

# Sustainability at GSA





# GSA & Sustainability

The U.S. General Services Administration (GSA) is the federal government’s premier real estate, technology, and acquisition services provider. Since 1973, when we created our first energy efficiency plan, GSA has led the government in cost-effective sustainable buildings, sustainable procurement, and measuring results. Today, sustainability at GSA is driven by three principles: Buy clean and build green; net-zero operations by 2045; and design for people, design for impact. This report highlights our leadership and recent achievements in these areas.

## Targeting Sustainability



**Sus•tain•a•bil•i•ty** (noun)

the condition under which humans and nature can exist in productive harmony, ensuring future generations are not disadvantaged by current practices.





## GSA at a Glance

### What We Do

GSA makes it easier for federal agencies to get things done quickly, efficiently, and cost effectively. When an agency needs a facility, fleet of cars, tailored IT system, or some other product or service, they come to us. We acquire, build, operate, and maintain federal buildings; implement cutting-edge building technologies; award and manage leases; establish contracts for other federal agencies to buy products and services; design and build IT solutions; manage finances; and prioritize and track these activities using comprehensive sustainability metrics.



**\$84 billion**  
in annual  
procurement spend  
under management



**370 million**  
sq. ft. of space



**8,600+**  
properties  
(U.S. and its  
territories)



**227,000** vehicles  
for 77 federal  
agencies



**1.1 million**  
federal employees  
in  
GSA Workplaces

## Who We Are

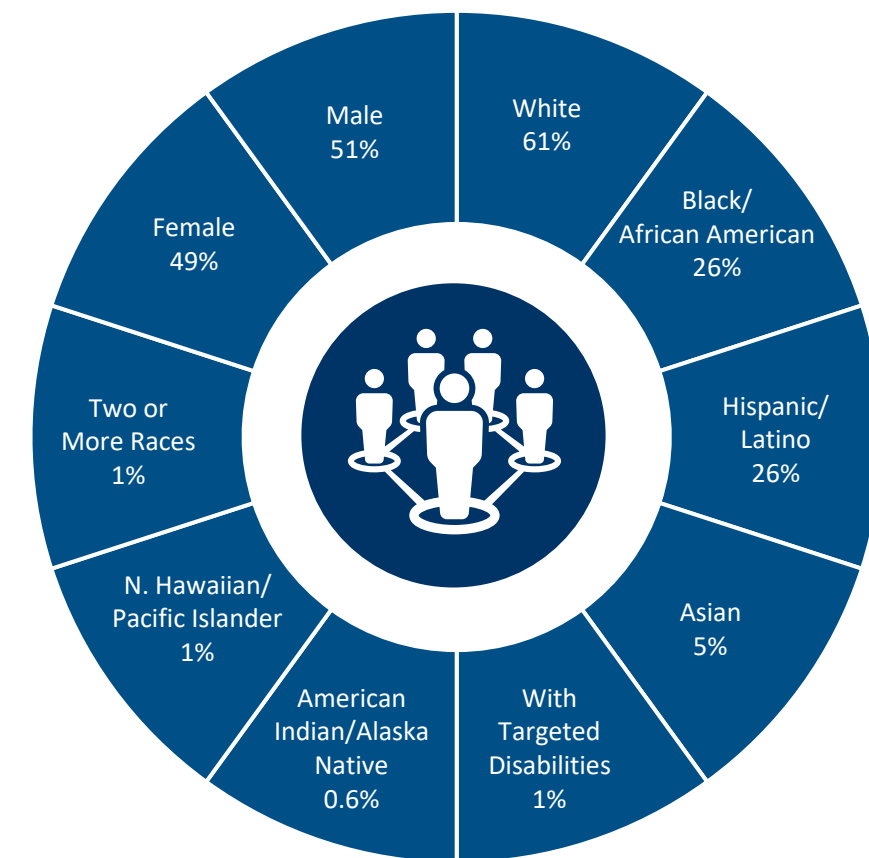
Across the U.S. and its territories, our 12,000 employees are committed to mission success, stewardship of public resources, and protecting the environment. We know true sustainability means involving the communities where we work so we engage our neighbors and local stakeholders in key decisions related to our activities. Our Environmental Justice Working Group and Fundamentals of Environmental Justice training program ensure we incorporate environmental justice in relevant policies.

To foster a sustainability-focused workforce, we offer programs to broaden and deepen our sustainability and climate knowledge. Our climate literacy program trained 1,200 employees in 2022\*. Our Climate Change Speaker Series features academic and industry leaders, authors, and private-sector experts in sustainability. Topics include zero-carbon design, how electrification leads to a net-zero future, adaptive building reuse, and master planning.

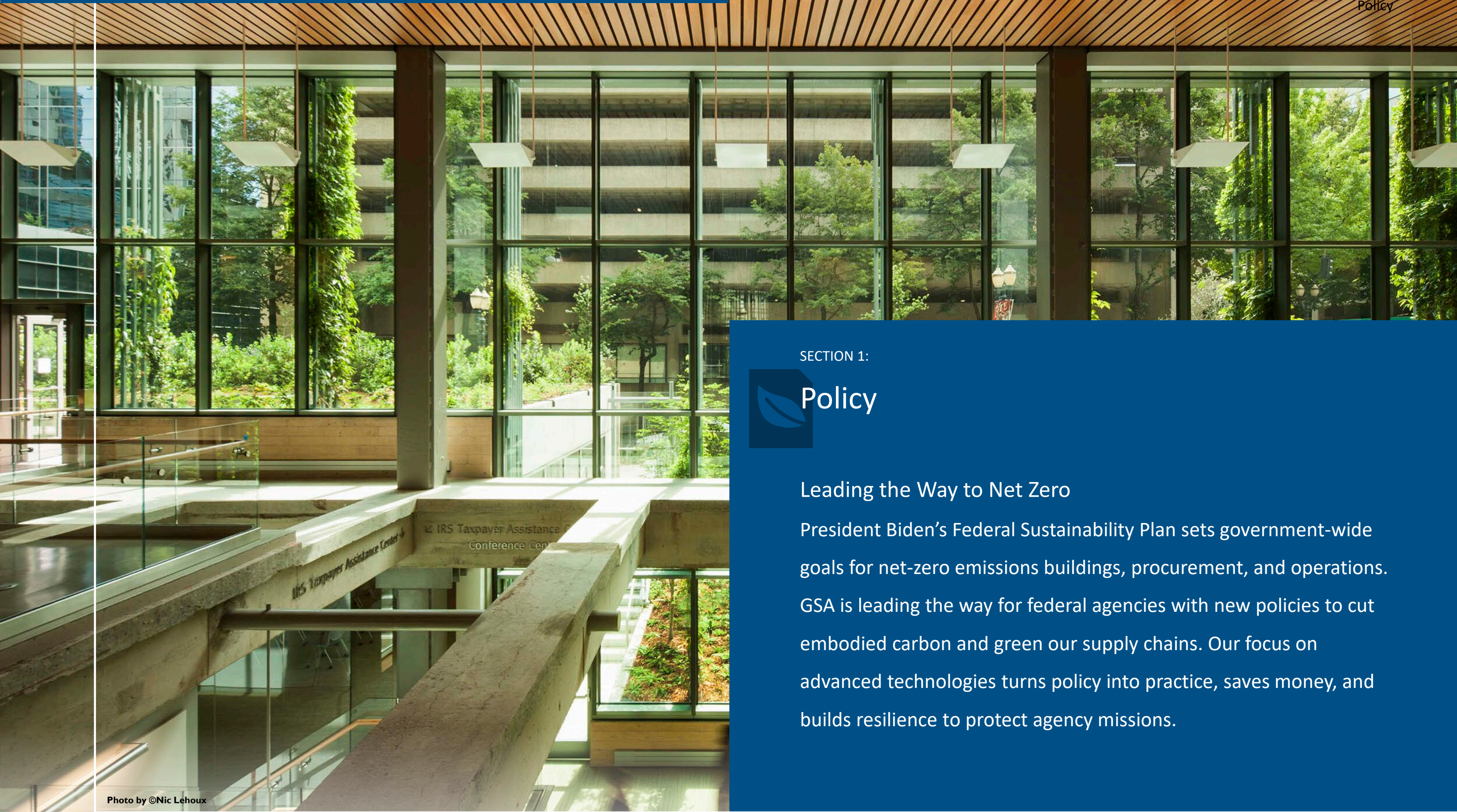
As Chuck Hardy, GSA’s Chief Architect, noted, “Every Climate Change Speaker Series webinar has concluded with a lively Q&A session, which confirms our attendees’ own expertise—as well as their dedication to becoming better stewards of the environment.”

\* All references to years in this report are to federal fiscal years (October–September), unless otherwise indicated.

Our Workforce







## SECTION 1:



## Policy

### Leading the Way to Net Zero

President Biden's Federal Sustainability Plan sets government-wide goals for net-zero emissions buildings, procurement, and operations. GSA is leading the way for federal agencies with new policies to cut embodied carbon and green our supply chains. Our focus on advanced technologies turns policy into practice, saves money, and builds resilience to protect agency missions.

Photo by ©Nic Lehoux

*Unique shading devices that respond to sun conditions and solar panels that produce 3% of the building's annual electrical energy requirements transformed the Edith Green-Wendell Wyatt Federal Building into one of the most energy efficient office buildings in the country.*



## Embodied Carbon



### Laying the Foundation

Even buildings that use 100% carbon pollution-free electricity are not truly carbon pollution-free. That is because building materials have associated emissions, known as embodied carbon. GSA developed the first national standards for [lower-carbon concrete](#) and [sustainable asphalt](#), in collaboration with federal agencies, trade associations, nonprofits, local agencies, and more than 130 industry partners. Many concrete and asphalt manufacturers have already proven that environmentally friendly techniques can even reduce costs.

We assess every stage of our buildings’ life cycle—from design to demolition. We consider building location, systems, finishes, and even their impact on eventual replacement or disposal. For example, [smart recycling of asphalt](#) can reduce carbon content by as much as 50%.

### Buying Clean to Build Green

The Buy Clean initiative promotes American-made, lower-carbon construction materials, including concrete, asphalt, steel, and glass. GSA launched the first nationally applied concrete and asphalt requirements in March 2022.

By May, we implemented the requirements as part of the [Lukeville, Arizona, Land Port of Entry paving project](#). More than 500 tons of asphalt containing recycled content were installed and documented with a third-party-verified environmental product declaration.

A certified 8(a) small disadvantaged contractor performed the work, finishing ahead of schedule and with great satisfaction from all stakeholders.

“As our buildings run more on clean electricity, low-carbon materials become more important than ever. Constructing a new building can contribute more emissions than three decades of running it. Building with clean, low-carbon materials supports American innovation and makes us more globally competitive.”

—GSA Senior Climate Advisor, Jetta Wong



## Net-Zero Emissions Procurement



### Greening Federal Supply Chains

GSA is promoting sustainability and climate elements in many of our largest new government-wide contracts, such as sustainable product requirements, GHG inventory reporting, and climate risk management planning. These actions support a climate change-ready federal supply chain and advance the goal of net-zero emissions in federal procurement.

Emissions from manufacturing and delivery of products and services bought by federal agencies are estimated to be double the direct emissions of federal buildings and civilian vehicle fleets. Therefore, we must look to the full supply chain to reduce embodied carbon.

GSA works with hundreds of contractors every year to track and report on the status of sustainable practices in the federal supply chain. In 2022, GSA convened a new Acquisition Policy Federal Advisory Committee to help shape future policies for low-carbon contracting.

3M Company Abbott Laboratories ABM Industries Inc. Abt Associates Abu Dhabi National Oil Company Accenture Agilent Technologies, Inc. Airbus Akamai Technologies Inc. AltaGas Ltd. American Electric Power Company, Inc. AmerisourceBergen Anthem, Inc. Apple Inc. Aramark Corporation Archer Daniels Midland Asahi Holdings Astrazeneca Pharmaceuticals AT&T Avaya BAE Systems Balfour Beatty Ball Corporation Boeing Booz Allen Hamilton Boston Consulting Group Inc. BP CAE, Inc. Cardinal Health Cargill CGI Chemring Corporation Group Cigna Cisco Systems Citigroup Inc. Crane Holdings Crowley Cummins DAI Danaher Davita Healthcare Partners Del Monte Foods Dell Technologies Deloitte Consulting Delta Airlines DLT Solutions (TD Synnex) Duke Energy Eli Lilly Ernst & Young Exelon FedEx Corporation Fincantieri S.P.A. Fluor Ford Motor Company G4S GATR Technologies Inc. (Cubic Corp.) General Dynamics General Electric General Motors GlaxoSmithKline Grainger Grant Thornton Guidehouse (Veritas Capital) Herman Miller, Inc. Hochtief AG Honeywell HP Inc. Humana IBM ICF Idemitsu Kosan Company, Ltd. Interpublic Group Jacobs Johnson & Johnson

At least **143 major federal suppliers**, with federal sales of over \$284 billion in 2021, have committed to disclosing and reducing their GHG emissions. Together, they disclosed over **\$2 billion in annual savings** from emission-reduction initiatives.

Johnson Controls Inc. KBRWyle Kongsberg Gruppen ASA KPMG International L3Harris Laboratory Corporation of America LADWP Leidos Leonardo Lockheed Martin Lumen Technologies Maersk ManTech Marathon Petroleum Maximus Inc. McKesson McKinsey & Company, Inc. Medtronic Meggitt Merck & Co. Inc. Metlife Inc. Microsoft Navistar International Corporation Northrop Grumman NTT Data Omnicom (DDB Chicago) On Assignment Inc. (ASGN) Oracle Corporation Oshkosh Corporation Palantir Technologies Inc Parker-Hannifin Corporation Parsons Pfizer Philips Raytheon Regeneron Pharmaceuticals RELX Group Plc Rolls-Royce Saab Safran SAIC Sanofi Securitas AB Serco Group Siemens Sodexo Sonova USA Stellantis Sumitomo Heavy Industries Ltd. Sysco Corporation Teledyne Technologies Tetra Tech Inc. Textron Thermo Fisher Scientific Inc. Thomson Reuters Transdigm Group Tyson Foods Inc. Ultra Electronics United Parcel Service UnitedHealth Group US Foods Inc. Valero Verizon Walgreens WEC Energy Group Wood plc World Wide Technology WPP plc Xerox Corporation



## Innovative Technologies



### Turning Policy Into Practice

Advanced technologies help us save money, reduce emissions, and build resilience to protect agency missions. In 2022, GSA launched the Applied Innovation Learning Laboratories, a series of collaborative projects between agencies, industry, and local utilities. The first projects tested included:

- Bidirectional vehicle charging stations that can power local buildings when needed or send energy from vehicles back to the grid.
- Stand-alone solar-powered electric vehicle charging units with internal battery storage that can be installed in a standard parking space without a grid connection.

GSA procured six of the stand-alone solar units for the Federal Emergency Management Agency to charge government vehicles and power recovery efforts in Puerto Rico after Hurricane Fiona.

As we implement our policies and goals, we benchmark and report them annually via the Global Real Estate Sustainability Benchmark (GRESB), a leading third-party tool for tracking environmental, social, and governance impacts of real estate organizations.

### Innovating for Sustainability, and Savings

GSAlink, our automated fault detection and diagnostics system, monitors building system performance to identify performance disruptions.

GSAlink is fully integrated with our facility management work order system. When a system fault is identified, GSAlink automatically notifies the facility management team. It also tracks the cost and GHG emissions impacts of the fault.

In 2018, GSAlink saved about \$17 million in energy, maintenance, and human performance costs for just 60 buildings. Today, GSAlink is integrated in 131 buildings and the estimated payback for integrating it in a building is less than 2 months.



\$7 million in energy cost savings



\$4 million in maintenance savings



\$6 million in human performance impacts across 41 buildings

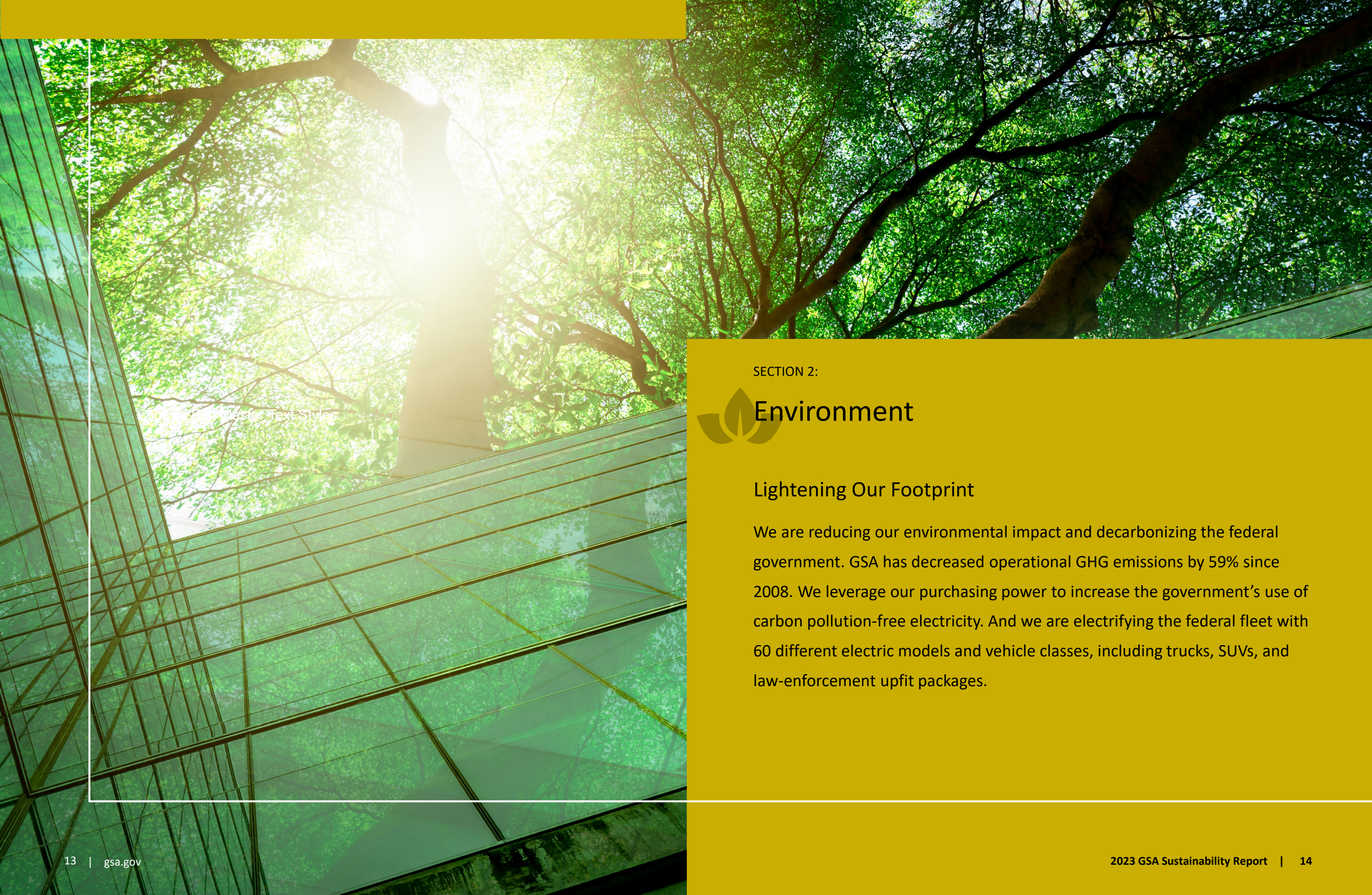


> \$280,000 savings per building in annual cost



< 2 Months payback for new buildings





Master Text Styles

SECTION 2:

## Environment

### Lightening Our Footprint

We are reducing our environmental impact and decarbonizing the federal government. GSA has decreased operational GHG emissions by 59% since 2008. We leverage our purchasing power to increase the government’s use of carbon pollution-free electricity. And we are electrifying the federal fleet with 60 different electric models and vehicle classes, including trucks, SUVs, and law-enforcement upfit packages.



## Reducing Greenhouse Gases



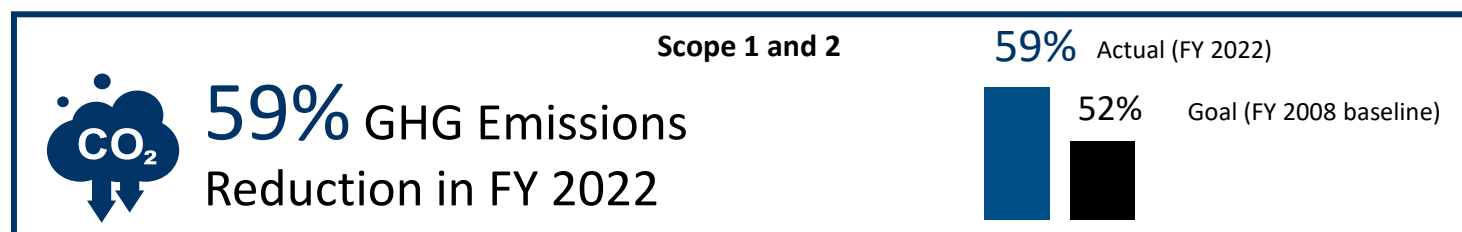
### Clearing the Air

Our plans to reduce facility operational GHG emissions include:

- Improving energy efficiency
- Optimizing renewable energy
- Acquiring carbon pollution-free electricity
- Reducing refrigerant leaks
- Implementing smart building strategies and building automation.

GSA's P100 Facilities Standards integrate sustainability throughout our design and construction processes. As a result, our operational GHG emissions decreased by 59% between 2008 and 2022, surpassing our target of 52%.

We are also implementing deep energy retrofits and energy performance contracts to save energy, shift from onsite fossil fuel to electric heating, and phase out high-polluting refrigerants. GSA's Metcalfe Federal Building in Chicago and the U.S. Courthouse in Greenville, South Carolina, are already 100% electric, and two more all-electric buildings will be completed in 2023.

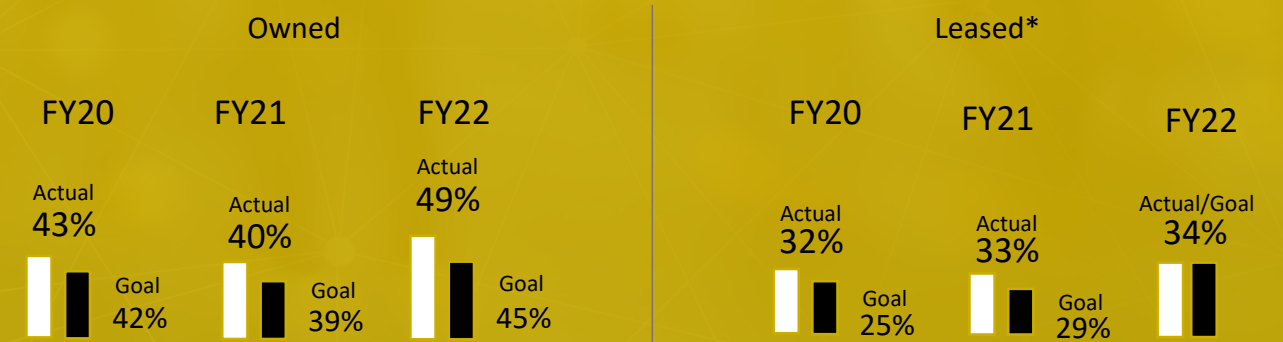


## Building Sustainability

Sustainable buildings reduce emissions while enhancing resilience. We are committed to certifying our building portfolio as sustainable based on the federal-wide Guiding Principles (GPs) for Sustainable Federal Buildings. As of 2022, 49% of our federally owned eligible square footage is GP certified and 34% of our leased space (in spaces of 10,000 square feet or more) aligns with GP standards. We were also named a Green Lease Leader by the Department of Energy in 2022.

The GPs are aligned with industry standards, simplifying compliance and saving time and money. We also require all our new construction projects greater than 25,000 square feet to be designed to achieve net-zero emissions by 2030.

### Guiding Principles Certified Sustainable Buildings by Gross/Rentable Square Feet



\* Buildings containing green leases





## Carbon Pollution-Free Electricity

### Cutting Carbon

GSA is a leader in the government-wide effort to procure 100% carbon pollution-free electricity (CFE) by 2030, with 50% on a 24/7 basis (meaning that the CFE is produced on a local grid at the time it is used). In 2022, 46% of GSA’s electricity consumption was CFE.

We require new buildings to incorporate onsite energy sources, such as rooftop solar panels. Our designs allow systems to be easily expanded in the future if the budget does not allow for full installation immediately. **GSA has increased onsite renewable energy systems by 11% since 2021.**

We also leverage the government’s buying power to purchase CFE from public utilities and retail suppliers. **GSA is partnering with Entergy Arkansas on a program to provide 24/7 CFE to regional federal facilities.** If approved by the public utility commission, **this program would be one of the world’s first to support 24/7 CFE hourly matching, offering public and private customers regionally sourced renewable energy.**

### Advancing Technology

Partnering with private industry, GSA’s Green Proving Ground (GPG) evaluates emerging technologies in real facility environments. Commercial buildings use 35% of U.S. electricity, so several GPG projects focus on energy-producing technologies. For example, the Rocking Solar Tracker evaluation focuses on allowing more commercial and industrial rooftops to host solar panel systems by reducing both the weight of the system and the number of roof penetrations required for installation.

Since the program’s launch, GPG has evaluated 104 technologies and deployed 21. Notable deployments include cooling equipment that is one-third more efficient, windows that reduce heating load by 25%, and portable electric vehicle charging stations. **Together, these systems have annually saved 58,000 tons of CO<sub>2</sub> and \$16 million in costs.**



104  
Technologies  
Evaluated



50  
Published Reports



21  
Deployed  
Technologies



58K  
Annual tons of  
CO<sub>2</sub> Saved



16M  
Annual Cost  
Avoidance



## Zero-Emission Vehicle Fleet



### Driving Down Emissions

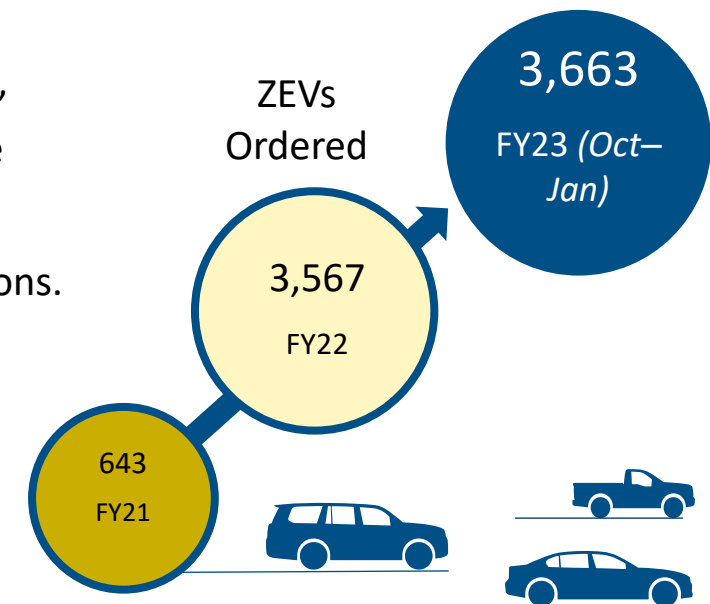
GSA buys commercially available motor vehicles on behalf of the federal government, which makes us a driving force in reducing vehicle emissions. We are making great progress toward our goals of 100% zero-emission vehicle (ZEV) light-duty vehicle acquisitions by 2027 and 100% of all vehicle acquisitions being ZEVs by 2035. **In 2022, 12% of light-duty purchases and 9% of all federal vehicle purchases were ZEVs.**

Our partnerships with agencies and industry allow us to build a more resilient fleet capable of working in challenging environments. We partnered with the U.S. Army's Redstone Arsenal and the U.S. Forest Service to provide electric pickup trucks that can meet their mission needs by performing in remote locations or rugged conditions.

### Steering the Transition

To help agencies transition to all-electric fleets, we provide virtual, on-demand, and in-person training on ZEVs, charging infrastructure, fleet management, and data analysis. GSA provided some of this training during FedFleet, a week-long event at the 2023 Washington D.C. Auto Show.

Innovative and flexible procurement is essential for fleet electrification. We established multiple contracts for agencies to acquire electric vehicle charging stations, software, and other services at competitive prices. Agencies have already requested more than \$45 million in charging installations. We are conducting 235 site assessments across GSA to identify optimal places to install or upgrade charging stations.



As government agencies transition to electric vehicle fleets, GSA partners with industry to provide the right vehicles for mission success.





SECTION 3:

## Social

### Working Together

We work with local stakeholders to ensure our impacts on the communities where we work are as positive as possible. By working with small and disadvantaged businesses, we create opportunities for economic growth. Our Environmental Justice Working Group works to ensure that our policies promote fairness, equity, and inclusion. As stewards of government property and the environment, we find new uses for resources no longer needed by agencies.



## Socioeconomic Contracting



### Offering Opportunities for All

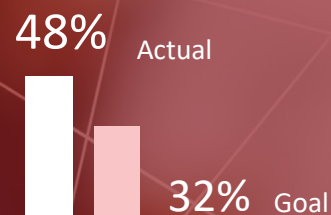
Economic opportunity is essential for community development. GSA offers training and resources to help small businesses win federal contracts, creating jobs and growth for businesses and communities across the country, including historically overburdened populations. We also partner with the Department of Education and state licensing agencies to provide onsite concessions opportunities, such as cafes, snack bars, and vending machines, to persons who are blind.



#### By the Numbers



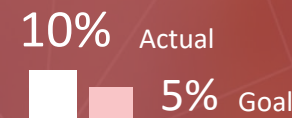
Small Business



Small Disadvantaged Business



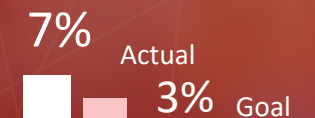
Women-Owned Small Business



Service-Disabled Veteran-Owned Small Business



Historically Underutilized Business Zones





## Community Engagement



### Making Decisions Together

In more than 2,000 communities, from the smallest rural towns to the largest metropolitan areas, we partner with local stakeholders to maximize our positive contribution to community development. As part of our Good Neighbor Program, when designing the San Ysidro Land Port of Entry, we worked with the community to achieve consensus on project objectives and community goals.

In 2022, our Environmental Justice Working Group incorporated resilience into our community engagement approach to explore how GSA can help communities cope with disruption or disasters. **This approach builds on existing programs to advance environmental justice and equity in public buildings.**

Our Green Building Advisory Committee provides independent policy advice and recommendations to advance innovations that reduce costs, enhance human health, and minimize environmental impacts. The committee includes experts from the public, private, and non-governmental sectors, with expertise in green buildings and environmental justice.

### Focusing on Frontline Communities

Low-income neighborhoods and communities of color are disproportionately impacted by air pollution. By using carbon pollution-free electricity (CFE) to power its facilities, GSA is helping to improve air quality and mitigate adverse health impacts to such communities.

Using environmental, climate, and economic justice screening tools provided by the Environmental Protection Agency and the Council on Environmental Quality allows us to identify and assess potential benefits to populations that would most benefit from our use of CFE. We seek environmental justice opportunities, engage local stakeholders in major CFE initiatives, and work to ensure the initiatives do not cause hardships for communities, such as higher electric rates.

*“GSA is one of the largest buyers of energy, and we’re a steady customer prepared to make long-term investments. We want to use the government’s buying power to spur demand for clean, carbon-free electricity and related distribution methods. GSA looks forward to partnering with industry to support CFE—when and where our customers need it—to create good jobs, save taxpayer dollars, and ensure a healthier planet for the next generation.”*

—GSA Administrator, Robin Carnahan



## Positive Impacts



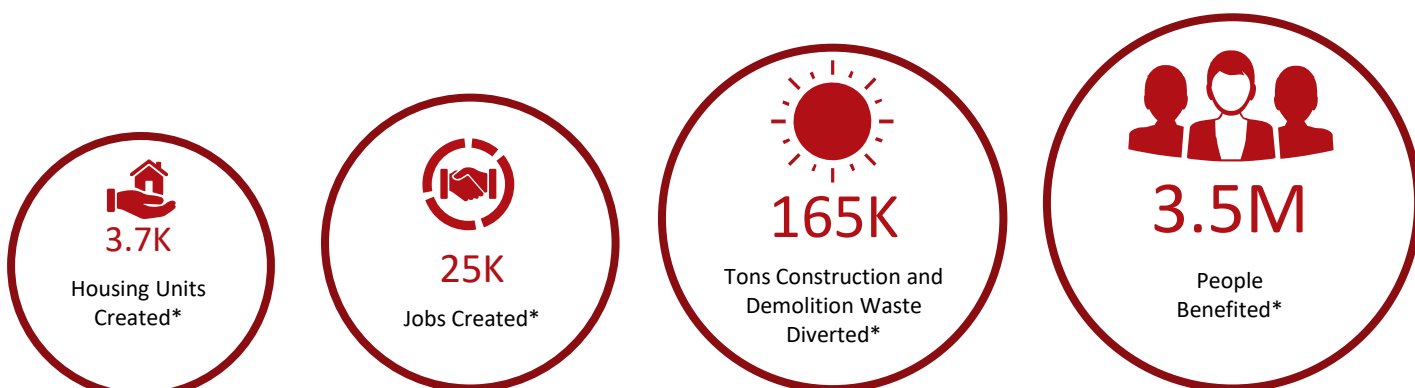
### Connecting With Community Needs

Federal assets are often still usable after an agency is done with them. As stewards of government property and the environment, we seek new uses for such resources. The Computers for Learning (CFL) program donates computers to schools. During the COVID-19 pandemic, CFL helped schools pivot quickly to remote learning.

“We would have been in a lot of trouble without the donation,” said Trevor Scott, Air Force Academy technical services director in the Chicago area.

When divesting a property from our real estate portfolio, we work with the Department of Housing and Urban Development to see if it can be used as an emergency shelter or other space for unhoused people.

In 2022, we helped take an unused parking lot and convert it into San Francisco’s largest permanent housing project, providing 256 residential units for adults transitioning from homelessness.



\*Source: CBRE, Inc., 2023 Real Property Utilization and Disposal Socio-Economic and Environmental Impact Study Final Report

### Revitalizing a Border Town

Lack of connectivity between the Raul Hector Castro Land Port of Entry and downtown Douglas, Arizona, has kept the city from maximizing potential economic benefits of the nearly \$750 million spent annually in the area by visitors passing through the port.

As we planned to modernize the facility, we worked with federal and state agencies, city officials, residents, and businesses to identify mutually beneficial development, sustainability, and security objectives. As a result, when we modernize the existing facility and open a new commercial port four miles west of town, the city has a path forward to redevelop downtown and establish a new industrial center adjacent to the commercial port.

As a step toward environmental justice and improving air quality in a frontline community, the new commercial crossing will move idling commercial vehicles and heavy industrial mining equipment away from populated areas.







**GAF GAF**

Greenbuild  
**1900**

Reduce your emissions  
Our GHG intensity today is 75% less than the global average
 Make steel circular  
We turn your scrap into highly engineered steel, and back again
 Keep reducing  
We are committed to a 30% reduction in GHG intensity by 2030

**Concrete Climate Ideas:**  
*Girl Scouts Talk* Building Materials  
 & Embodied Carbon  
 A Take-Action Project by Troops 1477 & 1952, Girl Scouts of Wisconsin Badgerland

What is  
**Low-Carbon Concrete...**

...and why do  
 Girl Scout Troops  
 '1477 & '1952  
 want everyone  
 to use it???

True or False?  
 Exposed concrete  
 soaks up CO<sub>2</sub> from the  
 atmosphere.

True or False?  
 Low-Carbon Concrete  
 is a specific product

What are Buy Clean  
 policies?

What is EC3?

What part of concrete  
 causes most of its CO<sub>2</sub>  
 emissions?

True or False?  
 Always choose the  
 building material with  
 the lowest embodied  
 carbon

Over the next 30 years  
 what % of new building  
 emissions will be from  
 embodied carbon?  
 10% 30% 50%

### Invitation to Engage

The areas of climate and sustainability are ever evolving, and we welcome the opportunity to engage with interested parties on these topics. If you would like to discuss the contents of this snapshot or inquire about another aspect of our approach, please email us at [sustainability@gsa.gov](mailto:sustainability@gsa.gov).





SAN YSIDRO  
LAND PORT OF ENTRY  
EAST PEDESTRIAN