



June 2024 ESJ Community Listening Sessions

Key Findings and Follow-Up Action



CalMTA is a program of the California Public Utilities Commission (CPUC)
and is administered by Resource Innovations

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Overview

CalMTA recognizes the historical inequities of efficiency investment and is working to apply an equity lens in our approach to developing a market transformation (MT) portfolio for California that delivers benefits to environmental and social justice (ESJ) communities. Building on a series of [listening sessions with organizations serving ESJ communities](#) conducted in November 2023, we held a second series of sessions in June 2024 focused on [the market transformation initiatives \(MTIs\) in Phase I](#) of development. Each session included prompts and learning objectives specific to the focus MTI including barriers to adoption, potential benefits and negative impacts, and past experiences. We also shared and received feedback on preliminary metrics used to evaluate the equity impact of each MTI, which will be incorporated into the evaluation framework currently being finalized by CalMTA.

28 individuals contributed their time across the four 90-minute sessions, which were held virtually. Participants were recruited from a list of identified representatives working with ESJ communities on energy-related topics, particularly those representing low-income communities, communities of color, Tribal lands, veterans, elders, workforce development, affordable housing, community resiliency, environmental health impacts, social justice, and public policy. CalMTA compensated participating organizations for their time.

Insights provided at these listening sessions will inform CalMTA's final Advancement Plans for the Phase I MTIs as well as the Phase II activities that will lead to full MTI Plans. A summary of key findings from each session and CalMTA's proposed approach to addressing them through MTI development and implementation can be found in the following sections.

Commercial Replacement & Attachment Windows Solutions

This MT idea focuses on two efficient window products (vacuum-insulated glass and commercial secondary windows) with the potential to drive energy savings and yield non-energy benefits like thermal comfort in commercial buildings with poor-performing single-pane windows built before 2000.

Participating Organizations

- Access Plus Capital
- Asians in Energy
- Highlands Energy (Energy Savings Assistance [ESA] contractor)



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- Self-Help Enterprises
- West Coast Green Builders

Listening Session Takeaways

Barriers to Adoption

- Efficient windows have traditionally faced greater barriers to adoption compared to other measures due to their cost and payback period.
- Building owners who lease or sublease to small businesses often lack motivation to invest in upgrades due to existing financial burdens. If building owners see a clear benefit, such as increased property value and improved community health, they are more likely to adopt the upgrades.
- Measuring and communicating all product benefits (cost savings, environmental benefits, community health improvements, and enhancements to the space that lead to lifestyle and building improvements, etc.) can create a more appealing return-on-investment for business owners - especially those who lease their building space (see Education & Messaging below).
- Since time and financial costs are significant barriers, having this data readily available can help overcome these challenges and encourage buy-in.
- Presenting financial benefits and access to incentives in multiple languages is crucial.

Education & Messaging

- Educating both building owners and tenants/business owners and demonstrating real-world examples of the technology's benefits is essential to influencing adoption.
- Providing examples of successful implementations in various types of buildings, will help demonstrate improvements not only in energy efficiency but also in health due to better air quality.
- Messaging should consistently emphasize the holistic benefits of these windows beyond energy efficiency. For instance:
 - Installing energy-efficient windows can reduce power consumption, potentially mitigating rolling blackouts and improving air quality. This is particularly beneficial for areas with high asthma rates and disaster preparedness needs.
 - Soundproofing can be highly appreciated by communities, particularly those near freeways and major roads. This benefit appeals to both business and building owners and was a key reason for the adoption of double-pane windows in areas with high noise levels.
 - Additionally, adopting this technology can create jobs and increase property values.

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The Need for Accessible Financing

- Acquiring funding is challenging for smaller businesses despite the availability of state, low-interest, and utility funding.
- Smaller businesses often lack the resources to pursue this funding, and contractors are burdened with guiding them through the process.
- A proven model showing the payback period could make window upgrades a more attractive option for small businesses.

Community Health Impacts

- There is a significant need for upgrades like this in schools located in high pollution areas and/or with high rates of childhood asthma.
- Substantial demand for HVAC upgrades and similar improvements in this segment indicates that targeting this need aligns well with community health priorities.
- Analyzing existing energy assessment data can help determine the feasibility and benefits of window upgrades at specific schools and identify sites where these installations would have the greatest value.

Tracking Program Success

- In considering impact, it's important to think long-term beyond immediate actions like replacing windows and engaging communities.
- There should be measures to evaluate the long-term impact of these initiatives involving setting expectations for the lasting effects and benefits of these actions, such as improved community health, sustained energy savings, and enhanced economic opportunities.
- Tracking these long-term outcomes will provide a clearer picture of the overall success and sustainability of the measures implemented.

Phase II Equity Approach

Informed by listening session feedback and additional activities completed by CalMTA, equity-focused research and outreach integrated into the [Commercial Replacement & Attachment Window Solutions Advancement Plan](#) includes the following:

- Conduct a field study that will **test and quantify the energy-saving and non-energy benefits of these window technologies** to better understand the return-on-investment of upgrading. In-field demonstrations included as a strategic intervention in our logic model will provide concrete examples of successful implementation to build confidence in the technology's benefits.
- Target any **in-field demonstrations to buildings that primarily serve ESJ communities**. For example, we are currently identifying pilot sites at public schools in disadvantaged



communities (DACs) to begin understanding the potential benefits of window upgrades, including improved thermal comfort and indoor air quality.

- **Direct engagement with manufacturers**, coupled with increased demand through market education and awareness-building, will help reduce overall product costs. Many manufacturers are already working to bring down installation costs with new models of on-site sizing and installation, the deployment of which will likely require workforce training and development that CalMTA can help prioritize in ESJ communities.
- **Coordinate with existing programs** to offer incentives on qualifying efficient window technologies and bundle these upgrades with other measures, reducing overall project costs and improving the return-on-investment.
- Create marketing tools and resources that **communicate the importance of taking an “envelope first” approach** when working to improve existing commercial buildings with single-pane windows. An envelope-first approach may enable building decision-makers to downsize HVAC upgrades, resulting in a lower overall cost of building upgrades and ongoing operating expenses.
- **Address the financial barrier created by the incentive split** between building owners and business owners who lease their space, particularly for small businesses and ESJ communities. Phase II MTI activities will explore interventions that can overcome the split-incentive barrier.

Residential Heat Pump Water Heating

This MT idea focuses on increasing adoption of efficient, demand flexible heat pump water heaters (HPWHs) in the residential replacement market, contributing to California's goal of 6 million electric heat pumps installed by 2030.

Participating Organizations

- Association for Energy Affordability (AEA)
- Bear Mechanical HVAC
- Community Resource Project, Inc.
- Maroma Energy Services
- Reliable Energy Management, Inc.
- Proteus, Inc.
- Self-Help Enterprises
- Sheet Metal Workers Local 104

June 2024 ESJ Listening Sessions

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Listening Session Takeaways

Education & Messaging

- Key challenges in promoting heat pump water heaters and statewide electrification include the need for proper education on sizing and settings for both customers and contractors, the readiness of electrical infrastructure, and simplifying utility rates.
- Ensuring customers understand these aspects is essential to prevent dissatisfaction.
- Additionally, promoting safety benefits and offering the technology at no cost can drive adoption, especially among ESJ communities, but must be accurately communicated and managed to avoid negative financial impacts.
- Educational and awareness-building messaging is better received from trusted sources. CBOs play a pivotal role in this because they already have trusted community relationships and local knowledge.
- Initial investment and community outreach are important to building and regaining trust within a community and creating transparency between program implementers and participants.
- It's important to be upfront with customers about potential issues with city inspections, particularly regarding any existing illegal modifications in their homes. Inspection and permitting requirements can also vary significantly between rural and urban jurisdictions, creating a unique additional set of issues.

Installation Barriers

- Replacing gas water heaters with heat pump water heaters is challenging because of space constraints and the need for electrical upgrades in older homes.
- These issues make installations complex and less profitable. As a result, plumbing and HVAC contractors often avoid these projects, choosing easier and more profitable jobs in homes with modern infrastructure.
- This causes adoption challenges in the ESJ communities, which typically have older building stock.
- Proper sizing of heat pump water heaters is crucial to ensure efficiency and customer satisfaction, especially for larger households that exceed typical plumbing code assumptions. Undersizing can lead to increased bills due to reliance on electric resistance backup.
- Installing these systems may require home modifications, such as enlarging closets or adding ventilation, making the process more complex than simple replacements.

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Workforce Development

- Contractors need better education and training to effectively explain and sell heat pump water heaters to apprehensive customers in ESJ communities. Multiple reasons for this apprehension exist, including:
 - Customers in areas with frequent outages are hesitant to adopt heat pumps and tankless heaters, indicating a need to address grid reliability issues.
 - Low-income community members cannot afford an increase in their utility bills, even if the product and installation are provided at no-cost. Panel upgrades, sometimes due to oversizing, creates an additional challenge.
 - Many consumers feel they are being forced to electrify their homes and experience resentment towards the government or utilities.

Program Delivery

- Implementing statewide decarbonization programs and promoting electric technologies, such as electric water heaters, can lead to significant complexities. The initial project scope can expand due to infrastructure capacity limitations and the involvement of multiple stakeholders, including utility companies.
- These challenges can impact customer satisfaction if the infrastructure cannot support the increased demand, highlighting the need for careful planning, collaboration, and adaptability to ensure successful implementation.
- Programs that require significant income-eligibility documentation and verification, while set with good intentions, complicate the process and can be a barrier for participants and program implementers.
- Allowing a trusted CBO to determine eligible participants and then help them enroll without requiring income documentation or citizenship status could make these programs more accessible to those who would most benefit from them.

Phase II Equity Approach

Informed by listening session feedback and additional activities completed by CalMTA, equity-focused research and outreach integrated into the [Residential Heat Pump Water Heating Advancement Plan](#) includes the following:

- **Engage ESJ community representatives such as CBOs** in the process of developing an equitable statewide strategic plan for residential HPWHs. This engagement will ensure the plan explicitly includes strategies to break down barriers for and mitigate risks to ESJ communities. Continuing to engage with ESJ communities throughout the strategic planning process will help build trust/transparency, allow us to communicate and confirm goals and benefits, and demonstrate a long-term commitment.



- Explore and promote **strategies to mitigate a potential increase in utility bills** after heat pump water heating installation, such as collaboration with low-/no-cost solar installation programs and demand response/load-shifting programs or identification of financial assistance and affordable financing options. Collaborating with contractors or programs that use bill calculators may enable better communication and transparency into future impacts.
- **Workforce education, particularly regarding sizing and settings**, will be critical to successful transformation of this market and will maximize household benefits. A statewide commitment to “right-sizing” training for contractors – and potentially requiring this training prior to HPWH installation – can support this end goal.
- Conduct **technical research to yield a more complete understanding of proper sizing, panel considerations, home remediation needs, and bill impacts**. Planned analysis will be inclusive of common low-income housing characteristics and will also include mobile/manufactured housing.
- Recommend **a preliminary assessment checklist to further mitigate negative household impacts** such as panel capacity limitations and ensure the home is a “good fit” for HPWH installation.
- Support development of **consistent operations and maintenance (O&M) training for consumers** during project close-out/checklist, empowering them to optimize system performance.

Foodservice Water Heating Systems

This MT idea would target market activities that increase foodservice sector adoption of medium-duty commercial electric water heaters that are designed, configured, and controlled to optimize energy use and allow demand flexibility.

Participating Organizations

- Access Plus Capital
- Asians in Energy
- County of San Mateo
- Self-Help Enterprises
- Tabachines Cocina (Fresno-based restaurant)



Listening Session Takeaways

Cost Barriers & Financing

- Foodservice establishments historically have thin profit margins and many are still recovering from the COVID-related economic downturn.
- The cost differential of the product itself, along with related installation costs such as upgrades to electrical panels, is a significant barrier.
- Businesses in older or low-income neighborhoods, where infrastructure upgrades are lacking often bear these costs or must negotiate with landlords who may be unwilling to invest.
- Incentives are not readily available and are often insufficient to cover the higher product cost.
- While some banks offer partial loans, securing enough financing remains difficult. The market also needs financing options that benefit both building owners and tenants.

Rate Structure Considerations

- Utility electrical rates are high and keep rising. Running electric water heating systems can increase operational costs, especially for restaurants that use a lot of electricity during peak hours like dinnertime.
- Electricity prices can fluctuate significantly due to issues like deferred maintenance, creating a burden for businesses using electric equipment.
- A separate electric rate for restaurants or restaurant operators, like the rates offered to EV owners, would help overcome this barrier.
- Some sort of “cushion” or bill protection mechanism, such as credits if bills increase, could also help make electrification attractive. This is especially important in areas with extreme weather, like the Central Valley, where utility costs for heating and cooling are significant.

Grid Reliability

- Concerns about the grid's capacity to handle increased electricity use, especially during scheduled blackouts in extreme weather, pose an additional challenge.
- Scheduled blackouts cause significant inconvenience and loss of profit, making people skeptical about increasing their electricity reliance.

Messaging & Education

- A common issue is the "one-size-fits-all" sales pitch claiming energy savings for everyone, which isn't always true. This can mislead businesses and residents, potentially leading to negative experiences and backlash against the technology.



- Upfront transparency, detailed guidance, and allowing businesses to make informed decisions based on their specific circumstances are crucial.
- The layered costs and benefits of electrification, which can offset financial concerns, are complex and tangible benefits of electrification need to be clear for small business owners to consider it.
- Earning trust requires effective in-language communication from people viewed as established community members.
- Seeing successful implementation of this technology, potentially through workshops where early adopters share their experiences, can encourage others. These real-world success stories should be shared before urgent needs arise, as immediate replacements do not allow time for education.

Additional Barriers

- Restaurants often operate in small areas where all available space is allocated to cooking, storage, and serving customers. Installing new electric equipment could require reallocating this limited space, potentially reducing the area available for essential operations. This makes restaurant owners hesitant to adopt new technologies that might disrupt their carefully arranged setups.
- Distrust of the government/utilities remains high among smaller immigrant-owned businesses due to historical reasons, such as corruption in their home countries, making them resistant to regulations. For example, in Alameda County, Asian restaurant owners protested electrification efforts due to cost concerns. Similarly, Korean American dry cleaners are upset with new electrification proposals from the local air quality management district, adding to previous conflicts over replacing harmful chemicals.

Phase II Equity Approach

Informed by listening session feedback and additional activities completed by CalMTA, equity-focused research and outreach integrated into the [Foodservice Water Heating Systems Advancement Plan](#) includes the following:

- Promote (and identify necessary enhancements to) financing mechanisms and bundling options that reduce the upfront cost of efficient electric water heating systems, including green financing, on-bill financing, or leasing mechanisms that spread the cost over time.
- Explore partnerships with programs that offer incentives or financing for electric panel upgrade to reduce or eliminate panel upgrade costs.
- Conduct research to better understand and quantify the non-energy benefits associated with high-efficiency heat pump water heaters, such as space cooling, load shifting, and potential to serve as a thermal battery when coupled with Time of Use (TOU) rates for bill



savings, to create a more appealing value proposition for resource-constrained business owners.

- Encourage a holistic approach to system design that reduces demand and enhances efficiency in other parts of the hot water system to mitigate the risk of oversizing or misalignment of HPWH capacity, which can result in increased upfront costs or operational inefficiencies.
- Engage with associations such as the California Restaurant Association and Latino Restaurant Association to amplify business owners' stories and allow peers to learn about the benefits of efficient water heating system upgrades. These efforts will spread awareness, share success stories, and build a broader coalition of support for technology adoption.

Efficient Streetlighting

This MT idea would work to refine and establish streetlight design assessment resources allowing municipalities to proactively design and convert custom streetlights that will increase energy efficiency and provide other benefits.

Participating Organizations

- Asians in Energy
- City of Berkeley
- City of Huron
- Council of Asian-American Business Association

Listening Session Takeaways

Safety Benefits

- The addition of more streetlights and sensors reduces light pollution and enhances safety, especially in low-income areas which traditionally have fewer streetlights.
- Upgrading streetlights to include Wi-Fi access points adds further value by improving connectivity for residents.
- "Smart lights" with solar power, battery storage, air quality monitors, Wi-Fi hotspots, and speakers for public announcements are versatile, providing lighting, air quality improvement, and EV charging - valuable to ESJ communities and especially useful for farm workers and firefighters.



Privacy Concerns

- Smart lights raise community concerns about the risk of over-policing, privacy, and security. should be involved in deciding whether to install such cameras to avoid feelings of surveillance and ensure they serve genuine needs.
- If cameras are installed, the footage should be managed by a trusted entity and data ownership/usage should be communicated transparently. This process can also foster community engagement and neighborhood safety initiatives.

Ownership & Maintenance

- Many small cities in ESJ communities do not own their streetlights - the utility does - and therefore have limited control over the lighting infrastructure.
- A historic lack of maintenance has been seen in areas where utilities are responsible for maintaining street light fixtures and trimming back trees, particularly during wildfire season.
- This has led to ongoing issues with aging infrastructure, prompting calls for better staffing and resource allocation to ensure reliable service, particularly in ESJ communities.

Cost & Financing

- The immediate cost implications for municipalities in under-resourced areas can create a barrier, despite potential long-term benefits.
- Public works departments in smaller cities are often overwhelmed with basic maintenance tasks, making it difficult to prioritize improvements for functioning systems.
- Integrated program support and mechanisms like on-bill financing can improve the value proposition of streetlight upgrades.

Underserved Community Focus

- Addressing the need for improved street lighting could focus on rural and underserved communities and mandate that contractors use smart lights in their projects, prioritizing areas that typically lack attention.
- This approach could help address the existing disparities in service prioritization and promote workforce development in related fields, and should include maintenance, particularly for air quality monitors.
- Data collected from these monitors would be used for advocacy, identifying harmful emission sources near vulnerable populations like schools and senior centers.

Fairness in Contracting

- Communities have some apprehension about the dominance of large suppliers and contractors in bidding processes, which could limit opportunities for smaller firms.



- These issues highlight the need for transparent procurement practices and strategies to mitigate upfront costs while ensuring diverse participation in projects.

Phase II Equity Approach

As of July 2024, CalMTA has paused the Efficient Streetlighting idea in Phase I of development. We will conduct additional research and revisit it as part of a future MTI scoring process before moving forward.

