



Draft MTAB Meeting Notes

January 25, 2024

In-Person Meeting

Welcome & Disclosure

Stacey Hobart opened the meeting by welcoming attendees and reiterating the conflict of interest (COI) policy for MTAB members and CalMTA and asked members to declare any potential COI.

Jeff Harris disclosed that NEEA has active market transformation initiatives (MTIs) across a four-state area working in the same market categories targeted by CalMTA, although these are all in the Northwest.

Review 11/30-12/1 MTAB Meeting Notes

Stacey Hobart invited any comments regarding the previous meeting (11/30-12/1) notes. There were none.

Stage 1 Disposition Report Comment Review

Jennifer Barnes provided an update on CalMTA's Stage 1 Disposition Report and approach to addressing public comments received on the draft report via the Public Document Area (PDA) website. It was clarified that while there were no direct requests for confidentiality, CalMTA would want to notify submitters in advance if the information was going to be made public and that the team feels that sharing the idea scoring breakdown with MTAB would sufficiently address this comment. CalMTA agreed to provide a comparison of the final draft and final version of the Stage 1 Disposition Report and Advancement Plans to MTAB.

Final MTI Evaluation Framework

Karen Horkitz provided a status update on CalMTA's Evaluation Framework, including the need to resolve questions about the proposed third-party evaluation oversight and management approach. In response to this feedback, CalMTA refined its approach in alignment with policy objectives laid out in the CPUC Decision. A January 8 webinar allowed CalMTA to present and achieve consensus on this approach. The Evaluation Framework is on track to be finalized by April 2024.

Recommendation for Batch 2 MT Ideas

Members of the MTI development team presented the top-ranked ideas recommended for inclusion as a Batch 2 MTI including: (1) efficient streetlighting, (2) residential heat pump water heating, (3) single-pane replacement windows for commercial buildings, and (4) food service water heating.

Jeff Mitchell noted that while the residential variable speed heat pump and high-performance window ideas scored well, CalMTA recommends holding off on further development at this stage due to active code work that may impact the former and the low TRC of the latter. MTAB questions and discussion around each of the four potential Batch 2 ideas, which followed CalMTA's presentation of the preliminary product definition and market transformation (MT) theory for each, is documented below.

Residential Heat Pump Water Heaters (HPWH)

- Should CalMTA's MTI focus more on technology transformation to try to eliminate the back-up heat mode, which would help reduce the need for panel upgrades as well as the significant electrical grid capacity needs associated with back-up heat?
 - Jeff Mitchell agreed that there is an opportunity to improve these products over time and that CalMTA should look specifically at this issue.
- The potential for overlap with TECH Clean California and, to a lesser degree, the Building Initiative for Low-Emissions Development (BUILD) Program, which both identify as California's HPWH market transformation programs.
 - Jeff Mitchell clarified that CalMTA will want to examine the market closely and better understand where we can add value to make sure there's an additive role before advancing further.
- Whether demand flexibility presented a potential opportunity.
 - Jeff Mitchell explained that while most large HPWHs have connectivity enablement, this functions differently when operating in heat-pump-only mode and CalMTA doesn't want to oversell the benefits of a demand-flexible product that will still add electrical load to the grid.
- New Buildings Institute and NEEA have worked in this space for years, contributing to Title 24 and specifications that enable credit claims for dropping watts through demand flexibility. Additional load may be shed, and work is underway with other groups on controls and HPWH enhancements. Substantial work is being done on demand response (DR) since the U.S. Department of Energy does not regulate DR.
- Would CalMTA's MTI be a pure electrification play since HPWHs are subject to federal standards with proposed rulemaking in process?
 - Jeff Mitchell clarified that the opportunity here is coordination and policy alignment that would help ensure customers adopt the most efficient HPWH option as California moves towards electrification.
- Has CalMTA talked to solar providers in California, since water-heating storage capacity could be addressed with solar panels, thus eliminating additional load?
 - Jeff Mitchell replied that CalMTA's outreach will begin primarily in the next stage and that solar providers have been identified as a potential coordination point.
- Given the multiple active HPWH programs, how would CalMTA evaluate its impact on this market?
 - Karen Horkitz explained that CalMTA would first inventory existing programs, analyze data, talk to program staff, and seek to address why California is not on its desired adoption trajectory. In evaluation, CalMTA would dive into strategies

to impact market lift and track market activity after intervention. The third-party evaluation process would include interviews and research to gather market feedback regarding factors that influenced purchase decisions.

- California building code treats water heaters with a solar thermal system (considered energy efficiency) differently than water heaters connected to a solar panel (not EE).
- Because of the significant work focused on HPWHs in California, some strategies proposed by CalMTA may already be addressed or will be through the CEC Equitable Building Decarbonization Program. As a result, CalMTA should make sure the MTI is very focused and niche and should be careful about EE encompassing distributed energy resources (DER) deployment.
- Acknowledgement of the massive funding allocated to getting HPWHs installed. While MT can increase the speed of adoption, and a higher level of coordination could result in better quality and efficiency, it is also higher risk because of the current baseline.

Food Service Water-Heating

- CalMTA's presentation captured the typical barriers for this technology, but what are the opportunities that will drive purchases?
 - Jeff Mitchell replied that the cool air production that can be undesirable with residential HPWHs can be a benefit in commercial kitchens.
- By getting this technology to scale through commercial food service (a large sales opportunity), CalMTA can make it more accessible and affordable for multifamily properties.
- The idea of getting a large franchise to change standard specs for equipment was raised as a massively influential opportunity with potential for leveraging innovations like 120-gallon water heaters specifically for quick-serve restaurants. CalMTA should look at existing specifications, especially for franchises that are already all-electric due to their condensed footprint.
- How are cooling benefits being captured?
 - Jeff Mitchell said this could be captured by looking at make-up air requirements for restaurants, which involves a lot of air-conditioning. An air-conditioning heat pump, which is already running, could also heat water.
- The need to research restaurant load and recovery requirements.
 - Jeff Mitchell replied that California's health code requirement for restaurants considers second-hour ratings, creating a potential opportunity to update the code to be more realistic for heat pumps by looking at recovery vs. volume.
- The need to segment the market since quick serve restaurants have different needs than other dining establishments. Additionally, many new water heating models will easily meet the health code and new refrigerant requirements.
- The idea of potentially expanding the market to schools was raised, which could increase equity benefits.

Efficient Streetlighting

- Since joint power authorities often manage streetlighting, not just individual cities, this could represent a potential marketing avenue.

- Southern California Edison (SCE) has done significant work in partnership with CalTrans and technology centers related to higher-efficiency controllable streetlights. SCE will share the information which identified several barriers to this work.
- Municipalization might not be the best approach to addressing this market.
- Beneficial impacts on pollinators could also be an opportunity, since adjusting lighting frequency can improve the environmental profile. UC Davis's work is an example.
- It was recommended that CalMTA review the regulatory framework related to LED lighting profits. Concerns were raised that this technology has not stabilized enough and that benefits were not clear enough to many end-users.
- Similar work in Oregon had faced some political resistance due to the substantial profit utilities make from streetlights.
- The substantial benefits to be had from this technology (grid flexibility, dimming and controls, ability to control operations during peak load times, GHG/carbon issues) were noted, as well as the fact that tariffs allow for conversion to LEDs.
- The new generation of controlled technology is far more reliable than it was in the past and that many additional improvements are feasible, such as the ability for utilities to ramp up illumination through controls at peak grid times.
- Utilities will not make more money from more consumption - decoupling has already happened.
- Many local governments in Southern California have already bought back streetlights from SCE. Opportunities exist to engage public agencies in disadvantaged communities (DACs) as well as the safety benefits for ESJ communities in addition to reducing energy usage.
- Regarding the potential safety benefits, more illumination could be very important and that less overall illumination could make things less safe. CalMTA could develop a more nuanced pitch that addresses different safety concerns in different communities, since different communities will value different benefits/attributes. Next generation lighting controls should be connected to local planning efforts.

Single-Pane Replacement Windows (Commercial Buildings)

- Has CalMTA considered the opportunities and barriers around attachment products?
 - Rick Dunn explained that CalMTA has looked into the work done by multiple organizations to investigate attachment products, including NEEA and the DOE. He noted that opportunities for CSW (as compared to VIG) relate to the ability for CSW to reduce energy loss through the window frame; many buildings still have highly inefficient aluminum frames. Modular CSW systems will allow building owners to select the most appropriate product for their particular type of window.
- CalMTA might want to clarify the MTI's target since double-pane windows, which are already addressed in Title 24, may be prevalent. When cooling is a concern, getting the right visual transmittance (VT) is important and benefits on the heating side might not be as significant. Low-E glass windows are the standard for new construction, but how do we achieve something similar in existing buildings.

- Clarification was requested regarding how secondary windows work with buildings that have historic preservation requirements.
 - Rick Dunn stated that these products are a good solution for historic windows since you can attach on the interior and can also improve the frame and not just the pane. Margie Gardner added that there are far less historic preservation buildings in the commercial space, which is the MTI's target market.
- Whether there was an operable window solution to preserve the air flow feature.
 - Rick Dunn said CalMTA will need to investigate this area moving forward but that it is very interesting. NEEA's work found that utilities are concerned about operability in terms of locking in savings (e.g., how would you know how this energy-saving technology is being operated?), but in California where open windows may cool down the home, this could be a beneficial feature.
- Concerns were raised about significant flux in the commercial real estate sector due to a shift to remote work.
 - Rick Dunn acknowledged this but noted that even without line-of-sight occupants, owners still need to comply with building performance standards before selling. If owners convert buildings into housing, there may be a compelling opportunity to replace windows, since VIG is expensive but performs very well and might make sense for large-scale projects. Elaine Miller added that the municipal and state governments, universities, schools, and hospitals (MUSH) market might also be a good target.
- Regarding office space occupancy and the dynamic nature of the commercial real estate market, owners are not likely to be interested in capital improvements. While this MTI is exciting and CalMTA should pursue it, it's important to be careful about occupancy assumptions until the market stabilizes.
- It was suggested that CalMTA also look at resiliency and the importance of a high-performing envelope during power outages, and should explore how to quantify or monetize this. Since windows are often the weakest link in the building envelope, during extreme heat or cold high-performance windows can be life-saving.
- It was also suggested that CalMTA explore the impact on employee/tenant retention. Installing high-efficiency windows could allow owners to extend the area deemed to be safe and legally able to be occupied (an economic development opportunity).
- SCE is currently working on studies related to resilience and building performance standards, and is therefore very supportive of this initiative - it checks all the boxes. The recent ASHRAE conference identified a need for tools that could quickly perform analysis to optimize window design, which could enhance the MTI value proposition.
 - Rick Dunn said that one of the benefits of the Partnership for Advanced Window Solutions (PAWS) collaborative is having access to tools that support this - even more simplistic versions can provide reasonably accurate findings that convince owners to invest and complete M&V.
- The Lawrence Berkeley National Laboratory's FLEXLAB® allows users to test out windows and get quantitative measurements.

- Heating equipment on the gas side is typically much too large for what California climate requires. With heat pumps, it can be prohibitively expensive to oversize it – if you replace gas capacity with equivalent electric capacity, you run the risk of higher operating costs.
 - Rick Dunn confirmed that this was a concern in NYSERDA's work: after already switching buildings to a more expensive fuel source, when the technology has to use more fuel, bills go up.
- Clarification was requested about the equity components of this MTI.
 - Rick Dunn said that building envelopes in ESJ communities are typically less efficient and include original windows/frames. Additionally, multifamily properties and public schools may potentially be included in the target market and would be identified through the next stage.

Overall Portfolio Balance

Jeff Mitchell shared a breakdown of Batch 1 and Batch 2 MTIS by geographic sector, technology type, market sector, ramp-up rate/timing, and potential ESJ and workforce education and training benefits and invited MTAB feedback.

There was discussion about whether ESJ benefits should be ranked higher on ERTUs since many commercial buildings in low-income areas have RTUs and not central systems which would offer greater proportionate impact. The issue of fuel-balance was also raised noting that windows are fuel-neutral, and ERTUs could be gas fueled.

MTAB Feedback on Batch 2 Ideas

MTAB members were invited to share their opinions on the Batch 2 ideas including if they disagreed or supported any of the specific technologies. It was clarified that this step would allow staff to move forward with the Advancement Plans to determine if the idea was viable for development into a full MTI. The Advancement Plans would be shared for public comment.

- Peter Miller said that he was largely on board with the proposed Batch 2, given the need to winnow down ideas to a manageable number. The ideas are a nice diverse group representing different sectors with different ramp-up speeds. While it feels like there are still a lot of questions at this early stage, he feels comfortable with the plan and has no real concerns.
- Ky-An Tran said that of the four Batch 2 ideas, he considered efficient streetlighting and food service water heating to be the best and liked Jeff Harris' suggestion about leveraging the food service initiative to address multifamily water heating. Ky-An shared concerns about single-pane replacement windows due to the wildly fluctuating commercial building market.
- Jeff Harris said that at this stage it's hard to know which MTIs will ultimately be "winners," so he supports advancing quite a few knowing some will fall off and thinks this group has good diversity. He noted that while people may want to have questions answered before investing, some investment is required to answer those questions and the process will allow CalMTA to refine the portfolio to focus on the most promising ideas. Potential MT interventions are also likely to be diverse – for HPWHs,

CalMTA's primary role may be coordination - and that some MTIs could move forward very quickly.

- Lujana Medina said she had no initial comments beyond what she had provided previously, but that the process feels rushed and she was unsure what the motivation for that rapid pace is - assumes this is due to CPUC requirements. Lujana also said she has some uncertainty related to Commissioner Shiroma retiring, since she has been a major proponent of MT, energy efficiency, and equity.
- Fred Gordon conceded that while he had doubts about several ideas, he shared Jeff Harris's sentiment that you have to get to the next phase to really understand the prospects. He suggested some critical questions to get there and actually be able to make a decision. There are evaluation concerns with residential HPWHs due to the many concurrent activities making it hard to find out CalMTA's actual impact - there's so much noise in the market. CalMTA could potentially focus on bringing together the many channels pushing a higher coefficient of performance and come up with critical factors showing how CalMTA made a difference, with the goal of improving HPWH efficiency. HPWHs are such a high priority that if CalMTA accomplished this, the MTI would be more significant than anything else on the list.
- Cyane Dandridge expressed agreement with MTAB feedback so far and shared that her greatest concern was about the residential HPWH idea. She suggested that CalMTA might want to explore how that MTI would be evaluated before determining whether to move forward. She also added that she liked the non-energy benefits of windows and streetlighting, which are great marketing opportunities that impact multiple stakeholders (such as demonstrating tenant retention to building owners).
- Randall Higa stated his hope that CalMTA will provide sufficient time to submit helpful written comments. In general, he expressed some concern that municipalization was not necessarily the right focus for the streetlighting MTI but that this market includes significant opportunity for technology improvements. He praised the significant building performance standard opportunities and ESJ community benefits of the commercial windows MTI. Food service water heating presents an opportunity, as with ERTUs and window glazing, to influence chain accounts' standard specifications. He highlighted the potential to combine MTIs into a standard package that would be very compelling for these businesses, and that packaged MTIs would yield tremendous grid benefits. He also shared a desire to coordinate with CalMTA and provide SCE's expertise and information to move some MTIs forward more quickly.
- Christie Torok stated that she has concerns about multiple Batch 2 MTIs and wished there was a chance to see more built-out plans. She described the HPWH market as incredibly cluttered and said she wanted to better understand the market and business opportunity for streetlighting. The unknowns of the commercial real estate market make the single-pane replacement MTI risky, and its potential benefits and opportunities do not feel fully fleshed out. The food service water heating MTI feels very focused but targets a market that can be tough to reach and is resource constrained.
- Hayley Goodson responded by explaining that the question is whether it's worth investing in answering these questions and that she believes the answer is yes. MTI

goals will evolve through research and some MTIs might drop off, but none of this will happen unless we answer these questions now. In the case of residential HPWHs, she was initially skeptical but now sees an opportunity to address the substantial market barrier created by a very cluttered and siloed market. Coordinating across efforts will be required to meet statewide adoption goals. For food service water heating, she identified the need to model bill impacts due to the industry's low margins. She shared an interest in better understanding delivery channels and the business case for streetlighting and, while similarly concerned about the commercial building stock transition, is hopeful that empty buildings will be repurposed and the MTI can address built infrastructure more than simply commercial real estate.

Stacey Hobart explained that CalMTA will take this feedback and regroup with Christie to determine whether to move forward with all four. MTAB feedback and questions will inform Batch 2 Advancement Plans. CalMTA will also provide an update and report on Batch 1 progress in the spring.

There was discussion about the process should any MTI not move forward. It was clarified that only ideas deemed as viable initiatives would advance and that if at any point a barrier is identified that cannot be overcome, we would not continue. It was recommended that CalMTA look at the most difficult factors first and determine whether they can be feasibly addressed before investing further.

Public Comment

- Kelly Cunningham of PG&E shared Randall's concern about municipalization being the right strategy for efficient streetlighting. She said that the market has reached a point where it might be time to revisit this but doesn't see municipalization as an MT strategy. CalMTA may instead want to focus on the many excellent control options that have not reached full penetration due to acceptance barriers. Kelly expressed a desire to see measures combined, since windows and envelope upgrades for restaurants would help with HPWH and induction performance.
- Carol Yin said that the factors listed in the portfolio view slide are important but that not all scoring criteria (like grid benefits) was included, and that she would like to see table with all factors.

Update Review of Advancement Plan Comments

Jeff Mitchell presented a [summary of the Advancement Plan comments](#) received including comment of engagement and partnership, research, pilots, and TSB/cost-effectiveness assumptions. He also shared the changes that were made to the Advancement Plan based on comments requesting more clarity about CalMTA's role in the California energy efficiency landscape, more detail regarding research activities and objectives, and clarifying language about the conceptual logic model and identified barriers or potential interventions. He also shared the timeline for final Advancement Plan updates and CPUC approval. MTAB comments related to the Advancement Plans included:

- Significant technological opportunity for ERTUs exists, making this work a good direction for CalMTA.
- NEEA is working on ERTUs, looking at fuel-neutral components, and that they are beginning to get traction with manufacturers. The environment in which products are sold and performance standards are set is complex. Work related to this technology is also being conducted by Minnesota CEE, codes and standards entities, and the Consortium for Energy Efficiency. Given this significant activity, California's participation could help drive a consistent national standard that offers significant leverage - a time-sensitive opportunity for national collaboration.
- Clarification between the RTU regulated by federal appliance standards and this MTI and the activities in scope for federal appliance standards vs. building standards was requested. ASHRAE 205 has been actively working in this space for 15 years and there are documented challenges in getting part load information from manufacturer. If that data is obtained, CalMTA could significantly move the needle forward.

Presentation of Batch 1 MTIs: Strategy Pilots

Jeff Mitchell and Elaine Miller reviewed the development process for Strategy Pilots and specific pilot scopes. In response to a question about ERTU pilot timing, Elaine said that more research was needed before forming a pilot. MTAB comments and questions included the following:

Geographic Targeting Using ESRPP for Portable/Window Heat Pump and Induction Cooking

- Would the pilot focus on portable induction cooktops that would be available at a lower cost?
 - Elaine Miller explained that CalMTA will request that data from participating retailers and see if we are able to influence this.
- Whether CalMTA was concerned about portable heat pump installation and safety for pilot participants
 - Elaine Miller agreed with this overarching concern, but clarified that this was outside of scope for the ESRPP pilot and would instead be addressed through the Portable/Window Heat Pump Self-Installation Practices pilot.
 - Jeff Mitchell followed up to clarify the scope and purpose of this specific pilot. ESRPP is a proven approach to engage the plug load and appliance market, but this pilot seeks to test whether participating retailers would be willing to put certain products in certain store locations and share related sales data, an unproven approach.
- Whether the pilot was purely research or if it included incentives
 - Elaine replied there would be incentives
- The potential risk if customers have a negative experience with portable heat pumps
 - Elaine clarified that the overall MTI research plan captures insight into customer experience even though it is not the focus of this pilot

- What level of insight into ESJ communities could be feasibly attained through this pilot, since ESRPP does not capture much end-user information or experience
 - Elaine reiterated that the pilot is focused on learning whether retailers are willing to participate in this approach and does not seek to gather insight into specific ESJ communities.
- Two key questions relevant to this pilot were identified: (1) whether or not ESRPP can be used to target specific audiences and (2) under what condition ESJ customers will purchase these products. Regardless, validating the ability to target is enough to support MT and is a worthy goal.
 - Elaine confirmed that this and the ability to acquire data are the two primary reasons CalMTA is interested in the pilot.
- How do ESRPP retailers fit into the overall customer journey?
 - Elaine replied that the pilot is not looking at the whole customer journey, just one specific part, but that it will still analyze the customer journey within that specific subset - for instance, how much support retailers provide in addition to stocking the equipment. If this product is in stores but staff are not guiding customers to it or educating them about it, this is a lost opportunity.
 - Jeff Mitchell shared that ESRPP retailers account for 60-80% of product sales nationally. While AC units are a lower portion of overall sales, induction ranges are on the higher end.
 - Personal experience demonstrates the challenge of identifying which portable AC units use heat pump technology.
 - In the past, ESRPP retailers were required to offer specific staff education and training and may still be.
- A slight modification to the second research question was suggested to highlight its focus on currently available products.
- If, since CalMTA is conducting the pilot this year, it might be better to focus on induction technology now and add portables later, since there is more product diversity and availability for induction products in the retail channel
 - Jeff Mitchell responded that testing the willingness of retailers to participate in this targeted approach would still apply regardless of the technology focus.
- The need to study the pilot approach itself and not just the participants, and to have a strategy for any negative response from consumers
 - Jeff Mitchell noted that CalMTA will rely on retailers, who are heavily invested in the customer experience, to identify products they are willing to stock and sell. The ability to track returns through this data is also interesting and revealing.
- Whether SCE's loaner induction program could somehow be tied into the retailer journey. For instance, if somebody goes into a store and asks about induction products, they could be referred to a loaner program first.

Portable/Window Heat Pump Self-Installation Practices

- Jeff Mitchell communicated that CalMTA had already updated this plan to include window units based on submitted public comments.
- Greater detail was requested about how the customer journey factors into this pilot plan, and the level of information CalMTA will collect to understand specific support needs for specific building types.
- Potential barriers to adoption arise when buying energy efficiency technologies in retail locations, as qualifying product lists can require extensive review and daunting in-store research.
- What baseline system (e.g., mini-split or gas wall heater) did CalMTA assume?
 - Jeff Mitchell replied that the Advancement Plan looked at a mix of conditions (small AC benefit, wall furnaces, etc.) and that CalMTA will re-evaluate baseline calculations in Phase 2.
 - Karen added that the Advancement Plan was developed before Phase 2 research, which will result in actual models, and includes short-cut assumptions documented in the plan.
 - The San Joaquin pilot used non-natural-gas systems (propane, wood pellets) as the baseline.
- The CPUC has made a change to the avoided cost calculation for refrigerants. Previously, calculations assumed that replacing a furnace with a heat pump meant all the cooling load was added but some customers are looking for a technology that would meet heating and cooling needs and cooling saturation has increased over time. The current baseline is a hybrid.

Look Ahead: CalMTA in 2024

Lynette Curthoys presented a summary of CalMTA's planned 2024 activities and noted the challenge of balancing speed and commitment to process to effectively bring MTIs to market, with the pace informed by CPUC requirements. Given that CalMTA has many good ideas in the pipeline and a very full agenda for the year, one MTAB member recommended pushing out the next RFI to the second half of 2024.

Stacey Hobart reviewed the proposed agenda, dates, and locations for 2024 MTAB meetings.

Public Comment

- Kelly Cunningham of PG&E asked whether the ESJ communities targeted through CalMTA's strategy pilots included both renters and homeowners. Kelly praised the continued centering of equity in CalMTA's work but felt there had not been sufficient attention paid to the renter retail supply chain, citing a recent study that showed the massive portion of rented homes owned by investment companies. She also called out large corporate landlords operating in ESJ communities. Kelly commented that neither renters nor landlords were mentioned much in the draft strategy pilot plans and flagged the increased pressure for landlords to offer cooling as a potential

opportunity. She added that the ESJ designation does not always signify low-income and reiterated that CalMTA needs to have a strategy for renters.

- Kevin Hamilton of Central California, a member of the CARB environmental justice community, echoed Kelly's comment. He added that in watching how the state is addressing ESJ communities, the rented home market will be critical. Low-to-moderate income households already face significant challenges and there is increasing pressure on building owners to upgrade. Kevin added that the 3,000 households in the San Joaquin Valley he works with include many homeowners.
- Carol Yin asked if there was any reason why, if the pilot indicates that ESRPP is not successful at or feasible for reaching ESJ communities, CalMTA wouldn't use it to target other markets. Jeff Mitchell replied that the standard ESRPP approach is well-proven and well-documented, so ESRPP will likely be a final MTI, but current efforts are working to determine ESRPPs effectiveness in targeting ESJ communities.
- Kevin Hamilton responded that unless ESJ community members are savvy and have access to the internet, they will have a hard time participating in the pilot.

The meeting was adjourned.

Attendees

MTAB Members

Haley Goodson, TURN

Fred Gordon, Energy Trust of Oregon (virtual)

Jeff Harris, Northwest Energy Efficiency Alliance

Randall Higa, Southern California Edison

Lujana Medina, County of Los Angeles County Environmental Division Manager (virtual)

Peter Miller, Natural Resources Defense Council

Cyane Dandridge, SEI

Christie Torok, California Public Utilities Commission

Ky-An Tran, California Public Advocates

Staff and Consultants

David Alberts, CalMTA (administered by Resource Innovations) (virtual)

Taqua Ammar, CalMTA (administered by Resource Innovations)

Jennifer Barnes, 2050 Partners on the CalMTA team

Lydia Boeteng, CalMTA (administered by Resource Innovations) (virtual)

Lynette Curthoys, CalMTA (administered by Resource Innovations)

Nick Fiore, CalMTA (administered by Resource Innovations) (virtual)

Rachel Good, CalMTA (administered by Resource Innovations)

Stacey Hobart, CalMTA (administered by Resource Innovations)

Karen Horkitz, Consultant to the Cadmus Group on the CalMTA team

Melinda Lopez, The Ortiz Group (virtual)

Alyssa May, CalMTA (administered by Resource Innovations) (virtual)

Elaine Miller, CalMTA (administered by Resource Innovations)

Jeff Mitchell, CalMTA (administered by Resource Innovations)
Sepideh Rezaia, Unrooz Solutions (virtual)
Nils Strindberg, CalMTA (administered by Resource Innovations)
Katie Teshima, CalMTA (administered by Resource Innovations)

In-Person Guests

Carol Yin, ETCC

Virtual Guests

Mary Anderson, PG&E
Tiffany Botello, SCE
John Clint, AESC
Katherine Court, Pacific Northwest National Laboratory
Kelly Cunningham, PG&E
Anders Danryd, SoCalGas
Chidinma Emenike, MN CEE
Richard Fennelly, CoilPod LLC
Peter Franzese, CPUC
Carlo Gavina, SoCalGas
Brian Gaze
Ted Giraldin, Lawrence Berkeley National Laboratory
Kevin Hamilton, Central California Asthma Collaborative
David Jagger, Energy Solutions
Hilary James, Tanko Lighting
Christopher Malotte, SCE
Savannah McLaughlin, CPUC
Dominique Michaud, SDG&E
Tamara Mullins, Resource Innovations
Phanindra Pagadala, PG&E
Emily Pelstring, CPUC
Sarah Price, Lawrence Berkeley National Laboratory
Merry Sweeney, SDG&E
Kate Zeng, SDG&E