



# FAQ on U.S. Buy Clean Implications for Concrete Producers

The following frequently asked questions (FAQs) cover key aspects of the U.S. Buy Clean Initiative as they relate to concrete producers, emphasizing the importance of adopting low-carbon technologies and practices to meet new federal procurement standards by the U.S. General Services Administration (GSA).

## What is the Buy Clean Initiative?

The [Buy Clean](#) Initiative is a comprehensive federal effort prioritizing American-made lower carbon construction materials in federal procurement and federally-funded projects. This initiative aims to reduce the carbon footprint associated with the construction materials used in these projects.

## Why is the federal government investing in decarbonizing construction?

The US Government Services Administration (GSA) owns and leases over 371 million square feet of space in 8,600 buildings in more than 2,200 communities nationwide — and is always adding to its portfolio. More than 500 million tons of concrete are poured every year for GSA projects across all federal agencies including:

- Department of Agriculture
- Department of Defense
- Department of Education
- Department of Justice

- Department of the Interior
- Department of Veterans Affairs
- Department of Homeland Security
- Department of Housing & Urban Development

The government is introducing Buy Clean to encourage the use of American-made, low carbon construction materials to reduce the embodied carbon impact of federally funded construction. [Embodied carbon emissions](#) (emissions associated with materials and construction processes) are on average 30 times higher than one year of operational emissions (emissions associated with energy, heat, lighting, etc.).

## Why is concrete a key focus of Buy Clean?

Concrete is the most abundant man-made material on the planet and, through cement production, one of the largest contributors to embodied carbon in construction (~7%). As such, it represents one of the biggest opportunities for carbon savings in government initiatives.

## How does CarbonCure fit into the Buy Clean Initiative?

CarbonCure helps concrete producers meet the low carbon concrete requirements of the Buy Clean Initiative by enabling producers to lower the Global Warming Potential (GWP) of their concrete mixes using CarbonCure’s retrofit technologies.

CarbonCure injects CO<sub>2</sub> into concrete during the manufacturing process, where the CO<sub>2</sub> immediately mineralizes, creating the same reliable concrete with a reduced carbon footprint and the opportunity to reduce cement.

## What are Environmental Product Declarations (EPDs), and why are they important for GSA projects?

[Environmental Product Declarations \(EPDs\)](#) are detailed documents that provide data on the environmental impact of construction materials, including concrete. The impacts listed include GWP measured in kilograms of CO<sub>2</sub> equivalent per cubic yard of concrete.

For GSA projects under the Buy Clean Initiative, contractors must submit a product-specific EPD, known as a Type III EPD, which has been verified by a third-party. In the case of concrete, the Type III EPD shows the GWP for a specific concrete mix, not a specific batch. This documentation is crucial for demonstrating compliance with the initiative’s low-carbon materials requirements.

## How are concrete requirements determined under the Buy Clean Initiative?

Concrete requirements under the Buy Clean Initiative include providing a Type III EPD, meeting specified GWP limits for various concrete strength classes, and adhering to other procurement regulations such as the Buy American Act. The initiative sets specific GWP limits for concrete based on its compressive strength, aiming to select materials with the lowest possible carbon footprint.

## What GWP limits will be considered under Buy Clean?

GSA will consider all bids within 20% of the GWP limit. If none qualify, they’ll consider all bids within 40% of the limits. If none qualify, they’ll look at all better-than-average bids.

Specified concrete strength class (compressive strength [f'c] in pounds per square inch [PSI])	NRMCA National Average (2022)	GSA IRA Limits for Low Embodied Carbon Concrete (EPD-Reported GWPs, in kilograms of carbon dioxide equivalent per cubic meter - kgCO <sub>2</sub> e/ m <sup>3</sup> )		
		Top 20% Limit	Top 40% Limit	Better Than Average Limit
≤2499	240	228	261	277
3000	262	257	291	318
4000	308	284	326	352
5000	365	305	357	382
6000	385	319	374	407
≥7200	422	321	362	402
Concrete Masonry Units	N/A	217	256	290

## How does the initiative impact high early strength concrete?

For high-early-strength concrete, which often has a higher embodied carbon due to additional cement or admixtures, the GWP limits are increased by 30% over the standard limits. However, the use of high-early-strength concrete must be approved by the GSA as part of the bidding process, emphasizing the initiative's focus on reducing carbon emissions wherever possible.

## What is the P100 low carbon standard?

The P100 is the GSA Facilities Standards manual covering construction specifications for government buildings. In 2022, the GWO adopted a low-carbon standard in the P100 which include target a 20% reduction in the project's whole-building embodied carbon from materials compared to a conventional baseline building of the same project type, using GSA-recognized tools and assessments.

Specified compressive strength (f'c in PSI)	NRMCA National Average (2022)	Maximum Global Warming Potential Limits for GSA Low Embodied Carbon Concrete (kilograms of carbon dioxide equivalent per cubic meter - CO <sub>2</sub> e kg/m <sup>3</sup> )		
		Standard Mix	High Early Strength	Lightweight
up to 2499	240	242	314	462
2500-3499	285	306	398	462
3500-4499	337	346	450	501
4500-5499	375	385	500	540
5500-6499	402	404	526	N/A
6500 and up	N/A	414	524	N/A

## How can concrete producers prepare to meet the demands of the Buy Clean Initiative?

Producers can set themselves up for success by producing Type III EPDs for their mixes, utilizing technologies like CarbonCure to mineralize CO<sub>2</sub> in concrete, and ensuring their products meet the GWP limits outlined in the initiative.

The contractor on the project must also submit an ENERGY STAR [Energy Performance Score \(EPS\)](#) for the supplying cement plant, the manufacturing plant name(s) and location(s), and the data period of the EPS at the time of purchase. ENERGY STAR EPS shows how efficiently a manufacturing plant uses energy on a 100-point scale. A score of 50 reflects average performance, 1 shows poor performance, and 100 reflects highest performance.

Staying informed about federal requirements and participating in pilot projects can help producers align their operations with low carbon procurement policies.

## What future developments can concrete producers expect related to Buy Clean?

[Environmental Product Declarations \(EPDs\)](#) are detailed documents that provide data on the environmental impact of construction materials, including concrete. The impacts listed include batch. This documentation is crucial for demonstrating compliance with the initiative's low-carbon materials requirements.

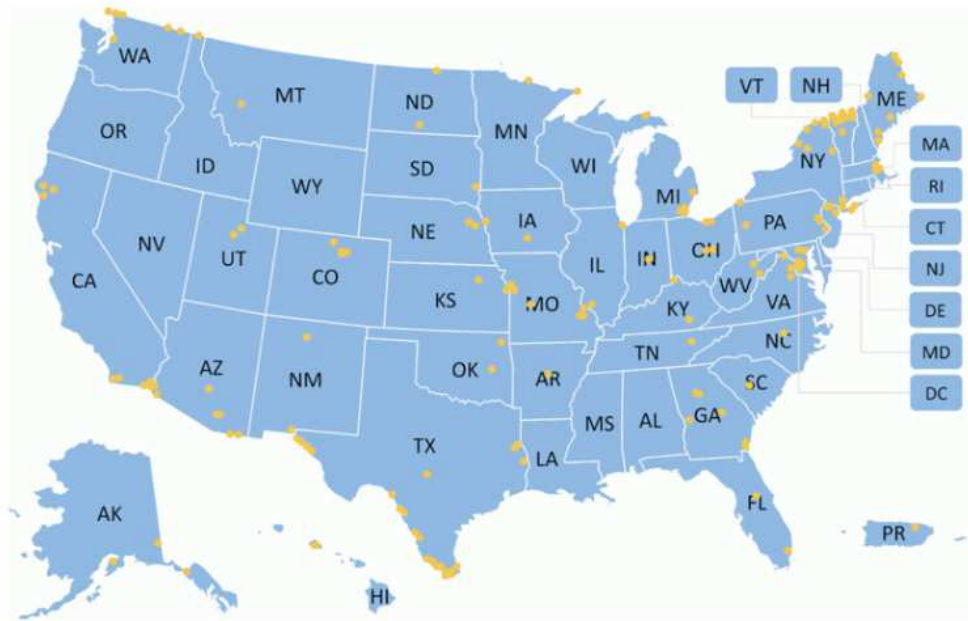
## How are concrete requirements determined under the Buy Clean Initiative?

Concrete producers can expect an expanding scope of the Buy Clean Initiative across various federal agencies and projects.

This includes all of the following that will be available to bid on via [sam.gov](https://sam.gov):

- 150 Projects across 32 states
- 118 projects with concrete included in materials list
- 52 Port of Entry projects
- 30 paving projects
- 8 garage repairs
- 6 facade repairs
- 8 structural repairs

### Low-embodied carbon projects



Pilot projects by FEMA incorporating low carbon construction materials and potential programs by HUD are also imminent. Producers should stay tuned for new opportunities and requirements as the initiative evolves.

### What are the Federal Highway Administration low carbon requirements?

On March 12, 2024, the Federal Highway Administration (FHWA) announced \$2 billion available to fund state and local government procurement of low-carbon transportation materials, including concrete/cement, glass, asphalt mix, and steel. FHWA will accept applications from state and local governments through June 10, 2024 and make grant determinations shortly afterwards. State and local governments will then use the funds to cover the extra costs of procuring low-carbon products in local highway projects.

Similar to the GSA's Buy Clean Initiative, the Federal Highway Administration (FHWA) will require that the state and local projects review bids by tiers of 20% of GWP limits, then 40% of GWP limit, then better-than-average bids.



For more information on Buy Clean and its impact on the concrete industry, watch our recent webinar [What to Expect When You're Producing Concrete](#) which dives deeper into the topics covered in this FAQ.