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December 8, 2025

Pamela Gupta, Branch Chief
Building Decarbonization and Innovative Strategies Branch,
California Air Resources Board

RE: October 30, 2025 Workshop
Covered Projects Reporting Technical Meeting
Public Comment Period

Dear Ms. Gupta,

We, members of the Structural Engineers Association of California (SEAOC) Sustainable Design Committee (SDC), submit the following comments in response to the California Air Resources Board's (CARB) request for public comment following the October 30, 2025 public workshop. This workshop provided an overview of the CARB staff's proposed reporting requirements and project reporting tool associated with buildings in California. We greatly appreciate the opportunity to comment on this proposal.

The members of the SEAOC SDC wish to communicate the perspective of designers who are heavily involved with the tracking and reduction of embodied carbon of buildings. Structural engineers play a central role in shaping the material and system choices that influence embodied carbon outcomes in California's built environment. Our comments are intended to be consistent with our organization's commitment to "support public policy and industry efforts to reduce embodied carbon in the built environment." Our hope is that the framework implemented by CARB can align with ongoing efforts as much as possible and support and incentivize progress towards actionable reduction strategies that ultimately achieve the 40% reduction goal by 2035.

SEAOC strongly supports the development of clear, consistent, and technically robust embodied carbon policy through a statewide approach—aligned with state building code regulations. We look forward to continuing to work with CARB as we collectively work to realize the ambitious goals set forth by the state of California.

Sincerely,
Members of SEAOC SDC
Rachelle Habchi, P.E., SEAOC SDC Chair
John O'Hagan, P.E., SEAOC SDC Past-Chair
Luke Lombardi, P.E., SEAOC SDC Past-Chair
Lisa Podesto, SEAOCC SDC Chair
Ann Jiras, P.E., SEAOSC SDC Chair
Marisa Nolasco, P.E., SEAONC SDC Vice Chair
Nicholas Miley, S.E., SEAONC SDC Past-Chair
Jacob Gottlieb, P.E., SEAOSD SDC Chair

Pamela Gupta, Branch Chief
October 30, 2025

Comment #1: Exemptions for non-residential building projects

- Reference Section: Section IV.A.2 (What types of building projects are covered?)
- Comment Summary: We strongly recommend both hospital and military buildings are not considered exempt from these reporting requirements.
- Comment Details: See below

Military and hospital projects tend to have some of the largest project budgets in the industry and requiring typical non-residential buildings to comply while exempting financially advantaged projects teams is unfair and unreasonable to the industry. We are proponents of these reporting requirements and do not see any value in exempting buildings with large project budgets and relatively large embodied carbon intensities from reporting just like the rest of the industry. Military and hospital projects may have different functional requirements than the other buildings covered under this regulation; we strongly recommend CARB to engage with the appropriate parties to understand the additional design and construction requirements needed for military and hospital projects and to require these projects to report while accommodating particular information, design requirements, security issues, and/or maintenance requirements.

Comment #2: Proposed Reporting Requirements for Covered Projects - Timeline Submission

- Reference Section: IV.C (When in the project life cycle would projects report to CARB?)
- Comment Summary: SEAOC does not support requiring multiple interim submissions of embodied carbon data throughout design or permitting. SEAOC recommends requiring submission at certificate of occupancy to ensure quality and range of material product types and material quantities reported.
- Comment Details: See below

We recommend complete reporting at building occupancy. Different projects submit for building permit at different stages in their design (e.g. DSA projects may submit for building permit at 100%CD whereas a typical Risk Category II building may submit for building permit at 100%DD); The benefits of requiring submission at building occupancy (COO) is that the material quantities, product types included, and embodied carbon intensities will most accurately reflect the as-built condition and allow the data collected to be more comparable across projects. The disadvantage of submitting at COO is the lack of harmonization with the California Building Code CALGreen requirements; however, we recommend CARB coordinate with CALGreen on possible revisions to timing submission so that CALGreen may align with CARB for submission at COO.

Alternatively, we recommend CARB consider reporting at the time of project construction buyout, which would optimize the reporting effort while creating high accuracy of estimation of material volumes and product specific carbon intensity information. CARB or an industry entity would need to provide direction for estimating A4 and A5 emissions based on planned construction equipment and schedule available at buyout.

Comment #3: Required Building Elements Included

- Reference Section: Section IV.D (What are the reporting requirements for covered projects?)
- Comment Summary: The required building elements suggested to be included for both Basic Reporting and WBLCA is infeasible within the industry at this point in time. While we hope that all the elements listed will one day be required to be assessed and included, we believe that requiring the elements that contribute to the majority of building emissions and are able to be accurately quantified within the industry today and until 2035 should be prioritized.
- Comment Details: See below

The list of building elements expected to be included in reporting is ambitious and commendable but incongruent

with current industry capabilities. We strongly recommend requiring the following elements to be included for both Basic Reporting and WBLCA pathways, with options for additional credits when additional GHG assessment information is provided. There is precedent of adopting this type of pathway with the City of Vancouver's latest embodied carbon guidelines code update.

Recommended required elements for reporting:

- Substructure (Foundation, Subgrade enclosures, Slabs-on-grade)
- Shell: Superstructure (Floors, Roof, Stairs)
- Shell: Enclosure (Exterior vertical and horizontal enclosures, including insulation and gypsum board
- Interiors (Flooring, interior partitions, acoustic ceiling tiles, gypsum board, raised floor construction)
- MEP services (at a later date, e.g. 2030)

Recommended elements for optional reporting in exchange for some sort of credit(s) to the project team:

- Interiors (interior windows and doors, interior grilles and gates, raised floor construction, interior specialties)
- Interior Finishes (Wall Finishes, Interior Fabrications, Flooring, Stair Finishes, Ceiling Finishes)
- Equipment and Furnishings
- Sitework (Site Preparation, Site Improvements, Liquid and Gas Site Utilities, Electrical
- Site Improvements, Site Communications)
- Services (Conveying, Plumbing, Electrical, Heating, Ventilation, and Air Conditioning (HVAC), Fire Protection, Communications, Electronic Safety and Security, Integrated Automation)

Comment #4: WBLCA Reporting and Basic Reporting

- Reference Section: Section IV.D.2 (What are the reporting requirements for covered projects?)
- Comment Summary: We strongly recommend projects reporting via WBLCA do NOT need to also report via Basic Reporting.
- Comment Details: See below

For project teams that are already creating a WBLCA model and already seem to have to report at a different time than CALGreen and LEED standards, we see little to no added value for teams to also report via Basic Reporting and would create unnecessary additional burden on project teams.

Comment #5: WBLCA Reporting and Basic Reporting

- Reference Section: Appendix A.2 (Included Life Cycle Stages (System Boundary)
- Comment Summary: Requiring all life cycle stages from A1-C4 will be unnecessarily burdensome on industry professionals; we recommend harmonizing with CALGreen on the required life cycle stages.
- Comment Details: See below

Lack of harmonization between the building code, building standards, and now regulation reporting requirements across California will create confusion and an unnecessary burden on project teams. We recommend harmonizing the required life cycle stage reporting with the already established CALGreen embodied carbon requirements in the building code. For life cycle stages A5 and C1-C3 we recommend providing easy-to-follow guidance for the industry based on factors referenced in ASHRAE 240p.

Pamela Gupta, Branch Chief
October 30, 2025

Comment #6: Options for Estimating Material Emissions - Project Reporting Tool

- Reference Section: Covered Projects Reporting Session (October 30, 2025) - Powerpoint presentation, slide 44

- Comment Summary: We highly recommend not allowing project teams to mix and match between project-specific EPDs, CARB default USEEIO emissions factor, and CLF Baselines as the data for each source is calculated in vastly different ways with different orders of magnitude. We highly discourage the use of USEEIO emissions factors be used in project specific applications. We recommend using product-specific EPDs and substituting with industry averages where specific materials/products are unknown. CLF baselines represent a vetted source of industry average carbon intensity when product-specific EPDs are not available. Additionally, we recommend harmonizing building element nomenclature and taxonomy with either SE2050 Classification System or the CLF Benchmark Report.
- Comment Details: See below

As currently presented on slides 44-45 of the referenced presentation, we understand that material emissions data can be sourced from one of three databases: project-specific EPDs, CARB Default USEEIO sector-level emissions factors, and/or CLF Baselines; it is implied that project teams can mix and match between material emissions data in the project reporting tool. We suggest that project teams cannot mix between USEEIO sector-level emissions factors and project specific EPDs for a variety of reasons but especially because the data is calculated in completely different ways with different orders of magnitude. Additionally, while USEEIO sector level emission factors make sense at a macro level, they do not relate to project specific reduction goals. The goal of AB 2446 and AB 43 is to achieve a net 40% reduction in embodied carbon emissions by 2035 and the only way we see this reduction being achieved with USEEIO emissions factors is either through dramatic decreases in material quantity being consumed (e.g. a deep recession) or through significant reductions in the material costs, of which neither we foresee would be so impactful as to force 40% reductions in either material consumption or cost.

Additionally, the collection of material quantities in the spreadsheet reporting tool is currently unclear and requires a bit more specificity with respect to building element reporting. We recommend adding an additional column in the project reporting spreadsheet template after the building element category to include an input on building element type in congruence with the taxonomy developed in either the SE2050 Classification System or the CLF Benchmark Report.