Federal procurement—what is it and how can it fight climate change? (nationalgeographic.com)

What if the world's biggest customer went green? The U.S. government wants to find out.

The U.S. government can fight climate change by shifting the way it spends its multi-billion-dollar budget.

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• 9 MIN READ

Every year the federal government spends more than $500 billion purchasing goods and services to support its operations. That's roughly the size of Sweden's economy, and it makes the United States government the single biggest consumer in the world.

In his January 27 executive order aimed at tackling the climate crisis, President Joe Biden encouraged federal agencies to become more environmentally conscious consumers. Experts say making government "purchasing power" greener can act as a catalyst for sustainable businesses, giving climate-conscious producers consistent demand from a powerful customer.

How does it work?

When the federal government spends money strategically, it can act as a powerful market leader, driving change across entire industries. Such purchasing power largely plays out in the form of contracts for which private companies compete—in this case, in the green sector.

While Biden's executive order kicks off an ambitious conversation about how to target more federal money at the sustainable sector, it's light on details; more guidance is expected in the coming weeks.

Environmental advocates and policy experts say three sectors stand out as candidates for targeted federal spending on sustainability. Two of them, clean energy and electric vehicles, were highlighted in the executive order. Experts are also looking to the government to invest in greener construction materials.

Electric vehicles

In Biden's executive order, the administration encourages federal, state, local, and tribal governments to purchase electric vehicles. This includes U.S. Postal Service vehicles.

In 2019, the government owned about 645,000 vehicles, some 4,400 of them electric. In the same year there were about 280 million vehicles operating in the U.S.

"The federal vehicles fleet is not that big, but the point of [the executive order] is that this type of guaranteed customer helps the private industry further supply the United States," says Jean Su, an attorney for the Center for Biological Diversity. Take electric vehicle start-up Workhorse, for example. The company was competing for a $482 million-dollar contract to produce the next fleet of U.S. post office vehicles. When it was instead announced that the post office contract would instead go to defense contractor Oshkosh, Workhorse's stock tumbled and hasn't recovered.

Only 10 percent of the post office's new 165,000 deliver trucks are slated to run on electric batteries. The rest will be powered by fuel-efficient, gas-powered engines designed to later be converted to electric vehicles. Workhorse is pushing back on the decision, and some lawmakers have spoken out against the Post Office's decision, but it remains unclear whether the current plan will change.

Still, clean energy advocates say government-purchased electric vehicles can help reinforce public trust in those who fear that driving an electric car might leave them stranded.

For example, says Dan Lashof, director of the U.S. division of the World Resources Institute, "if we're talking about national park vehicles, you can have the charging infrastructure in the park in a way that visitors can also use it. It's visible and people see electric vehicles as practical."

More renewables

Another way the federal government can spend its money sustainably is by using more renewable energy.

According to Ryan Fitzpatrick, director of the climate and energy program at the center-left think-tank Third Way, the federal government has the power to stimulate more demand through what's referred to as a "power purchase agreement," in which a buyer such as the government purchases power directly from a low-carbon source—anything from wind farms, to nuclear plants, to natural gas facilities using carbon capture.

In addition to existing incentives, Fitzpatrick says purchasing agreements are another tool the administration has to encourage clean energy production in the private sector.

Su notes that, where possible, federal government buildings could generate their own clean energy. "One of the alternatives they can think about is building solar on their own roofs and becoming far more self-sufficient," says Su.

(Related: Read more about how solar panels and batteries can help keep the lights on during a disaster.)

On military bases, the Department of Defense could install more renewables and improve its energy storage. Not only would it reduce emissions, but it could make the military more resilient, says Sherri Goodman, a senior fellow at the Wilson Center and a former deputy

undersecretary of defense for environmental security in the Obama Administration.

As an example, she notes that during the wars in Afghanistan, "the military started using a lot of solar power and materials as a way to reduce the logistics tail of trucking oil to the front. There was not only an environmental benefit, but a performance benefit," says Goodman.

On March 9, the Defense Department created a climate working group that will address climate change in its supply chains, among other initiatives.

More efficient buildings

Non-residential buildings accounted for about 18 percent of U.S. energy consumption in 2019, according to the Energy Information Administration.

Of the hundreds of millions of tons of carbon dioxide emitted from those buildings in the U.S., it's unclear how many of those emissions came from U.S. government buildings. The figure could be significant, as the General Services Administration leases 376 million square feet of space in 9,600 buildings across the country. Only a few dozen of those are certified as sustainable by LEED, an organization that sets green building standards.

A 2016 report by the National Institute of Building Sciences outlined how the federal government could reduce its greenhouse gas emissions from its buildings. In addition to power purchase agreements and on-site energy generation, the report also noted that government buildings could be more energy efficient by phasing out old refrigeration equipment, reducing the waste it sends to landfills, buying carbon offsets, and better educating employees on their energy habits.

The CLEEN Project, a database of suggestions and proposals for how the government could take action on climate change, notes several ways the government could spend more sustainably. Along with acquiring

more electrical vehicles and switching to cleaner construction materials, they recommend incorporating so-called "smart surfaces" that help make them more energy efficient; reducing food waste; and switching to more plant-based meals in buildings with cafeterias.

Cleaner materials for constructing buildings, highways

In the U.S., emissions from the industrial sector—products like cement, steel, chemicals, and consumer goods—make up over 20 percent of all emissions, a figure that is expected to increase as the population grows.

According to 2017 data from the U.S. Geological Survey, the U.S. cement industry emitted nearly 2,000 pounds of carbon dioxide per ton of raw cement in that year alone, a slight increase from the previous year. And while it doesn't distinguish between federal and state dollars, it notes that governments spent $94 billion on cement for construction and buildings and $75 billion on cement for highways and streets.

In 2014, the federal government alone spent $96 billion on transportation and water infrastructure.

According to Jason Walsh, executive director of the BlueGreen Alliance, about 20 percent of iron and steel purchased in the U.S. is paid for with taxpayer dollars; the steel is used for everything from building construction to automotive manufacturing. Using procurement, Walsh says the government can establish a certain green threshold for the products they use, ultimately forcing companies that want lucrative government contracts to meet those thresholds.

"We're actually exploring how the federal government can implement a 'buy clean' model as the single biggest purchaser of goods and services in the entire global economy," he says. "We want it to look a lot like Buy Clean California."

Turning an order into reality

Steven Schooner, a procurement law professor at George Washington University, says there are a number of obvious first steps the

administration should take to put the order into practice on the ground. Clearly articulating what it wants to prioritize, creating a reporting structure to track progress, running pilot programs, and evaluating cost with a product's environmental impact in mind could build momentum for meaningful change.

Cost will be a roadblock to implementing strict procurement standards. Currently agencies are often required to purchase the cheapest options they can find. In a 2020 article on sustainable procurement, Schooner wrote that changing how purchases are made would require "dramatic change" that looked at the entire life cycle of an item.

Climate advocates want to see the Biden Administration use even more of its executive power by declaring a climate emergency and invoking the Defense Production Act to marshal private industry to develop more clean-energy technology, but the administration has given no indication it plans to do so.

Ultimately, say experts, expect procurement to effect change on a years-long timescale.

"It'll take a little bit of time," says Walsh. "Even though we have a great sense of urgency, we have to get this right, we have to first establish the measurement and accounting system and how those are reported and we have to do that in a transparent and systematic way. That's job one."