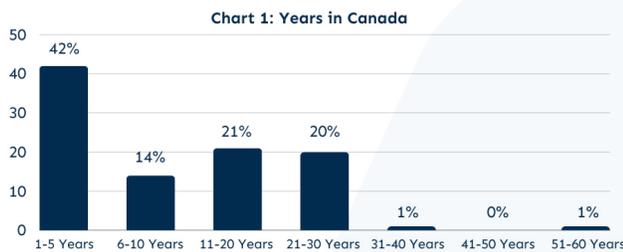
While comprehensive, the research acknowledges several limitations. Geographical focus on Surrey and Vancouver may limit generalizability. Challenges in capturing full cultural diversity, language nuances, and potential self-reporting biases were considered. Moreover, reliance on surveys may have excluded digitally disadvantaged households. Despite these limitations, the research aimed to provide valuable insights and offer a transparent framework for future studies in understanding immigrant and newcomer cooking practices in British Columbia, Canada.



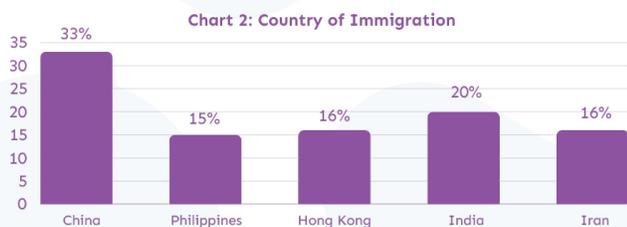
Findings

Respondent Demographics - Community Listening Sessions

Ten Community Listening Sessions were conducted, involving participants aged 18 to 70. Notably, 42% of attendees were newcomers, having resided in Canada for less than five years, while 77% were immigrants who had arrived within the past 20 years (Chart 1).

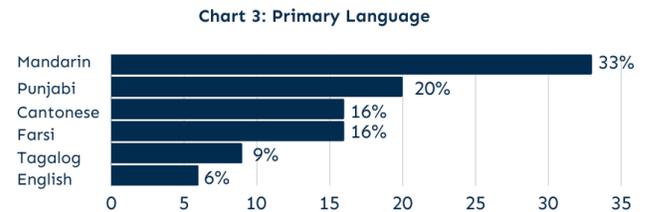


Participants were recruited through community organizations and cultural centers, adhering to specific criteria: they had to be immigrants from diverse socio-economic backgrounds, unrelated to one another, and the sessions were limited to fewer than 15 individuals. The demographic breakdown revealed that 33% of participants hailed from China, 20% from India, 16% from Iran, 16% from Hong Kong, and 15% from the Philippines (Chart 2).



In terms of language, Mandarin speakers comprised 33% of respondents, followed by Punjabi (20%), Cantonese (16%), Farsi

(16%), and Tagalog (9%). Notably, 6% identified English as their primary language, with individuals from the Philippines opting to conduct a session in English (Chart 3).



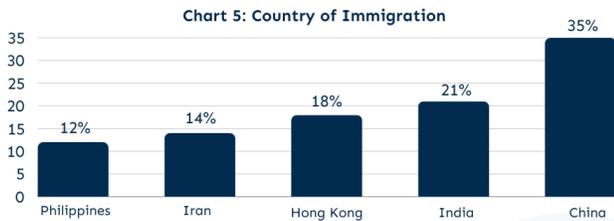
These 100 unique participants were asked a standard series of questions by a facilitator internal to their community. The questions (outlined in Appendix 1) began with demographic data and transitioned into focused inquiries about cooking habits, preferences, desires, and knowledge. The qualitative data from these Community Listening Sessions was categorized by theme and will be presented, alongside survey data, throughout the remainder of this section accordingly.

Respondent Demographics - Surveys

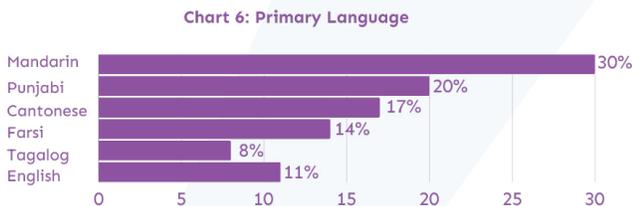
The survey encompassed 158 respondents aged between 18 and 75, with a notable distribution between newcomers (29%) and immigrants, constituting the majority (71%), many of whom had arrived within the last two decades (Chart 4).



Reflecting the demographic landscape of Surrey and Vancouver, the participant pool predominantly comprised immigrants from China (35%) and India (21%). The lowest number of respondents were from Hong Kong at 18% reflecting the smallest immigrant pool targeted by this research (Chart 5).



Regarding language, Mandarin speakers accounted for 30% of respondents, followed by Punjabi (20%), Cantonese (17%), Farsi (14%), and Tagalog (8%). Notably, 11% identified English as their primary language, with a presumed subset originating from the Philippines, given the country’s representation among respondents (Chart 6).



The 158 participants who completed the survey were asked to respond to a standard set of questions (outlined in Appendix 2). Like the Community Listening Sessions, the survey began by gathering demographic data and transitioned into focused inquiries about cooking habits, preferences, desires, and knowledge. The qualitative data from these surveys have been categorized by theme and will be presented throughout the remainder of this section accordingly.

The survey was promoted to the target group of Cantonese, Farsi, Mandarin, Punjabi, and Tagalog speakers, through immigrant-serving organizations, multicultural groups, religious spaces, and social media platforms, resulting in responses from a diverse range of participants. Additionally, the random sampling technique led to responses from 57 individuals who identified as immigrants but were born in Canada, although they will not be considered in the subsequent analysis, their responses may be referenced for comparison purposes.

Analyzing the Data

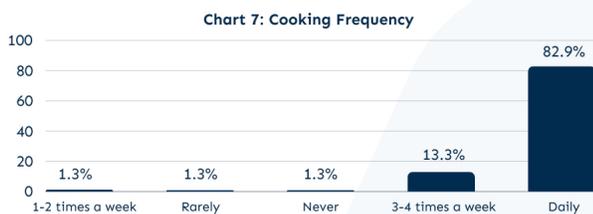
The findings section of this research project addresses the six research questions, each aimed at unravelling the intricacies of cooking practices among immigrant and newcomer communities in British Columbia. Through an in-depth analysis of data collected from Community Listening Sessions and surveys (a total of 258 unique individuals), this section endeavours to provide comprehensive insights into the factors influencing cooking preferences and the potential pathways for promoting the adoption of electric cooking appliances within these communities.

1. Current Cooking Practices Among Immigrant and Newcomer Communities

In addressing the question of current cooking practices among immigrant and newcomer communities, insights were gleaned from a diverse pool of 258 individuals representing various household compositions. Approximately 40% of respon-

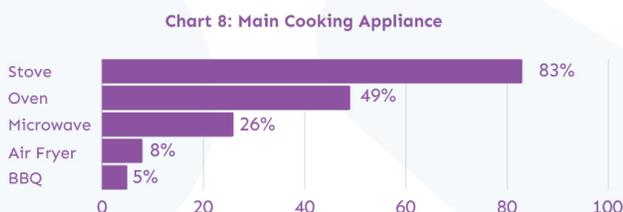
dents resided in multi-generational homes, 55% lived in single-family homes, and the remaining respondents lived alone or with one other person.

Among the respondents, 82.9% reported cooking daily, with an additional 13.3% cooking 3-4 times a week, indicating a high frequency of cooking activity within this demographic. Only a small fraction, 2.6%, claimed to rarely or never cook, underscoring the prevalence of home cooking within immigrant households (Chart 7).



Of particular interest is the revelation that 84% of survey respondents who identified as immigrants but were born in Canada also reported cooking daily. This suggests a strong commitment to home cooking even among the offspring of immigrants.

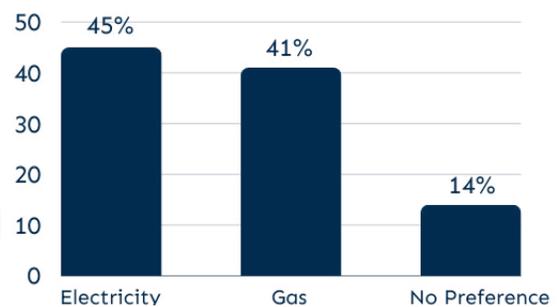
In terms of preferred cooking appliances, the stovetop emerged as the most utilized, with 83% (214 respondents) favouring this method across all language groups. The second most popular was the oven at 49% (126 respondents). 26% of respondents use the microwave, but this response was



almost exclusively given with the caveat that the microwave was used for heating, not cooking (Chart 8).

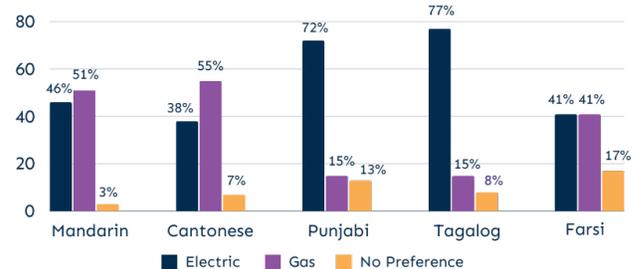
Interestingly, when queried about their preference between gas and electric appliances, 45% of respondents expressed a preference for electric, while 41% leaned towards gas, with the remaining 14% indicating no preference (Chart 9).

Chart 9: Preference (Gas or Electric)



Further analysis revealed notable disparities among language groups, with Punjabi and Tagalog speakers showing a strong inclination towards electric appliances, whereas Mandarin and Cantonese speakers exhibited a preference for gas. The Farsi group demonstrated a balanced preference between gas and electric, with a notable proportion expressing no preference.

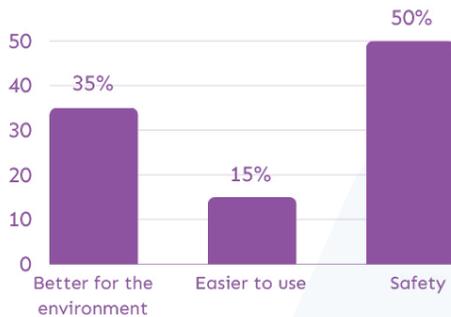
Chart 10: Preference by Language Group



In exploring the rationale behind respondents' preferences for gas or electricity, distinct patterns emerged within language groups (Chart 11). When asked why they had

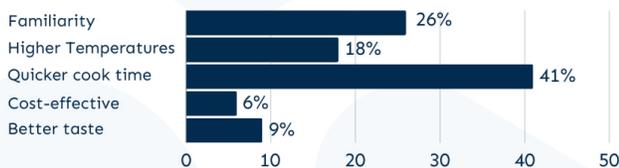
specific preferences, Cantonese speakers who favoured electricity cited safety and precise temperature control as key factors. Similarly, Mandarin speakers opting for electricity emphasized its environmental benefits and perceived health advantages. In contrast, responses among Farsi, Punjabi, and Tagalog speakers varied, with mentions of environmental friendliness, ease of use, and safety.

Chart 11: Reasons for Preference - Electricity



For those preferring gas appliances, most Farsi speakers highlighted the quicker cooking times achievable with gas. Most Mandarin speakers favouring gas cited familiarity with gas appliances from their home countries. Meanwhile, all Punjabi speakers who favoured gas attributed their preference to the perceived superior taste of food cooked with gas (Chart 12).

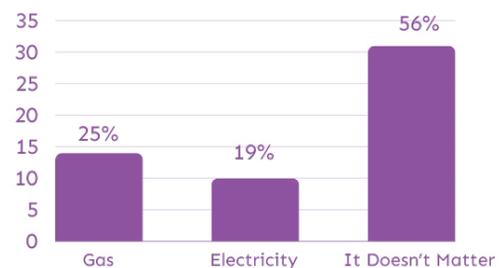
Chart 12: Reasons for Preference - Gas



2. Influence of Cultural and Traditional Values on Cooking Preferences

To investigate the influence of cultural and traditional values on cooking preferences within immigrant and newcomer communities, respondents across surveys and Community Listening Sessions were asked whether gas or electricity was essential for traditional cooking. The data revealed diverse perspectives, with 25% of respondents indicating a necessity for gas, 19% for electricity, and the majority (56%) stating that either option would suffice.

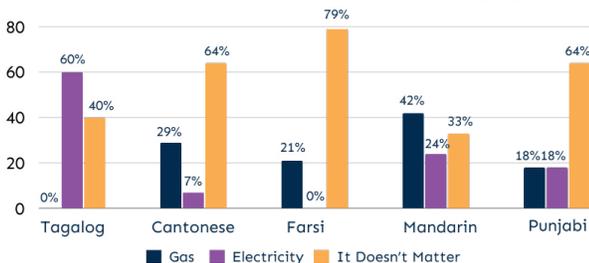
Chart 13: Requirements for Traditional Cooking



Further exploration into this aspect revealed distinctive responses among each language group (Chart 14). Among Tagalog respondents, not a single individual deemed gas essential to traditional cooking. Instead, 60% asserted that electricity was necessary, while the remaining 40% expressed indifference. These quantitative insights were complemented by qualitative feedback indicating that Filipino cooking techniques and utensils do not rely on gas. One respondent explained, “If I am cooking meat, like beef or pork bones, in our language, we call it bulalo, I use our pressure cooker. Gas or electricity do not matter, it’s a slow cooking process.” Another mentioned, “Usually when we cook Filipino dishes, like “nilaga” or “sinigang,” or “kare-kare,” we use a pressure cooker. For these, electric is fine.” A

third respondent noted, “I use large pots and pans, I am not finicky. I cook the dishes with electricity—medium heat first, then to maximum gradually to tenderize the meat.”

Chart 14: Requirements for Traditional Cooking by Language Group



Among Cantonese-speaking participants, 29% emphasized the importance of gas in traditional cooking, 7% cited electricity, and 64% indicated either option was adequate. Qualitative responses from gas proponents offered clear justifications. One respondent explained, “I am a Cantonese, we have Poon Choi (a big pot ready to eat with a lot of different meat and vegs, mushroom, etc.) during Lunar New Year and you can only cook this dish with gas stove.” Another highlighted, “We make soy sauce chicken, and this can only be perfectly good using gas.” Those favouring electricity primarily cited environmental reasons, with one individual stating, “I would prefer to not burn fossil fuels and release unhealthy air pollutants with gas cooking.”

Respondents in the majority, who deemed either option sufficient, shared examples like, “We make Turnip pudding when celebrating festivals, this can be done by gas or electric,” and “hot pot has in the past used portable propane stoves, but no one uses those anymore in favour of portable electric induction – it’s the same.”

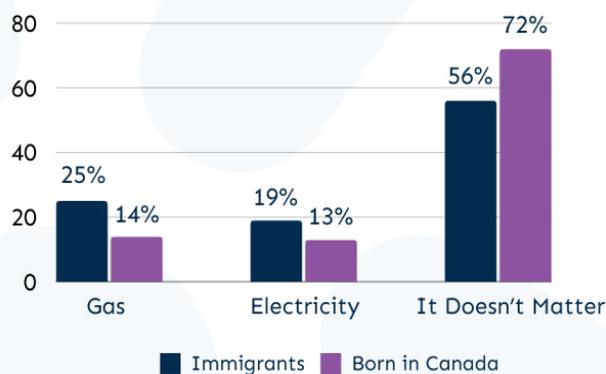
A sizable 79% of Farsi-speaking respondents stated that it did not matter whether traditional cooking was performed with electricity or gas. Most of these qualitative responses seem to imply that this indifference was largely because traditional Iranian food cannot be made within the home. Traditional foods require large clay ovens as well as stone pots and pans that cannot be found in Canada. For foods that can be made in the home, gas or electricity does not impact meals, and instant pots and air fryers are largely used to expedite cooking time. One respondent noted, “Cooking with electricity is the same, but old people (the previous generation) prefer gas as it is what they are used to.” For the 21% who leaned towards gas, the rationale was two-fold, several agreed with the sentiment that “specific foods such as kebabs or fried eggplants only taste good when using gas to prepare them,” and the remainder noted that traditional brass and copper pots and pans can only be used with gas.

The Mandarin-speaking group exhibited the most divided opinions, with 42% believing gas was necessary for traditional cuisine, 24% preferring electricity, and 33% expressing indifference. For those advocating for gas, comments included, “In China gas is mainly used for cooking. It has strong fire-power, is easy to use for frying, and is gentle for stewing soup”, and “My wife and I are both from Hunan, we are used to stir-frying in woks over high heat and very quickly and electric stoves cannot meet these type of cooking needs.” Others claim that their cuisine does not favour gas or electricity as much traditional cooking is steamed

and stewed which can be done with both or made in a rice cooker or instant pot. Those favouring electricity argue that the taste is no different and that traditional dishes are about ingredients and freshness, many also agreed with the sentiment that “electric cooking is safer and healthier, it is seniors who think gas makes a difference.”

When asked whether gas or electricity was integral to traditional and cultural cooking, 64% of Punjabi-speaking respondents said, “It doesn’t matter.” Most respondents argued that gas and electricity rendered the same results for Indian cuisine as the techniques included using a pressure cooker, controlled heat, and shallow frying foods. Those advocating for gas, 18%, argue that unique appliances like a “tawa” require gas to heat properly. One respondent said, “Making Roti on gas is always preferred and it does affect the taste as well if cooked on gas instead of electricity.” The remaining 18% in favour of electricity believed it to be safer to use with no impact on the flavour of traditional cooking.

Chart 15: Requirements for Traditional Cooking - Comparison



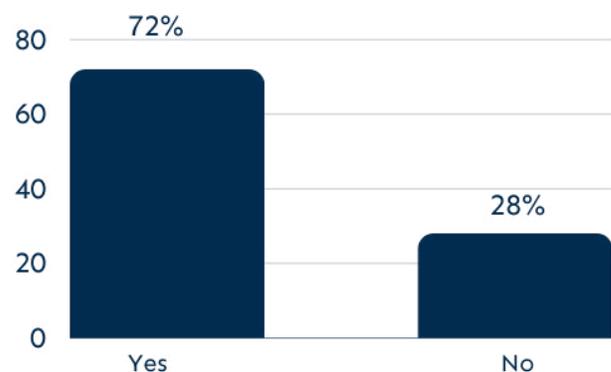
Compared to the average of 56% of immigrants and newcomers (Chart 13), 72% of the survey respondents who identified as immi-

grants, but were born in Canada, said that neither gas nor electricity was required for traditional cooking (Chart 15). These individuals, who identify as Cantonese-speaking, Farsi-speaking, Mandarin-speaking, Punjabi-speaking, and Tagalog-speaking, argued that there was no difference in taste when using gas or electricity. This difference between the opinions of immigrants and those born in Canada suggests a correlation between time in Canada and preference. This claim is supplemented by the fact that those Canadians who argued for electricity (13%) and those who said, “it does not matter” (72%) all opted for electricity when asked about their personal preference.

3. Barriers to Adopting Electric Cooking Appliances

When queried about their willingness to integrate electric appliances into their households, a significant 72% of respondents expressed their openness to the idea (Chart 16). Upon further examination of

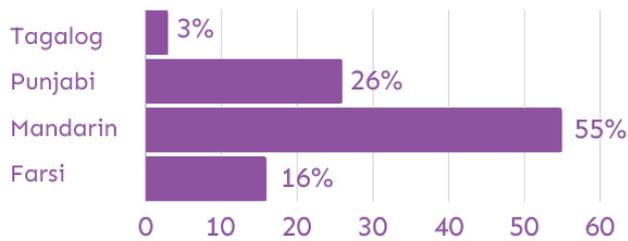
Chart 16: Requirements for Traditional Cooking



those opposed to adopting electricity, it was found that 55% were Mandarin-speaking, 26% Punjabi-speaking, 16% Farsi-speaking, and 3% Tagalog-speaking (Chart 17). Interestingly,

not a single Cantonese-speaking respondent opposed the adoption of electricity.

Chart 17: Reluctance to Adopt Electric



The barriers to the adoption of electric cooking appliances within immigrant and newcomer communities were elucidated through insights garnered from both the surveys and community listening sessions. These barriers primarily stem from a lack of familiarity with the advantages of electric cooking, the prevalence of rented homes within these communities, and the entrenched preference for gas cooking among many individuals.

Regarding the lack of familiarity with electric cooking benefits, 53% of those disinclined to adopt electricity admitted to having little to no knowledge about electric cooking technologies. Common sentiments included disinterest in learning, as articulated by respondents across Farsi, Mandarin, and Punjabi-speaking communities. One Mandarin speaker said, “It doesn’t impact me, my wife and son do the cooking, without them, I’d order McDonald’s every day.”

A sizable 74% of those who would not adopt electricity live in rented homes. A Mandarin participant stated, “I am a renter now, I just use what is in there, there is no reason to ask the landlord to switch to electric.” Simi-

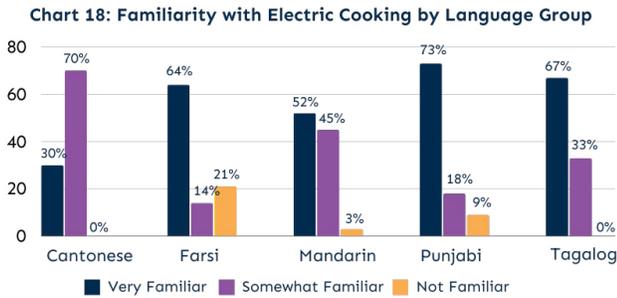
larly, a Farsi respondent noted, “For tenants, it’s not possible to change the stove and it depends on the landlord.” This sentiment was echoed by a Tagalog respondent who stated, “I am not going to fight with Strata for electric.” Non-renters willing to switch to electricity cited cost as a barrier, with one Punjabi respondent noting, “The cost of new appliances, and overall cost of electricity is more than I can afford, gas is cheaper.”

Moreover, 38% of individuals reluctant to embrace electricity expressed a preference for gas. Respondents emphasized their familiarity with gas and their desire to persist with it despite potential health implications. A Mandarin participant expressed, “I know using gas is probably worse for the environment than electricity, but I am old, and I have always used gas.” Another Mandarin respondent explained, “We know that using electric cooking is more environmentally friendly and energy-saving, and cleaning the stove is easier however, gas is all we know, and it is essential for speed, heat, and taste.” A prevailing sentiment within this cohort was succinctly articulated by a Punjabi respondent, “I don’t want to use an electric stove, I like gas cooking, why would I switch?”

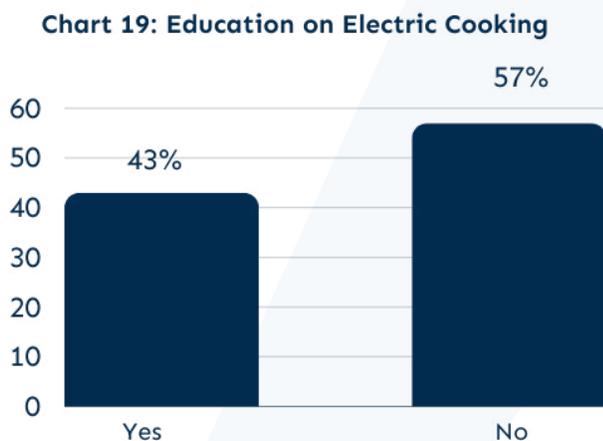
4. Awareness and Understanding of Electric Cooking Technologies

Inquiring into respondents’ awareness and comprehension of electric cooking technologies, such as electric stoves and induction cooktops, unveiled varied levels of familiarity across the Farsi, Mandarin, Punjabi, and Tagalog communities. Most respondents

within these communities indicated a high level of familiarity (Chart 18).



Upon further probing about their familiarity, it emerged that 57% admitted to lacking formalized information regarding the disparities between gas and electric cooking technologies (Chart 19).



Qualitative feedback from this subgroup implied an assumed understanding despite the evident need for education. For instance, a Punjabi respondent asserted, “I’m familiar; I know electricity is slow, and the stoves take too long to heat up.” Another Punjabi respondent, claiming to be very familiar despite lacking formal education on the subject, explained, “I’ve used both, roti tastes better on a gas stove. What else do I need to know?” Similarly, a Farsi respondent argued, “I tried electricity, but my eggplant did not turn out well. We’ve always used gas, and nothing has happened.”

Interestingly, among the 43% who reported having received some form of education, 35% expressed a preference for electricity over gas. These respondents attributed their knowledge to sources such as local news, YouTube, bulletins from BC Hydro, independent research, conversations with friends, and personal experiences. For example, a Cantonese-speaking respondent mentioned, “Our child had asthma and the doctor said we may want to remove the gas stove or use a hotplate for her health... I did research and changed appliances.” Similarly, a Mandarin respondent highlighted health concerns, stating, “I learnt through BC Hydro that gas is a fossil fuel so it’s dangerous to the environment and hazardous to the health of people living in the home, I did not know this before.” Another Cantonese respondent emphasized, “Yes, in Chinese cuisine there’s the concept that gas-fired woks are ‘better’ for flavour and heat, etc. which is all fine and good, but if I want that I will go to a restaurant where they have experts cooking that style with adequate ventilation to remove the toxic gases and heat coming out of a gas-fired wok... I’ve learnt better, why risk my health?” Across these responses, individuals who received formal education on the benefits of electricity were predominantly concerned with environmental and health considerations.

When queried about their primary insights regarding the disparity between gas and electric cooking appliances, the 43% of respondents who had received education pointed out several key learnings. They highlighted cleanliness (46%), a decrease in emissions (65%), safety (74%), environmental

advantages (59%), and energy conservation (41%) as the main takeaways.

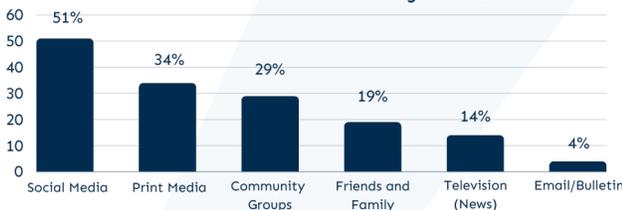
Chart 20: Main Takeaways



5. Effective Communication Strategies for Promoting Electric Cooking

Data collected for this research indicates that prevalent methods of information dissemination among immigrant and newcomer communities are sixfold. Participants provided as many responses as they deemed appropriate, and the distribution was as follows: social media (51%), print media (34%), community groups (29%), word of mouth (19%), television (14%), and email (4%).

Chart 21: Preferred Method of Receiving Information

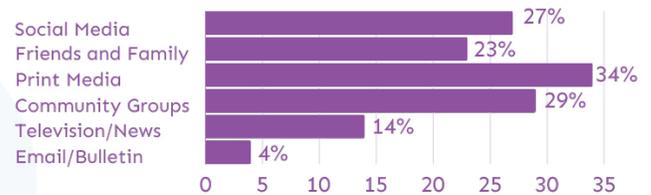


When asked specifically, “If we wanted to share information about electric cooking technology, what would you recommend would be the best way to reach your community?” these same six categories were communicated with varying degrees of preference per language group.

According to Cantonese respondents, the best way to share information on the advantages of electricity was through social media (27%). Facebook, YouTube, WeChat,

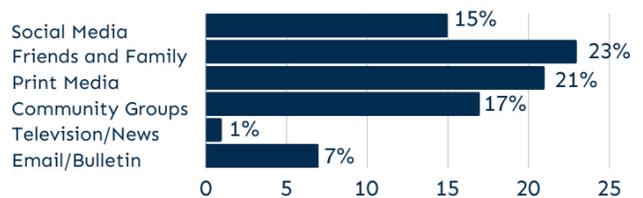
and WhatsApp Messenger were identified as the most effective ways of reaching the broader Cantonese community in the lower mainland. Within the community groups identified (29%), the most cited were SUCCESS, Rotary Clubs, Neighborhood houses, and local churches. In terms of print media (34%), Television (14%), and Email (4%), respondents explained that in-language options are essential to communicating information effectively (Chart 22).

Chart 22: Communication Preference - Cantonese Group



Farsi-speaking respondents leaned towards personal networks (23%) for receiving information about the benefits of electricity, citing trust in information shared by family and friends. Additionally, in-language print media (21%) and community groups like North Shore Community Resources (17%) were valued sources of information. Social media platforms such as YouTube, Instagram, and Facebook were also popular (Chart 23).

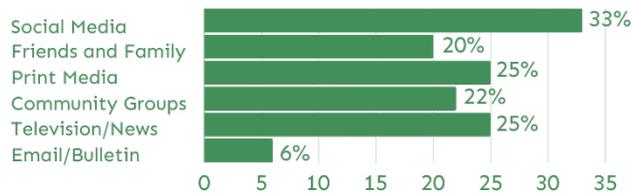
Chart 23: Communication Preference - Farsi Group



The Mandarin-speaking respondents identified social media (33%) as the most effective way to share information about electric cooking technology with WeChat being the

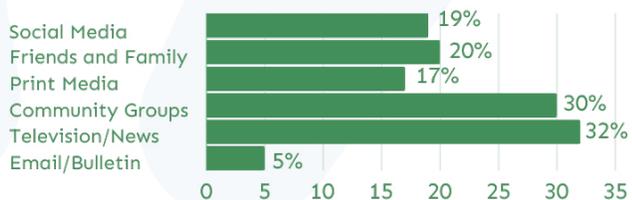
most popular platform (Chart 23). Also popular were Mandarin-language television (25%) and print media (25%). Community groups like SUCCESS, LINC, churches, and EmpowerMe were identified as trusted sources for energy-related information (22%).

Chart 24: Communication Preference - Mandarin Group



Unlike the other language groups, the Punjabi-speaking respondents identified one main community group, the Gurdwara (30%) as the best place for them to receive information on the benefits of electricity. As with the Mandarin and Cantonese-speaking groups, in-language mediums including television (32%) and print media (17%) were also popular. When referring to email (5%), qualitative responses suggest that Power Smart tips from BC Hydro are regularly reviewed (Chart 25).

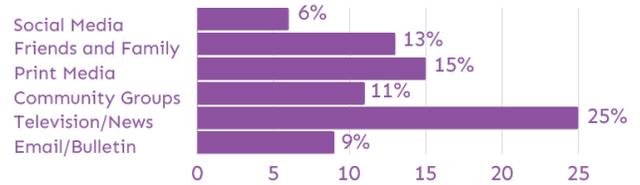
Chart 25: Communication Preference - Punjabi Group



Among the Tagalog-speaking respondent group, television was identified as the most popular medium to share information about electric cooking appliances (25%). For the Tagalog-language group, the television and print media (15%) consumed was mostly in English. Community groups like Churches and the Filipino Network of Social Service

Workers (FilNet) were also identified as important channels for information dissemination (Chart 26).

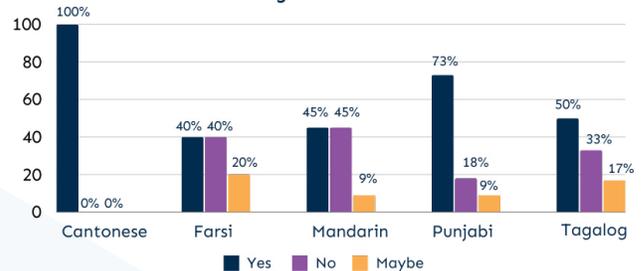
Chart 26: Communication Preference - Tagalog Group



6. Willingness to Transition from Gas to Electric Cooking

The readiness to transition from gas to electric cooking appliances varied among the five language groups engaged in the surveys and community listening sessions. The Cantonese-speaking group showed the highest level of receptiveness, with 100% of respondents expressing willingness to make the switch. Following closely, the Punjabi-speaking community exhibited a significant openness, with 73% of respondents indicating their readiness. In contrast, the Farsi-speaking group displayed the lowest level of willingness, with only 40% of respondents expressing openness to transitioning. Notably, the Tagalog-speaking community had the highest percentage of respondents expressing uncertainty, with 17% indicating a “maybe” response (Chart 27).

Chart 27: Willingness to Switch to Electric



Those who responded “yes” or “maybe” to

transitioning to electric cooking identified several key methods to support their decision. Within the Cantonese-speaking group, the most favoured approach was in-person education sessions led by energy professionals. A respondent explained, “To adopt electricity I need answers to questions, What is the cost? What brand is the best? What would my energy savings be? How do I use these new appliances?” Another respondent stated, “To make such a big shift, I would need support, someone speaking with me, in Cantonese.” Following closely, the introduction of incentives or promotions to offset the transition costs garnered significant support. Additionally, increased promotion of electrification through television and social media was deemed important, with a respondent expressing “I’d like to see people talk about this on television and give demonstrations using electric appliances in my language.”

Among the Farsi-speaking respondents, financial incentives emerged as the most noted approach. One respondent highlighted a cultural inclination towards responding to deadlines and rewards, stating, “There is one important thing between Iranians, and possibly all people coming from certain people from Asia, is deadlines and rewards. For example, if they say until this time you can get 25 percent off and after that 10 percent, no one wants to lose the chance of receiving the higher discount.” This sentiment resonated with 100% of those who were undecided about adopting electricity. A respondent within this group shared, “I would get a new stove if there was financial support for it.”

Similarly, the Mandarin-speaking group emphasized the importance of financial incentives in facilitating the transition from gas to electricity. A respondent expressed skepticism about switching to electricity without adequate support, stating, “Why would anyone change to electricity if there is no support for doing so? It’s costly and unfamiliar. Our community is used to gas, so the change needs to be motivating.” In addition to incentives, primarily in the form of rebates, many Mandarin-speaking respondents highlighted the need for educational sessions conducted in their native language.

Within the Tagalog-speaking group, similar sentiments were echoed regarding the importance of educational sessions and financial incentives. Participants stressed the need for clear and comprehensive information about electric cooking technologies, including their benefits and practical usage. Additionally, the availability of rebates was cited as a significant factor influencing their decision. Tagalog-speaking respondents expressed a desire for incentives that would make the transition to electric cooking more affordable and accessible. Among the 17% of respondents who were undecided, financial benefits associated with transitioning to electricity would be crucial to their decision-making.

Among the Punjabi-speaking respondents, the most favoured approach to support their decision to transition to electric cooking was educational sessions. Participants expressed the need for detailed information about the cost, preferred brands, energy

savings, and practical usage of electric appliances. Additionally, financial incentives such as rebates and discounts were highlighted as crucial factors. Many respondents emphasized that financial support would greatly influence their decision to switch to electric cooking. Furthermore, a significant portion of the Punjabi-speaking group mentioned the importance of owning their homes first, as this would enable them to make the necessary changes to switch to electric appliances.

Summary of Findings

The findings presented in this section offer a multifaceted understanding of cooking practices among immigrant and newcomer communities in British Columbia, addressing six key research questions. These insights are derived from a rich dataset collected through surveys and Community Listening Sessions, providing comprehensive perspectives on cooking preferences, cultural influences, barriers to adopting electric cooking appliances, awareness of electric cooking technologies, effective communication strategies, and willingness to transition from gas to electric cooking.

Preference varies across immigrant communities:

Section 1 explored the preference between gas and electric appliances and revealed interesting patterns across language groups. While there is a slight preference for electric appliances overall, disparities exist among communities. Punjabi and Tagalog speakers favour electric appliances, citing

safety and environmental benefits. Conversely, Mandarin, and Cantonese speakers lean towards gas appliances, often due to familiarity and perceived taste advantages. The Farsi group demonstrates a balanced preference between gas and electric, with a notable proportion expressing no preference.

Immigrant communities are largely indifferent to gas or electric

Section 2 explored the diverse perspectives among language groups regarding the necessity of gas or electricity for traditional cooking. Tagalog respondents emphasized adaptability, with electricity often deemed necessary or sufficient for traditional cooking. Cantonese perspectives balanced the role of gas in specific dishes with electricity's environmental benefits. Farsi-speaking participants expressed indifference, highlighting Iranian cuisine's malleability. Mandarin speakers exhibited diverse views, reflecting China's culinary diversity, while Punjabi respondents emphasized practicality, with neither gas nor electricity deemed essential. Additionally, immigrants born in Canada showed a greater openness to both options, indicating a shift influenced by acculturation.

Most of the sample pool is open to adopting electricity

Section 3 sought to understand the barriers to adopting electric cooking appliances within immigrant and newcomer communities. Despite a notable openness among 72% of respondents, significant hurdles exist,

particularly among Mandarin, Punjabi, and Farsi speakers. A lack of awareness about electric cooking benefits underscores the need for targeted education initiatives tailored to diverse language groups. Moreover, the prevalence of rented homes, affecting 74% of resistant individuals, poses logistical challenges to appliance upgrades. Financial concerns highlight the importance of addressing cost disparities between gas and electric options. Furthermore, deeply ingrained preferences for gas, rooted in familiarity and perceived culinary advantages, present formidable barriers to adoption. Despite awareness of electric cooking's environmental benefits, many remain steadfast in their allegiance to gas stoves, driven by concerns over taste, speed, and heat control.

Education on the differences between gas and electricity is limited

Section 4 examined the awareness and understanding of electric cooking technologies among Farsi, Mandarin, Punjabi, and Tagalog communities illuminating a landscape of varied familiarity and education. While most claimed high familiarity, 57% had little to no knowledge of the disparities between gas and electric cooking. Of the 43% who had received education about the benefits of electricity, the key takeaways include cleanliness, reduced emissions, safety, environmental benefits, and energy conservation. These findings highlight the potential impact of comprehensive education campaigns in promoting the adoption of electric cooking technologies within immigrant communities.

There is a need for a tailored communication strategy

Section 5 revealed that effective communication strategies for promoting electric cooking within immigrant and newcomer communities require a tailored approach that considers cultural preferences and trusted sources of information. Overall, a multifaceted approach that leverages social media, in-language print media, community groups, and personal networks is essential for effectively promoting electric cooking within immigrant and newcomer communities. Such strategies can bridge informational gaps, foster trust, and facilitate the adoption of electric cooking technologies, thereby contributing to sustainable and healthy living practices.

Education and Incentives can support the transition from gas to electric

Section 6 revealed that the readiness to transition from gas to electric cooking appliances varied among the five language groups engaged in the surveys and community listening sessions, with factors such as cultural preferences and access to information playing significant roles in shaping attitudes. To support the decision-making process for transitioning to electric cooking, respondents across all language groups identified key methods. These included in-person education sessions led by energy professionals, financial incentives such as rebates and discounts, and increased promotion of electrification through television and social media.

In sum, this comprehensive analysis sheds light on the nuanced cooking practices and attitudes towards electric cooking appliances within immigrant and newcomer communities in British Columbia. Across six key research areas, including cooking preferences, cultural influences, barriers to adoption, awareness of technology, communication strategies, and readiness to transition, a rich tapestry of insights has emerged. While preferences and barriers vary among language groups, there is

a common thread highlighting the importance of targeted education, financial incentives, and culturally sensitive communication strategies in promoting the adoption of electric cooking technologies. By addressing these factors, stakeholders can pave the way for a smoother transition towards sustainable and efficient cooking practices, ultimately contributing to healthier and more environmentally friendly communities.



Recommendations

In addressing the complexities of transitioning to electric cooking appliances within immigrant and newcomer communities, it becomes evident that a multifaceted approach is necessary. This recommendation section presents two key strategies aimed at facilitating this transition: community-led education and awareness initiatives and the exploration of incentives. Through an analysis of the research findings, it becomes apparent that these strategies address critical barriers such as lack of awareness, cultural considerations, and financial constraints. By delving into the nuances of community dynamics, trust-building, and policy advocacy, these recommendations offer actionable pathways toward fostering sustainable and inclusive culinary practices. Through collaborative efforts between community organizations, policymakers, and stakeholders, we can pave the way for a future where electric cooking appliances are not only

embraced but celebrated within immigrant and newcomer communities, fostering healthier, safer, and more environmentally conscious cooking traditions.

Recommendation 1: Community-Led Education & Awareness

Community-led education and awareness initiatives are essential for promoting the transition to electric cooking appliances within immigrant and newcomer communities. The analysis highlights the importance of increasing understanding of the health and safety benefits of cooking with electricity, which emerged as a powerful motivator for shifting preferences. Additionally, demonstrating that taste, speed of cooking, and heat control are equal or superior to gas cooking is crucial for dispelling myths and overcoming resistance. To effectively implement these activities, they should be led by trusted members within the community who possess a strong understanding of the topic and have the trust of their peers. These initiatives should be delivered in multiple languages and embedded in the communication tactics of the communities, utilizing platforms such as in-language media, WhatsApp, and other social media channels. Furthermore, the content should be culturally appropriate, incorporating examples of foods and meals commonly cooked in these communities using gas. Collaboration with community-based organizations is essential, and the initiatives should be offered over the long



term to build understanding, awareness, and normalization within the communities. Also, including cooking and taste demonstrations can help confirm that taste is maintained with electric cooking methods, reinforcing the message.

Kambo's Empower Me program is entrenched within these communities and is well-placed to provide this culturally focused education and support. By employing Energy Mentors (immigrants who convey information to their peers), Empower Me has been educating immigrants and newcomers on energy and conservation practices in the Lower Mainland since 2009.

Recommendation 2: Explore the Role of Incentives

Exploring the role of incentives in encouraging the switch to electric cooking appliances is crucial, considering the clear need to motivate individuals to move away from the status quo.

The consideration of supportive policies and programs at various levels of government will be instrumental in creating an enabling environment for the adoption of electric cooking appliances. The analysis reveals barriers related to affordability and awareness, emphasizing the need for policies and programs that financially incentivize the use of electric appliances. Community organizations can collaborate with policymakers to design initiatives such as rebates, tax incentives, or subsidies for electric cooking appliances. Additionally, programs offering financial assistance or



low-interest loans may help alleviate the financial burden associated with transitioning to electric cooking. Furthermore, advocating for the inclusion of electric cooking technologies in affordable housing developments and retrofit programs ensures that all members of the community have access to clean, safe, and energy-efficient cooking options. By establishing supportive financial policies and programs, in concert with community-led awareness and engagement, the sector can address barriers and accelerate the adoption of electric cooking appliances within immigrant and newcomer communities.

While this research indicates that financial motivators may support households in making the transition, further research is required to determine the scale and effectiveness of such incentives within immigrant and newcomer communities.

While financial motivators may be helpful, it is important to note that based on this research, education and awareness will have a significant impact to bust myths and build awareness. Therefore, it is recommended that this lower-cost strategy is adopted initially, as it can potentially yield substantial results in promoting the adoption of electric cooking technologies. Ultimately, a combination of incentives and education initiatives may offer the most effective approach to facilitating the transition to electric cooking appliances.

Recommendation 3: Further Research

The findings from this research underscore the necessity for continued and expanded investigation into the cooking practices and preferences of immigrant and newcomer communities. This study was designed to address gaps in the existing literature, focusing specifically on immigrants and newcomers in British Columbia. The aim was to inform more inclusive and effective policies and programs that promote reduced emissions while preserving cultural practices. While this research uncovered valuable insights, it also revealed that much more needs to be done. Some recommendations for future research include:

1. Impact of Education and Awareness:

Conduct comparative studies to assess the impact of education on stove preferences. This could involve creating a control group

that does not receive educational interventions and comparing their opinions and behaviours with a group that has received comprehensive education about electric cooking. This approach will help quantify the effectiveness of educational programs and identify the most impactful elements of these interventions.

2. Broadening Demographic Scope:

Extend research efforts to include other immigrant and newcomer communities such as Korean and Arabic-speaking populations. These groups may have unique cultural and culinary practices that influence their cooking preferences and openness to transitioning to electric cooking. Understanding these differences will contribute to a more comprehensive strategy for promoting sustainable cooking practices across diverse communities.



3. Tailored Communication Strategies:

Investigate specific communication strategies that are most effective for different cultural groups. This includes identifying the most trusted sources of information, preferred communication channels, and culturally relevant messaging. By tailoring communication strategies, future initiatives can be more effective in promoting the transition to electric cooking.

4. Longitudinal Studies:

Implement longitudinal studies to track changes in cooking practices, preferences, and attitudes over time. This will provide valuable insights into how sustained education and policy initiatives impact the adoption of electric cooking technologies.

These research directions are essential to develop a deeper understanding of how to support immigrant and newcomer communities in transitioning to more sustainable cooking practices. Continued research will enhance the effectiveness of educational programs and policy initiatives and ensure that these efforts are culturally sensitive and inclusive. By addressing these areas, future studies can contribute significantly to the promotion of energy-efficient and environmentally friendly cooking methods among diverse populations.



Conclusion

This research offers valuable insights into the cooking practices, preferences, and barriers to adopting electric cooking appliances within immigrant and newcomer communities in British Columbia. Through comprehensive surveys and Community Listening Sessions, we have gained a nuanced understanding of the factors influencing cooking preferences, including cultural traditions, perceptions of taste, and awareness of electric cooking technologies. The findings underscore the importance of community-led education and awareness initiatives to promote the transition to electric cooking, emphasizing the need for culturally

appropriate communication strategies and long-term engagement. Additionally, exploring the role of incentives, alongside education efforts, can further facilitate this transition by addressing affordability concerns. By leveraging these insights and recommendations, stakeholders can collaborate to create supportive policies, programs, and initiatives that empower immigrant and newcomer communities to embrace clean, safe, and energy-efficient cooking practices. Ultimately, this research contributes to building more sustainable and healthier communities while fostering cultural inclusivity and empowerment.

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Appendices

Appendix 1: Community Listening Sessions

The Community Listening Sessions served as a vital avenue for understanding the cooking practices, cultural influences, and perceptions related to gas and electric cooking within immigrant and newcomer communities. Facilitated by trusted members of the community, these sessions were conducted in community languages, fostering an environment of openness and inclusivity. The recorded sessions were transcribed into English for comprehensive analysis.

Pre-Education Session Questions:

1. Current Cooking Practices:
 - What are the predominant cooking practices and methods employed in your household? (e.g., microwave, oven, stovetop, ordering takeaway)
 - Who does most of the cooking in your household?
 - Do you primarily cook with gas or electricity? Is there a preference, and if so, why?
 - Was gas or electricity pre-installed in your home, and if not, how did you choose between them?
 - If you had to replace an appliance, what factors do you consider most?
2. Influence of Cultural and Traditional Values:
 - Are there specific traditional or cultural cooking techniques prevalent in your community?
 - If yes, do these techniques require a particular type of cooking apparatus?
 - What specific dishes or cooking methods hold cultural or traditional significance for you? Do they involve gas or electricity?
3. Barriers to Adopting Electric Cooking:
 - Have you ever considered using electric cooking appliances?
 - If not, what barriers or challenges do you perceive in adopting them?
 - If yes, what attracts you to electric cooking, and would you consider transitioning from your current methods?
4. Awareness of Electric Cooking Technologies:
 - How familiar are you with electric cooking technologies like stoves and induction cooktops?

- Where did you acquire information about these technologies?
- Have you received any education about the benefits or drawbacks of electric cooking?

At this point during the Community Listening Session, the facilitator provided an objective overview of the pros and cons of electric and gas cooking appliances. The presentation was built on prominent research focusing on health and the environment. These presentations were limited to five-minute PowerPoint presentations followed by a 10-minute question and answer session. These were recorded and shared with the researcher to be analyzed.

Post-Information Session Questions:

1. Reflections on Information Shared:

- What surprised you the most about the information just shared?
- Considering the benefits and drawbacks of gas and electricity, would you be willing to transition to electric cooking? Why or why not?

2. Effective Communication Strategies:

- Which communication channels or strategies do you find most effective for receiving information about household technologies or practices?
- Are there community leaders or platforms that you trust for information? How can they contribute to promoting awareness about electric cooking?

3. Willingness to Transition:

- If provided with adequate education and support, how willing would you be to transition from gas to electric cooking? What about your friends and family?
- What specific types of education or support would make the transition more acceptable for you and your community?

Appendix 2: Multilingual Surveys

Surveys were distributed among members of the five language groups identified for this research initiative. The surveys were disseminated through email channels, and printed copies were available in community spaces, including mosques, churches, and cultural centers. To accommodate diverse preferences, participants had the option to engage in a phone interview, ensuring inclusivity for those who may find this mode more comfortable. The conclusive survey package incorporated a privacy disclaimer and a research summary to ensure participants were thoroughly informed. Subsequently, the gathered survey data was translated and collated for the researcher who conducted a comprehensive analysis.

Demographic Information:

1. What is your age range?

- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65+

2. Which country did you most recently move from?

3. How long have you been living in Canada?

4. What is your primary language spoken at home?

Cooking Practices:

5. Who does the cooking in your household?

6. How frequently do you cook meals at home?

- Daily
- 3-4 times a week
- 1-2 times a week
- Rarely
- Never

7. What are the primary cooking methods you use at home? (Select all that apply)

- Stovetop
- Oven
- Microwave
- Other (please specify)

8. Do you prefer cooking with gas or electricity?

- Gas
- Electricity
- No preference

9. If you prefer gas or electricity, please briefly explain why.

Cultural Influences:

10. Are there specific traditional or cultural cooking techniques you follow from your home country? Yes/No. Explain

11. Do these techniques require a particular type of cooking apparatus? Yes/No. Explain
12. Are there specific dishes or cooking methods that hold cultural or traditional significance for you? Yes/No. Explain
13. Do these dishes require cooking with gas or electricity? Yes/No. Explain

Awareness of Electric Cooking Technologies:

14. How familiar are you with electric cooking technologies, such as electric stoves and induction cooktops?
 - Very familiar
 - Somewhat familiar
 - Not familiar at all
15. Where do you usually acquire information about household technologies (related to cooking techniques)?
16. Have you received any education about the benefits or drawbacks of electric cooking? Yes/No. Explain

Barriers to Adopting Electric Cooking:

17. Have you ever considered using electric cooking appliances?
 - Yes
 - No
 - If no, what barriers or challenges do you perceive in adopting them?
 - If yes, what attracts you to electric cooking, and would you consider transitioning from your current methods?

Information Dissemination Methods:

18. How do you prefer to receive information? (Multiple Choice)
 - Social Media
 - Print Media
 - Community Groups
 - Friends and Family
 - Religious Organizations
 - Other (Please explain)
19. Are there community leaders or organizations that you trust for information about electricity?

20. Are there community leaders or platforms that you trust for information, and how can they contribute to promoting awareness about electric cooking?
21. If provided with adequate education and support, how willing would you be to transition from gas to electric cooking? Yes/No. Explain
22. What specific types of education or support would make the transition more acceptable for you and your community?

