IRA Accelerates Low-Carbon Building Products

EPA shares its plan for a low-embodied-carbon labeling program, funded by the Inflation Reduction Act.

by Elizabeth Waters

Federally funded projects are responsible for as much as a third of all U.S. construction emissions, estimates the General Services Administration (GSA) Green Building Advisory Committee.

As one piece of a comprehensive strategy to reduce this impact, the Environmental Protection Agency (EPA) is creating a labeling program to drive private sector development and demand for lower-embodied-carbon construction materials. The program is funded by $100 million allocated to EPA through the Inflation Reduction Act (IRA) Section 60166.

Last month, the agency issued its program *Implementation Approach*. EPA explains that it will focus first on the most-used materials with the highest embodied carbon: asphalt, concrete, glass, and steel. And, at least for now, it will evaluate only their cradle-to-gate, or production stage, emissions (raw material extraction, transport of material to manufacturing facility, and manufacturing).

EPA plans to use a phased approach to this program, outlined below, which will apply to all material categories.

Phase I: Data Quality Improvement

To be eligible for a lower-carbon label, products must have an environmental product declaration (EPD) that adheres to North American product category rules (PCRs), the quality of which EPA acknowledges needs improvement. So before awarding any labels, EPA will evaluate the robustness of every PCR, assessing them against its newly developed PCR Criteria.

The agency expects to complete assessments for the priority construction materials by fall of 2024 and will list qualifying PCRs on its Embodied Carbon Construction Materials Program website.

Simultaneously, through a complimentary IRA provision (Section 60112), EPA will be providing financial and technical EPD development assistance to manufacturers of construction products and to states, Tribes, and nonprofits that support them. In July, the agency awarded the first $160 million of its $250 million of available funding to 38 organizations working on developing and standardizing EPDs.

Recipients include universities, trade associations such as the National Ready-Mixed Concrete Association, and individual product manufacturers. The International Living Future Institute received funds to create a program for EPDs modeled on Declare, and the Building Materials Re-Use Association is working with several partners to create EPDs for salvaged materials.

Phase II: Threshold Setting

Once a PCR passes the muster of the first phase, EPA will determine the embodied carbon threshold for the material category it applies to. Products will be measured against this threshold in Phase III and receive a “good” (meets EPA thresholds), “better,” or “best” (on the cutting edge) designation. The

agency estimates that it will take 6 to 18 months to develop a threshold for a product type.

Phase III: Labeling Materials and Products

Once EPA sets an embodied carbon threshold for a product type, manufacturers will be able to submit EPDs for products within the category for evaluation. If criteria are met, the product—and its EPD—will be added to a publicly accessible online registry of all labeled products and materials. According to EPA, users will likely be able to sort products in the registry by material category, product type, threshold tier, region, EPD verifier, and other factors. The agency also notes that, as with EPDs, the database will enable comparisons between products of similar types only. EPA expects the labeling process for a given product to take six months to a year.

Some companies aren't waiting for the thresholds to release "low-embodied-carbon" versions of their products. ClarkDietrich began marketing low-embodied-carbon steel studs, made entirely from electric arc furnace steel, in March 2024. And in April, Armstrong World Industries released Ultima LEC, a new product within its popular Ultima ceiling tile family made with biochar.

Across the IRA, the Infrastructure Investment and Jobs Act, and initiatives like the Federal Buy Clean Initiative, the Biden Administration has created a suite of intersecting goals and incentives for the federal government to purchase construction materials with lower-embodied carbon. Many states, cities, local municipalities, and companies are also setting lower-embodied-carbon material procurement targets. As demand for such materials grows, EPA's labeling program will help ensure such products are available and verified.

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