



Information Alert

State-Federal Relations Division

Energy Act of 2020 Signed into Law

Dec. 28, 2020

Congress passed the Energy Act of 2020 as part of the fiscal year 2021 [omnibus appropriations bill](#) which President Trump signed into law on Dec. 27. It includes provisions from both [House](#) and [Senate](#) proposals released earlier this year and is the first major comprehensive update to the nation's energy policies in 13 years. Overall, the bill prioritizes research, development, and demonstration across a broad spectrum of energy technologies within the Department of Energy (DOE) including solar and wind power, energy storage, grid modernization, energy efficiency, nuclear power, carbon capture utilization and storage, and more. A breakdown of the provisions is below.

For more information on the Energy Act of 2020, please see the [Section by Section](#), [the full bill](#) (Division N), or contact NCSL staff [Kristen Hildreth](#) and [Ben Husch](#).

Energy Efficiency

The bill contains a variety of energy efficiency provisions, including authorizing funding for energy efficiency programs such as weatherization and energy efficiency improvements in federal buildings, public schools and data centers, and provides incentives for combined heat and power. A new Smart Energy and Water Efficiency Pilot Program is also created, providing grants to water authorities which provide water, wastewater, or water reuse services. Additionally, the bill reauthorizes the existing Weatherization Assistance Program (WAP) through fiscal year 2025.

Nuclear Energy

Nuclear energy technologies would be authorized to receive additional funds aimed at nuclear energy research, design and development (RD&D) and commercial application (CA) programs to fund the development of next-generation reactor technologies. The Secretary of Energy is also instructed to create a public education and outreach program to promote public understanding of the benefits of nuclear energy, and also establish a nuclear energy technical assistance program.

Renewable Energy and Storage

Renewable energy research and development, as well as storage of such energies, was also heavily targeted in the bill. In addition, the bill reauthorizes DOE's wind energy research

program, including, onshore, offshore, and distributed as well as creating a wind technician training grant program to spur job creation. The department's solar energy research program was also reauthorized and includes a directive for research on photovoltaic heating and cooling, grid integration, and others, while also creating a manufacturing initiative to enhance domestic capabilities.

Additionally, the bill directs DOE to create an Energy Storage System Research, Development, and Deployment Program at DOE, to improve technologies ranging from distributed batteries and control systems for their associated grid integration to long-duration storage technologies such as pumped hydro and compressed-air energy storage. A new grant program is also created to assist rural electric cooperatives and public utilities to assist with designing and demonstrating energy storage and microgrid projects that use energy from renewable sources.

Relatedly, the Department of Interior is directed to procure at least 25 gigawatts of solar, wind, and geothermal production on public lands by 2025, and also provides flexibility to the secretary to ensure that those projects are cost competitive.

Carbon Management & Removal

The bill directs DOE to conduct research and development on a variety of activities for carbon capture and storage including "transformation technology" projects which are aimed at reducing emissions at fossil-fuel-fired power plants, to new technologies for direct air capture of carbon dioxide as well as a formal report identifying tools the federal government can use to advance the deployment of various carbon dioxide removal projects while creating a task force to advise the secretary on associated matters. The bill also establishes a number of new programs at DOE including a large-scale carbon capture technology pilot program, a program for carbon storage, a large-scale carbon sequestration demonstration program, and an integrated storage program. DOE is also directed to establish an RD&D program for carbon utilization.

Industrial and Manufacturing Technologies

The bill includes several provisions intended to encourage the development and evaluation of technologies which would "serve to increase the technological and economic competitiveness of U.S. Industry and manufacturing," while decreasing non-power sector industry emissions. To accomplish this, the bill establishes a research and development program focusing on decarbonization strategies for various industrial sectors including steel, aluminum, and chemical manufacturing in addition to emission reductions from shipping, aviation, and other long-distance transportation.

Critical Minerals

The bill directs DOE to carry out an R&D program to develop separation technologies for the extraction and recovery of rare earth elements and other critical materials from coal and coal byproducts, and to also designate and update a publicly available list of critical minerals every three years. The manufacture of renewable technologies and associated battery storage relies upon critical mineral commodities that more often than not need to be imported into the nation such as aluminum, rare-earth metals, cobalt, lithium, manganese, germanium and more. The U.S. is [50 to 100 percent reliant](#) on foreign sources for many of the critical minerals used in renewable technologies.

Grid Modernization

The bill contains several provisions directed at enhancing the nation's grid security and modernization. The bill reauthorizes an RD&D and CA program on modeling emerging technologies to ensure a secure and reliable design of the grid, and another to improve sending, monitoring and visualization of the grid. Further, the Secretary of Energy is directed to submit a 10-year strategic plan on integrated energy systems in response to newly authorized programs which incorporate a variety of technologies, including nuclear energy, renewable energy, storage, carbon capture, and electric vehicles.

Of note, the bill directs DOE to coordinate with relevant stakeholders and government entities in relation to grid modeling and integrated energy systems plans, including state, tribal and local governments, electric utilities, and transmission organizations. Additionally, at the direction of a state, regional organization, or electric utility, the department must provide assistance to develop electricity distribution plans via resource assessments and analysis of further demand and distribution requirements. The department is also required to review and evaluate the current challenges associated with net metering and issue a report on its findings, and new technologies to improve it. DOE is further directed to establish a program to promote development of integrated micro-grid systems for isolated communities, and systems to improve critical infrastructure resiliency.

Department of Energy Innovation

The bill creates an Office of Technology Transitions with DOE, aimed at commercializing technologies that advance the missions for DOE. It also reauthorizes DOE's RD&D and CA activities within the Offices of Hydrogen and Fuel Cell Technologies, Vehicle Technologies, and Bioenergy Technologies for FY 2021 through 2023.

Hydrofluorocarbons (HFCs)

Also contained within the overall omnibus package is the American Innovation and Manufacturing Act of 2020, a bipartisan deal to authorize a 15-year phasedown of hydrofluorocarbons, greenhouse gases found in refrigeration and air conditioning. These provisions require the Environmental Protection Agency (EPA) to implement an 85% phasedown of the production and consumption of HFC by 2036. The proposal lists six congressionally designated essential uses of HFCs, including defense sprays, medical inhalers, semiconductor manufacturing, and mission-critical military uses. The bill pre-empts state and local governments from regulating those essential designated HFC uses for a period of 5 years, unless extended by EPA to a maximum of 10 years should there still be no substitute chemical for replacement use.

Energy Tax Credits

Out of the Energy Act, Congress also extended various tax credits and incentives for renewables, fuel cell vehicles, carbon sequestration, biofuels and more including:

- The investment tax credit (ITC) for solar and fuel cell property would be extended at current level for projects that begin construction by the end of 2022.
- The production tax credit (PTC) for wind and other renewable sources would be extended at current levels for one year.

- A credit for offshore wind would be extended for five years through 2025.
- A \$1.01 a gallon credit for the production of second-generation biofuels would be extended through 2021.
- A 50-cents per-gallon excise tax credit or payment for alternative fuel and 50- cents credit for alternative fuel mixtures would also be extended through 2021.
- A credit for the purchase of qualified fuel cell vehicle would be extended through 2021.
- A credit for the sequestration of carbon dioxide would be extended for two years to 2025.
- A 10% credit for two-wheeled plug-in electric scooters would be extended through 2021.