



December 8th, 2025

Smart EPD team appreciates the opportunity to provide feedback on CARB's embodied carbon initiative. In drafting these comments, Smart EPD used [the slides from webinar presentation](#) and [the accompanying report](#).

In summary, our concerns related to this proposal include setting the baseline for product-specific activity-based LCA results using the spend-base data, unclear guidance for background data, and requirements that may compromise EPDs or create burden without adding more quality. Overall, the effort is positive, however it appears that it was developed by the team familiar with GHGP and much less so with LCA and EPDs. As a result, the proposed framework includes a mix of approaches that may introduce risks, compliance difficulties, and confusion in the market.

Our specific comments are elaborated as follows.

1. Spend-based approach to set baselines (Slide #10) is problematic in this context for several reasons.
 - The proposed approach is extremely crude because of the broad nature of NAICS codes. The entire US economy is divided into ~400 sectors that are broadly delineated and do not provide sufficient product or regional granularities which are critical for the construction materials.
 - This approach is typically used in corporate GHG accounting (mainly Scope 3.1.) where better data is not available and where the physical product parameters (mass, volume, etc.) are less available than purchases. Construction industry is a rare segment of the US economy where much more product-specific and granular data, including robust regional benchmarks have been developed over the past decade. As such, using highly generic and aggregated spend-based data for benchmarks is not only technically unjustified but also unnecessary.
 - Each NAICS code aggregates the mix of materials that flow through the US economy as a whole and does not differentiate between vertical and horizontal construction.
 - Spend-based methods are fundamentally different LCA approach compared to the process LCA and the differences in the results are often difficult to reconcile. Has the team checked how the proposed benchmarks compare with the results from EPDs?
 - With all spend-based approached, the cost is a major unknown and a critical variable- it can vary by a large margin based on the project type and the type of contracting. As such, the variability in the cost of materials will influence benchmarks whether the material in question has lower or higher emissions. For instance, there could be the case where cheaper materials from larger contracts are systematically favored because of their lower cost (constant spend based EF * lower cost= higher benchmark, higher emissions acceptable), which could disfavor small producers. Have such scenarios been investigated?
 - Using spend-based approach falsely assumes linear relationship between price and carbon footprint. This breaks down in practice: lower-carbon materials frequently cost more because they reflect cleaner production, innovation, or higher-quality ingredients. In such cases, higher cost corresponds with *lower* emissions, not higher.



With regards to the requirements on Slide #33:

2. "Primary data must be less than 2 years old."
 - This requirement may be problematic in practice. Requiring primary data to be no more than two years old creates unnecessary barriers without improving LCA quality. Many manufacturers need longer to consolidate operational data, and older datasets can still be fully representative when operations haven't changed. This requirement slows down EPD development, penalizes small and multi-site manufacturers, and exceeds what EPD standards actually call for.
 - ISO 21930 requires 12 consecutive months within the last 5 years. The rationale is to a) eliminate seasonal fluctuations and b) processes for these products do not change substantially year over year but if big changes are made (e.g. capital investment, etc.), EPD should be refreshed to reflect these changes.
 - Some POs (Smart EPD, included) conduct an annual review of EPDs and specify what type of changes would trigger the need for EPD to be republished. Examples include changes in product composition, technological and operational changes, etc. If these conditions are not met, the EPD validity within the initial 5-year timeline is still acceptable. Such guidance can be found in POs General Program Instructions (GPIs).
 - It is important to note that the facility-specific primary data in the case of EPDs is allocated per product produced (as opposed to GHGP requirements where it is reported for the whole facility and not allocated per product). As such, emissions in stage A3 per product scale with the production quite consistently year over year, unless the technological changes are made.
3. Primary emissions data must be measured and calculated using methodology consistent with MRR or GHGRP.
 - Our best understanding is that these are meter readings, utility bills and such, which are commonly used as primary data sources that support EPDs. It would be beneficial to provide additional information to be able to ensure that the requirements are met.
4. Emissions factors must be harmonized with emissions factors accepted by CARB for reporting and accounting.
 - This requirement should be elaborated further and is potentially problematic. Our best understanding is that the emission factors accepted by CARB are aligned with typical data sources for GHG reporting which is US EPA & IPCC. However, LCA is an underlying methodology for EPDs and it uses LCI data as a basis. Are the LCI databases typically used for EPDs considered harmonized or not (e.g. US LCI, ecoinvent, etc.)?
 - LCA and corporate GHG accounting are fundamentally two different methodologies that have different purposes and use different data. For example, data for GHG accounting typically separates direct emissions (e.g. tailpipe emissions for vehicles) from upstream emissions (e.g. wheel-to-wheel for vehicles), the latter category being reported in the Scope 3.3. LCA analyses on the other hand always includes



upstream emissions (full cradle-to-gate). It is unclear how these differences are treated.

- Data for corporate GHG accounting includes only direct emissions and only emissions of greenhouse gases, whereas LCIs include the entire chemical inventories associated with the production of each material. How are users expected to achieve compliance? Should they just apply CARB-approved direct emissions of greenhouse gases and leave the rest of LCI data intact? Does that compromise the integrity of the LCI data? Have any differences been checked and evaluated?

Requirements on Slide #34:

5. "In the case of co - products, physical and economic allocation results must be disclosed."
 - It is unclear what is meant by the results of allocation. If a specific allocation method is applied, the results of it are disclosed on an EPD. What specific results is this guidance referring to?
 - Additionally, this guidance is potentially very confusing. The PCRs prescribe the allocation methodology. Reporting results according to two different allocation pathways is very confusing for the EPD user. Typically, allocation sensitivities are conducted and reported in the underlying LCA that is used to support an EPD. There's also the question as to where this information would be reported in the EPD. ISO 14025 states in Section 7.2.3 Additional environmental information "A Type III environmental declaration shall include, where relevant, additional information related to environmental issues, other than the environmental information derived from LCA, LCI or information modules [see 6.7.1 f)]. This information shall be separated from the information described in 7.2.2."
 - ISO 21930 provides further clarification in Section 8.1, Additional LCA related information not included in the pre-set LCIA indicators. Requiring multiple results for multiple allocation scenarios induces the risk of EPDs not being compliant to PCR or ISO 21930. This requirement must be clarified further and reconciled with the existing standards.
6. CARB's characterization of PCRs and EPDs landscape in Table 10 and Appendix of [the report](#) is overly broad, internally inconsistent, and somewhat anecdotal .
 - The document criticizes PCRs for being insufficiently prescriptive while simultaneously suggesting the GHG Protocol Product Standard as an alternative, despite explicitly acknowledging that GHGP is *more flexible* and allows companies to choose their own methodologies. This directly undermines CARB's stated concerns about comparability and rigor.
 - What the report is lacking is the structured evaluation of the specific PCRs in question, as opposed to generalized characterization. Such comparisons are available in a lot of recent literature and should be explored and leveraged to support this program and recommend targeted improvements. There is no reference to any of the literature on EPDs or any specific PCRs in this report.



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- Many of the concerns raised (data vintage, chain of custody, treatment of attributes) are solvable through targeted requirements and work with POs and PCR committees (and are already addressed in many PCRs, especially for Phase 1 materials that have more mature programs), rather than dismissing the EPD framework. Meanwhile, the draft omits the far more serious methodological risks associated with the proposed spend-based baseline which introduces uncertainty that may exceed what is found in product- and facility-specific EPDs. A constructive path forward would leverage the existing rigor of EPD programs, supplemented where needed with CARB-specific requirements, rather than relying on less prescriptive system that is not designed for product-level comparability.