

April 14, 2025

California Air Resources Board 1001 | Street, Sacramento, CA 95814

Re: Comments on Manufacturer Reporting Regulation Proposed During Workshop on Building Embodied Carbon (March 13, 2025)

Dear Embodied Carbon Team,

Nucor is the largest steel and steel products manufacturer in the United States and the largest recycler in North America. For over half a century, environmental stewardship and sustainability have been ingrained in every facet of our operations. Nucor stands as one of the world's most sustainable steel producers, with greenhouse gas (GHG) emissions measuring less than one-half of the global average and a mere one-third of the average extractive steel producer.

As a leader in sustainability, Nucor commends the California Air Resources Board (CARB) for its efforts to assess the embodied carbon of building materials used in the state and support the development of comprehensive strategies to reduce greenhouse gas emissions. Representatives from Nucor participated in the March 13th Building Embodied Carbon Workshop, during which CARB presented a proposed manufacturing reporting regulation that would directly impact manufacturers like Nucor. We appreciate the opportunity to provide our feedback and offer the following comments for consideration.

1. Quarterly reporting, including quantifying the amount of steel sold into California, could pose significant challenges for many manufacturers.

With twenty-six steel mills and over one hundred steel fabrication centers across the country, including facilities in California, Nucor manufactures a wide range of products such as rebar and joists. Many of these divisions sell directly to the customer, fabricator or supply service centers that ultimately sell to projects within the state. It is challenging to accurately provide product quantities as once the steel is sold, its ultimate use and destination are no longer within Nucor's control and, therefore, not tracked. Aggregating comprehensive data on sales and determining the final destination would be extremely difficult.

Furthermore, steel for construction projects is often not sold directly from manufacturers to project sites. While Nucor may bid on projects directly, much of the steel is sold to contractors or service centers that act as intermediaries. These service centers store and distribute steel to various end users. Even if steel is sold to a service center located within California, there is no certainty that it will remain in the state. Given these complexities, Nucor believes that quarterly reporting would present significant challenges for manufacturers due to the extensive data tracking and aggregation required. It could become unfeasible if manufacturers like Nucor were held responsible for quantifying the total steel sold to service centers that may eventually supply projects in California. Given these considerations, quarterly reporting would likely impose a significant burden on many manufacturers and present substantial challenges.

2. CARB's primary objective is to establish a comprehensive embodied carbon baseline for the state of California.

Nucor understands that CARB's primary objective with mandatory manufacturer reporting is to establish a comprehensive 2026 baseline for the embodied carbon of building materials in California. Since this is a one-time baseline assessment, a single set of data should be sufficient to meet this goal.



To minimize the reporting burden, Nucor recommends that CARB explore alternative data collection methods instead of quarterly reporting. One effective option could be a one-time mandatory data request. A relevant example is the recent U.S. International Trade Commission (USITC) investigation.¹ The USITC conducted a single assessment, requiring steel and aluminum manufacturers to submit 2022 data to establish a U.S. embodied carbon baseline. CARB should consider a similar approach by issuing a one-time questionnaire to all building product manufacturers to calculate the 2026 baseline. This method would yield comparable results to quarterly reporting without creating an undue administrative burden. Additionally, trade associations such as the Steel Manufacturers Association (SMA), American Institute of Steel Construction (AISC) and Concrete Reinforcing Steel Institute (CSRI) work directly with steel manufacturers to consistently update industry averages. Nucor encourages CARB to work with these organizations where many of the U.S. steel manufacturers actively provide data.

3. Collecting revenue data does not appear to be necessary and may prove unreliable for its intended purpose.

As part of the proposed manufacturer reporting regulation, CARB has suggested collecting revenue data. Nucor questions the necessity of including this metric in the mandatory reporting requirements. Since the primary objective of CARB's assessment is to establish baseline embodied carbon emissions in California, the most relevant data points for this purpose are the quantity of steel sold into the state and the embodied carbon of that steel.

Nucor acknowledges that revenue could potentially be used to determine the reporting threshold for manufacturers. However, since this regulation relates to embodied carbon, which is more closely tied to physical quantity rather than revenue, it may be more logical to base this threshold directly on the quantity of building materials. Additionally, it was noted during discussions that revenue data could be used to develop spend-based factors for certain building materials. This approach may be unreliable due to the significant variation in revenue across different products. This is particularly true for low-carbon products, which often carry a premium. Using revenue could distort any attempt to create an accurate spend-based factor for a specific raw material. For these reasons, Nucor recommends that CARB focus on collecting data related to material quantities and embodied carbon, rather than revenue metrics.

4. CARB should include the collection of embodied carbon data from international manufacturers.

The U.S. steel industry is among the cleanest in the world, largely due to its widespread use of EAFs, which are more environmentally friendly than traditional blast furnaces. Thanks to the country's abundant supply of scrap metal, EAFs now dominate domestic steel production, creating a more circular and sustainable process. According to the recent USITC report, EAFs account for 69% of U.S. steel manufacturing, compared to the global average, where blast furnace-based steel production still comprises 71% of total output.²

Given this disparity, it is essential that CARB collect embodied carbon data from international manufacturers. While the U.S. produces some of the lowest-emission steel, higher-carbon steel from international sources can significantly increase overall emissions, particularly in sectors reliant on steel products. To ensure an accurate assessment of embodied carbon and its sources, Nucor strongly

¹ <u>USITC Releases USTR-Requested Report on U.S. Aluminum and Steel Emissions Intensities | United States</u> <u>International Trade Commission</u>

² World-Steel-in-Figures-2024.pdf



recommends that CARB establish effective methods to gather and analyze data from international manufacturers.

5. CARB should accept Environmental Product Declarations (EPDs) in all forms, as they provide some of the most comprehensive and reliable embodied carbon calculations available.

During the second embodied carbon workshop, CARB proposed that EPDs would only be accepted if they met certain standards, including requiring all EPDs and relevant background data to be less than two years old. If an EPD did not meet this requirement, a facility would be required to submit energy and material data to estimate an embodied carbon value. Nucor believes this approach would create unnecessary challenges and recommends that CARB accept all valid, verified EPDs in their existing format.

EPDs are widely recognized as one of the most reliable and accurate methods for assessing embodied carbon. U.S. manufacturers follow strict product category rules (PCRs) that ensure consistency and accuracy across all steel EPDs. These rules mandate rigorous verification processes, further supporting the reliability of EPDs. Given their reliability and the established industry consensus regarding their accuracy, CARB should fully rely on EPDs for embodied carbon calculations.

The development of EPDs is both time-consuming and costly. According to an international survey, the cost of creating a single EPD ranges from \$13,000 to \$41,000. Nucor currently maintains EPDs for 60 of its facilities. Requiring updates every two years would impose a substantial financial and administrative burden on manufacturers. The current five-year expiration period for EPDs is a reasonable timeline that balances the need for up-to-date information with the practical challenges of frequent updates.

Lastly, the requirement for EPDs to include background data that is less than two years old is impractical. Most EPDs rely on secondary data, such as Scope 3 emission factors, which are developed by companies like Sphera or EcoInvent. These datasets are not often updated on a two-year cycle, meaning manufacturers would lack the necessary data to comply with CARB's proposed timeline. Without these secondary data sources, it would be impossible for manufacturers to generate accurate and compliant EPDs.

Nucor strongly encourages CARB to accept EPDs in their existing format. Specifically, CARB should allow the use of EPDs that comply with the most recent PCR requirements, have been properly verified, and remain within their current five-year expiration period.

Nucor remains an industry leader in sustainability and supports efforts to enhance transparency in sustainability data. We appreciate the opportunity to provide feedback and would welcome the chance to serve as a resource throughout the development of these regulations.

If you have any questions regarding our comments or require additional information, please feel free to contact us at amari.jones@nucor.com.

Sincerely,

Amari Jones Scriven Manager of Corporate Sustainability Nucor Corporation