Public Engagement Assessment Report

California Air Resources Board Zero-Emission Appliance Standards Development Process

Prepared for:

CALIFORNIA AIR RESOURCES BOARD

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Introduction

This document presents the findings, conclusions, and recommendations aggregated from interviews (Assessment) conducted with interested parties to collect their input, feedback, and perspectives to inform public and community engagement as the California Air Resources Board (CARB) develops California's zero-emission appliance standards.

The Assessment was conducted by the California State University Sacramento, College of Continuing Education (University), serving as a third-party neutral and public engagement consultant to CARB. The purpose of the Assessment was to provide a confidential setting through which the interview participants could freely provide their observations, thoughts and understanding of CARB's work around potential zero-emission appliance standards and to inform the standards development process.

Background

Collaborative specialists within the University provide fee-for-service, not-for-profit support to various clients and interested parties and have done so since 1992. They specialize in providing neutral, third-party services to diverse and oftentimes conflicted parties on a wide range of policy topics. Most of the University's cases are multi-party, multi-interest collaborative efforts wherein persons and the organizations that convene them, work to achieve mutually supported outcomes through structured, interest-based methods. A common first step in such work is to conduct an assessment wherein staff from the University meet with a representative (but not exhaustive) set of interested parties with a relationship to the policy issue at hand. The purposes of an assessment are myriad and include the following:

- It provides an invaluable diagnostic tool describing/confirming what the key issues are for each party and giving that person a chance to express this in a confidential, neutral setting.
- It provides a powerful predictive tool describing whether an engagement process/approach is feasible.
- Related to above, if a process is deemed feasible, assessment outcomes can directly inform a project workplan and/or associated process recommendations including cost ranges.
- It presents a "mirror" to a community about how they collectively view a key issue.
- If a process is deemed feasible, the assessment informs data needs and thus provides project and cost efficiency by knowing early on what these needs are.

Assessment Process

University representatives conducted 38 interviews in small group and individual settings between June and August of 2023. A total of 54 interviewees represented a wide range of perspectives including appliance manufacturers and suppliers, affordable housing and tenant rights, local government, State government, contractors and workforce preparedness, large and small-scale landlords, utility companies, decarbonization advocates, environmental justice and equity, and public health interests. In some cases, CARB staff attended some interviews (with the prior permission of an interviewee). A list of interview participants is provided in Appendix A. Potential interviewees were initially identified by CARB staff and then reviewed and finalized by the University in its neutral role. All interviewees were informed of CARB's process and were familiar with the key decarbonization and engagement concepts that were introduced at the May 10, 2023 CARB pre-rulemaking kick off workshop (including the following recordings and background presentation information).

- English
  - https://www.youtube.com/watch?v=Vpx3Mkjf9WY
  - https://ww2.arb.ca.gov/sites/default/files/2023-05/Workshop_DraftSlides.pdf
- Spanish
  - https://www.youtube.com/watch?v=oDQPsZYXdgc
  - https://ww2.arb.ca.gov/sites/default/files/2023-05/Workshop_Slides_0510-2023_%20Spanish.pdf

A total of 64 initial interviewees were selected by the University. Each potential interviewee was contacted by CARB with an invitation (in email and Adobe pdf format) to participate, followed by email communication from the University describing the proposed process and how interview coordination would occur. After this follow up, University administrative staff reached out to all invitees to schedule time for the interview. In cases where invitees were not responsive, CCP contacted these parties at least two more times over an average period of 1.5 weeks to maximize the opportunity to respond. After such elapsed time, CCP closed its efforts to engage these invitees.

All interviews were conducted via the Zoom online meeting platform or telephone. The list of questions is provided in Appendix B and described further below. Each interview began with a short description of the process and how information gained through the interviews will be used to inform CARB's engagement process. Interviewees were informed about interview confidentiality and how the outcome of the interview process would be a publicly available Assessment Report that would present the "findings" (e.g., aggregated data from the interviews), and "conclusions and recommendations" (e.g., the University's summary assessment and proposal for next steps [if warranted]). The University further explained that the Assessment Report would identify all interview participants, however it would not include attribution of comments to any individual and that all information would be aggregated to identify themes and trends among the interview participants.

Interview Findings

Introduction
As noted above, the University used a standard set of thirteen (13) questions for each interview. As reflected in Appendix B, these questions were grouped into four categories:

1. Scope
2. Related Efforts
3. Engagement
4. Final Input

The questions were prepared by the University staff in collaboration with CARB staff. The University retained all editorial and independent authority over what questions to pose during each interview as well as all content in this report.

Findings below are presented as summaries of feedback from interview participants, including some verbatim excerpted quotes (presented with "*quotation signs and italicized text*"). Given the different perspectives expressed regarding CARB's concept for new potential standards and the standards development process, readers will undoubtedly read comments in the *Findings* sections that they agree or disagree with. In that regard, it is exceptionally important for readers to recognize that information in the **Findings** *s*ections does not represent the University's opinions (nor CARB's). That said, the University has a professional obligation to honor the input from interviewees, even if said input conflicts with CARB goals and/or goals of other interested parties. The subsequent **Conclusions and Preliminary Recommendations** section is where the University applies its best professional judgment to provide input on next steps.

Related to the above, common themes and differences among interview participants are reported in summary form. Participants did not necessarily respond to each question and in many cases, interviewees spoke to a question before it was asked. As such, the University interviewers took written notes and categorized said input after the interview was completed. In this context, the findings are not quantified statistically. Rather, responses are aggregated by question and emphasis is given to topics reflecting common interests and perspectives of the interviewees or conversely, a lack of common perspectives. Therefore, the following summary describes participant perspectives in qualitative terms (e.g., "most of participants said "X", or "a few participants believe "Y", etc.). Lastly, for reader clarity, the term "interested party(ies)" in this report refers to the broad range of people, organizations and institutions who will be impacted by the implementation of CARB's zero-emission appliance standards.

Overarching Summary
Across almost all interviews and all responses within each interview, the following consistent themes emerged as factors for CARB (and others) to consider. So prevalent and consistent were these themes that they are not prioritized, nor listed in order of cumulative responses.

- Impacts to low-income communities.
- Impacts to tenant populations.
- Geographic differences regarding climate (and associated optimal appliances), socioeconomic, ideological and infrastructure differences.
- Difficulties to achieve consumer, manufacturer, local government adoption of zero emission standards, and associated technology and equipment.
- Delivery of education, associated messaging, and avoidance of misinformation regarding appliances and emission standards.
- Historic consumer behavior and preferences, and their influence on future consumer behavior.
- Comprehensive, consistent coordination between State agencies, between local and State agencies, between California and other states, and between California and the federal government.
- A holistic, systemic approach for emissions standards.
- Impacts on the local and statewide electrical grid infrastructure and the associated readiness of these systems for expanded demand for electrical service.
- Manufacturer support and readiness to supply appliances to California (and other states pursuing similar standards).
- Readiness of and/or support to a trained workforce that supports compliance of future standards.
- Readiness and consistency of enforcement at the State and local levels.
- Energy costs and impacts to ratepayers.
- Political will and the need for extensive funding and economic incentive opportunities
- Public health impacts of decreased indoor pollution.
- Unintended consequences of emission standards.
- Consistent, standardized definition of “zero-emissions”, exemptions (if any) and metrics for success.

The following sections present the Assessment questions and more detailed outcomes from the four question categories, as further framed by the list of factors above.

Category 1 – Questions about Scope

The following six questions were posed under this category:

A. Did you have a chance to review the workshop materials or attend the first workshop?
B. What are your initial thoughts/understanding of CARB’s concept (as presented at the first workshop) for potential zero-emission appliance standards?
C. What are some opportunities and challenges that should be considered?
D. What questions need to be answered during the regulatory process to inform the potential appliance standards?
E. Do you have any concerns about CARB’s concept for the potential standards?

F. Do you have any hopes for CARB's forthcoming work on the potential standards? What would success look like?

Regarding Question 1A (Did you have a chance to review the workshop materials or attend the first workshop?), an overwhelming majority of interviewees either attended the workshop, reviewed the presentation materials thereafter, and/or studied related materials before their interview. All interviewees were very well prepared for Assessment questions and to provide robust responses.

Regarding Question 1B (What are your initial thoughts/understanding of CARB's concept [as presented at the first workshop] for potential zero-emission appliance standards?), a significant majority of interviewees support the concept being pursued by CARB. That said and as noted above in the "Overarching Summary" section, there are extensive questions about how the concepts and standards can be implemented and enforced. All factors listed above were raised under this question. Of additional consideration, several interviewees noted that CARB (and other agencies) must find ways to integrate, message and enforce positive outcomes that link: public health improvements, reduction of greenhouse gas (GHG) emissions, and opportunities for economic benefits through workforce preparation and delivery. Several interviewees are concerned that CARB will get "*tunnel vision*" on one of these three factors and will lose the opportunity to bring them together as an overall value-add.

Regarding Question 1C (What are some opportunities and challenges that should be considered?) feedback was extensive. In the context of the summary factors listed above, the following are the most common examples of input.

Challenges.

- Impacts to low-income communities.
  - While financial incentives may be available now and in the future, it is widely believed that the State cannot provide the level of incentives necessary to offset some level of "pass through" costs to socioeconomically disadvantaged communities (DAC). A small majority of interviewees feel that there is a logic to start appliance transition and standards in DACs, with State incentives, under the premise that if such a transition can be successfully done in said communities, it will be easier to push later adoption in more economically capable areas and that in doing so it might more rapidly push economies of scale in the manufacturing of zero emission appliances. However, there is a general concern that there may not be sufficient State funding to achieve this at the scale needed to spur manufacturer and consumer adoption of standards.
- Impacts to tenant populations.
  - A very large majority of interviewees stated that building infrastructure and unit-specific changes to multi-family rental homes, manufactured homes, mobile homes, etc. pose a significant risk to tenants. They could be displaced from their homes during or after retrofits. Upon completion of such upgrades, landlords could raise rents to a level that is untenable for lower and fixed income residents.

Further, absent comprehensive protections (and given the competitive nature of California's housing market), a very large population of people could be priced out of their housing unintentionally (based on post-compliance changes in housing), and/or evicted from housing by landlords that purposefully seek to replace tenants with other people.

- Geographic differences regarding climate (and associated optimal appliances), socioeconomic, ideological and infrastructure differences.
    - Several interviewees noted that geographic differences manifest in several ways. Regarding equipment and climate, it is believed that not all types of appliances are functional in all climates and that locations in higher altitudes and cooler general conditions of the state cannot logically adopt standards and equipment that works in warmer parts of the state. Similarly, several people noted that it appears that significant advocacy for the proposed standards is focused on the benefits and impacts to urban areas and that rural areas have both ideological differences (oftentimes more conservative and older populations) and different infrastructure conditions (smaller electricity distribution systems that remain elevated rather than buried) that will pose constraints to adoption.
- Difficulties to achieve consumer, manufacturer, local government adoption of zero emission standards, and associated technology and equipment.
    - Similar to the below comments about education and messaging, a majority of interviewees feel that a majority of Californians are comfortable with their current appliance conditions and are unaware and/or unenthused about making changes that will benefit the climate and personal health and will potentially be very expensive to achieve. Similarly, they are concerned about the scale and diversity of existing policy demands on local governments and if/how such cities and counties can be incentivized or forced to consistently enforce new standards. There is a fear that absent such uniformity across all local governments, some cities and counties will compete for citizens that may seek more lenient and presumed cost-effective places to live where standards are not enforced. Lastly, in general, there are concerns about the pace of standards adoption with some people feeling the goals are too aggressive timeframe-wise, and others concerned that the pace isn't fast enough.
- Delivery of education, associated messaging, and avoidance potential of misinformation regarding appliances and emission standards.
    - Extensive, long-standing public relations by the gas industry has convinced the public of the environmental and financial merits of this combustible energy source. Changing the perspectives of residents, homeowners and landlords will take extensive time and resources and it is not clear that CARB or any other agency has the means, nor coordination to do this.
- Historic consumer behavior and preferences and their influence on future consumer behavior.
    - Similar to above, there is a strong belief that consumers are content with gas appliances (especially for cooking) and that any exemptions that may be afforded to restaurants will reflect that there is a benefit to gas-based cooking and that

such exemptions should be afforded individual homeowners and renters too, rather than just restaurants. More broadly, there is a majority concern that absent a comprehensive public relations campaign by the State (not just CARB), the inertia on this topic will be too great to effect change against historic behavior and preferences.

- Comprehensive, consistent coordination between State agencies, between local and State agencies, between California and other states, and between California and the federal government.
    - An overwhelming majority of interviewees are concerned about historic and recent lack of integration, messaging, activities and initiatives between key State agencies (i.e., CARB, California Energy Commission [CEC], California Public Utilities Commission [CPUC], California Department of Housing and Community Development [HCD], and Department of General Services, etc.) and that absent a cohesive approach, implementation of emission standards will be very difficult to achieve. Similarly and as noted above, there is significant concern that differences between local governments and a lack of consistent messaging and enforcement by the State will create impediments. Lastly, some feel that there are beneficial economies of scale that can be achieved in the manufacturing sector if multiple states that are trying to achieve similar emissions standards, pool their resources to influence manufacturer actions nationally and globally. Conversely, there is concern that periodic changes in the federal executive branch creates a lack of consistency between federal and State standards and that California must pursue standards that can stand alone and not be subject to "*weakening*" by the federal scale if executive and congressional leadership changes.
- A holistic, systemic approach for emissions standards.
    - Several interviewees expressed concern that CARB (and other State agencies) appear to be pursuing a piecemeal approach through standards on select appliances and that the political influence at the Governor's Office and the Legislature should be sufficient for this to be a "*watershed moment*" wherein a broad, holistic approach for all zero-emission housing and buildings is pursued, rather than standards just on select appliances.
- Impacts on the local and statewide electrical grid infrastructure and the associated readiness of these systems for expanded demand for electrical service.
    - An overwhelming majority of interviewees expressed concerns about how local micro-grids and the statewide grid / electrical system will support expanded delivery demands. Most people expressed a lack of confidence that this infrastructure can withstand these demands and that the costs for upgrades of this scale will fall on consumers as utility companies will pass that along through rate hikes and that in doing so, this will be another financial burden associated with the emission standards unless it is subsidized somehow.
- Manufacturer support and readiness to supply appliances to California (and other states pursuing similar standards).

        - Several interviewees expressed concern about whether manufacturers are prepared or incentivized to invest in a supply chain of new technologies and appliances unless they see tangible, consistent decision-making and enforcement by the State.
    - Readiness of and/or support for a trained, compliant workforce.
        - Related to the above, an overwhelming majority of interviewees expressed concern about the readiness and availability across the state of the necessary workforce to implement the range of systemic changes needed to achieve these standards (i.e. local and state grid upgrades, building electrical panel and wiring upgrades, new appliance installation, improving other efficiency conditions in homes to maximize the benefits of new appliance installation, etc.). They similarly expressed concern that a subsector of non-compliant workforce will seek to undercut emissions standards through low quality, unpermitted work that evades enforcement.
    - Readiness and consistency of enforcement at the State and local levels.
        - Similar to concerns about agency coordination and overall willingness to make changes, several interviewees expressed concern about the necessary level and guidance for State and local government staffing to oversee and enforce implementation and long-term maintenance by others of upgraded appliances. Most people believe that these agencies are not and will not be ready for this level of effort and that furthermore, this will also result in a need to hire more staff at state and local levels and that such costs will be handed down to homeowners and renters through local taxes and similar fee assessing methods.
    - Energy costs and impacts to ratepayers.
        - In light of several examples described above, several interviewees expressed concern about if and how cost savings benefits will be accrued to utility customers. Further, some people described a scenario wherein gas demands will lower but because there will still be a need for gas delivery through existing infrastructure, the minimized volume demands will translate into rapidly increasing costs to people and businesses that will still rely on gas since these distribution and management systems require extensive safety protocols but will suffer from reduced revenues associated with reduced users.
    - Political will and the need for extensive funding and economic incentive opportunities.
        - As noted several times above, a large majority of interviewees feel that implementation of the standards will require extensive financial incentives that exceed what the State and other sources can provide and that absent that, either implementation goals will suffer, or implementation will happen but will prove unsustainably and disproportionately expensive to consumers, particularly low and fixed income residents.
    - Public health impacts of decreased indoor pollution.
        - For this topic, many interviewees only reported optimism for improved public health conditions, especially for DACs.
    - Unintended consequences of emission standards.

        - Several interviewees expressed concerns that with standards of this magnitude, there will be unintended consequences and conflicts to other regulated conditions. Examples included minimized efficacy of mandated new appliances because other energy efficiency investments would not be made (e.g., window and door stripping). Several interviewees mentioned the expanded use and management of refrigerants[1], and concern whether new appliances would expand the refrigerant waste stream and/or whether periodic failures of new appliances will release more, rather than less, GHG emissions.
    - Consistent, standardized definition of "zero-emissions", exemptions (if any) and metrics for success.
        - A small majority of interviewees expressed concern about a lack of consistent definitions that collectively might impede the messaging and measurement of "success". Examples included what the exact, consistent definition of "zero-emissions" is, particularly if the standard has exemptions afforded to certain gas users. Others asked about how "success" will be measured, and whether that will be solely by housing units with new appliances, and/or through defensible scientific measurements that demonstrate air quality improvements, public health improvements and/or reduction of GHG emissions.

<u>Opportunities</u>

- Impacts to low-income communities.
    - As stated above, a small majority of interviewees feel that there's a logic to start appliance transition and standards in DACs under the premise that if such a transition can be successfully done in these communities, it will be easier to push later adoption in more economically capable areas and that by doing so (with State incentives) it might more rapidly push economies of scale in the manufacturing of zero emission appliances. Related to this is the hope that in pursuing this approach, some form of economic equity is afforded to lower and fixed income communities that are disproportionately and negatively impacted by conditions that make things more expensive. Some believe this could be one way to "*level one of the playing fields*". In doing so, this could deliver economic and health benefits to communities that might not otherwise see such opportunities accrue.
- Geographic differences regarding climate (and associated optimal appliances), socioeconomic, ideological and infrastructure differences.
    - Some interviewees noted that for rural, forestland communities that already suffer a disproportionate risk to wildfires, the standards and necessary delivery of enhanced electrical services could be a further impetus for utility companies to rapidly bury service lines rather than maintain elevated lines that have been found to be the cause of numerous, catastrophic fires over the past decade.
- Difficulties to get consumer, manufacturer, local government adoption of zero emission standards, and associated technology and equipment.

[1] Refrigerants are strongly believed to contribute to climate change impacts due their effect on atmospheric conditions.

        - Several interviewees are optimistic that through these proposed standards and similar efforts by other State and local agencies, California residents will embrace the role of the State, and their role as residents to be national and global leaders for change regarding human health related to air quality, and GHG emission reductions to benefit the climate.
    - Education, messaging, and potential misinformation.
        - Related to the above, several interviewees are optimistic that with effective, coordinated communications, ideally conducted in a campaign style that has been successful for other State health initiatives (e.g., First Five, tobacco use, etc.) California government can influence consumer behavior to embrace and adopt the new standards.
    - Comprehensive, consistent coordination between State agencies, between local and State agencies, between California and other states, and between California and the federal government.
        - Several interviewees see this as another example to incentivize individual agencies to work closely together. For example, several people stated hope that if various State agencies can coordinate goals and timing of standards and similar initiatives with the three largest air quality management districts (AQMD) in the State (by residential numbers), this can directly influence volume manufacturing, infrastructure investments and rapid change because of the significant population of housing units that would implement new standards at approximately the same time.
    - A holistic, systemic approach for emissions standards.
        - Several interviewees expressed hope that this should be the aforementioned "*watershed moment*" to influence a holistic approach for improved air quality and climate-based improvements for all housing and other buildings in the state.
    - Manufacturer support and readiness to supply appliances to California (and other states pursuing similar standards).
        - Several interviewees expressed hope that CARB and/or other agencies through combined efforts, should support direct, volume purchases of appliances that can then be subsidized for implementation to low and fixed income users / builders / landlords such that the State can directly influence the direction of manufacturer investments with volume purchases, and that related volume manufacturing will in turn lower the price of such appliances due to mass production and sales.
    - Readiness of and/or support to a trained, compliant workforce.
        - Several interviewees feel that these standards and similar initiatives can influence creation of a new economy, educational investments to train such workers, a dedicated workforce that can earn a decent prevailing wage, and can provide economic benefits and tax revenue for the State.
    - Public health impacts of decreased indoor pollution.
        - A majority of interviewees are optimistic that the emission standards initiative will directly improve public heath conditions, especially for DACs, and that the combination of this policy goal, with reduced GHG emissions is a "*win-win*" that can bring together a diverse and broad coalition of advocacy organizations.

- Consistent, standardized definition of “zero-emissions”, exemptions (if any) and metrics for success.
    - Some interviewees are optimistic that through the development of consistent definitions and metrics for success, California can be a global leader and influence behavior in other parts of the nation and world by being a large “*proof of concept*”.

Regarding Question 1D (What questions need to be answered during the regulatory process to inform the potential appliance standards?), the following reflect common questions, aggregated from all interviewees.

- Does CARB plan to support education providers, contractors and individual, interested employees to ensure effective workforce development?

- Will CARB synchronize the standards development process with the efforts of other State agencies and AQMDs pursuing related goals, to maximize the efficiency and inclusivity of the final standards?

- Similarly, will CARB and/or the State leadership, avoid and/or protect State interests from potential changing policies at the federal scale?

- How will CARB manage cross-agency collaboration during the implementation of the standards?

- How will zero-emission appliance standards impact the affordability of housing in California?

- Is CARB prepared to make it a priority that the new appliance standards do not negatively affect housing affordability?

- What accommodations will CARB build into the standards to address the complexity of the rental housing market (e.g., age, size, price point, location, tenant displacement, etc.)?

- How much funding will be needed to successfully implement the standards as outlined, how will such funding (if available) be distributed equitably, and how will “equitable distribution” be defined?

- What specific levels of adoption will CARB seek and what market transformation curve does CARB think is reasonable to create a tipping point and ensure full compliance within a target time frame?

- How will CARB regulate the areas outside of its jurisdiction that are affected by the standards?

- What regions of the state will the standards be adapted towards? As noted above, interviewees highlighted that the costs for households to transition to electric appliances can vary greatly because of the differences in space and water heating needs across climate zones.

- What will CARB do to ensure local and statewide grids can withstand increases in electricity demand?

- What will CARB do to address, minimize and/or avoid increased costs to consumers, manufacturers, builders and similar?

- How will CARB handle redirected affects and unintended consequences (as described above)?

- How will gas infrastructure be maintained or decommissioned such that remaining users' costs do not increase and such that public health and safety is not compromised?

- How will supply chain issues (if they emerge) be avoided and/or managed?

- What will CARB do to minimize “off-spec” contracting, implementation and general avoidance of compliance by an implementation workforce?

- Related to the above, will CARB seek to ensure that future implementation contracting is required to follow State labor and pay scale standards?

- Will there be exemptions, what will the bases for these exemptions be, and how will CARB ensure that some consumers do not take advantage of loopholes related to such exemptions if such consumers should not be eligible?

- What levels of monitoring will be conducted and by whom, to gather necessary information to provide defensible measurement of success and/or necessary adaptations if success is not being achieved?

- Will CARB enforce the standards through a carrot approach that utilizes incentives, or will CARB use penalties to encourage the adoption of zero-emission appliances?

Regarding Question 1E (Do you have any concerns about CARB’s concept for the potential standards?), the following were common topics raised by interviewees.

- Ineffective permitting,

- Reliance on a voluntary approach rather than mandates and penalties,
- Timelines and costs for implementation,
- The logic behind the pursuit of "zero" rather than ultra-low or similar,
- Inherent early and rapid changes in technology and the likelihood of a critical mass population of early adopters,
- Breadth, commitment and effectiveness of education and outreach,
- A lack of systemic protections afforced to tenants,
- CARB's lack of unilateral enforcement authorities and the current decentralized nature of multi-agency regulation and implementation
- Consumer unfamiliarity with new appliances that comply with new standards, the potential for misuse and lost opportunities to achieve target goals, and
- The rationale for potential exemptions and methods to avoid abuse of said exemptions.

Regarding Question 1F (Do you have any hopes for CARB's work on the potential standards? What would success look like?), similar to factors and comments above, responses focused on the following:

- Most interviewees noted that success could be measured by the level of public interest and participation in the final standards' programs. Some participants also stated that the overall measurable decrease of GHG emissions, improvement of public health and air quality, and the level of increase in user satisfaction with new appliances that comply with new standards, should be used as metrics to measure the success of the standards.

- Most interviewees stated a hope for collaboration between CARB and other relevant agencies in the development and implementation of the standards and further so, adoption of unified emissions standards across different jurisdictions to avoid manufacturer, enforcement, and consumer confusion.

- Some people defined success as CARB preparing an outline of the actions being taken to reach the standards' goals before they go into effect such that manufacturers can have more certainty regarding how to best adapt their businesses and products to accommodate the standards when they can gain perspective from a public plan.

- A small number of participants expressed their hopes for CARB to greatly enhance community outreach and engagement, and tangible examples of having listened to said input and commented that expanding awareness of diverse incentives among consumers is essential to successfully implementing the standards.

- One set of interviewees described success as experiencing CARB treating the standards as a "*public works project*," with a level of engagement and intensity similar to such historic efforts in American and California history.

- Related to the above, several participants described success as a net economic positive, even with subsidization, that capitalizes on a new type of workforce that has effective training, sustainable wages, and longevity.

- Several people described success as a community of manufacturers, poised to design and launch new products into the marketplace without reticence to do so.

Category 2 – Questions about Related Efforts

The following presents a summary of interview responses to the following questions (combined for efficiency)

- What related efforts are you aware of? How closely are you tracking them?
- What are your thoughts about these efforts? How may they be related to, and inform CARB's standard development process?

For coordination purposes, the information from interviewees have been grouped into three, geographically-based summaries regarding:

- Local and Regional Scales,
- State Scales, and
- Federal and International Scales

The University has consolidated these responses but it should be noted that the University makes no claim to the accuracy of this information. It is developed directly from interview notes and does not constitute representations from these jurisdictions. The jurisdictions mentioned have not verified the accuracy of the interview responses about their policies and programs.

<u>Local and Regional Scale (California and elsewhere in the United States)</u>

- <u>Sacramento Region</u>: The City of Davis is considered very successful at enforcing energy-focused compliance based on their mandatory pre-sale code assessment of a property to ensure that no un-permitted changes have taken place, or that they are reconciled before a housing unit (single or multi-family) is put on the market for resale.

  The City of Sacramento is reported to be proceeding with new building permits that allow for gas appliances such that future enforcement of emissions standards on recent new homes will likely be challenging.

- <u>Bay Area AQMD</u>: The District has approved rules for emission appliances including a target schedule that is slightly faster than CARB's (2027 vs. 2030). Included in this is a "mechanism" that if manufacturers do not have appliance ready, the District can revise the target schedule. It is reported that the South Coast AQMD has similar emission regulations under development. Numerous interviewees discussed the work by these two AQMDs and recommended close review by CARB to learn how regional efforts are being pursued and implemented. Many of these interviewees noted (as also stated earlier in this report) that it is difficult to have different requirements for different regions

and it is helpful to have consistency across the state. A holistic, statewide approach will make implementation and compliance less confusing to home and rental unit owners. These interviewees stated that BAAQMD has been very effective in structuring outreach and community engagement to discuss these compelling topics and decisions.

- South Coast AQMD (District): The District has expressed interest in the efforts of the City of Berkeley however, the Berkeley decision in the 9th Circuit Court may have put a pause on these efforts. General anecdotal sentiment from many interviews is that several municipalities have begun to hold off pursuing new standards because of legal uncertainty related to the Berkeley case. New York State is pursuing similar standards and is also encountering many similar legal issues.

- Silicon Valley Communities: It was reported that the Cities of Palo Alto, San Mateo and Portola Valley adopted requirements that prohibit the use of some gas appliances in existing homes that are being remodeled and that these efforts provide an example of political support for what CARB is pursuing, and models for how to educate and support residents throughout the implementation process of new standards.

- North Coast Unified AQMD: The AQMD is reported to be working on an incentive program to support equitable incentives to residents.

- Los Angeles Department of Water and Power (LADWP): LADWP is reportedly offering rebates for residents transitioning to energy efficient or electric appliances and is providing financing for full building retrofits.

- California Investor-Owned Utilities: Southern California (SoCal) Edison (Edison) has a Building Electrification Program they are starting to implement and is looking to incentivize space and water heating electric appliances in retrofit situations for residential and commercial buildings.

  SoCal Edison also has a Building Application Team. Edison monitors transition readiness and uses three categories: technology readiness, program readiness and market readiness to assess conditions. The technology readiness aspect is done aside from the flexible demand side and the integration of electric vehicles into the grid or buildings. Program readiness involves analyzing the incentive programs available to help push the market towards decarbonization. Market readiness involves discerning how trends regarding the adoption of zero-emission technologies are developing in the market naturally. Further, Edison is developing a business inventory database that tracks the types of heating systems people have. This database allows Edison to monitor the market. Edison can provide this information to CARB. They also have a predictive model that can attempt to determine the type of panels within a structure based on the type of building. Edison uses smart meters to measure how households use electricity.

PG&E has reportedly filed an application to electrify the east campus of California State University, Monterey Bay.

- Local Government Sustainable Energy Coalition (LGSEC): The LGSEC was noted by a handful of participants as an important source of information and advocacy. It is a statewide membership network that represents local government interests about clean energy and climate resilience to State regulatory agencies. LGSEC members advance sustainable energy and climate solutions to meet California's decarbonization goals through knowledge exchange, targeted learning opportunities, and statewide collaboration. LGSEC has built a blueprint for California's energy strategy through the formation of Local Government Partnerships (LGPs), Regional Energy Networks (RENs), and Community Choice Aggregations (CCAs). https://www.lgsec.org/

- Building Energy Performance Standards: A interviewee reported that the City of Los Angeles will be implementing a building energy performance standard (BPS), that will require large buildings to electrify or reduce their energy usage to meet a mandated level. Similarly, unincorporated Los Angeles County is working on a BPS, several Bay Area cities and the Cities of Hollywood, Rolling Hills, Whittier, and counties of Ventura County and Santa Monica are also considering BPS'. Various advocacy groups are reportedly tracking these efforts very closely.

- Community Climate Shift: The program is a national initiative, delivered at a local/regional scale and is designed to transform how communities and local governments work together to ensure that new building performance standards, or other decarbonization policies contribute to a just transition (re; equity and inclusivity) and reflect community priorities. Several parties recommended that CARB should learn from these examples where people are trying to solve these problems locally. https://www.communityclimateshift.org

- Other U.S. Cities: New York City has pursued Law 97 as included in the Climate Mobilization Act, passed by the City Council in April 2019 as part of the Mayor's New York City Green New Deal. Under the law, most buildings over 25,000 square feet will be required to meet new energy efficiency and GHG emissions limits by 2024, with stricter limits coming into effect in 2030. The goal is to reduce the emissions produced by the City's largest buildings 40 percent by 2030 and 80 percent by 2050. (https://www.nyc.gov/site/sustainablebuildings/ll97/local-law-97.page

  Similarly, the City of Boston has implemented its Building Emissions Reduction and Disclosure Ordinance (BERDO) which sets requirements for large buildings to reduce their GHG emissions gradually to net zero by 2050. https://www.boston.gov/departments/environment/building-emissions-reduction-and-disclosure

The City of Denver has launched the Energize Denver Electrification Program for Existing Buildings, a program focused on retrofit building with heat pumps that includes early incentives before the requirements start in 2025. https://www.denvergov.org/Government/Agencies-Departments-Offices/Agencies-Departments-Offices-Directory/Climate-Action-Sustainability-Resiliency/High-Performance-Buildings-and-Homes/Energize-Denver-Electrification-Program

State Scale (California and elsewhere in the United States)

- San Joaquin Valley Affordable Energy Proceeding: The CPUC has been exploring the economic feasibility of various options to bring affordable energy choices to residents of disadvantaged communities in the San Joaquin Valley, many of whom lack access to gas and are reliant on propane and wood for cooking and heating. Interviewees report that CPUC is getting ready to open proceedings for phase three of this effort and that they have provided comments and strategies to get CPUC to incorporate changes based on what was learned in the Phase I and II pilots. Pilots included installation work for water heaters and induction stoves. The pilots attempted to replace propane tanks but some are still there. It is reported that installation was not consistent and standardized reporting was lacking so there is regretfully limited opportunity to share knowledge. Interviewees that spoke to this stated that it is a prime example of the need for coordination and communication throughout a process, not just implementation, because the result is a lack of baseline data to track success and rates of change on adoption. That said, several parties state that the regional pilot program was a good example of engagement and education: They are moving away from propane and decided to electrify. It was a two-year, very powerful process. Community members did not want to go with electrification at first but through engagement and education, they changed their minds.

  Interviewees report similar pilots are being led by environmental justice advocates throughout the state (including but not limited to the Building Energy, Equity & Power Coalition [BEEP]) with a stronger emphasis for baseline reporting and communication.

- CPUC – Solar on Multifamily Affordable Housing (SOMAH): Several interviewees are tracking progress on SOMAH in California (as administered by the CPUC) and similar programs throughout the U.S. SOMAH provides financial incentives to install solar panel systems that benefit both low-income tenants and property owners throughout California. https://calsomah.org/

- CPUC Rate Proceedings: Several people discussed rate proceedings currently ongoing under the CPUC. A key element of the proceedings is a pilot of Inclusive Utility Investment, which is a way to allow utilities to install projects and share a copay with their customers. The utility and the customer share in the savings and the install cost is paid back on the bill. This process is not a loan and does not require credit to be managed by the utility as a debt service.

- CEC Equitable Building Decarbonization (EBD) Program: Several interviewees discussed the EBD and described that the CEC is investing $20,000 - $30,000 per home in low-income households. These amounts were estimated by interviewees as including $600 million available and providing support to 20-30,000 homes.

- CEC Equity Program: A small number of parties spoke about CEC's EBD and mentioned that since said concepts are such a big piece of CARB's work on emission standards, CARB should coordinate with the CEC Guidelines and be informed by CEC's robust process. On a related note, these same people stated that CARB should coordinate with different engagement efforts and programs to develop consistent terminology, process, messaging, and programs to make it easier for people and organizations to navigate and understand the standards process.

- CPUC and CEC Incentive Programs: One interviewee stated that the State needs to rethink how incentive programs and standards need to work together. Currently, incentives are given to develop the market and then when they are not needed, standards are developed. This is a long-term process that can take 20-30 years. Instead, some interviewees stated the State should require electrification through regulations and then offer incentives to make it cost effective. Sacramento Municipal Utility District has done this. It is a way to use policy tools in a different way, so no one is left behind. The outcome is that standards get done early and there are incentives to support the standards.

- Other U.S. States: Outside of California, it was reported that there has been less activity on zero emission standards from an equipment standpoint and more focus placed on building emissions. Most scoping plans are focused on building emissions or building performance. Fifteen states are having similar conversations around emission standards as California. California and New York are at the forefront of zero emission standards. The latest pre-proposal out of New York would ban refrigerants by 2027 and force a shift to natural refrigerants. The interviewee describing this does not see this approach as practically achievable due to the lack of equipment and because no safety standards or building codes are yet in place. New York City has a gas ban in place and New York State is considering implementing a ban as well and on a similar time frame to California[2].

  Colorado has passed a bill that will adopt 14 nanograms per joule NOx starting on January 1, 2024. Colorado is also studying the feasibility of pursuing a plan for zero emission furnaces by 2029. Washington State has paused their efforts for 120 days as they review legal issues with their plans. It is believed that actions by Washington State and CARB in California to regulate these areas are at risk because of the decision in the case of California Restaurant Association vs. Berkeley. Interviewees noted that there are

[2] As noted, an interviewee referred to this as a "gas ban". CARB and the State do not define emissions standards this way.

serious questions around federal preemption and about whether energy infrastructure within homes are within CARB's statutory mandate or are the domain of the federal government.

Some participants spoke about the Efficiency Maine Program through the Efficiency Maine Trust (Efficiency Maine). The Program is the independent, quasi-state agency established to plan and implement energy efficiency programs in Maine. Through its suite of nationally recognized programs, Efficiency Maine provides consumer information, marketing support, demonstration pilots, discounts, rebates, loans, and other initiatives to promote high-efficiency equipment and operations that help Maine's homes, businesses, and institutions reduce their energy costs and lower their greenhouse gas emissions.

Additional states cited as taking steps towards emissions standards included Wisconsin, Hawaii, Washington, Massachusetts, and Michigan.

Federal and International Scale

- Inflation Reduction Act (IRA): Several people mentioned the IRA as a sweeping range of support options such as rebates, tax credits and other incentives for home electrification and that said options will hopefully offer significant support to low income, eligible residents, homeowners and landlords. https://www.epa.gov/green-power-markets/summary-inflation-reduction-act-provisions-related-renewable-energy#:~:text=Most%20provisions%20of%20the%20Inflation,%2C%20local%2C%20and%20tribal%20organizations.

- Other nations and regions were mentioned including China, Norway, Canada, the European Union, Slovakia, Lithuania, and Switzerland.

Category 3 – Questions about Engagement

The following four questions were posed under this category:

A. Which perspectives need to be included/consulted in the standard development process? Can you suggest individuals/organizations that can provide those perspectives?

B. Based on your experience, can you share modes of engagement that you think could be effective and supportive of this process?

C. What are possible engagement challenges/opportunities (to you and others) and how can we work through them together?

D. [If compensation is brought up by interviewee(s)] – What would that look like? What are some examples where compensation has been used effectively? Have you experienced any challenges with compensation and if so, what were they and how were they resolved?

Regarding Question 3A (Which perspectives need to be included/consulted in the standard development process? Can you suggest individuals/organizations that can provide those perspectives?), the following table (Table 3A) presents the combined responses from all interviewees, organized by key interests[3]. In some cases, interviewees identified a specific organization however in others, a general topic or theme was stated only. To maintain fidelity to this input, all responses whether highly specific or generic, have been included. Further, in some cases, interviewees identified specific people's names (oftentimes associated as a contact within an organization) however, for confidentiality purposes, those person's names have not been included. The University will retain that specific information and use it in subsequent engagement and outreach phases.

TABLE 3A	
Social, Environmental, Housing and Energy Advocacy Groups	
Peninsula Clean Energy	BlueGreen Alliance
East Bay Community Energy	Rising Sun Center for Opportunity
Action for a Healthy Planet – Acterra	Menlo Spark
California Environmental Justice Alliance	Climate Resilient Communities
Leadership Council for Justice and Accountability	Greenlining Institute
People's Collective for Environmental Justice	California Housing Partnership
California Green New Deal Coalition	Emerald Cities Collaborative
Asian Pacific Environmental Network	Healthy Homes Working Group
Building Decarbonization Coalition	Advanced Water Heating Initiative
Community Solar Association	Rewiring America
Coalition for Community Solar Access	RMI
Local Government Sustainable Energy Coalition	350 Sacramento
Public Advocates – Housing Now!	SAGE Housing
The Legal Aid Foundation	Tenants Together
Physicians for Social Responsibility	Strategic Action for a Just Economy
Esperanza Community Housing	Keep LA Housed
Communities for a Better Environment	Leap LA
Strategic Concepts in Organizing and Policy Education	The Public Council
Individual Homeowners and Renters	The New Buildings Institute
Pacoima Beautiful	San Diego Building Electrification Coalition
Sacred Places Institute for Indigenous Peoples	General Ethnic Chambers of Commerce
Southern California Association of Nonprofit Housing	General Low Income Advocacy Groups
American Institute of Architects: California	General Legal Aid Services
Enterprise Community Partners	Sierra Institute
California Climate Energy Collaborative	Sierra Business Council
US Green Building Council	High Sierra Energy Foundation
Center for Community Action and Environmental Justice	Central California Asthma Collaborative
Climate Emergency Mobilization Task Force	Association of Energy Affordability
Home Lending, Sales, Rental and Construction Representatives and Advocates	
California Rental Association	Types of Organizations
National Association of Minority Contractors	Banks and Lending Institutions
Air Conditioning Contractors of America	Construction and Demolition Contractors

[3] The order of names and interests is randomized as per the input by interviewees. No prioritization is intended by how these names are presented and further, the columns are sized to allow single line listing of each name provided.

Black Contractors Association of California	Manufacturers Realtors Plumbers Large-scale Landlords Home Energy Contractors Small-scale Landlords
Manufacturing Organizations	
General Utility Analysis and Design Organizations Gradient Friedrich Air Conditioning Midea	Rheem Carrier Whirlpool Haier
Industry Advocacy Groups	
Institute of Heating and Air Conditioning Industries Air Conditioning Heating and Refrigeration Institute Association of Home Appliance Manufacturers American Society of Heating, Refrigerating and Air-Conditioning Engineers	California Building Industry Association Building Electrification Institute Associated General Contractors of California
Local and Regional Government, Regulatory Agencies and Advocates	
Building Code Specialists Local Elected Officials Bay REN San Joaquin Valley Clean Energy Organization Local Government Sustainable Energy Coalition General California County Staff	All Regional Air Districts Rural County Representatives of California General Councils of Governments Institute for Local Government General California City Staff
State Government and Regulatory Agencies	
Department of Housing and Community Development CARB Environmental Justice Advisory Committee CPUC Disadvantaged Communities Advisory Committee Department of Community Services and Development – Low Income Weatherization Program	Department of General Services General Consumer Protection Agencies California Energy Commission California Public Utilities Commission CPUC Energy Division
Federal Government and Regulatory Agencies	
U.S. Environmental Protection Agency U.S. Department of Energy (DOE)	U.S.Housing and Urban Development DOE - Better Buildings Challenge
Utilities and Utility Advocacy Groups	
California Municipal Utilities Association Sacramento Municipal Utility District Southern California Gas American Gas Association	PG&E Southern California Edison Redwood Coast Energy Authority Western Propane Gas Association

Regarding Question 3B (Based on your experience, can you share modes of engagement that you think could be effective and supportive of this process?) feedback was extensive and diverse. The following summarizes this input.

Amongst the diverse responses, an overarching theme was “Accessibility.” In the regulatory and statutory context, accessibility commonly connotes the ability (and legally required) opportunity for any interested party to review information, attend and participate in discussions about a policy topic hosted by a public agency and to do so without impediments created due to physical, intellectual and mental ability and language differences. In the context of the interviews, “Accessibility” reflects the above and a broader interpretation by a significant majority of interviewees.

While several examples of methods and venues of engagement were mentioned (described below and sometimes even with conflicting perspectives about efficacy), the overarching theme was that CARB should "meet people where they are," literally and figuratively. A majority of people stated that CARB needs to deeply educate the public about the topic of emission standards so that there is a common "language" about the topic, and then engage people in the most localized ways and places possible. While most interviewees acknowledged that CARB will likely be required to conduct "*typical*" engagement in large settings held throughout the state. They nonetheless spoke about CARB staff being available to attend small-scale meetings at the community level; to seek to be on the agendas of pre-existing meetings sponsored by diverse forms of advocacy groups (as reflected in Table 3A), and to conduct an ongoing dialogue with people where they already gather.

Further, CARB was encouraged by many interviewees to acknowledge and accept that the topic of emission standards may be vitally important to the State and the agency but may be of less importance (and/or understanding) by people who while likely affected by the topic, may still have more pressing issues to address (e.g., housing, finances, education, etc.). A handful of interviewees noted that accessing diverse parties where they commonly gather, means that CARB must also accept and embrace inherent cultural differences of such parties and that such differences manifest themselves in myriad ways, whether as reflected by people in a formal business environment, people at a church gathering, people at a school event, etc. As one speaker noted, CARB needs to "…*be prepared to hear what they want CARB to hear, not what CARB wants to hear.*"

Of additional, significant majority interest was for the various State agencies addressing topics of air quality and health, GHG emissions, equity, energy policy, utilities services, building and construction, etc. to combine resources and conduct community engagement in an integrated manner. Numerous interviewees noted that the inability and/or unwillingness of these agencies to address similar topics in combined forums is frustrating, time consuming and off-putting.

On a related note, and similar to other input presented earlier in this report, many interviewees reiterated that CARB and other agencies and the State, need to treat education and messaging like a campaign. Several people spoke in response to this and prior questions about the long-standing, highly successful marketing campaigns conducted by the gas industry that has embedded in society, a fundamental belief that gas use is beneficial, healthy, and environmentally safe. Some people spoke of an almost "*generational*" challenge that the State will need to address to educate a new population of residents such that new messaging about the benefits and drawbacks of gas versus electrification are similarly, eventually embedded in societal discussion.

Beyond the above summary, the following presents more specific, individual ideas / comments in response to Question 3B.

- Make extensive use of social media to provide information, deliver key and consistent messages, provide access to webcast-type events, and support social discussion.

- Use traditional news media to get feature stories and publicize the topic and public events. Do not assume that everyone relies on digital sources and also do not forget the importance of small-scale, local media rather than just the big television and newspaper organizations.
- Conduct workshops but be advised that they do not always work and only do so if effectively marketed.
- Avoid meetings where the standard, "talking head" followed by structured and time limited public comments are conducted. These tend to exacerbate people feeling "*on the margins*" of a topic rather than to foster effective discussion.
- Conduct focus groups in coordination with non-agency partners to create small venues for more candid and free flowing discussions.
- Prepare and conduct surveys but be cautioned that such methods can be "hijacked" and do not provide an opportunity for dialogue, only structured responses.
- Conduct the necessary regional workshops that CARB is likely required to do but make them as engaging and educational as possible.
- Study the methods used by CEC and CPUC in their recent engagement. These seemed very successful in terms of attendees, and the quality of the discussions.
- Make meetings physically accessible, hold them at times of the day that are diverse and offer realistic opportunities for people to attend (e.g., provide food and beverages, provide childcare or partner with organizations that can do so if CARB cannot.
- Make outreach as localized as possible. Use CBOs, homeowner groups, etc.
- Partner with the major statewide and regional utilities. Make them have skin in the game for community engagement both regarding costs and messaging.
- Consider the structure used for negotiated rulemaking[4] when the process eventually gets to setting standards. That structure is helpful as it requires parties to state specific objectives and goals.
- Community education is not just about simplifying but more importantly, providing a full picture of what needs to be understood and made clear *"…language to support competency is more important than simplified language*."
- Consider different learning styles including: verbal, written, visual, etc. CARB should be open to different modes of communication.
- Hold private meetings where people can be candid.
- Ensure that necessary materials are provided well in advance of meetings so people can legitimately review the information and be prepared.
- Compensate DACs, CBOs and others that simply do not have equivalent resources to participate as other, well-funded organizations do.
- Provide a transparent, online repository of related information so interested parties have a "one-stop" method to access data.
- Be sure to hold meetings, listening sessions, town halls, focus groups, etc. everywhere including in rural areas. Do not give deference to urban areas only. These have to be provided in more rather than fewer locations because it requires disproportionate

[4] The Negotiated Rulemaking Act of 1990

distances for residents in these areas to travel to participate. Do not write these rural and foothill communities off.

- Be advised that even though recent virtual meetings increase accessibility, they decrease the human dynamic and relationship building between diverse parties, and with CARB representatives. Virtual meetings are cheaper and easier to attend but they can create an "us/them" condition between the public and an agency.
- Ensure language accessibility is provided.

Regarding Question 3C (What are possible engagement challenges/opportunities (to you and others) and how can we work through them together?) and in addition to feedback provided for Question 3B, the following presents a range of challenges and opportunities identified by interviewees.

Opportunities

- Time messaging and outreach campaign for winter when people are using gas and prices are higher. Capitalize on strategic timing.

- Focus messaging on what "real people" will think and experience. Avoid communicating in an "echo chamber" of likeminded and similarly informed people. Always remember to use the "*What would my parents think / do*?" test.

- Focus on and capitalize on benefits of holding in person meetings as they can facilitate opportunities for constructive dialogues that may be missed virtually.

- Make sure all the organization and entities involved in the implementation side of applying standards are included in the standards development process. Implementation groups like contractors can offer unique perspectives into the execution of upgrades and the enforcement of standards generally.

- There is an opportunity for CARB to leverage its positive and negative experience with outreach efforts in the past, and to improve awareness of the standards and programs that consumers can benefit from.

- CARB should establish a funding mechanism through which they can support a statewide network of CBOs, tribal governments, labor unions and other types of groups that could assist with outreach across different spaces.

- Interviewees often note that they feel discouraged from participating in public engagement opportunities because the results from their participation are never made clear to them. It is important for CARB to show people that participate in the standards development process, the follow-up and results they initiated by sharing their perspectives.

Challenges

- Include contractors in discussions around standards. Contractors are an important group, as are those who advise and carry out work on equipment for consumers. More input and engagement from contractors is needed.

- Accept that there are parts of the state where some residents view CARB negatively. Agencies that set mandates must communicate with the communities that they affect, even when the messaging and staff presence is not welcome. Messaging to such areas cannot be successful if it's a, "*my way or the highway*" approach by an agency. Change, particularly amongst people disinclined to be favorable about regulating agencies, should come ideally from information that informs and works with said parties' values, not by challenging them.

- AB 617 has been a very big part of the State and CARB engagement and from broad community perspectives, not many communities would likely say that they favor that effort. Therefore, do not reproduce that approach.

Regarding Question 3D (If compensation is brought up by interviewee(s), what would that look like? What are some examples where compensation has been used effectively? Have you experienced any challenges with compensation and if so, what were they and how were they resolved?) 14 participants expressed support for compensation, and provided examples and insights on what works / doesn't work. The following summarizes those comments.

All respondents to this question affirmed that it is vitally important to get some form of compensation to economically disadvantaged and marginalized organizations and individuals. Several posited that CARB cannot sincerely consider the fundamental elements of inequality and protections related to implementing the standards, if it ignores what it takes to get those same voices in a room to express such concerns and propose creative solutions.

More specifically and for example, an interviewee stated that the more opportunities that historically disadvantaged parties have to fully prepare for their role as an engaged party, the better the overall outcomes will be, particularly by ensuring that balanced opinions and ideas are brought to the fore on these challenging policy topics. Absent that, engagement outcomes can appear to, or actually can, represent more of a homogenous set of perspectives.

The interviewees offered several examples that have worked in the past and/or work currently. Embedded in these ideas are necessary questions about the level of effort that is expected from a compensated representative. Interviewees said there are models available from past compensation efforts that equitably recognize when a person / organization is serving in a "one off" capacity, versus serving for a prolonged period of time and similarly, whether a person / organization is being asked to attend meetings or also produce outcomes.

Speakers offered some specific prior conditions which included:

- Stipends administered through Sacramento State for participation in CARB's Scoping Plan Update in 2015-2016.
- Youth volunteers who have supported meetings.
- Recent CARB Transportation Program Public Workshops wherein, Access Clean California helped support the distribution of funding.
- Funding a program administrator who then can in turn administer community outreach compensation that goes to CBOs and similar.
- Negotiation with a CBO wherein CARB offers a specific dollar amount and the CBO proposes what they can do with that level of compensation.

Compensation examples include the following range:

- Basic incentives such as paid wifi and hotspots at meeting locations, pre-paid parking, paid childcare, and similar.
- Gift cards for direct, individual compensation to people participating in interviews or attending meetings.
- One-time, fixed fee, formal agreements with organizations to augment / offset their costs of consistent participation.
- Per event, formal agreements wherein a specific rate is set and compensated for every event attended by a compensated organization or individual.
- Formal contracts that identify a participant as a technical consultant and delineate a specific outcome / deliverable in return for fixed compensation.

Lastly, several interviewees mentioned that the current, federal IRA has funding available for such compensation. They also noted that the BAAQMD has a stipend policy for participation in various working groups. They noted this approach is fairly new and compensation amounts have been sufficient in ongoing participation for groups who previously have not participated.

Category 4 – Final Input

A final question was posed in each interview regarding any other input the interviewee(s) wished to offer. While a handful of people did provide such input, the outcomes are generally common with insights presented above and in some cases, also included further contact information and names of other interested parties which were thus documented by the University but are not disclosed here in deference to said persons' confidentiality.

Conclusions and Preliminary Recommendations

This Assessment was conducted to provide a neutral medium through which the participating interviewees could freely submit their observations, thoughts and understanding of CARB's work on potential zero-emission appliance standards to inform the standards development process, as well as to provide neutral analysis of the responses and feedback provided by interviewees.

The conclusions and preliminary recommendations presented herein are based on the findings described above, combined with University's understanding of the purpose and need for engagement with relevant interested parties throughout the standards development and implementation processes. It should be noted that the University is already scoped to work with CARB, based on and informed by the outcomes of this Assessment to prepare an:

- Engagement Strategy, and subsequent
- Engagement Plan and Timeline

Therefore, the following are meant to present very preliminary conclusions, to be significantly expanded on in the subsequent development of the above referenced Engagement Documents.

That stated, based on the findings and interviewee responses detailed in the previous section, a significant number of interviewees have concerns regarding CARB's concept for potential zero-emission appliance standards; particularly around effective collaboration with related agencies pursuing similar goals; the potential costs faced by homeowners, tenants, low and fixed income residents and disadvantaged communities, and CARB's capacity to facilitate successful consumer outreach and education to engage the public in the development of the standards as well as standards implementation when finalized.

PRELIMINARY RECOMMENDATION 1: CARB should engage the CEC, CPUC and other relevant agencies in the formation of a cross-agency working group to coordinate approaches around the development of standards and timelines, and to facilitate a greater strategic alignment between agencies regarding implementation.

PRELIMINARY RECOMMENDATION 2: CARB should employ direct, diverse, localized, regional and statewide engagement methods to inform, educate, and update the public about the standards development process; provide opportunities for communities around the state to offer their feedback and perspectives on CARB's concept; to make the public aware of any subsidies, rebates or other programs available to consumers in support of standards implementation; and to robustly educate and engage in dialogue with relevant local or regional interested parties about the new standards as needed.

APPENDIX A
Interview Participants
(Presented as interviewed individually or in small groups[5])

- **Scott Blunk**, Strategic Planner, Building Decarbonization and Energy Efficiency; Sacramento Municipal Utilities District
- **Alex Ayers**, Director of Government Affairs; Heating, Air-Conditioning, Refrigeration Distributors International
- **Evan Collins**; **Carol Collin;** Independent Landlords
- **Jessi Davis**, Energy and Environmental Affairs Manager; **Kevin Barker**, Senior Manager, Energy and Environmental Policy; **Adam Jorge**, Regulatory Affairs Manager; SoCalGas
- **Mike Kapolnek**, Independent Commentor and Resident
- **Bob Raymer**, Technical Director; **Tom Paine**, Senior Technical Consultant; California Building Industry Association
- **Jason Thomas**, Director of Regulatory Affairs; Carrier
- **Katherine Valenzuela**, Senior Policy Advocate; Central Valley Air Quality Coalition
- **Teddy Kisch**, Senior Fellow, Decarbonization Strategy; Energy Solutions
- **Mitchel Baker**, Assistant Deputy Director; California Department of Housing & Community Development
- **Colin Sueyres**, President & CEO; Western Propane Gas Association
- **Edgar Barraza,** Physicians for Social Responsibility**, Los Angeles; Sylvia Vargas**; Self Help Enterprises; **Chris Selig,** People Organizing to Demand Environmental and Economic Rights; **Martha Dina Argüello**; Physicians for Social Responsibility - Los Angeles (collectively referred to as the Building Energy, Equity & Power Coalition
- **Fatima Abdul-Khabir**, Energy Equity Advocate, Greenlining Institute
- **Karen Kristiansson**, Codes & Standards Program Manager, Bay Area Regional Energy Network
- **Fabiola Lao**, Senior Equity Program Manager; Center for Sustainable Energy

[5] NOTE – List not prioritized. Names presented in random order due to the mix of individual and small group discussions.

- **Pierre Delforge**, Head of Product and Operations; Harvest -Thermal
- **Leah Louis-Prescott**, Manager, Carbon-Free Buildings; **Srinidhi Sampath Kumar**, Manager Carbon-Free Buildings; **Jed Holtzman**; RMI
- **Zach Franklin**, Chief Strategy Officer; GRID Alternatives
- **Chelsea Kirk**, Director of Policy and Advocacy, Built Environment and Transit; Strategic Action for a Just Economy
- **Diane Bailey**, Sustainability Program Manager; City of Palo Alto Utilities
- **Kelly Cunningham**, Codes and Standards Program Manager; **Ben Brown**, Principal Strategic Analyst, Energy Efficiency; PG&E
- **Merrian Borgeson**, Director, California Policy, Climate and Clean Energy Program; **Julia De Lamara**, Western Equitable Building Decarbonization Advocate, Climate and Clean Energy Program; Natural Resources Defense Council
- **Chiara Arellano**, High Roads Initiatives Manager, Rising Sun Center for Opportunity
- **Jason Wexler**, Vice President of Thermal Engineering; Gradient
- **Mary-Jane Wagel**, Co-Executive Director and Board Chair; Women Organizing Resources, Knowledge & Services
- **Charles Kim**, Senior Engineer; Southern California Edison
- **Tom White**, Associate Director of Building Performance and Sustainability; Eden Housing, Inc.
- **Roopak Kandasamy**, General Manager; California BlocPower
- **Jose Torres**, California Director at Building Decarbonization Coalition
- **Malen Rodriguez**, Director of Asset Management; **Christopher French**, Senior Asset Manager; Hollywood Community Housing Corporation
- **Julia Kim**; Climate/Energy Director at CivicWell
- **Elena Krieger**, Director of Research; **Lee Ann Hill**, Director of Energy and Health; **Drew Michanowicz**, Senior Scientist; **Eric Lebel**, Research Scientist; PSE Healthy Energy
- **Grace Peralta-Beasley**, Senior Customer Programs Manager; Marin Clean Energy

- **Michael Corbett**, California Government Affairs and Product Specialist; **Tom Gervais**, Director of Specifications and Product Development; Bradford White
- **Sean Armstrong**, Redwood Energy
- **Marveen Norman**, Center for Community Action and Environmental Justice
- **Tara Barauskas,** Community Corporation of Santa Monica
- **Ben Foster**, Barnett Plumbing

APPENDIX B

CARB Zero-Emission Appliance Standards Assessment Interviews
Assessment Questions

Category 1: Scope

1. Did you have a chance to review the workshop materials or attend the first workshop?
2. What are your initial thoughts/understanding of CARB's concept (as presented at the first workshop) for potential zero-emission appliance standards?
3. What are some opportunities and challenges that should be considered?
4. What questions need to be answered during the regulatory process to inform the potential appliance standards?
5. Do you have any concerns about CARB's concept for the potential standards?
6. Do you have any hopes for CARB's work on the potential standards? What would success look like?

Category 2: Related Efforts

7. What related efforts are you aware of? How closely are you tracking them?
8. What are your thoughts about these efforts? How may they be related to, and inform CARB's standard development process?

Category 3: Engagement

9. Which perspectives need to be included/consulted in the standard development process? Can you suggest individuals/organizations that can provide those perspectives?
10. Based on your experience, can you share modes of engagement that you think could be effective and supportive of this process?
11. What are possible engagement challenges/opportunities (to you and others) and how can we work through them together?
12. [If compensation is brought up by interviewee(s)] – What would that look like? What are some examples where compensation has been used effectively? Have you experienced any challenges with compensation and if so, what were they and how were they resolved?

Category 4 – Final Input

13. Any other input?