The House passes historic bipartisan infrastructure bill.

On late Friday, the House passed the Infrastructure Investment and Jobs Act on a final vote of 228-206. While the Senate passed the measures in early August, the bipartisan infrastructure bill had been stalled in the House after Progressive Democrats refused to consider the measure until Congress passed the Building Back Better (BBB) Act, a budget reconciliation measure that includes major investments in clean energy and climate. After weeks of intense negotiations, House Democrats reached a compromise where they vote on the bipartisan infrastructure bill and also advanced a rule that tees up potential consideration of the BBB Act when the Chamber returns to Washington, D.C. the week of November 15th (though gaps remain between Democratic Moderates and Progressives over several key issues).

The bipartisan bill includes around $550 billion in new spending over eight years and represents a major bipartisan victory for President Biden and the bipartisan group of lawmakers who crafted the deal. Below are the relevant energy provisions of the Infrastructure Investment and Jobs Act:

Grid Infrastructure and Reliability

* Directs the Department of Energy (DOE) to establish various programs to bolster the resiliency and reliability of the grid. There is assistance to states to create energy security plans.

* With respect to transmission, there are several sections meant to incentivize new transmission, including:

  - Requires DOE to study capacity constraints and congestion with a focus on the integration of renewable energy resources when designating National Interest Electric Transmission Corridors.

  - Provides the Federal Energy Regulatory Commission (FERC) with backstop authority to issue permits for the certain interstate transmission facilities if a state commission withholds or denies an application seeking approval for the siting of such facilities. Permitting on the state and local level has persisted as a major impediment to new transmission lines. Republicans during the markup raised concerns regarding expanding FERC's authority to overrule state opposition.

  - Creates a DOE revolving loan fund so the department can serve as an "anchor-tenant" for a new green field transmission line or upgrade of an existing line.

* Increases the Bonneville Power Administration's borrowing authority so it can better address the needs of its transmission system.

There are also provisions to address the distribution segment of the electricity sector. In particular, there is over $19 billion in support for grid modernization, including $3 billion in funding for the Smart Grid Investment Matching Grant Program, which will facilitate the deployment of technologies to enhance grid flexibility. Utilities are directed to promote the use of demand-

response and for state regulators to establish rate mechanisms to recover the costs of promoting demand-response practices.

Cybersecurity

There are various efforts to help prepare for, prevent, and respond to cyber risks. There is a particular focus on advancing technologies to help mitigate cyber security risks, such as:

* Test products and technologies for use in the bulk-power system.

* Directs FERC to initiate a rulemaking that would incentivize investments in cybersecurity.

* Establishes a DOE public-private partnership to advance the cyber-security of electric utilities.

* Establishes a DOE program to provide grants and technical assistance for utilities to address cybersecurity threats.

Supply Chains for Clean Energy Technologies

There are policies to accelerate the US Geological Services' (USGS) mapping efforts for critical minerals. In addition, there is funding authorized for a USGS research facility to support energy and minerals research.

There is also funding authorized for DOE to demonstrate the feasibility of a full-scale integrated rare earth element concentrator and refinery. There are improvements to the federal permitting process for critical mineral production on federal land.

There is also a focus on batteries for electric vehicles, such as the following provisions:

* Establishes a "Battery Material Processing Grant Program" within DOE's Office of Fossil Energy.

* Creates within DOE's Office of Energy Efficiency and Renewable Energy a battery manufacturing and recycling grant program to support and sustain a North American battery supply chain.

* Directs the Secretary of Energy to continue the Lithium-Ion Battery Recycling Prize.

* Expands an existing DOE program for research, development, and demonstration of electric vehicle battery recycling and second-life applications.

Establishes a grant program focused on small- and medium-sized manufacturers to enable them to build new or retrofit existing manufacturing and industrial facilities to produce or recycle advanced energy products in communities where coal mines or coal power plants have closed.

Carbon Capture, Utilization, and Storage, and Transportation

There is a grant program for state and local governments to procure and use carbon oxide-derived products and directs DOE to develop standards to support said products.

There is a program to provide flexible, low-interest loans and grants for CO2 transport infrastructure projects. The Carbon Storage Validation and Testing program is expanded to include large-scale commercialization of new or expanded carbon sequestration projects and the associated transport infrastructure.

As to sequestration, there is funding for the permitting of wells for geologic sequestration of CO2 and creates a grant program for states to establish their own Class VI permitting programs. The Department of the Interior is also able to permit geologic carbon sequestration on the Outer Continental Shelf. DOE Is directed to establish at least four regional direct air capture hubs.

Hydrogen Research and Development

DOE is directed to establish four regional clean hydrogen hubs to demonstrate the production, processing, delivery, storage, and end-use of clean hydrogen. DOE must also develop of a national strategy and roadmap to facilitate a clean hydrogen economy. A clean hydrogen manufacturing and recycling program is also created to support a clean hydrogen domestic supply chain.

Nuclear Energy

There is a new DOE program to support existing reactors. DOE is also able to transfer fee title or property interest acquired by the Secretary from any project funded under the Advanced Reactor Demonstration Program, and extends the confidentiality of intellectual property associated with the Advanced Demonstration Program from five to thirty years.

Hydropower

Existing incentive programs for hydropower under Section 242 and Section 243 of the Energy Policy Act of 2005 are expanded. There is also a new program that make payments to hydropower operators for improvements in grid resiliency, dam safety and environmental protections. DOE is also directed to establish a demonstration project for pairing pumped hydropower storage with intermittent renewables.

Miscellaneous

DOE must develop a report on the viability of siting solar energy on current and former mine land, including necessary interconnection and transmission siting, and the impact on local job creation.

Natural Resources-related Infrastructure, Wildfire Management, and Ecosystem Restoration

There is funding for the Forest Service's Legacy Road and Trail Remediation Program. In addition, there is funding for the Department of the Interior and the Force Service to reduce wildfire risks and restore ecosystems

Western Water Infrastructure

Funding is authorized for various water infrastructure needs. Funding is also authorized for a grant program related to habitat restoration projects in rivers basins impacted by the Bureau of Reclamation water projects.

Authorization of Appropriations for Energy Act of 2020

There is funding for select provisions from the Energy Act of 2020, including energy storage demonstration projects; the advanced reactor demonstration program; mineral security projects; carbon capture demonstration and pilot programs; direct air capture technologies prize competitions; water power projects; renewable energy projects; and industrial emissions demonstration projects.