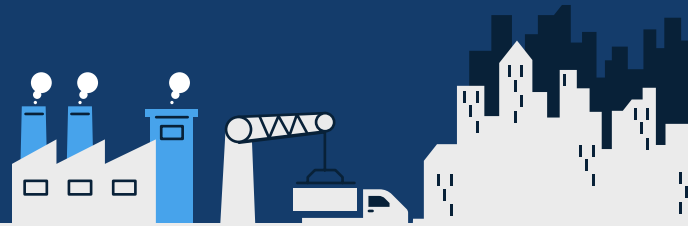


# What is the EPA Interim Determination?

## Background

Section 60506 of the Inflation Reduction Act of 2022 (IRA) appropriates funding to FHWA to reimburse or provide incentives to eligible recipients for the use of construction materials and products with “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 Environmental Protection Agency.” On December 22, 2022, the U.S. Environmental Protection Agency (EPA) issued an Interim Determination to provide guidance to FHWA’s Low Carbon Transportation Materials Grants (LCTM) Program that identified:

- Material/product categories that are eligible for funding.
- Relevant life-cycle stages to consider when qualifying the Global Warming Potential (GWP)<sup>1</sup> of materials/products.
- Criteria for substantially lower levels of embodied greenhouse gas emission (GHG).
- Tools for reporting materials GWP and energy efficiency.



## Which materials/products are eligible for funding?

The following construction materials are eligible for LCTM and other applicable Federal-aid programs funds:



Asphalt mixtures.



Concrete (and cement).



Steel (including, but not limited to, hot rolled sections, plate, hollow structural sections, steel reinforcing bars/rebar, cold formed steel framing and steel joists).



Glass (including, but not limited to, flat or float glass, processed glass, and insulated glazing units).

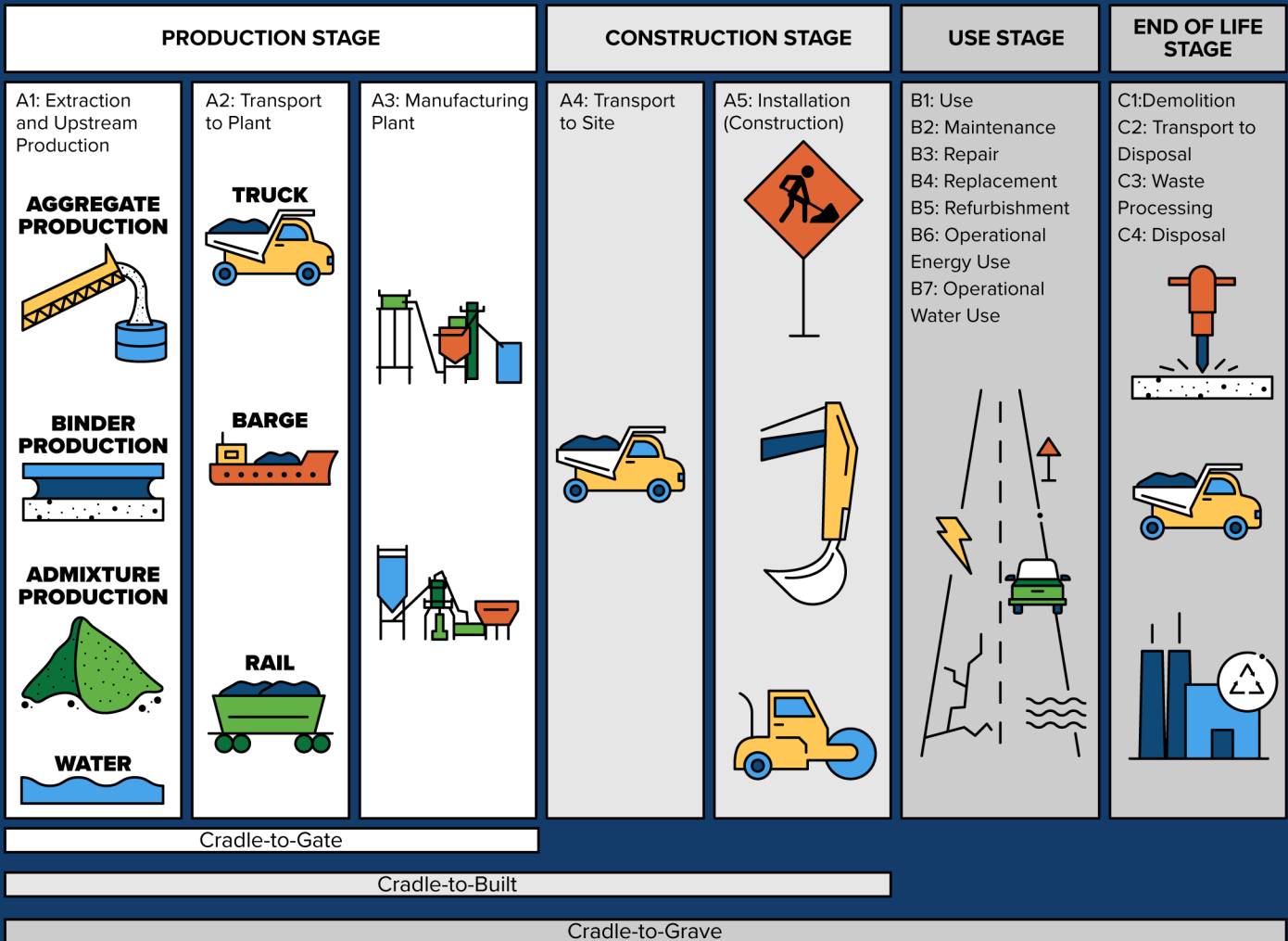


Assemblies comprised of at least 80 percent of materials that qualify under this determination, by total cost or weight.

# Which life cycle stages should be considered when qualifying the GWP of materials/products?




EPA prioritizes materials and products that historically have had the highest climate impact in the production life cycle stage A1-A3<sup>2</sup> (commonly referred to as cradle-to-gate), in line with the broader Federal Buy Clean Initiative.

## Common Life Cycle Stages and Informational Modules for Asphalt/Concrete Pavement Systems



THE **U.S. MANUFACTURING SECTOR** IS RESPONSIBLE FOR NEARLY **33%** OF U.S. GHG EMISSIONS

PRODUCTION OF STEEL, CONCRETE, ASPHALT, AND FLAT GLASS ACCOUNT FOR **NEARLY HALF** OF U.S. MANUFACTURING GHG EMISSIONS

-  Asphalt Mixture
-  Concrete
-  Glass
-  Steel

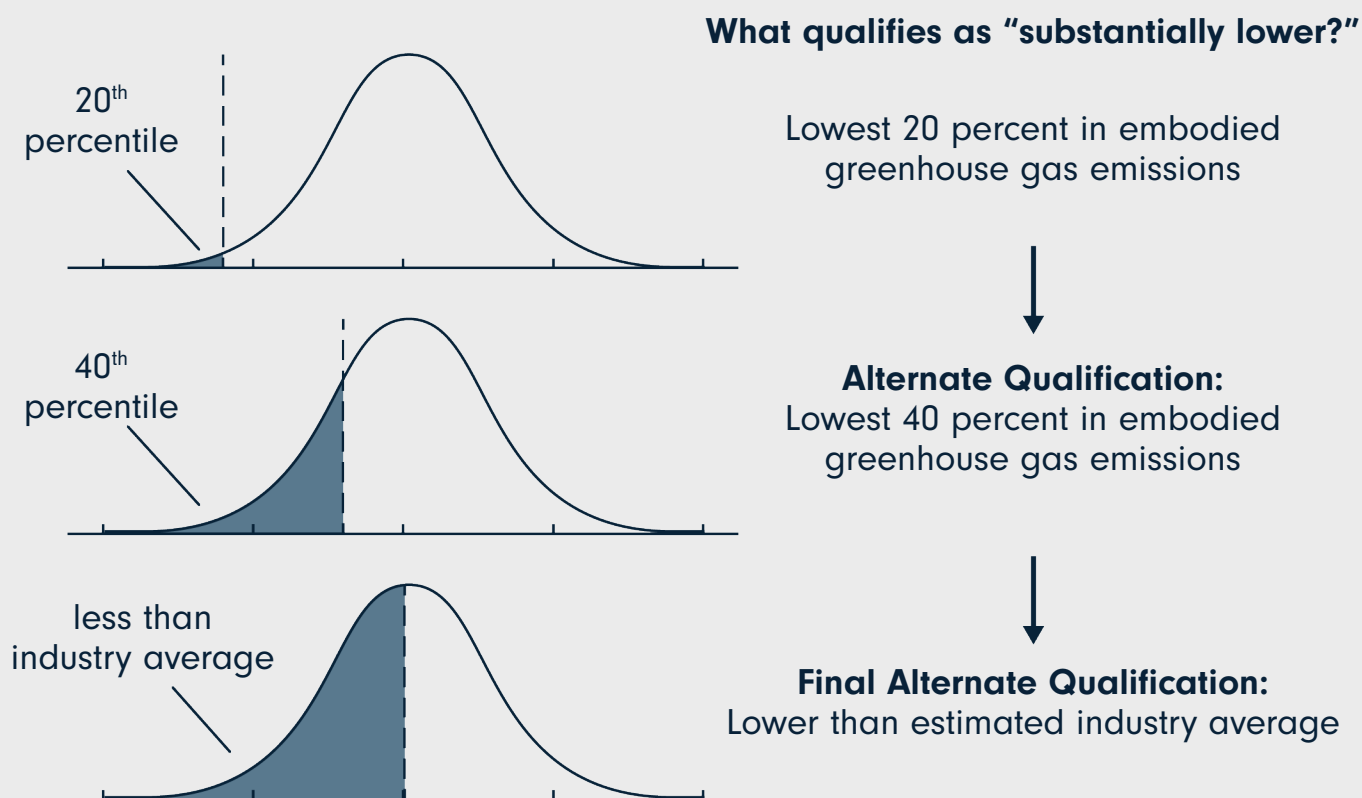


Data source: <https://www.sustainability.gov/buyclean/index.html#why>

## What are the criteria for substantially lower levels of embodied GHG emissions?

The EPA's Interim Determination interprets "substantially lower" as:

A GWP, based on an environmental product declaration (EPD),<sup>3</sup> that is in the best performing 20<sup>th</sup> percentile (lowest 20<sup>th</sup> percentile in embodied GHG emissions) when compared to similar materials/products.<sup>4</sup>



The EPA's Interim Determination also states that:

- If no materials/products in the top 20<sup>th</sup> percentile are available in a project's location,<sup>5</sup> then a material/product qualifies for funding if its GWP is in the top 40<sup>th</sup> percentile (lowest 40<sup>th</sup> percentile in embodied GHG emissions).
- If materials/products in the top 40<sup>th</sup> percentile are not available in a project's location, then a material/product qualifies for funding if its GWP is better (lower) than the estimated industry average.
- Where materials/products with GWPs that meet the top 20<sup>th</sup> percentile or top 40<sup>th</sup> percentile are not available at a particular project's location, this unavailability shall be documented explaining how these 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.<sup>6</sup>

When establishing the GWP percentiles for similar materials/products, data from verified sources<sup>7</sup> shall be used. 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 thresholds.

# Which reporting tools are required to qualify the GWP and energy efficiency?



To qualify, the material/product needs to have a cradle-to-gate Environmental Product Declaration (EPD). The EPD shall be facility- and material/product-specific and shall comply with the Product Category Rule (PCR)<sup>9</sup> for the applicable

product category when the EPD was issued, in accordance with ISO 14025 and ISO 21930. Also, for plants in the supply chain with an available ENERGY STAR Energy Performance Indicator for the material/product category, the most current ENERGY STAR Score shall accompany the EPD submittal.<sup>10</sup>

## LCTM Qualification of Materials for Construction

- Material/product is from an eligible material category.
- Material/product has a product- and facility-specific cradle-to-gate Type III EPD.
- GWP is lower than the applicable threshold.
- Material suppliers provide applicable upstream manufacturing plant's ENERGY STAR Score.

## FHWA Efforts on Setting GWP Threshold Values

FHWA has engaged with relevant industry stakeholders to obtain the GWP information data for the 20<sup>th</sup> and 40<sup>th</sup> percentiles and industry average for similar materials/products from four eligible material categories (i.e., concrete, glass, asphalt mixture, and steel) in accordance with the December 22, 2022, EPA Interim Determination. An agency may reference industry-published GWP data as shown on the LCTM website.<sup>8</sup> Eligible LCTM recipients may use FHWA established threshold values or develop local/regional threshold values to identify qualified materials for LCTM.

*Except for the statutes and regulations cited, the contents of this document do not have the force and effect of law and are not meant to bind the States or the public in any way. This document is intended only to provide information regarding existing requirements under the law or agency policies.*



# Footnotes and References

- <sup>1</sup> The term “GWP” is used in EPDs, PCRs, and Buy Clean policies for construction products as an impact category to report on embodied GHG emissions (per ISO 21930:2017, Section 7.3, Table 5). In the ISO context “GWP” is conveyed in CO<sub>2</sub>e/unit of product/material to denote the product level GHG emission Intensities. It is to be noted that this usage is inconsistent with how GWP is defined by the Intergovernmental Panel on Climate Change (IPCC) and in other GHG accounting efforts, including national reporting by Parties to the Paris Agreement. Per IPCC, GWP is an index measuring the radiative forcing following an emission of a unit mass of a given substance, accumulated over a chosen time horizon, relative to that of the reference substance, carbon dioxide (CO<sub>2</sub>).
- <sup>2</sup> Although EPA indicates that its Determination may evolve to include the use and disposal stages, they are not the scope of the current determination on selecting low embodied carbon materials. In the event of an update EPA has acknowledged “...that any revisions to this determination will apply only prospectively to contracts awarded...”
- <sup>3</sup> EPD refers to an environmental declaration providing quantified environmental data using predetermined parameters and, where relevant, additional environmental information. ISO 14025:2006. To learn more about EPDs please refer to [FHWA-HIF-21-025 Tech Brief: Environmental Product Declarations: Communicating Environmental Impact for Transportation Products](#).  
Link: <https://www.fhwa.dot.gov/pavement/sustainability/hif21025.pdf>
- <sup>4</sup> Similar materials/products are defined as materials/products within the same product category (i.e., concrete, glass, asphalt mixture, or steel) that meet the same functional (i.e., performance) requirements. Product category refers to a group of construction products, construction elements, or integrated technical systems that can fulfill equivalent functions. ISO 14025:2006.
- <sup>5</sup> Project location is the actual project site (where materials are placed). However, recipients shall define the coverage area for the project’s location (i.e., vicinity/region) ([EPA Interim Determination Footnote 4](#)).  
Link: [https://www.epa.gov/system/files/documents/2023-01/2022.12.22%20Interim%20Determination%20on%20Low%20Carbon%20Materials%20under%20IRA%2060503%20and%2060506\\_508.pdf](https://www.epa.gov/system/files/documents/2023-01/2022.12.22%20Interim%20Determination%20on%20Low%20Carbon%20Materials%20under%20IRA%2060503%20and%2060506_508.pdf)
- <sup>6</sup> Recipients shall establish a process to document and approve the use of materials if using better than average threshold values to qualify materials products. EPA requires that such approvals “must be approved in writing by regional management (implementation team executive oversight) and central office (national technical subject matter experts) within your agency” ([EPA Interim Determination Footnote 4](#)).  
Link: [https://www.epa.gov/system/files/documents/2023-01/2022.12.22%20Interim%20Determination%20on%20Low%20Carbon%20Materials%20under%20IRA%2060503%20and%2060506\\_508.pdf](https://www.epa.gov/system/files/documents/2023-01/2022.12.22%20Interim%20Determination%20on%20Low%20Carbon%20Materials%20under%20IRA%2060503%20and%2060506_508.pdf)
- <sup>7</sup> EPA provided the following examples for verified data sources: an open source EPD database, industrywide EPDs or a 3rd party verified LCA developed using the relevant PCR ([EPA Interim Determination Section Estimating the best performing 20 percent and 40 percent and industry averages](#)).  
Link: [https://www.epa.gov/system/files/documents/2023-01/2022.12.22%20Interim%20Determination%20on%20Low%20Carbon%20Materials%20under%20IRA%2060503%20and%2060506\\_508.pdf](https://www.epa.gov/system/files/documents/2023-01/2022.12.22%20Interim%20Determination%20on%20Low%20Carbon%20Materials%20under%20IRA%2060503%20and%2060506_508.pdf)
- <sup>8</sup> FHWA anticipates referencing industry-published reports and establish acceptable threshold values for the LCTM when available in early Summer 2024.
- <sup>9</sup> PCR refers to a set of specific rules, requirements, and guidelines for developing EPDs for one or more product categories. ISO 14025:2006
- <sup>10</sup> [EPA Interim Determination Section Additional reporting requirement regarding upstream manufacturing plants](#).  
Link: [https://www.epa.gov/system/files/documents/2023-01/2022.12.22%20Interim%20Determination%20on%20Low%20Carbon%20Materials%20under%20IRA%2060503%20and%2060506\\_508.pdf](https://www.epa.gov/system/files/documents/2023-01/2022.12.22%20Interim%20Determination%20on%20Low%20Carbon%20Materials%20under%20IRA%2060503%20and%2060506_508.pdf)

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**Key Words**—EPA interim determination, low carbon materials, low embodied carbon materials, low carbon transportation materials, embodied carbon, emissions, greenhouse gases, climate change, pavement, asphalt, concrete, steel, and glass sustainability.

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May 2024

FHWA-HIF-24-052



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**Federal Highway  
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