

Frequently Asked Questions
GSA Interim Inflation Reduction Act (IRA)
Low Embodied Carbon (LEC) Material Requirements

May 16, 2023

**FAQs: GSA Interim IRA
Low Embodied Carbon Material Requirements Pilot**

OVERVIEW

The Inflation Reduction Act of 2022 (IRA), Pub. L. No. 117-169, was enacted in August 2022. The law made the single largest investment in climate and energy in American history. IRA will help the United States tackle the climate crisis, advance environmental justice, and secure our Nation's position as a world leader in domestic clean energy manufacturing. This law puts the United States on a pathway to achieving the Administration's climate goals, including a net zero operational emissions Federal building portfolio by 2045, and net zero emissions procurement by 2050. [IRA Section 60503](#) provides the U.S. General Services Administration (GSA) with \$2.15 billion for acquisition and installation of construction materials and products with substantially lower levels of embodied greenhouse gas emissions as compared to estimated industry averages.

GSA is proceeding with an IRA Pilot Program to use IRA Section 60503 funding for a limited number of construction projects. Consistent with standard GSA practice and the Federal Acquisition Regulation, and having taken public input into consideration, GSA has developed Interim IRA Low Embodied Carbon (LEC) Material Requirements for use in the Pilot Program. GSA may update its interim requirements using lessons learned from the Pilot Program.

The Interim IRA LEC Material Requirements apply to IRA-funded purchases of four key construction materials: asphalt, concrete, glass and steel. Construction product assemblies (such as window assemblies or rebar-reinforced concrete) qualify for IRA funding if at least 80% of the assembly's total cost or total weight comprises materials that meet the Requirements.

GENERAL

1. Why is GSA establishing Interim IRA LEC Material Requirements?

- GSA launched the first nationally-applicable environmental product declaration ([EPD](#)) requirements for [concrete and asphalt](#) in March 2022. Those requirements included global warming potential ([GWP](#)) limits for concrete, and were added to the *Facilities Standards for Public Buildings Service (P100)* that apply to all GSA projects. As a follow-on specific to its IRA-funded material purchases, GSA strengthened its concrete and asphalt requirements, and added new ones for glass and steel.
- GSA's Interim IRA LEC Material Requirements comply with IRA Section 60503, which provides funding for materials with "substantially lower levels of embodied greenhouse gas [GHG] emissions . . . as compared to estimated industry averages for similar materials and products."

2. How have GSA's Interim IRA LEC Material Requirements changed from the draft that was circulated for comment on 1/25/2023, and discussed on GSA's February 2023 [IRA Industry Exchanges](#)?

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GSA made the following adjustments to the Interim IRA LEC Material Requirements:

- Simplified compliance determination methodology.
- Collaborated with trade associations to review the source data, then updated GSA's global warming potential limits.
- Ensured GSA's limits are based only on data generated under North American product category rules, in line with provisions in the U.S. Environmental Protection Agency (EPA) [Interim Determination](#).
- Removed limits for processed glass, insulating glass units and fabricated steel plate.
- Added limits for concrete masonry units and unfabricated steel.
- Noted that, with regard to steel manufacturing, once adequate data is available (e.g. from EPDs), GSA plans to develop and issue one or more global warming potential ([GWP](#)) limits for materials made via integrated steel mills.

3. Is there a schedule for updating GSA's Interim IRA LEC Material Requirements?

- GSA may revise these Requirements based on: lessons learned from initial implementation; changing industry averages; additional published EPDs; updated determinations from the EPA on IRA Section 60503-qualifying materials; and/or opportunities to align with other Federal and state agencies' collaborative industry engagement.
- Any revisions will only apply prospectively to contracts awarded after updated GSA Requirements are issued, and will not retroactively change active projects' contractual terms or conditions.

4. Is an EPD required for all materials and products funded under IRA Section 60503? When?

- Yes. The EPA Interim Determination states that an EPD is required to identify the material/product-specific GWP. A material/ product qualifies for GSA IRA funding if its EPD-reported GWP is lower than the GSA IRA limit(s) incorporated into each contract.
- The EPD must be provided to GSA before such materials are purchased (e.g. after contract award).

5. How does the Buy American Act apply?

- GSA's Interim IRA LEC Materials Requirements do not supersede existing laws such as the Buy American Act of 1933 or the Trade Agreements Act of 1979. All materials and products procured for GSA projects must comply with these laws.
- For IRA Section 60503-funded procurements, existing trade-related laws will be applied first, then GSA's Interim IRA LEC Material Requirements will be applied.

DATA SPECIFICITY

6. Why account for the data specificity of EPDs?

- More specific data on material production -- such as where raw materials were sourced and transported from, and how they were processed -- provides transparency and more reliable information on environmental impacts of materials and products. Actual data from the plant(s)

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that manufacture inputs within a specific supply chain increases a reported GWP's certainty. GSA therefore requests facility-specific, supply chain-specific EPDs where available.

- More data certainty better-informs material selection decisions, and mitigates the risk of selecting a higher-GWP product due to insufficient transparency into its supply chain emissions.

7. Is GSA still interested in accounting for varying levels of data specificity in EPDs?

- Yes. GSA strongly supports additional supply chain-specific data in EPDs, to base decisions on the best-available information.
- The U.S. Department of Transportation's Federal Highway Administration (FHWA) is actively developing a "Low-Carbon Transportation Materials Grants" program per IRA Section 60506.
- EPA gathered stakeholder input via a [request for information](#) (RFI) and [related public engagement webinars](#) on topics including how to increase the transparency of GHG emissions data associated with the production, use and disposal of construction materials and products.
- GSA is monitoring outcomes from these relevant FHWA and EPA actions.

8. Could product category rules (PCR) require more specific data in EPDs?

- Yes. Based on the feedback GSA received on its draft IRA LEC Material Requirements from domestic manufacturers, local suppliers, small businesses, and environmental and labor groups, GSA recognizes that PCR improvements are an ideal way to require greater transparency (e.g. supply chain-specific data) in EPDs.
- GSA supports PCRs that can yield high-quality EPD data, including but not limited to supply-chain specific data and recycled content details.

9. Why does GSA require a product-specific Type III EPD (with facility-specific data, including for the supply chain's associated unit processes, where feasible)?

- GSA's EPD requirements accord with EPA's Interim Determination.
- Facility-specific data on the supply chain's associated unit processes enhances transparency, increases reliability, and allows more fair and accurate comparisons of product-level data.
- EPDs using industry average or generic data may not reflect the environmental indicators associated with the plant(s) that manufactured inputs for a particular product's supply chain.

GLOBAL WARMING POTENTIAL LIMITS

10. How were GSA's IRA GWP limits established?

- Pursuant to EPA's Interim Determination, GSA determines "quintile" (20% range) GWP thresholds "using data from a verified source (e.g., an open source EPD database, industry-wide EPDs or a 3rd party-verified LCA [life cycle assessment] developed using the relevant PCR)."
- GSA's GWP limits are based on industry average EPDs and actual products' publicly-available EPD data, filtered by material type, PCR(s) specified in GSA's Requirements, North American geographical scope, and EPD validity dates of January 1, 2022, or later.

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- The PCR(s) reflected in each product category are shown in GSA's Interim IRA LEC Material Requirements.

11. Is GSA considering region-specific GWP limits?

- GSA's interim IRA GWP limits apply to all the agency's IRA Section 60503-funded purchases in covered product categories. The limits are based on data availability for the region of North America, from sources allowed under EPA's Interim Determination: (a) an open-source EPD database; (b) industry-wide EPDs; or (c) a 3rd party-verified LCA developed using the relevant PCR.
- The agency recognizes that the average GWP of materials like concrete and asphalt may vary by location. If or when adequate region-specific data is available (e.g. from EPDs), GSA may establish region-specific GWP limits for certain materials.

12. Is GSA considering global GWP limits?

- No. GSA uses North American manufacturing data to establish its GWP limits. Different EPD PCRs are used in different parts of the world. Accurate and equal comparisons require that the same PCR be used to develop all EPDs being compared. This approach will ensure the same inputs, emissions and actions are being consistently applied.
- GSA accordingly determined that North American PCRs are most applicable to its procurements, and the Compliance Documentation criteria in GSA's Interim IRA LEC Material Requirements specify acceptable PCRs.

13. Why does GSA plan to establish separate GWP limits for integrated mill and electric arc furnace (EAF) steel production methods if/when adequate data is available?

- When adequate data (e.g. from EPDs) is available for material made in integrated steel mills, it may be possible to identify numeric limits for substantially lower embodied carbon, compared to industry averages for relevant material/product categories.
- Opportunities for improvement exist throughout the steel industry. Establishing GWP limits for individual manufacturing processes will promote innovation throughout the industry and lower emissions from all processes.
- Additionally, current market research suggests it is unlikely for material made from one manufacturing process alone to meet 100% of the demand for steel over time. Therefore, the Government must facilitate sustainable steel production throughout the industry. This approach should reduce emissions, creating a more competitive and sustainable industry in the long run.
- Separate requirements align with how the Federal Government has treated steel products in other contexts. For example, EPA's [Comprehensive Procurement Guidelines](#) established under the Resource Conservation and Recovery Act establish [different percentages](#) of recycled content for certain steel product categories, depending on the manufacturing process.
- GSA's terms may be adjusted based on industry innovations, including steel PCR updates.
- The use of a consistent PCR framework (for example the *UL PCR Guidance for Building-Related Products and Services, Part B: Designated Steel Construction Product EPD Requirements* listed in GSA's steel Compliance Documentation criteria) will allow accurate comparisons of embodied emissions across multiple steel manufacturing processes.

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DATA SOURCES

14. What data sources did GSA use?

- EPA's Interim Determination states "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)."
- GSA's GWP limits were developed based on industry average EPDs and actual products publicly-available EPD data, filtered by material type, PCR(s) specified in GSA's requirements, North American geographical scope and current validity.

15. What if open source EPD databases contain errors?

- GSA seeks the most reliable available data, and leverages aggregated information from third-party-verified EPDs. GSA's Interim IRA GWP limits were updated after duplicate or misfiled EPDs identified through industry engagement were corrected.
- GSA and other Federal agencies encourage digitized EPD submission and automated quality control processes, which can improve data quality and more quickly identify potential anomalies.

16. Is there a government-run EPD database for Federal agencies to use?

- Not currently. EPA's "[RFI to Support New \[IRA\] Programs to Lower Embodied Greenhouse Gas Emissions Associated with Construction Materials and Products](#)" collected comments on topics including ways to improve background datasets, how to improve PCRs and EPDs to better-inform public agencies' decisions, labeling opportunities, and how EPA grants or cooperative agreements may help develop national PCR and EPD repositories.
- EPA's RFI was built on findings from GSA's prior RFIs and industry feedback. It will help shape EPA's IRA Section 60112 "Environmental Product Declaration Assistance" and Section 60116 "Carbon Labeling" programs. Public comments submitted (e.g. on dataset accessibility and improvement approaches for EPA to consider) are available via [this docket](#).

17. Is support available to help develop EPDs?

- IRA Section 60112 appropriated \$250 million to EPA for EPD Assistance, and EPA hosted a March 2023 [webinar](#) on "Grants and Technical Assistance for Environmental Product Declarations".
- Through its [RFI](#) detailed above, EPA has gathered input on what types of incentives and/or financial and technical support would help construction material and product manufacturers, including small businesses, develop high-quality, machine-readable, third-party verified EPDs.

WHOLE-BUILDING

18. Will GSA's project teams use more asphalt, concrete, glass and steel in project designs, instead of other materials, since IRA funding initially only covers these four?

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- Design teams for GSA projects consider whole-building material volumes and material selections, in addition to carbon intensity per unit of material.
- GSA's IRA project selections center predominantly on existing well-defined project needs from GSA's deferred maintenance backlog, and in support of the Federal building efficiency goals. IRA funding can be used to assist an existing project's scope to enhance its overall sustainability impact, including by specifying lower-carbon materials.
- Prudent allocation of IRA funding where needed furthers GSA's goal of addressing well-documented high-priority needs that can impactfully advance IRA's goals. This approach includes not just addressing the operational (use phase) emissions of facilities, but also for the first time addressing the embodied (manufacturing) emissions of key materials and products.
- GSA is reviewing existing project portfolio-wide needs for how best to leverage the IRA funding, including smaller-scale projects such as parking lot refurbishments or window replacements that (a) may require IRA-eligible materials, and (b) can be obligated by the statutory deadline of September 30, 2026.

19. Can materials' long-term operational carbon impacts be considered, in addition to their upfront embodied carbon?

- EPA's Interim Determination (footnote 2) notes that "EPA is prioritizing the production stage in this interim determination due to data availability in EPDs and production's outsized embodied greenhouse gas emissions impact when compared to the use and disposal stages of the construction product lifecycle."
- IRA Sections 60502 and 60504 appropriate funding to GSA for high-performance green buildings, and emerging and sustainable technologies, respectively. Work funded under those sections may save energy and reduce operational carbon emissions.
- P100 [1.9.2.9](#) requires the agency's new construction and major modernization projects (including IRA-funded work) to design for 20% lower whole-building embodied carbon, compared to a modeled standard code-compliant baseline building, using whole-building life cycle assessment. This requires GSA's design teams to consider both operational and embodied carbon, material selections, and "right-sizing" the amount of material.
- GSA reports its operational carbon quantities and trends annually, and pursues Federal operational decarbonization goals, such as a net-zero emissions building portfolio by 2045.¹

MATERIALS

20. Will additional IRA-eligible material categories be added?

- EPA's Interim Determination (footnote 2) notes that "Later phases of this [IRA low embodied carbon material determination] work will consider how best to accommodate a broader range of materials/products and life cycle stages", and its Cover Memo includes an addendum outlining

¹ [Executive Order 14057](#) also seeks to mitigate the U.S. government's operational *and* embodied carbon impacts, stating that "Agencies shall reduce emissions, promote environmental stewardship, support resilient supply chains, drive innovation, and incentivize markets for sustainable products and services by . . . maximizing environmental benefits and cost savings through use of full lifecycle cost methodologies; [and by] purchasing products that contain recycled content, are biobased, or are energy and water efficient...." Exec. Order 14057 Section 208 (2021).

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construction material categories for potential further exploration.² EPA's RFI also collected public [comments](#) on priority construction materials/products.

- GSA's design teams continue to evaluate a variety of materials that may meet project needs while supporting whole-building embodied carbon reduction.

21. Can unfabricated source materials qualify for GSA IRA funding?

- Yes. GSA has added GWP limits for four unfabricated steel categories per industry input.
- Additionally, construction product assemblies (such as processed glass or insulating glass units fabricated from flat glass) can qualify for IRA funding if at least 80% of the assembly's total cost or total weight comprises materials that meet these requirements.

22. How will GSA verify whether contractors used the materials identified in the project's design?

- GSA's contracts will require that vendors provide submittals during design and construction, including quantities of qualifying materials, and product-specific EPDs.
- In addition to Government monitoring, construction managers and commissioning providers will also be required to verify and report whether: (a) submitted EPDs comply with design specifications for IRA-qualifying materials; (b) reported quantity was accurate; and (c) reported IRA-qualifying materials were actually installed.

ENERGY STAR

23. Why must ENERGY STAR Energy Performance Scores be reported for steel that originates from an integrated steel mill, cement, and glass?

- EPA's Interim Determination requires ENERGY STAR Energy Performance Scores "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."
 - A manufacturing plant's energy consumption provides important information about this key contributor to the final product's embodied carbon, compared to industry averages of similar materials and products. Energy efficiency is often a good first step to help plants decarbonize without changing the composition of the materials or products they produce.
- Any cement, glass, or integrated steel plant based in the U.S.³ can use the free [ENERGY STAR Energy Performance Indicator tool](#) to generate a score, even if the plant is not ENERGY STAR certified.
- Producing an Energy Performance Score should take a plant no more than one hour to gather from existing files of the past twelve months of energy consumption and material production.
 - The Energy Performance Indicator tool is a spreadsheet that generates this score.

² The Interim Determination's "Justification" section states "Based on the EPA's initial review of state and local Buy Clean approaches and other research to-date, these materials [concrete (and cement), glass, asphalt, and steel] offer the most significant opportunities to lower the embodied greenhouse-gas emissions of federal construction projects."

³ EPA has not yet produced an energy performance indicator for electric arc furnace steel mills or for asphalt plants.