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CEA Comments on the CA Building Energy Performance Strategy Report RFI

Additional submitted attachment is included below.

June 26, 2024

California Energy Commission
Docket Unit, MS-4
Docket No. 24-BPS-01
715 P Street
Sacramento, CA 95814

Re: Docket Number: 24-BPS-01 – California Building Energy Performance Strategy Report

Dear Energy Commission,

Thank you for the opportunity to provide input on the development of the California Energy Commission's (CEC) California Building Energy Performance Strategy Report (report) as directed by Senate Bill 48 (SB 48). The California Energy Alliance (CEA) is a leading advocacy organization for California's energy stakeholders and had the opportunity to engage with and support Senator Becker's SB 48. As part of CEA's mission to drive meaningful, innovative policy improvements that support California's strategic energy and environmental goals, CEA believes that better understanding real building energy use instead of relying on modeling estimates presents an essential opportunity for making real impacts in reducing overall building energy use.

An outcome-based approach to code compliance captures whole building energy use including process loads and other miscellaneous electric loads, which often go unaddressed by performance or prescriptive energy code compliance approaches. An outcome-based approach through building performance standards can ensure buildings continue to perform as designed through their useful life and provide a better understanding of the true energy performance of the building stock. These outcome-based policies require that participating buildings are monitored, post-occupancy, for a predetermined time period or periodically over many years. This data can then be used to determine if additional energy conservation measures are needed to bring the building in-line with minimum energy requirements. Deep and necessary gains in building energy efficiency cannot continue without considering actual building performance in new and existing buildings. Therefore, CEA looks forward to continuing this engagement with the CEC to inform development of the strategy and recommendations required by SB 48.

Stakeholder Contact information and Areas of Interest

1. Please provide the following information about you and/or your organization:
   1.1. Names & email addresses of public contacts for you and your organization.
      i. Josh Dean, Executive Director
      ii. josh.dean@caenergyalliance.org
   1.2. What are your areas of interest in this report development process?
      i. CEA is interested in collaborating with the CEC on all areas of the strategy for developing and implementing a building performance standard and recommendations for future legislative actions. CEA would also like to connect the CEC with industry stakeholders to understand how to best use benchmarking data to track and manage the energy usage and emissions of buildings. Furthermore, CEA would like to support the CEC in developing novel approaches to incorporating cost effectiveness and load flexibility into the building performance strategies/requirements.
   1.3. Description of your organization and the constituency you represent.
      i. Founded in 2016, CEA is a nonprofit, non-partisan alliance of over thirty-five business, government, academia, and NGO leaders working to bring beneficial, equitable change to energy standards, policies, and programs by developing consensus among diverse and engaged stakeholders. CEA envisions a healthy and equitable built environment that is powered by carbon-free, reliable energy sources.
   1.4. What is the best way to outreach and engage with your constituency?
      i. The CEC can work with CEA's Executive Director to outreach to CEA Members. Additionally, CEA hosts several membership meetings and Convenings/Roundtables throughout the year that provide an exceptional avenue for the CEC to engage with industry stakeholders and subject matter experts.

Building Benchmarking and Performance

2. What building performance metrics (such as site energy use intensity, carbon dioxide equivalent emissions, or peak electric demand) should be considered in a building performance strategy? What building performance metrics could be used to trigger building-level interventions (such as enforcement, incentives, etc.)?
   i. While CEA agrees that Site EUI and GHG Intensity are good whole building metrics, we feel it's limited and only shows an aggregated performance metric. The metric being considered needs to be a meaningful performance metric and have the ability to adjust based on composition of loads in the building, building occupancy, building use (e.g., a high-rise office conversion

to multifamily, an office building with a data center on multiple floors, etc.), and flexibility demands from the grid. The building performance metric(s) developed should include more insight into how well the building can adapt to price signals, leverage distributed energy resources, and shed & shift load.

a. CEA suggests using a "$$/square foot (SF)" metric, where the $$ value is the average utility value based on the building's service territory. The $$ metric will be more meaningful for the building owner and provide at least a rough estimate of excess costs per year for the worst performing buildings as compared to average (or other baseline).

ii. CEA would like to emphasize that the aggregated meter data does not tell the full story of a building's performance. We can equate this aggregated data to a person's health metrics. Only referring to body weight does not tell how healthy a person is when there are other factors, such as body fat %, blood pressure, cholesterol levels, predisposition to diseases, etc. Including more meaningful building performance metrics would allow buildings to track their improvement over time, align more with state climate goals, and support a changing energy landscape.

3. What building specific conditions and circumstances (such as vintage, climate zone, orientation, etc.) should be included in a building performance strategy?
   i. As emphasized in Question #2, the performance strategy metric should take into account load intensity. So, the minimum requirements for specific conditions should include more than a square footage threshold.
4. How should building benchmarking data be used to prioritize building upgrades and incentives?
   i. California benchmarking data should be leveraged to create attainable building performance standard baseline and interim targets, so building owners can properly plan for building upgrades and future compliance periods.
   ii. The State's benchmarking data should also be used to study how actual building energy performance compares to Title 24, Part 6 - Energy Code vintages. This analysis could identify if past and current Energy Codes are achieving their expected energy performance and correlate any gaps to various building features. Any discrepancies can be used to determine what new Energy Code requirements (e.g., submetering, fault detection & diagnostics, and other enabling devices) are necessary to support compliance with a future building performance standard.
5. What types of support and resources would be necessary to help building owners meet building performance targets?

i. There is a need for the CEC to support schools and organizations who teach and train facilities management. This is an area where facilities are woefully lacking in education of their maintenance personnel in updating and keeping a facility to designed efficiency. A requirement for a building owner to have their maintenance team trained and engaged in a continuing education process with proof, similar to the requirements for licensed technicians such as electricians and plumbers, would be beneficial to building owners trying to comply with building performance standards. CEA recommends engaging with trade associations and apprenticeship/community college programs (many of which can be found here: https://caenergyalliance.org/members) that can offer and develop facility management career pathways for workforce development.

6. What enforcement mechanisms should be considered for both benchmarking and a potential building performance requirement? Which similar programs are known to achieve high compliance rates?
    i. With any enforcement mechanism chosen, whether noncompliance payments/fines or limiting permits, there needs to be sufficient staffing and resources available to enforce the building performance standards. Compliance and enforcement must go hand in hand or else building owners and operators will not report. Automating and digitizing the process would greatly improve the efficacy of a potential building performance program.
7. What other steps can the CEC take to help building owners comply with existing building benchmarking requirements?
    i. CEA would like to emphasize comments discussed in detail throughout this letter: the need for Post-Occupancy Evaluations, advanced metering/monitoring systems, and well-trained maintenance staff.

Load Flexibility and Resiliency

8. Given the time and location dependance of both the cost and greenhouse gas emissions of electricity, how can building performance strategies be structured to incorporate load flexibility benefits?
    i. With California being a leader in renewables and building electrification, the CEC should consider building performance metrics that incorporate load flexibility and building demand response capabilities. As discussed above in Comments 2.i.a. and 2.i.b., the building performance metrics should incorporate building load intensity and grid flexibility to encourage buildings to positively contribute to an interactive grid. In order to properly account for cost and GHG emissions of electricity, the CEC should incorporate “transactive

energy" as part of its strategy for investing in energy infrastructure to support the building's ability to be flexible and viable grid resources.

ii. The CEC should consider what building blocks are needed to put in place now to reach the goal of real-time data and responsiveness.

Cost Effectiveness

9. How should measure cost effectiveness be incorporated into building performance strategies or requirements? How should cost effectiveness be determined?
    i. The term "measure" should be removed from this question. There is no way to put a dollar sign to cost-effectiveness, especially since true cost-effectiveness includes "non-energy benefits" (NEBs) which are for the benefit of the users. Cost-effectiveness has to do with understanding the needs of the occupants, the long-term use of the building, and the ability of the building to adapt to new use types or situations without major renovation requirements.
    ii. Additionally, cost-effectiveness metrics (CEMs) should integrate NEBs that are implicit in capital expenditures analysis commonplace in the marketplace. Also, there exists other business models whereby, the building owner doesn't own the energy assets (DERs) but is rather owned by an aggregator or other entity that is employing these assets to meet the facility's requirements and to generate revenue within energy markets.
    iii. The CEC should consider how leaving out "enabling systems" from current and future Energy Code requirements, due to a limited cost-effectiveness test, puts an added cost on buildings to upgrade to these systems later in order to comply with requirements in future building performance standard.
10. For future building performance policies, how can the state manage and minimize administrative costs to the state and local governments while maximizing building performance improvements?
    i. The CEC could develop a central database to help automate much of the process for building owners.
    ii. Require owner to do a Post Occupancy Evaluation within 10-12 months of the first year (within timeframe of the construction contract so it is covered by the contract. Require owner to pay for Post Occupancy Evaluations at set time periods (3 years, 5 years, 7 years). These reports are to be provided to the State for each period with corrections completed if needed. See ANSI/ASHRAE/IES Standard 100, sections 4, 5 and 6 for how to implement.
    iii. Start w/ simple static energy metrics (makes compliance reporting easier/cheaper), then move to incorporate more metrics (e.g., flexibility, wellness, etc.).
11. What considerations or protections should the CEC be aware of to ensure minimal impacts to housing affordability and other potential disruptions for multifamily tenants that may result from a statewide building performance standard?

i. The CEC needs to recognize that local zoning ordinances and restrictions may adversely impact the economic viability of any State requirement pertaining to upgrading energy consuming systems, equipment or appliances. For example, communities with legacy substandard building lots may drive up projects' costs excessively which, in turn, adversely impacts housing affordability through increased rental rates. State and local policy efforts reflected in new Energy Code requirements, to increase building electrification and improved building performance market penetration may produce unexpected consequences within low-income and disadvantaged communities because of archaic and inconsistent zoning laws. This is why the CEC needs to open up its policy analysis to include other viable business models.

Other Comments, Issues, and References

12. Please submit any additional comments, issues, references, models, recommendations, or other information that you believe is relevant to the development of the California Building Energy Performance Strategy Report.
    i. CEA recommends the CEC consider where the energy and product market will be in 2026, 2030, and beyond for this report instead of looking backwards to the current market when accounting for strategies to incorporate. We can use lessons learned from solar/battery pricing and the LED market.
    ii. Run the strategies, ideas, and methodologies developed throughout this strategy report across state-owned buildings to understand the impacts. Look to similar strategies and policies in place at Green California - Green.ca.gov.
    iii. This RFI has a specific request from legislators to ask CEC "for further legislative action to help achieve objectives". Recommendations should be to change limitations in the Warren Alquist Act. The CEA can develop a coalition to advocate for these changes, such as cost effectiveness.
    iv. CEC should do a roadshow across the state to engage more stakeholders for the development of this strategy report. Target the 1-2 building owner and facilities groups (e.g., BOMA, IFMA, etc.), trade associations, and apprenticeship/community college programs (many of which can be found here: https://caenergyalliance.org/members) that can develop facility management career pathways for workforce development.
        a. This roadshow would give real engagement from stakeholders on input and feedback that may otherwise be limited over typical virtual CEC workshops.
    v. The CEC should consider developing a link between new buildings & major renovations to existing buildings with a proper handoff to ensure building

performance continues as intended. Current energy code compliant buildings have no way of knowing if their building's design will meet future building performance targets.

a. There are tools available, such as the EPA's Designed to Earn to ENERGY STAR[1], that support new buildings with defining an energy goal, provide 3rd party verification, complementing building performance standard initiatives, and guides energy performance throughout the building's lifecycle.
    - This tool can be leveraged to understand if a building's design "may" meet an established BPS EUI target.

vi. Urgency and continued communication are needed throughout the development of the strategy report. Fastest timeline for a statewide BPS:

a. July 2026 report to legislature with recommendations for further legislation > earliest new legislation in 2027 > legislation passed the end of 2027 > 2028 CEC tasked with developing BPS regulations > work on developing BPS regulations 2028 - 2030 > BPS in effect in 2031/2032 > first compliance reporting year after 2035.
    - How does this timeline align with the State's energy/GHG goals in 2035 – 2045?
    - Does this policy have an impact on the market before the 2035 dates or after?
b. Be sure to maintain engagement with all stakeholders to understand how the market is changing during this timeframe.

CEA thanks the CEC for the opportunity to submit these comments, and we look forward to collaborating with you on the development of the California Building Energy Performance Strategy Report.

Sincerely,

California Energy Alliance
josh.dean@caenergyalliance.org

[1] https://www.energystar.gov/buildings/resources-audience/service-product-providers/commercial-new-construction/why-design-earn