

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460



DEPUTY ADMINISTRATOR

DEC 22, 2022

Mr. Andrew Wishnia
Deputy Assistant Secretary for Climate Policy
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Mr. Kevin Kampschroer
Chief Sustainability Officer and Director of the Office of Federal
High-Performance Green Buildings
U.S. General Services Administration
GSA Building
800 F Street, NW
Washington, D.C. 20405

Dear Messrs. Wishnia and Kampschroer:

Under the Inflation Reduction Act Sections 60503 and 60506, the Department of Transportation Federal Highway Administration and the General Services Administration are appropriated funds to spend on materials and products “that have substantially lower levels of embodied greenhouse-gas emissions associated with all relevant stages of production, use and disposal as compared to estimated industry averages of similar materials or products, as determined by the Administrator of the U.S. Environmental Protection Agency.”

The EPA is issuing this interim determination¹ to provide your agencies with actionable determinations on selecting materials and products that meet the standards of Sections 60503 and 60506, which will reduce greenhouse-gas emissions of federally funded building, infrastructure and construction projects, with a particular emphasis on reducing major industrial emissions from production² of U.S. construction

¹ The EPA expects that its determination may evolve as the EPA gains a better understanding of the relevant industry averages and develops better methodologies for assessing what materials and products embody “substantially lower” greenhouse-gas emissions. At the same time, the EPA acknowledges that your agencies must enter binding contracts and anticipates that any revisions to this determination will apply only prospectively to contracts awarded after any new or revised determination is issued. This determination does not govern, bind or limit any potential future EPA standards or programs on low-embodied, greenhouse-gas materials or EPDs and should not be construed to direct subnational jurisdictions’ Buy Clean policies.

² In this determination the EPA is prioritizing materials/products that have the highest global-warming potential impact in the *production* stage. The EPA recognizes that the IRA also directs it to consider the embodied greenhouse-gas-emissions impacts related to the use and disposal stages and that there are significant climate mitigation opportunities in taking these stages into account. The EPA is prioritizing the production stage in this interim determination due to data availability in

materials and products. This interim determination will support your agencies in quickly beginning to use IRA resources to meet our mutual goals and will help the EPA glean lessons for the EPA's IRA program development. The EPA may also share this determination with other agencies in the interest of supporting consistency on interpreting "low-embodied, greenhouse-gas emissions" materials and products across the IRA.

For purposes of this interim determination, based on best available information,³ the EPA interprets "substantially lower" as meaning a global-warming potential that is in the best performing 20 percent (Top 20 percent or lowest 20 percent in embodied greenhouse-gas emissions), when compared to similar materials/products. If no materials/products in the Top 20 percent are available in a project's location, then a material/product qualifies for funding under IRA section 60503 or 60506 per this interim determination if its GWP is in the Top 40 percent (lowest 40 percent in embodied greenhouse-gas emissions). If materials/products in the Top 40 percent are not available in a project's location, then a material/product qualifies for funding under IRA section 60503 or 60506 per this interim determination if its GWP is better than the estimated industry average. Additionally, providers of qualifying materials/products are required to report the supplying plant's ENERGY STAR Energy Performance Score where an Energy Performance Indicator is available.

The EPA's interim determination on those materials/products "that have substantially lower levels of embodied greenhouse-gas emissions associated with all relevant stages of production, use and disposal as compared to estimated industry averages of similar materials or products" is presented in more detail below. This interim determination is effective as of the date of this letter.

Sincerely,
/s/ Janet G. McCabe
Janet G. McCabe

EPDs and production's outsized embodied greenhouse gas-emissions impact when compared to the use and disposal stages of the construction product lifecycle. Later phases of this work will consider how best to accommodate a broader range of materials/products and life cycle stages.

³ The EPA conducted an initial review of state and other entities' approaches to addressing embodied carbon. The EPA also conducted a review of the GWPs of available EPDs for asphalt, concrete, glass and steel. The EPA selected the "waterfall" quintile approach in this interim determination to allow projects to proceed using IRA funds for materials and products, while ensuring that those materials and products have substantially lower embodied carbon consistent with Congressional intent. The EPA plans to publish this supporting analysis on our website in the coming months.

Purchase Categories	Justification	Interim Determination
<p>Newly Manufactured Construction Materials:</p> <ul style="list-style-type: none"> -Concrete (and cement) -Glass (including, but not limited to, flat/float glass, processed glass, and insulated glazing units) -Asphalt mix -Steel (including, but not limited to, hot rolled sections, plate, hollow structural sections, steel reinforcing bars/rebar, cold formed steel framing and steel joists) -Assemblies comprised of at least 80 percent of materials that qualify 	<p>Based on the EPA’s initial review of state and local Buy Clean approaches and other research to-date, these materials offer the most significant opportunities to lower the embodied greenhouse-gas emissions of federal construction projects. EPDs and EPSs, are sufficient data sources to ensure compliance with Sections 60503 and 60506.</p>	<p>These materials/products qualify if their product-specific GWP is in the best performing 20 percent (Top 20 percent or lowest 20 percent in embodied greenhouse-gas emissions), when compared to similar materials/products (for example, materials/products within the same product category that meet the same functional requirements). If materials/products in the Top 20 percent are not available in a project’s location, then a material/product qualifies per this determination if its GWP is in the Top 40 percent (lowest 40 percent in embodied greenhouse gas emissions). If materials/products in the Top 40 percent are not available in a project’s location, then a material/product qualifies per this determination if its GWP is better than the estimated industry average.⁴</p> <p>To determine whether a specific material/product qualifies under the EPA’s interim determination, above, an agency must determine both the material/product-specific GWP and estimate the Top 20 percent (or Top 40 percent) and the industry average.</p> <p><u>Identifying the material/product-specific GWP.</u></p> <p>Environmental Product Declaration. A facility-specific, material/product-specific cradle-to-gate Type III (third-party verified) EPD is required that (i) is based on the PCR for the applicable product category that was active when the EPD was issued, and (ii) conforms with ISO 14025 and ISO 21930. When an EPD with facility-specific data is not available, for this interim determination, EPDs consistent with (i) and (ii) but not using facility-specific data are sufficient. EPDs must also be based on supply chain-specific data for the associated unit processes, where feasible. For example:</p> <ul style="list-style-type: none"> ● Concrete EPDs must, where available, rely on facility specific data for the upstream cement plant; ● Fabricated steel EPDs must, where available, rely on facility specific data for the upstream steel mill(s); and,

⁴ Where materials/products with GWPs that meet the Top 20 percent or Top 40 percent are currently not available at a particular IRA-funded job site, unavailability shall be documented explaining how materials/products were searched for and how the selected materials/products were validated to have a GWP better than the industry average for the applicable product category and region. Such documentation must be approved in writing by regional management (implementation team executive oversight) and central office (national technical subject matter experts) within your agency.

<p>under this determination, by total cost or total weight.</p>	<ul style="list-style-type: none"> ● Processed glass EPDs must, where available, use facility specific data for the upstream glass plant. <p>When an EPD containing upstream supply chain-specific data for the most greenhouse-gas-intensive processes is not available, for this determination, EPDs without such data are sufficient.</p> <p><u>Estimating the best performing 20 percent and 40 percent and industry averages.</u></p> <p>Agencies shall estimate the GWP at the 20th and 40th percentiles and the industry average, as needed, for each material/product category using data from a verified source (e.g., an open source EPD database, industrywide EPDs or a 3rd party-verified LCA developed using the relevant PCR). In addition, agencies shall disclose the GWPs, the methodology for determining the percentiles and averages, the source(s) used for each material/product, and the parameters (including performance specification) that can be used to set the GWP.</p> <p>Agencies that use an industrywide EPD or LCA to determine the industry average GWP shall use a currently valid publicly available Type III industrywide EPD or a 3rd party-verified LCA developed using the relevant PCR. The EPD or LCA and PCR must have the same geographic region. At the time of publishing, the following industrywide EPDs and LCA that should be used for U.S.-manufactured materials include, without limitation:</p> <ul style="list-style-type: none"> ● Concrete: <u>Cradle-to-Gate Life Cycle Assessment of Ready-Mixed Concrete Report – Version 3.2 analysis (July 2022)</u>, regional benchmarks. ● Steel: <ul style="list-style-type: none"> ● Hot Rolled Steel Sections: <u>AISI Fabricated Hot-Rolled Steel Section EPD (January 2021)</u> ● Steel Plate: <u>AISI Fabricated Steel Plate EPD (January 2021)</u> ● Hollow Structural Steel Sections: <u>AISI and STI Fabricated Hollow Structural Steel Section EPD (January 2022)</u> ● Concrete Reinforcing Steel: <u>CRSI Steel Reinforcement Bar EPD (September 2022)</u> ● Steel Framing: <u>Steel Framing Industry Association Cold-Formed Steel Framing EPD (May 2021)</u> ● Steel Joists: <u>Steel Joist Institute Open Web Steel Joists and Joist Girders EPD (January 2022)</u> ● Flat Glass: <u>ASTM International Flat Glass EPD (December 2019)</u>
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		<p><u>Additional reporting requirement regarding upstream manufacturing plants.</u> Report ENERGY STAR Energy Performance Score(s)⁵ for all plants in the supply chain for a specific construction product within the year of product purchase for which an ENERGY STAR Energy Performance Indicator for the product purchase category is available. At this time, EPI availability is as follows:</p> <ul style="list-style-type: none"> ● Cement: EPI is available ● Flat/float glass: EPI is available ● Steel: EPI is available for steel produced in an integrated steel (not an electric arc furnace) mill. ● Asphalt mix plants: EPI is expected to be available by September 2023. The EPA will notify of availability.
<p>Minimally processed salvaged and reused materials/products and associated services: -any construction materials/products salvaged and reused onsite or in other regional projects -salvaged and reused materials/products from external vendors Note: This category of materials is not referring to recycled content in manufactured materials/products.</p>	<p>Reuse maintains products largely in their original form and takes advantage of embodied greenhouse-gas emissions, resources and other impacts already incurred in the production of the original products.</p> <p>Reuse offers significant potential for lowering embodied</p>	<p>The EPA has determined that salvaged and reused materials/products from onsite and/or within the project region qualify under the requirements of sections 60503 and 60506, if your agency provides an estimate of the avoided embodied greenhouse-gas emissions based on the typical newly manufactured alternative the materials/products are replacing.</p>

⁵ The EPS is produced by the relevant ENERGY STAR Energy Performance Indicator tool for the product purchase category. The EPS and the reporting period of the underlying data must be provided for the manufacturing plant in which the material/product or constituent upstream material/product was manufactured. The score can be provided in the EPD or separately through the Statement of Energy Performance from the relevant EPI.

	greenhouse-gas emissions.	
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