

## New White House ‘Buy Clean’ Guidance Targets Huge Emissions Hidden in Building Materials

The federal government’s guidance, combined with historic IRA investments, could turbocharge markets for low-carbon cement, steel, and other building materials.

September 15, 2022

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Today, the White House took a major step to reduce a pervasive yet often overlooked source of greenhouse gases (GHGs) locked into buildings before anyone steps foot inside – also known as embodied carbon. The announcement of an ambitious set of “Buy Clean” recommendations will advance green building materials procurement for federal building and transportation projects. As a knock-on, it will turbocharge nationwide demand for low-carbon versions of concrete, steel, asphalt, and flat glass.

The US federal government is the largest consumer in the world, spending more than \$650 billion on products and services each year. Given its massive portfolio of buildings nationwide, totaling 2.8 billion square feet, the push to

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procure low-carbon building materials will help dramatically reduce GHG emissions locked up in the walls, foundations, and ceilings of both new and existing properties. The move will also help meet US goals of achieving net-zero GHG emissions by 2050.

The new recommendations – shared today by Transportation Secretary Pete Buttigieg at a **low-carbon iron ore processing facility** in Toledo, Ohio – leverage the government’s vast purchasing power to drive demand for low-carbon material products. The new standards also catalyzes increased measurement and disclosure of GHG emissions by manufacturers, supports the growth of a clean energy economy, and boosts growth in jobs and investment in related innovations.

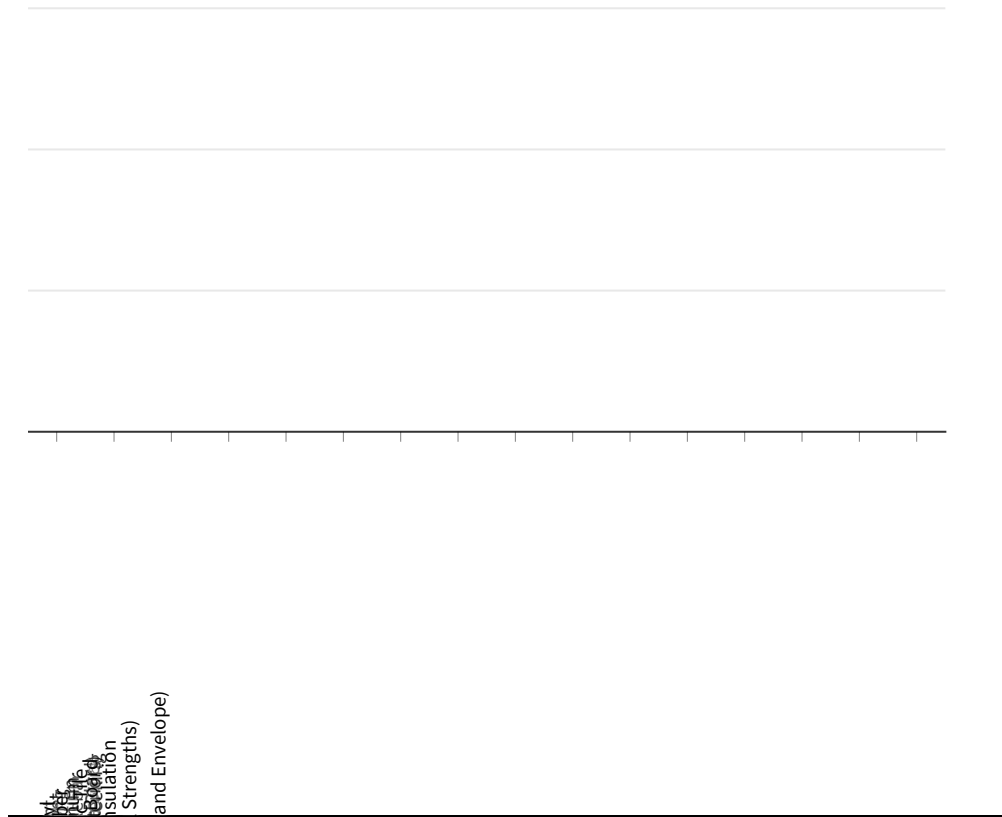
Structural materials such as concrete and steel are major drivers of climate pollution from buildings. Combined, they represent more than 60% of embodied carbon emissions for US federal buildings. In particular:

- Concrete is the second most used material on the planet, trailing only water. It accounts for at least **7 percent of carbon emissions worldwide**, mostly due to the GHG-intensive process of creating cement, the key binding material in concrete. Cement plants are also a **significant source** of sulfur dioxide, nitrogen oxide, and carbon monoxide, a trio of pollutants which can contaminate water and trigger asthma and cardiovascular disease.
- Steel production is similarly carbon intensive. Annually, the steel sector emits around **7 percent of global emissions**. If not abated, steel production likewise emits a host of harmful air pollutants.

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# Estimated Annual Federal Carbon Emissions Distribution

By common building materials, thousand tons of CO2e

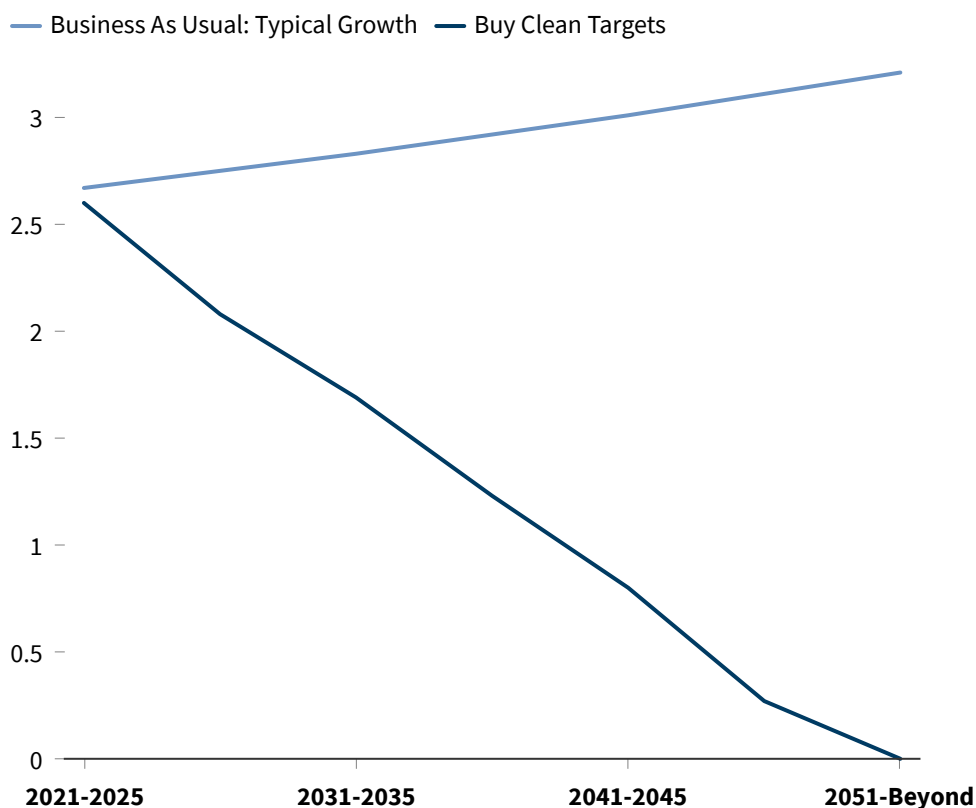


Concrete and steel are the top contributors to the embodied emissions from typical federal government building practices, according to RMI analysis. A federal Buy Clean pathway will set the US government on the right trajectory to reduce the emissions impact of these materials over time, helping to meet its long-term goal of zero carbon emissions by 2050.

RMI's focus on **demand-side policies** such as Buy Clean will stimulate the production of low-carbon products by increasing demand for them. Emissions targets in Buy Clean are tightened over the short, medium, and long-term. RMI's forthcoming roadmap recommends a set of emissions targets for major federal building materials, including concrete and steel. As emissions targets are tightened, reductions accumulate over time (chart, below). Via this approach, emissions from federal buildings can hit a zero-carbon goal by mid century. By 2050, these reductions will directly reduce emissions by up to 15 million metric tons cumulatively.

# GHG Emissions from U.S. Federal Buildings Projects to 2050

Million tons of CO<sub>2</sub>e



## How “Buy Clean” and the Inflation Reduction Act Turbocharge the Market for Low-Carbon Materials

Today’s announcement comes on the heels of the passage of the historic Inflation Reduction Act (IRA) and is the culmination of a year of coordinated efforts by federal agency staff with support from RMI and other leaders to develop a framework for the US Buy Clean program.

Combined, they will raise the level of ambition to construct buildings and transportation infrastructure with climate-friendly materials, while supporting the competitiveness of US manufacturers.

Major actions by the US Department of Transportation (DOT) and the General Services Administration (GSA) – **the nation’s largest public real estate organization** – relating to Buy Clean were also announced today, as both agencies are receiving funding for low-carbon materials through the IRA:

- GSA will issue a request for information (RFI) to hear from stakeholders on recommended uses for funding.

- DOT will embed Buy Clean into all its agency programs, spurring low-carbon material procurement programs in the transportation sector for roads, bridges, and more.

The IRA will advance the market for low-embodied carbon materials in buildings through a \$250 million investment to set up Environmental Product Declaration (EPD) Assistance Program. This program will grant funding to building manufacturers to develop EPDs for their products.

EPDs are an emerging industry standard or 'nutrition label' to report life-cycle impact assessments (LCAs) by manufacturers. This program will dramatically accelerate embodied carbon emissions data sharing by industry add momentum to state and local 'Buy Clean' initiatives. It will also give further momentum to state, regional, and local low embodied carbon building code policies, and provide much needed funding for small manufacturers to report their emissions.

Another key embodied carbon funding provision in the IRA include \$100 million to support the creation of the national eco-label for low-carbon products mentioned earlier. This standard will be similar to the EPA's popular Energy Star rating, but applied to sustainable building materials.

There is also more than \$2 billion in funding to enable the GSA to acquire and install low-embodied carbon materials and products for use in the construction or alteration of buildings under its control; and billions more to support capital investments at industrial facilities to decarbonize production of steel, cement, and other hard-to-abate building materials.

Beyond buildings, there is more than \$2 billion in funding for the Federal Highway Administration (FHWA) to reimburse or provide incentives to eligible recipients for the use of low-embodied carbon construction materials and products in projects. This is a critical demand-side investment in transportation infrastructure decarbonization – specifically for concrete, asphalt, and steel materials. When leveraged as part of the transportation projects developed through the

Infrastructure Investment and Jobs Act (IIJA), this investment could achieve significant climate impact reductions and further catalyze regional supplies of low-carbon cement and other materials.

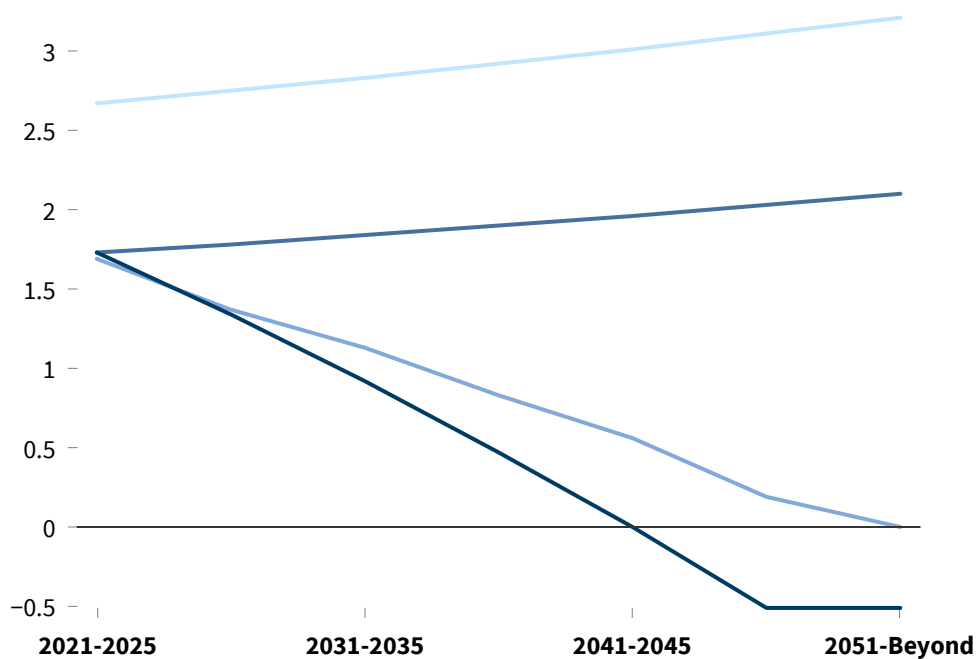
RMI's Embodied Carbon Initiative is deeply engaged in technical research and policy development to support a viable path for the federal government to achieve its goal of zero embodied carbon from procurement by 2050.

In coming weeks, we will release our independent report, *A Roadmap to Zero Embodied Carbon from Federal Buildings*. This which will offer deeper analysis and further recommendations for the federal government to slash emissions from public building projects over the next 30 years.

## GHG Emissions from U.S. Federal Buildings Projects to 2050, Pathways to Zero Carbon

Million tons of CO<sub>2</sub>e

Business As Usual: Typical Growth    Business As Usual: Climate Smart Portfolio Plan  
Pathway 1: Buy Clean Targets    Pathway 2: Whole Project LCA Performance Standard:



Beyond these strategies, the federal government has a broader role to play in advancing the movement to decarbonize building materials, by establishing nationwide standards and databases that will increase consistency in

can also catalyze markets for disruptive, deeply decarbonized materials, such as zero-carbon cement, zero-carbon steel, mass timber, or bio-based insulation and finish materials, through industrial, trade, and workforce development policies. Stay tuned as we'll have much more to say on these strategies and how the US government can deploy them.

*To learn more about today's Buy Clean announcement, check out the [White House's fact sheet](#). To learn more, visit [Embodied Carbon Initiative - RMI](#).*

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