

Summary of Climate and Clean Energy Provisions In The 2021 Bipartisan U.S. Senate Infrastructure Bill

Compiled from the larger [BGOV Bill Summary: Infrastructure Deal Amendment to H.R. 3684](#) by Michael Smallberg, Christina Banoub, Naoreen Chowdhury and Brittney Washington | August 2, 2021

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CLIMATE CHANGE & ALTERNATIVE VEHICLES

Resilience: The bill would set aside \$7.3 billion from the main federal-aid highway allocation and authorize an additional \$1.4 billion from the HTF from fiscal 2022 through 2026 as part of a new Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT) program, according to a [funding table](#) from the Environment and Public Works Committee on identical provisions in its highway bill ([S. 1931](#)). The program would fund improvements to make infrastructure more resilient to storms and natural disasters.

The measure would reduce the program's nonfederal cost-sharing requirements for states and other entities that develop resilience improvement plans.

It also would authorize \$500 million over five years to establish Transportation Resilience and Adaptation Centers of Excellence to study how to make transportation more resilient to extreme weather and climate change.

Eligibility for several federal-aid highway programs, including the National Highway Performance Program, would be expanded to include transportation resilience and extreme weather mitigation projects.

Carbon Reduction: The measure would allocate \$6.42 billion over five years from federal-aid highway funds for a new program to reduce transportation-related carbon emissions, according to the funding table. Eligible projects would include truck stop electrification systems, trail facilities for pedestrians and bicyclists, congestion management technologies, intelligent transportation system capital improvements, energy-efficient alternatives to street lights, electric vehicle charging infrastructure, and port electrification.

Charging & Refueling: The measure would authorize \$2.5 billion over five years for grants for electric vehicle charging stations and alternative fuel infrastructure. Half of the funds would be set aside to install alternative fuel stations and infrastructure in publicly accessible locations, with priority for rural areas, low- and moderate-income neighborhoods, and

communities with a low ratio of private parking to households or a high ratio of multiunit dwellings to single-family homes.

Additional Programs: The measure would authorize the following amounts from fiscal 2022 through 2026:

- \$500 million from the general fund for a Healthy Streets program to deploy cool pavements and expand tree cover.
- \$250 million from the HTF for grants to reduce congestion in the busiest metropolitan areas.
- \$250 million from the HTF for grants to reduce truck idling and emissions at port facilities.

Emergency Appropriations

The measure also would provide \$47.3 billion in supplemental emergency appropriations for highway infrastructure programs from the general fund. Amounts would be provided from fiscal 2022 through 2026, including totals of:

- \$5 billion for states to deploy electric vehicle charging infrastructure and a data-sharing network. The measure would establish a joint office for the Energy and Transportation departments to coordinate their work on EV infrastructure, which would include new installation and interoperability standards.

PUBLIC TRANSIT

Trust Fund Programs

The measure includes \$69.9 billion in contract authority from the mass transit account from fiscal 2022 through 2026 for the main formula-based transit grant programs. The fiscal 2022 allocation would be \$13.4 billion, compared with \$10.2 billion for fiscal 2021 under the [one-year extension](#) of the FAST Act ([Public Law 114-94](#)).

Allocations of grant funds over the five-year period would include:

- \$2.34 billion for low- or zero-emission bus grants. At least 5% would be used for training workers to use the buses.

Emergency Appropriations

The measure also would provide supplemental emergency appropriations over five years for public transit programs, including:

- \$10.3 billion for Transit Infrastructure Grants, with \$5.25 billion set aside for low- and zero-emission bus grants, and \$4.75 billion for State of Good Repair grants.

RESEARCH & INNOVATION

ARPA-I: An “Advanced Research Projects Agency-Infrastructure” would be established within the Transportation Department. It would support research projects that develop innovative solutions to reduce long-term costs of infrastructure development, mitigate transportation’s lifecycle effects on the environment, such as to greenhouse gas emissions, and promote resilience from physical and cyber threats.

The measure would authorize “such sums as are necessary” for ARPA-I. The agency’s budget request and appropriations would be separate from the rest of the Transportation Department. Funds couldn’t be used to build a new facility for five years after the bill’s enactment.

Smart Transportation: The measure would authorize a total of \$500 million over for five years for the Strengthening Mobility and Revolutionizing Transportation (SMART) Grant Program that would support demonstration projects on smart technologies that improve transportation efficiency and safety, such as autonomous vehicles and smart grids to support electric vehicles.

ENERGY INFRASTRUCTURE

Clean Energy Supply Chains

Batteries: The bill would authorize \$3 billion over five years for grants through the Energy Department’s Office of Fossil Energy for demonstration projects to process battery materials and for constructing or retrofitting processing facilities.

An additional \$3 billion over five years would be authorized for Office of Energy Efficiency and Renewable Energy grants for similar activities related to manufacturing and recycling batteries.

The legislation would also authorize the following totals for fiscal 2022 through 2026:

- \$750 million for grants supporting manufacturing and recycling of advanced and low-carbon energy materials and retrofitting industrial facilities to reduce emissions.
- \$200 million for a grant program to support research and development of recycling and reuse applications for electric vehicle batteries.

USGS Mineral Mapping: The bill would authorize \$320 million over five years for a U.S. Geological Survey initiative to improve mapping of critical minerals by integrating several sources of surface and subsurface mapping and data.

Critical Mineral Extraction & Resource Mapping: The measure would authorize \$140 million in fiscal 2022 for the Energy Department, working with an academic partner, to design and build a facility to demonstrate the commercial feasibility of an integrated rare earth element extraction facility and refinery.

The measure would also authorize \$320 million over five years for an “Earth Mapping Initiative” that would include information relating to the location of critical mineral resources, mine waste, and geothermal resources, among other things.

Carbon Capture Infrastructure

The bill would authorize \$3.5 billion over five years for Energy Department financial support for projects that help develop four regional hubs to capture carbon dioxide from the atmosphere and transport, store, and use it.

The measure would create a “carbon dioxide transportation infrastructure finance and innovation” or CIFIA program to leverage federal funding to make loan guarantees and secured loans supporting large projects for infrastructure to transport carbon dioxide. It would authorize \$600 million per year in fiscal 2022 and 2023 and \$300 million each year afterward through fiscal 2026.

The measure would direct the Interior Department to adopt rules to allow for leases of offshore areas to be used to inject captured carbon dioxide below the seafloor for long-term sequestration.

Other Fuels Infrastructure

Hydrogen: The bill would authorize \$8 billion over five years to support hydrogen fuel production from different sources, use of hydrogen for electricity and industrial processes, and hydrogen fuel transportation. The Energy Department would establish at least four regional clean hydrogen hubs that locate clean hydrogen producers, users, and transport infrastructure near one another.

The measure would also authorize \$1 billion over five years for a research, demonstration, and commercialization program aimed at reducing the cost of hydrogen produced from electrolysis to less than \$2 per kilogram of hydrogen by 2026.

Nuclear Credit Program: The bill would authorize \$6 billion from fiscal 2022 through 2026 for an Energy Department civil nuclear credit program to support reactors projected to cease operations because of economic factors. Credits would be provided for a commitment to generate a specific amount of power over a four-year period. No credits could be issued after Sept. 30, 2031.

Energy Efficiency

Revolving Loan Fund: The bill would authorize \$250 million for fiscal 2022 to create an Energy Efficiency Revolving Loan Fund Capitalization Grant Program for states to conduct energy audits and energy upgrades or retrofit projects.

School Improvements: The measure would authorize \$500 million over five years for a grant program for schools to make improvements that reduce energy costs, improve health and indoor air quality, or involve renewable energy technologies or alternative fueled vehicles.

Other Authorizations

The measure would increase authorizations for existing Energy Department research and demonstration projects, including:

- \$3.21 billion over six years for advanced nuclear reactor demonstrations.

- \$2.54 billion over four years for demonstration projects related to carbon capture at coal- and natural gas-fired operations, and an additional \$937 million over four years for large-scale carbon capture pilot projects.
- \$600 million over four years to develop alternatives to critical minerals and their sources, including through recycling.

Energy Department Loans: The measure would allow loans for projects that increase domestic production of critical minerals under the Energy Department’s Innovative Energy Loan Guarantee Program. It also would expand the list of vehicles eligible for loans under the Advanced Technology Vehicle Manufacturing Program, including medium and heavy duty vehicles, aircraft, and hyperloop technology.

Emergency Appropriations

The measure also would provide supplemental emergency appropriations for Energy Department programs for fiscal 2022 through 2026, including:

- \$21.5 billion for the department’s Office of Clean Energy Demonstrations, with \$8 billion set aside for regional clean hydrogen hubs and \$5 billion for electric grid grants.
- \$16.3 billion for energy efficiency and renewable energy activities, with funds set aside each for battery grants and other programs that the measure would authorize.
- \$8.1 billion for the department’s Office of Electricity, with \$5 billion set aside for grants to prevent outages and enhance electric grid resilience.
- \$7.5 billion for the Office of Fossil Energy and Carbon Management, with \$3.5 billion set aside to develop regional direct air capture hubs.
- \$6 billion to carry out the Civil Nuclear Credit Program.

OTHER PROVISIONS

Clean School Buses and Ferries: The measure would authorize \$5 billion over five years for the Environmental Protection Agency to award grants and rebates to replace school buses with zero-emission buses or buses that the EPA certifies reduces emissions and use alternative fuels.

Grant recipients would include state and local government agencies, contractors, or nonprofit school transportation associations. The EPA would prioritize applicants from school districts that serve a high percentage of children from low-income families.

The measure also would authorize the following amounts over five years:

- \$250 million for the department to establish a pilot program to provide grants to purchase electric or low-emission ferries.