

Hand-in-Hand: Environmental and Social Justice Communities and California EnergyCode



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ABSTRACT

Reducing greenhouse gas (GHG) emissions is urgently important for the survival of people on our planet. As energy efficiency advocates who promote more stringent building codes, we feel obligated to pull out all stops to reverse the adverse impacts of anthropogenic climate change as quickly as possible. However, it is not responsible to charge ahead without considering impacts on all people. Low-income communities and communities of color are disproportionately and negatively affected by the impacts of climate change, and a far greater share of their income goes toward energy bills than higher-income earners. It is crucial that codes and standards that aim to stop climate change do so hand-in-hand with, not off the backs of, disadvantaged communities. The authors of this paper have collectively advocated for dozens of unique changes to building codes throughout the United States. This paper examines the current code development process and what is working and what is not through the lens of equity. We recommend a path forward that would put equity as a central consideration for all code change proposals. We explore how to apply best practices and lessons learned in engaging the environmental justice community in public rulemaking processes and approaches to ensure that all people have access to and benefit from higher efficiency and lower emissions buildings.

Introduction

Ensuring that all people have access to high-performance buildings that use energy efficiently and increase occupant health and safety can avoid making occupants choose between maintaining a comfortable environment and paying their utility bills. As we strive to address climate change equitably, it is imperative that input from all impacted communities informs the regulations being proposed. We cannot assume that the needs and concerns of all communities will be met or that decision-makers know what they need. Building long-term relationships with impacted communities, actively soliciting feedback from these stakeholders, and incorporating feedback into proposed code changes is critical to ensuring historically overlooked voices are heard and that measurable progress is made toward effectively serving these communities.

The authors of this paper contribute to the code development process in California through the Statewide Utility Codes and Standards Enhancement Team (Statewide CASE Team). This team recently hosted public meetings to discuss proposed code changes for the 2022 California Energy Code (Title 24, Part 6). Stakeholder meetings held in fall 2019 and spring 2020 were attended by 622 individuals representing 405 organizations. While the public meetings were an effective mechanism to reach many stakeholders, environmental and social justice (ESJ) communities were not well represented. A key motivation for writing this paper is to reflect on current practices, gather information about ESJ communities' perspectives on

building energy codes and the code development process, and identify ways in which we can address a diverse range of ESJ interests and priorities, including those who design, develop and build of affordable housing. Considering ESJ impacts can help emphasize that code decisions have an impact on people and maintain a focus on energy equity for all people. We also anticipate that increased focus on ESJ impacts will lead to an increased emphasis on the fact that energy features of a building have non-energy benefits that are often overlooked or deprioritized.

We would like to see better representation from all communities and recognize that we may need to tailor our outreach efforts for each group. For the remainder of this paper, we will refer to these groups as “ESJ communities,” consistent with the terminology in the CPUC Environmental and Social Justice Action Plan (CPUC 2019).¹ ESJ communities include low-income communities, communities of color, tribal communities, communities for which English is not the first language, communities with significant percentages of youth or older individuals, and communities that are otherwise underrepresented or disproportionately vulnerable to negative climate change and environmental impacts. We will also use the term “energy equity” in referring to how ESJ communities may benefit from energy and climate programs.²

To develop the content included in this paper, the authors completed a literature review and interviewed representatives from organizations that represent ESJ communities and market actors who are engaged in building affordable housing.³ Published literature is cited throughout, though we have intentionally anonymized feedback received during interviews, with key findings being attributed broadly to interviews as opposed to citing specific conversations with individuals or organizations. Since this outreach is occurring as the Statewide CASE Team is developing code change proposals for the 2022 California Energy Code, we also discussed the proposed code changes for the 2022 code cycle.

Impact of High-Performance Building Codes on ESJ Communities

¹ Environmental and social justice seeks to come to terms with, and remedy, a history of unfair treatment of communities, predominantly communities of people of color and/or low-income residents. These communities have been subjected to disproportionate impacts from one or more environmental hazards, socio-economic burdens, or both. Residents have been excluded in policy setting or decision-making processes and have lacked protections and benefits afforded to other communities by the implementation of environmental and other regulations, such as those enacted to control polluting activities. ESJ Action Plan communities are identified as those where residents are: predominantly communities of color or low-income, underrepresented in the policy setting or decision-making process, subject to a disproportionate impact from one or more environmental hazard, likely to experience disparate implementation of environmental regulations and socioeconomic investments in their communities (CPUC 2019).

² “The challenge of delivering energy equity is...to ensure that all people have access to the level of energy needed to provide for their security or wellbeing, while at the same time ensuring that our energy consumption behaviors do not jeopardize the wellbeing and security of others.” Source: United Nations Educational, Scientific and Cultural Organization.

³ The authors held discussions with: Association for Energy Affordability, California Housing Partnership, Energy Efficiency for All, Healthy Building Research, National Center for Healthy Housing, National Resources Defense Council, and Stone Energy Associates. The authors tried to contact yet were unable to schedule meetings with: Building Performance Institute, Inc., Environmental Health Organization, California Environmental Justice Alliance, and Greenlining Institute. The Statewide CASE Team is working to incorporate findings from the interviews, as described in the Call to Action section of this report. The authors will be reaching back out to individuals and organizations that we interviewed, as well as those we weren’t able to contact, to continue engaging.

Benefits of Low Carbon Buildings

Ensuring that ESJ communities have affordable access to buildings that meet current code requirements will ensure these communities have comfortable, healthy, and safe indoor environments in which to live and work. Building codes include requirements for new construction as well as additions and alterations to existing buildings.

ESJ communities are disproportionately burdened by energy costs. Communities living below 150 percent of the poverty line spend, on average, 12 percent of their income on utility bills, double the rate that is considered affordable (EDF, 2018). The COVID-19 pandemic and resulting stay-at-home orders exacerbate existing energy inequity, particularly in regions with extreme weather. Preliminary results from a national survey (Konisky and Carley 2020) found that 22 percent of low-income households⁴ indicated they had to reduce or forgo expenses for basic household needs, such as medicine or food, to pay an energy bill in the prior month. A quarter of respondents indicated that during the prior month they could not pay an energy bill, received a shutoff notice, or had their service disconnected. In a sample of major cities in the United States, improving the energy performance of all low-income housing so that it performs just as well as the average home in the United States would eliminate 35 percent of low-income energy burden, 42 percent of excess energy burden for African-American households, and 68 percent for Latino households (Drehobl, and Ross, 2018). These findings expose the critical need to incorporate energy equity into the building code design process, particularly in anticipation of increased energy demand and price due to climate change and energy policy.

While more stringent energy code requirements have associated costs, the state of California cannot adopt revisions to the energy code unless they are cost effective: energy cost savings must be higher than incremental costs over a pre-defined period of analysis. While market-rate assumptions are used to evaluate cost effectiveness for code decisions, cost-effectiveness determinations for low-income households and developers and owners of affordable housing are more complex than determinations for market rate developments. Building occupants who qualify for discounts on energy bills may not realize the full benefit of energy cost savings, and affordable housing developers may not be able to recover incremental costs of energy investments by increasing rent. Developers leverage multiple financial assistance programs to recover the incremental costs of energy investments up front. As discussed below, developers have requested that the decision-makers consider financial impacts on affordable developments, including how code requirements impact eligibility requirements for financial assistance programs.

A literature review and interviews held to inform this paper indicate that the non-energy benefits of high-performance buildings align well with ESJ priorities. Though there was variation in the non-energy benefits that interviewees indicated were highly valued, nearly all interviewees emphasized the importance of indoor air quality and its resultant health effects. The non-energy benefits including those listed below are equally, if not more, appealing to ESJ communities:

- *Thermal comfort:* Maintaining recommended temperature and humidity levels in homes and providing temperature control is critical to occupants' comfort, quality of life, (Vaughn and Turner 2013) and health, particularly for at-risk populations.

⁴ A nationally-representative sample of households at or below 200% of the federal poverty line was used for the online survey. The sample included 2,381 respondents with a 2% margin of error. Responses were collected from April 30 through May 25, 2020.

- *Indoor air quality:* Airborne pollutants are linked to a range of negative health impacts, including respiratory disease and cancer, while high humidity creates a fertile environment for indoor mold growth. Since higher-risk groups (including seniors and young children) spend 90 percent of their time indoors, more time indoors than the average American (U.S. EPA 1989), it is crucial that they have access to a safe and clean indoor environment. Energy code requirements for envelope leakage, ventilation, air filtration, kitchen exhaust, and others mitigate the impacts of these pollutants.
- *Security and resiliency:* Physical security is crucial to well-being. Homes that comply with recent building codes are more resilient to climate change than older buildings and offer potential for physical security in coming decades (Brinker 2018).

In addition to the energy and non-energy benefits, energy efficient buildings, driven by building codes and incentive programs, are a pillar of the energy efficiency economy. The energy efficiency sector in the United States employed over 2.3 million people in 2018 and posted the highest job growth rate of all energy sector categories. At least 300,000 of these existing jobs are in rural areas, many of which are classified as disadvantaged communities (Environmental and Energy Study Institute 2019). Integrating ESJ into building codes work not only bolsters access to healthier living spaces, but also provides economic opportunities for ESJ communities and residents in areas with fewer stable, high-paying jobs available.

California’s Current Code Development Process

The Warren Alquist Act (Section 25000 of the California Public Resources Code) directs the California Energy Commission (CEC) to establish and regularly update energy and water use requirements in buildings and provides direction on the evaluation criteria and public participation process that the CEC must use when considering code revisions. The CEC must also adhere to the directives in the California Administrative Procedures Act and requirements in the California Health and Safety Code when developing code change recommendations.

Impacts Evaluation

Impacts evaluation – current conditions. CEC’s primary directive is that the building codes must be “cost-effective when taken in their entirety and when amortized over the economic life of the structure compared to historic practice,” (Cal. Pub. Res. Code §25402(b)3). Cost effectiveness is a major driver for code decisions, and CEC has developed a robust methodology to determine cost effectiveness that considers the long-term cost impacts of saving energy during each hour of the 15- or 30-year period of analysis. The CEC updates Time Dependent Valuation (TDV) factors for each code cycle using long-term forecasts of each component of the energy supply and delivery infrastructure. The resulting TDV cost factors provide an average cost of electricity, natural gas, and propane for nonresidential and residential buildings over 15 and 30-year period of analysis (CEC 2016b). These energy cost values represent market rate tariffs, not discounted rates that are available to some low-income households.

In addition to considering cost effectiveness, the CEC must justify the adoption of codes relative to nine criteria specified in Section 18930 of the California Health and Safety Code (see Box 1). Criterion 3 specifies that public interest requires the code to be adopted, but impact on ESJ communities and energy equity are not included as examples of “public interest.” Criterion 5 requires that the cost to the public is reasonable given the benefits, but language is vague about how costs are calculated, how public is defined, and what is considered reasonable benefits.

- *Benefits*: “These benefits may include, to the extent applicable, nonmonetary benefits such as the protection of public health and safety, worker safety, or the environment, the prevention of discrimination, the promotion of fairness or social equity, and the increase in openness and transparency in business and government, among other things,” (Cal. Gov’t Code §11346.2(b)1).
- *Costs*: “...the estimated cost of compliance, the estimated potential benefits, and the related assumptions used to determine the estimates,” (Cal. Gov’t Code §11346.2(b)5B).
- *Economic impacts assessment* “that assesses whether and to what extent it will affect the following: (A) The creation or elimination of jobs within the state. (B) The creation of new businesses or the elimination of existing businesses within the state. (C) The expansion of businesses currently doing business within the state. (D) The benefits of theregulation to the health and welfare of California residents, worker safety, and the state’senvironment,” (Cal. Gov’t Code §11346.2(b)3b).

Box 1

Nine-Points Criteria

(California Health and Safety Code, Section 18930)

1. The proposed building standards do not conflict with, overlap, or duplicate other building standards.
2. The proposed building standard is within the parameters established by enabling legislation and is not expressly within the exclusive jurisdiction of another agency.
3. The public interest requires the adoption of the building standards. The public interest includes, but is not limited to, health and safety, resource efficiency, fire safety, seismic safety, building and building system performance, and consistency with environmental, public health, and accessibility statutes and regulations.
4. The proposed building standard is not unreasonable, arbitrary, unfair, or capricious, in whole or in part.
5. The cost to the public is reasonable, based on the overall benefit to be derived from the building standards.
6. The proposed building standard is not unnecessarily ambiguous or vague, in whole or in part.
7. The applicable national specifications, published standards, and model codes have been incorporated therein as provided in this part, where appropriate. (subsections omitted)
8. The format of the proposed building standards is consistent with that adopted by the commission.
9. The proposed building standard, if it promotes fire and panic safety, as determined by the State Fire Marshal, has the written approval of the State Fire Marshal.

Considerations for ESJ Communities – Code Impacts Evaluation. Statutes do not provide explicit direction to the CEC to evaluate impacts on ESJ communities, but ESJ communities would benefit from updates to statutes that would provide such direction.

Public Engagement Process

Public engagement process - current conditions. The CEC offers multiple ways for the public to participate including making verbal comments at public meetings, providing written comments to the docket, or offering feedback or proposing code changes directly to CEC staff. According to the Warren-Alquist act, the CEC is required to host public workshops when code proposals are in development. Specifically, “During these public meetings, the commission shall receive and take into consideration input from all parties concerning the parties’ design recommendations, cost considerations, and other factors that would affect consumers and California businesses of the proposed standard.” Additional public workshops are held in accordance with Section 18935 of the California Health and Safety Code and the California Administrative Procedures Act leading up to the CEC commissioners’ adoption vote.

The CEC invites any member of the public to submit code change proposals for consideration, but requests that proposers provide analyses that support the CEC's evaluation of proposals to adhere to statutory requirements described above. The Statewide CASE Team develops code change proposals with supporting analysis and justification according to the CEC guidance and submits to CEC for consideration. The Statewide CASE Team hosts its own public engagement process to gain input on proposed code changes prior to submitting them to the CEC. Stakeholder feedback can transform the Statewide CASE Team's proposals. Information stakeholders provide on market impacts, technical feasibility, costs, and compliance verification often result in refinements to proposals including building types and locations where a proposed requirement would apply. The Statewide CASE Team uses costs collected from stakeholders in cost effectiveness analyses to inform the stringency of proposed changes, applicable building types, and pertinent climate zones.

Public engagement process – considerations for ESJ communities. While the CEC offers opportunities for public comment and engagement, the methods by which the state updates its building codes favor stakeholders that have the resources and expertise to participate in the process. Current statutes neither encourage nor ensure direct engagement with ESJ communities, either through public engagement processes or requirements for the CEC to analyze impacts on ESJ communities. The absence of direct guidance to work with ESJ communities hinders potential for organizations developing code change proposals and the CEC to engage with this stakeholder group. Although ESJ communities technically have the opportunity to participate in the public process, historically they have not done so. As discussed later in this paper, understanding the barriers to participation is critical to ensuring effective engagement.

Organizations and individuals that participate in public processes tend to be those who are most impacted by proposed changes. Discussions we had with ESJ organizations and market actors who provide affordable housing indicated that building code updates tend not to be the highest priority initiatives. ESJ communities view building codes as being more relevant to new construction, and they understandably view initiatives that improve existing buildings as more relevant to their immediate health, well-being, and financial situation.

Building codes are a complex set of regulatory documents. Without clear communication from a trusted source, for example organizations that represent or partner with ESJ communities, individuals who live in these communities may not have the resources to become familiar with the building code to the degree necessary to advocate for their interests. Even if the building code updates were more accessible, it is not clear that participation in code updates would become a priority for a set of stakeholders with both limited resources and issues impacting their communities with more immediate implications.

To engage in the public comment and input process, stakeholders must be informed about upcoming building code updates, understand relevant aspects of proposed updates and how their communities may be impacted, and have the time and resources to actively engage in workshops, meetings, and written comment periods. For communities with limited time and financial resources, especially those who have not previously engaged in the code development process, these prerequisites can deter community members and their representatives from participating.

Existing State and Local Approaches to Consider ESJ Priorities

California State Agencies

State agencies that play a role in improving the energy and environmental health of California's buildings have made progress in acknowledging and beginning to address energy equity gaps. In 2001, California Air Resources Board (CARB) published *Policies and Actions for Environmental Justice* (CARB 2001) to strengthen support for environmental justice and establish policies and specific actions to, among other actions: integrate environmental justice into all programs, policies and regulations; strengthen outreach and education to ESJ communities; and support research and data collection to reduce health risks in all communities. The California Global Warming Solutions Act of 2006 (AB 32, statutes of 2006, chapter 488) directed CARB to form the Environmental Justice Advisory Committee to advise on environmental justice considerations associated with implementing AB 32. The committee met regularly between 2007 and 2017.

The California Environmental Protection Agency (CalEPA) published an *Inter-agency Environmental Justice Strategy* and an accompanying *Environmental Justice Action Plan* in 2004 (CalEPA 2004a, 2004b), which included similar goals as CARB action plan. It stated CalEPA's intent, among other goals, to ensure meaningful public participation, integrate environmental justice considerations into development and enforcement of environmental laws, and improve research and data collection. CalEPA developed the California Communities Environmental Health Screening Tool (CalEnviroScreen), which uses a scientific approach and verifiable metrics to identify communities disproportionately burdened by and vulnerable to multiple sources of pollution. CalEPA also convened a multi-agency Environmental Justice TaskForce to facilitate a dialogue on implementing policies and actions that benefit ESJ communities.

In 2019, the California Public Utilities Commission published an *Environmental and Social Justice Action Plan* that provides a roadmap to engage ESJ communities in decision making and address energy inequities across California (CPUC 2019). The nine goals of CPUC's plan are presented in Box 2. CPUC's goals are particularly relevant to the Statewide CASE Team's efforts to support the CEC in updating the California Energy Code because CPUC directs all Investor Owned Utility (IOU) programs. To date, the CPUC has not directed the IOU team to pursue any specific activities related to energy equity, but the Statewide CASE Team is interested in proactively aligning with CPUC's ESJ goals.

The Clean Energy and Pollution Reduction Act of 2015 (SB 350 statutes of 2015, chapter 547) requires CEC and CPUC to consider ESJ as it implements goals established by the act. CEC has established direction for engaging ESJ communities and improving their access to energy efficiency, weatherization, and renewable energy investments (CEC 2016). If the recommendations in this report are implemented, ESJ communities will have better access to incentive programs, which could ease the burden of complying with code requirements for new construction, additions, and alterations.

Finally, the CPUC and the CEC have been collaborating on several initiatives that support ESJ communities. The CEC and CPUC reiterated their commitment to energy equity in the 2019 Integrated Energy Policy Report (IEPR), which dedicates a chapter to advancing energy equity (CEC 2019). Content in the IEPR focused primarily on SB 350 implementation and did not include specific recommendations for building code development. However, the recommendation that CPUC and CEC should work collaboratively to ensure disadvantaged communities do not disproportionately bear the burden of achieving climate and energy goals is relevant to the building codes development. For example, the multi-agency Disadvantaged Communities Advisory Group

(DACAG) that advises on how proposed programs to implement SB 350 could impact disadvantaged communities, could advise on revisions to the code development process. To date, the DACAG has focused on advising on the Energy Equity Indicators initiative,⁵ and providing feedback on certain incentive programs.

As we look to improve the process used to engage ESJ communities' updates to the building code, we should not only look at what state agencies are currently doing, but also consider what leaders in the ESJ community recommend for effective state-level engagement. The California Environmental Justice Alliance (CEJA) evaluates how state agencies develop, implement, and monitor policies and processes that impact ESJ communities and offers specific examples of state agencies' successes and failures in annual reports (CEJA 2018). The guiding principles that CEJA uses to evaluate state agencies reflect the principles ESJ communities would like to see decision makers value and could guide efforts to refine the building code development process. The eight guiding principles are: prioritize and value prevention, human health, and improved quality of life, do no harm, prioritize environmental justice communities, meaningful community engagement, responsiveness, transparency, accountability, and proactivity.

<p>Box 2</p> <p style="text-align: center;">California Public Utilities Commission Nine Goals of the Environmental and Social Justice Action Plan</p> <ol style="list-style-type: none">1. Consistently integrate equity and access considerations throughout CPUC proceedings and other efforts.2. Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.3. Strive to improve access to high-quality water, communications, and transportation services for ESJ communities.4. Increase climate resiliency in ESJ communities.5. Enhance outreach and public participation opportunities for ESJ communities to meaningfully participate in the CPUC's decision-making process and benefit from CPUC programs.6. Enhance enforcement to ensure safety and consumer protection for ESJ communities.7. Promote economic and workforce development opportunities in ESJ communities.8. Improve training and staff development related to ESJ issues within the CPUC's jurisdiction.9. Monitor the CPUC's ESJ efforts to evaluate how they are achieving their objectives.
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Local Jurisdictions

Some local jurisdictions have taken initiative to integrate ESJ community priorities into long-term physical development plans or have invested in developing comprehensive ESJ initiatives. Including environmental justice goals in general plans or master plans can provide continuity as leadership changes, supporting sustained commitment to environmental justice and ensuring that ESJ impacts are considered in future planning and development. Here we highlight examples of local action that could be adapted for implementation in California:

- *Fulton County Environmental Justice Initiative*: Fulton County, Georgia's comprehensive plan aims to promote equity when considering changes to procedures and policies. The

⁵ The CEC developed Energy Equity Indicators to help provide ESJ communities with improved access to clean energy technologies: https://ww2.energy.ca.gov/sb350/barriers_report/equity-indicators.html.

initiative helped establish policies that require minority and low-income health impacts to be considered in land use and zoning decisions (Tishman 2019). With this policy change, decision makers have clear direction that they must consider ESJ impacts. If enforced effectively, this policy could inspire a sustained dialogue with ESJ communities.

- *New York City Local Law 60 and 64 (2017)*: Together these laws require the city to develop an Environmental Justice Plan, to be completed by December 2021, that provides guidance for incorporating environmental justice into city decision making and identifies possible city-wide initiatives to promote environmental justice (Tishman 2019). Many local jurisdictions have focused efforts on considering how land use, zoning, and development decisions impact ESJ communities.
- *Seattle, Washington*: In 2015, Seattle launched the Equity & Environment Initiative, which created an agenda to advance environmental equity and address community-identified issues such as indoor toxins and noise pollution (Seattle OSE 2020). This initiative is noteworthy because it identified indoor toxins as a priority, which aligns with the scope of building codes. Many community-identified priorities focus on exposures that occur outdoors, which do not align as well with building code interventions.⁶

While the initiatives highlighted above are broad, they include goals, objectives, and frameworks that can inform the CA code development process. For example, considering how development decisions impact ESJ communities (NYC) and initiating a sustained dialogue with ESJ communities (Fulton County) could both be tailored to reflect California’s unique social, cultural, economic, and political context and applied to the state’s code development process.

Integrating Equity in Building Code Development

The CPUC Environmental and Social Justice Action Plan provides a foundation upon which to build policy decisions. Aligning the Statewide CASE Team’s building code development activities with the CPUC’s foundation creates cohesion across programs that the CPUC regulates, including the IOU codes and standards program, and can help strengthen collaboration between CPUC and CEC on ESJ initiatives. Specifically, the Statewide CASE Team recommends aligning with CPUC’s first goal, “consistently integrate equity and access considerations throughout CPUC proceedings and other efforts.” This section merges key findings from the authors’ literature review and our seven outreach interviews with representatives from organizations that represent ESJ communities and market actors who are engaged in building affordable housing³. The authors’ goal was to gain a better understanding of ESJ community knowledge and prioritization of building codes, their barriers to participation, and how to effectively engage these communities in the future. It describes how building code development can align with two objectives CPUC has identified within their goal of integrating equity and access—consider the impacts of regulations on ESJ communities and improve communication with ESJ communities.

Consider Impacts of Building Codes on ESJ Communities.

⁶ Building codes can minimize exposure to contaminants in outdoor air by requiring air filters with high Minimum Efficiency Reporting Values (MERV) ratings. California adopted requirements for MERV 13 filters for the 2019 building code.

All interviews emphasized the importance of health and safety within buildings. High-performance buildings tend to use energy efficiently while also maintaining occupant health and safety. Many interviewees offered specific code change proposals that would improve occupant health and safety. These proposals include aligning with industry standard ventilation requirements, requiring efficacious kitchen range hoods, making adjustments to air filtration requirements, balancing building tightness with providing sufficient outside air, and transitions to all-electric buildings that are healthier and safer than mixed fuel buildings (Greenlining Institute and Energy Efficiency for All, 2019). The authors learned that while health impacts from buildings are an urgent concern for ESJ communities, energy cost savings are not valued quite as highly.

Interviewees expressed that ESJ communities value the non-energy benefits of high-performance buildings, so it is important that we evaluate the benefits of proposed changes to the building code using a broader perspective that assigns non-energy benefits appropriate value – both from a societal interest perspective and a cost perspective. Specifically, we heard suggestions that building resilience should be considered with building features that will allow the building to maintain occupant safety and comfort in higher temperatures, more extreme weather, and sustained periods of power outages. Using forward-looking weather data when considering code change proposals and valuing building features that will help buildings perform well as the weather changes could help the building code value resiliency. Indoor air quality and other features that contribute to occupant health should also be prioritized and valued appropriately, potentially considering healthcare costs associated with increased prevalence of asthma and increased risk of respiratory illness associated with poor indoor air quality.

Reducing energy use and carbon emissions from buildings aligns with the objective that many ESJ organizations support – creating healthy environments for all people. Our literature review and interviews indicated general support for the high-level goals of leveraging building codes to help achieve statewide energy and climate goals. However, the authors heard during outreach interviews that building code advocacy has not emerged as top priority for the ESJ community organizations in part because there are not significant concerns with the impact of building code updates on ESJ communities. Building codes have the biggest impact on newly constructed buildings, and since very few low-income households purchase newly constructed single-family buildings, building codes for new homes are not immediately relevant to these communities. Currently the cost effectiveness of code change proposals is considered over a 30-year period of analysis for residential buildings. Some interviewees suggested considering the benefits of high-performance buildings over a longer time horizon, including degradation of benefits over time. Since buildings last for longer than 30 years and people in ESJ communities tend to live in older buildings, they may not realize the benefits until many years in the future.

Several interviewees indicated that occupants of affordable multifamily housing appreciate comfortable, healthy, and safe living spaces that use energy efficiently, though they do not typically opine on design strategies or technologies used in building design. Developers of multifamily housing, including affordable multifamily housing, are more engaged in the code development process. Some multifamily designers and developers participate directly, and industry associations such as the California Building Industry Association advocate on behalf of builders and developers.

Since affordable multifamily developments cannot always recover the incremental cost of enhanced building features investments through increased rent or energy bill savings, funding sources that cover incremental costs upfront are critical to favorable project economics.

Developers typically leverage multiple funding sources, each with unique eligibility criteria. Many funding sources include energy performance criteria as a prerequisite for receiving funds or to prioritize funding. Because funding programs and building energy codes are out of sync, developers complete separate analyses or pursue unique energy features to demonstrate code compliance and qualify for funding. Coordinating code development with revisions to funding eligibility criteria would make it easier for affordable multifamily developers to adhere to increasingly stringent code requirements. Interviewees also expressed that multiple funding sources reference Title 24, requiring or granting priority for buildings that exceed minimal compliance with Title 24. They recommended mapping out all funding sources that reference Title 24 and working proactively with each funding source as revisions to Title 24 are being developed to explore how eligibility criteria for funding sources may need to be updated as the building code evolves. Several interviewees also suggested that including an analysis of the financial impacts on affordable housing developers would help decision makers understand the realities of the cost-effectiveness of energy improvements in the low-income housing sector.

Improve Communication with ESJ Communities

Improving energy performance through building codes aligns with ESJ community values of providing healthy buildings for all people. However, ESJ communities and organizations that represent their interests are often resource constrained and must prioritize their activities. Interviewees stressed that ESJ organizations' priorities tend to lie in addressing immediate concerns such as ensuring equal access to incentive programs, mitigating adverse health impacts of a nearby power plant or industrial facility, and addressing gentrification and displacement. Recognizing that building code advocacy is not the top priority for most ESJ organizations and is unlikely to become a top priority, particularly if groups like the Statewide CASE Team act proactively to consider ESJ impacts, engagement strategies should acknowledge resource constraints and competing priorities. Specific suggestions include:

- **Compensate ESJ organizations for their contributions.** Financial constraints were a recurring theme in outreach interviews. Organizations and individuals should be compensated for their contributions. For example, the Statewide CASE Team could hire ESJ organizations to contribute to code change proposals they sponsor.
- **Make information accessible.** Accessibility of information is a barrier for effective engagement. The outreach approach must address these barriers to access. A central, digestible, well-organized center of knowledge to serve as a resource for integrating ESJ in building codes would improve communications and accessibility for both ESJ communities and those who represent them. These resources could include materials specifically developed for ESJ audiences that are available on a website that is easy to navigate. The Statewide CASE Team could also work with organizations that have existing relationships with specific ESJ communities to develop and distribute information through offline channels such as via phone or through trusted sources and locations (e.g., local news, community centers, religious organizations, libraries, schools, etc.)
- **Leverage ESJ organizations' time effectively.** Staff time is a key resource constraint in many ESJ organizations. Being mindful of such a constraint and working to make the best use of time with ESJ organizations could improve communications.

In addition to tailoring engagement strategies to accommodate limitations that ESJ organizations face, it is imperative to consider input from multiple viewpoints. There is no singular, all-encompassing ESJ community perspective. Each community has its own nuanced

opinions, needs, and circumstances. No organization represents the perspective of all ESJ communities or all market actors that engage with ESJ communities. Appreciating the non-homogeneity in perspectives and valuing all input is important when engaging with ESJ stakeholders. It may not be possible to develop proposals and supporting justification that accepts recommendations from all perspectives.

Similarly, certain ESJ organizations collaborate frequently and may represent overlapping perspectives or communities. Due to nuanced perspectives that exist among communities, and as with all stakeholder engagement initiatives, it is valuable for multiple community stakeholders to express common goals and viewpoints during the code development process. The stakeholder engagement process should make it easy to share community coordinated responses.

Interviewees stressed the importance of taking a patient and persistent communication style when engaging organizations that represent ESJ communities. Both conveying a commitment to long-term engagement and making sure outreach teams reflect the communities can help develop trust. In addition to working with organizations that prioritize energy equity and support ESJ interests, it is critical to build relationships with organizations that actively engage with community members and include community outreach as part of the engagement process. To participate effectively, individuals must understand the issues and their impacts, work together to establish priority positions, and communicate effectively so they can work with decision-makers to advocate for their position (The Collaborative 2004). To ensure community outreach yields meaningful feedback, ESJ organizations may need support to provide accurate, objective information about building codes.

It is possible to pursue requirements for high performance buildings while advancing ESJ priorities. A recent report (Greenlining Institute and Energy Efficiency for All, 2019) explored how to achieve building electrification while fostering energy equity. The report asserts that building electrification can benefit ESJ communities – leading to healthier, safer, and thriving communities – but it is imperative that electrification programs and policies prioritize equity and deliver benefits to ESJ communities. The researchers offered five steps for state agencies and decision makers to follow as they consider programs and policies: 1) assess the communities’ needs, 2) establish community-led decision-making, 3) develop metrics and a plan for tracking, 4) ensure funding and program leveraging, and 5) improve outcomes.

Call to Action

The 2019 California IEPR emphasizes the importance of addressing energy equity to ensure that all of the state’s residents can enjoy the benefits of a clean energy economy, but the codes and standards development process has not yet adjusted course. As discussed, existing statutes do not explicitly direct CEC to consider the impacts of code changes on ESJ communities or energy equity. Statutes could be updated to provide clearer directives.

Alternatively, public stakeholders such as the Statewide CASE Team could demonstrate initiative by beginning to evaluate and report on how the proposed changes that they develop impact ESJ communities. Leadership from the Statewide CASE Team or other public stakeholders can help demonstrate that the public values ESJ priorities and we will put forward equitable solutions even when not required to do. Below, we have presented specific actions the Statewide CASE Team will consider pursuing in its building code development initiatives. The Statewide CASE Team is already working to incorporate some of these elements and will be reaching out to interviewees and other ESJ community organizations to share findings and start

building a sustainable engagement framework.

1. **Report on cost effectiveness for low-income households:** Expand existing cost effectiveness reporting to include an evaluation of the cost effectiveness of proposed changes to residential code requirements on low-income households. This analysis should consider and value non-energy benefits like improved health and lengthen time horizons to account for the benefits of building codes for ESJ communities beyond the current 30-year period of analysis. It should also take into account discounted energy rates available to low-income households, like the California Alternate Rates for Energy.⁷
2. **Report on cost effectiveness for affordable housing developers:** Expand existing cost effectiveness reporting to include an evaluation of cost effectiveness of proposed code changes on affordable housing developers. This should include a catalogue of funding sources available to affordable housing developers and the energy metrics used to qualify for funding, considerations for deed restrictions, and impacts of discounted energy rates. Further study on the effects of the building code on displacement and gentrification is needed.
3. **Report on benefits to ESJ communities.** This reporting will require establishing metrics that capture benefits to ESJ communities, which should be done with participation from these communities. These metrics should include financial metrics such as percent of income spent on utility bills, as well as impacts on health, quality of life, and security. This reporting could leverage a checklist CPUC is developing to identify ESJ priorities for proceedings, and some localities' evaluations of ESJ impacts on building projects and zoning rules.
4. **Coordinate with programs that reference building code.** Incentive programs, building rating programs, and funding sources for affordable housing developments all reference building energy codes. This initiative would map out all programs that reference the California Energy Code and initiate a dialogue with those programs to discuss how regular updates to the building code impact their programs. It will also examine opportunities to proactively initiate revisions to programs that reference building codes as soon as code changes are adopted or even as they are being considered. Stakeholders specifically recommended the Statewide CASE Team collaborate with the California Tax Credit Allocation Committee (TCAC) and the California Debt Limit Allocation Committee (CDLAC) to explore a process to update eligibility criteria for the funding programs they administer in coordination with updates to Title 24.⁸
5. **Invest in building relationships with organizations that represent ESJ communities.** Effective collaboration is built upon trust and strong relationships. Committing to building relationships will enable the Statewide CASE Team to participate in effective dialogues in the future. Choosing which ESJ community partners to engage with should be done intentionally to include multiple viewpoints. This collaboration might include contracting with one or more frontline community, environmental justice, or housing justice organizations during future code cycles so there is a mechanism for the Statewide CASE Team to pay organizations for their participation and contributions.
6. **Provide materials to support informed participation.** Developing materials that describe the code development process, how building codes impact people, and how members of the public can participate in the process would help empower people who live in ESJ communities to provide meaningful feedback. Materials should both appeal to the ESJ

⁷ <https://www.cpuc.ca.gov/lowincomerates/>

⁸ <https://www.treasurer.ca.gov/ctcac/tax.asp> (TCAC); <https://www.treasurer.ca.gov/cdlac/> (CDLAC)

communities and be distributed via trusted avenues and free, online platforms.

7. **Collaborate with CEC and CPUC staff** to leverage existing engagement initiatives.
8. **Collect data.** Ensuring that ESJ communities are adequately represented high-quality demographic data collection on energy and non-energy benefits across all communities will help inform advocacy and policy decisions and strengthen data-driven arguments for change.
9. **Measure and track progress.** As code changes take effect, it is important to understand the impact (whether beneficial or adverse) on ESJ communities. Measuring impacts and tracking results enables regulators to make progress in addressing energy equity gaps. As mentioned earlier, CEC has established Energy Equity Indicators to help measure how well the state is improving access to clean energy technologies. Some of these indicators may also be useful to track impacts of building code updates (CEC 2018).

California is already seeing the impacts of climate change on its weather, its economy, and the health of its residents. While ESJ communities are disproportionately impacted by the environmental, economic, and health hazards posed by climate change and the negative impacts of outdated and low-efficiency buildings, their needs are not yet a central consideration in codes development. Due to the disproportionate level of impact, ESJ community needs should receive a correspondingly high level of consideration. We should be proactive, build a system that values ESJ priorities, and incorporates and prioritizes ESJ community feedback.

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