



April 14, 2025

To:

California Air Resources Board

Re: Feedback on March 13, 2025 Embodied Carbon Workshop

Dear CARB Staff,

On behalf of the National Ready-Mixed Concrete Association (NRMCA), thank you for the opportunity to provide feedback on the concepts presented during the March 13, 2025 Building Embodied Carbon Workshop. We appreciate CARB's efforts to advance greenhouse gas reduction goals and support the development of practical, achievable, and data-driven approaches that reflect the realities of material supply chains and project execution.

NRMCA represents the ready mixed concrete industry with more than 2,250 companies and subsidiaries that employ more than 135,000 American workers who manufacture and deliver ready mixed concrete. The Association represents local, regional, national and multinational companies. The industry includes more than 77,500 ready mixed concrete trucks and 6,500 ready mixed concrete plants. Roughly eighty-five percent of all US ready mixed concrete companies are small businesses. Cement and concrete product manufacturing, directly and indirectly, employs over 600,000 people in our country and contributes over \$100 billion to our economy.

NRMCA had the foresight in 2012 to initiate the process of developing an Environmental Product Declaration (EPD) program. We helped develop the Product Category Rule (PCR) for Concrete with input from many experts in Life Cycle Assessment and diverse interests outside the concrete industry as is required by the ISO standards. The PCR was published by a third party and reviewed by an independent panel. We published benchmarks for carbon footprint and other environmental impacts in 2014 that was verified and published by an independent third party, before any other product category. Other EPD Program Operators also verify concrete EPDs using the PCR for Concrete. All are held to the highest standard set in the PCR which includes third party, independent verifiers. The result is that there are over 60,000 EPDs for concrete, by far the largest of any product category.

Below are our comments and recommendations addressing the key questions CARB posed:



1. Definitions of “building material,” “building sector,” and “baseline”:

NRMCA generally supports CARB’s intent to clearly define these terms. However, the current definition of “building material” should explicitly include “composite materials and assemblies” to recognize how concrete and other materials are used in practice. Likewise, the “building sector” definition should delineate between primary product manufacturers and assemblers to avoid redundant reporting. The “baseline” definition must be transparent in its assumptions and methodology to ensure consistency in tracking reductions over time.

2. Feedback on Life Cycle Assessment (LCA) scope and system boundary for the baseline:

We support a cradle-to-gate (A1-A3) or cradle-to-jobsite (A1-A4) system boundary for the 2026 baseline, as this aligns with current North American Product Category Rules (PCRs) and the majority of existing Environmental Product Declarations (EPDs). Inclusion of later lifecycle stages (B1-C4) introduces high uncertainty and would require speculative assumptions beyond manufacturers’ control.

3. Acceptable cutoff year for historic data used in estimating the 2026 baseline:

To ensure representativeness and practicality, we recommend using EPD and LCA data from 2020–2024, with a preference for data no older than five years. Requiring “less than two-year-old” background data, as discussed in the workshop, is infeasible given data availability and the time-intensive process to generate EPDs.

4. Other models or platforms beyond USEEIO for estimating a top-down baseline:

We echo concerns raised by WAP Sustainability that USEEIO introduces high uncertainty, lacks product-level specificity, and creates misaligned incentives that penalize higher-value construction. If top-down modeling is pursued, CARB should complement USEEIO with EPD datasets, ISO 14040-based LCAs, and World Resources Institute’s “Sector Supplement for Measuring Embodied Emissions in the Built Environment” to ensure accuracy and actionability.

5. Data collection for chain-of-custody tracking:

CARB should work closely with existing platforms like Climate Earth or similar to facilitate supply chain transparency. However, requiring traceability across resale, retail, and wholesale tiers is infeasible for ready-mix concrete due to the high degree of project specificity and short delivery timelines.

6. Concerns about data reporting regulations

CARB’s proposal to require quarterly revenue and product quantity reporting alongside facility-specific EPDs is unprecedented and unworkable, especially for small producers and regionalized products like ready-mix concrete. EPDs are not updated quarterly, and primary/background data is often older than two years. Requiring this level of granularity would cost the concrete industry alone upwards of \$20 million annually, diverting resources from actual decarbonization work.



Instead, CARB should accept existing Type III EPDs and follow the International Standards Organization (ISO) standards and Product Category Rules (PCR) process, which are industry-accepted standards, avoiding the creation of California-only reporting frameworks that fragment the marketplace and sow confusion.

7. Timelines and alternative pathways:

Meeting the proposed 2026 timeline for full EPD reporting is highly ambitious. Even best-in-class producers require 12–18 months for EPD development and third-party review. We strongly encourage CARB to allow:

- A phased approach to reporting, starting with product categories already covered by Buy Clean California.
- Alternative reporting pathways that accept facility-level GHG data aligned with California's Mandatory Reporting Regulation (MRR), particularly for producers already regulated under SB 596.
- Use of industry-average or regional EPDs as interim measures.

8. Project-level Whole Building Life Cycle Analysis (WBLCA) reporting and delegation of responsibilities: CARB should clarify that project owners may delegate reporting to licensed architects or contractors, as allowed under Title 25 and Business & Professions Code. Basic Reporting and WBLCA scopes should be harmonized, and "project costs" should be excluded from required disclosures, as cost is not an ISO-14040 LCA input.

WBLCA thresholds and timelines should also account for project size and occupancy type. Multi-family and affordable housing developments in particular face severe feasibility constraints.

9. Standards and best practices for WBLCA:

CARB should align with existing PCRs and standards already recognized under LEED v5.0, CALGreen, and the WRI Sector Supplement. These frameworks balance precision and feasibility and are supported by the design and construction communities.



Conclusion and Recommendations:

To ensure CARB's embodied carbon strategy results in meaningful emissions reductions while maintaining housing affordability and industry viability, we recommend:

- Rejecting EEIO modeling for baseline and emissions reduction tracking in favor of LCA/EPD-based approaches
- Accepting existing PCR-aligned EPDs without new California-specific validity periods
- Setting practical exemption thresholds and flexible phase-in timelines
- Focusing regulation on project-level reporting, not raw material inputs already regulated under SB 596 or MRR

We welcome continued engagement and stand ready to support CARB's goals with actionable solutions grounded in data, industry experience, and sound environmental practices.

Sincerely,
Tiffany Reed-Villarreal, P.E., ENV SP
Director Sustainability Codes and Standards
National Ready Mixed Concrete Association (NRMCA)