



Monumental Clean Energy Innovation Package Will Create U.S. Jobs, Reduce Global Carbon Emissions

WASHINGTON, DC – Monday, December 21, 2021 – ClearPath today congratulated Congress for reaching an agreement on a monumental clean energy authorization package as part of the omnibus package. The bill includes a number of clean energy innovation bills that together will reduce carbon dioxide emissions in the U.S. and globally. In addition to the new reforms to the federal clean energy innovation programs, the final package builds on previous successes in funding for clean energy programs at the U.S. Department of Energy (DOE) and other agencies across the federal government.

“This is the biggest bipartisan energy policy win of the 116th Congress, and the most significant energy legislation we’ve seen in over a decade,” **said Rich Powell, executive director of ClearPath Action.** “The resulting technological innovation will provide options for both American and global energy systems to go clean and address the global emissions reduction challenges. It will lead to smarter, more targeted investments by the Department of Energy focused on real-world outcomes.”

The energy package is a culmination of hard work on both sides of the Hill – reconciling the Senate’s **American Energy Innovation Act (S. 2657)** and the House’s **Clean Economy Jobs and Innovation Act (H.R. 4447)**.

“By authorizing and funding more than 20 cutting-edge technology demonstrations, streamlining the permitting process for clean energy infrastructure like CO2 pipelines, and launching moonshot RD&D initiatives, we can drive down energy costs, spur good-paying American energy and manufacturing jobs, and enhance U.S. geopolitical strength,” **added Powell.**

Below are some of the highlights from the legislation including clean energy innovation for natural gas, nuclear energy, carbon capture, energy storage, hydropower, direct air capture, fusion and other technologies.

Fossil Energy & Carbon Capture, Utilization, and Storage

- Launches a **Moonshot RD&D initiative to demonstrate six carbon capture demonstrations** (at least 2 for coal, 2 for natural gas, and 2 for industrial) by 2025.

- Catalyzes a **Direct Air Capture X-Prize** for at least two projects capable of capturing more than 10,000 tons of carbon dioxide annually with a cap up to \$100M.
- Streamlines environmental review for CO2 pipelines.
- Establishes a carbon capture utilization and sequestration permit guidance and a regional permitting taskforce.
- Strengthens support for the National Carbon Capture Center, a U.S. testbed for carbon capture and direct air capture technologies.
- Focuses a DOE Research program on improving high efficiency turbines, including hydrogen and aviation angle.

Nuclear Energy

- Authorizes the **Advanced Reactor Demonstration Program**, which aims to demonstrate two new nuclear designs in the next five years, and another wave of 2 to 5 designs by the mid-2030s.
- Authorizes a **milestone-based fusion development program**, with the goal of enabling a full scale private fusion design within 10 years.
- Establishes a focused **advanced fuels (High Assay Low-Enriched Uranium or HALEU) RD&D Program** to bridge needs for early-moving advanced reactor technologies and catalyze a commercial domestic supply of advanced fuels.
- Authorizes appropriations for the important **Versatile Test Reactor** user facility, essential for both accelerating commercial development of advanced reactor designs and for expanding the frontier of future nuclear energy research, for five years.
- Bolsters the highly successful **Gateway for Accelerated Innovations (GAIN)** program operated by the Idaho National Laboratory.

Energy Storage

- Codifies the principles of the **Energy Storage Grand Challenge** as an ambitious Energy Storage System Research, Development, and Deployment Program, focused on furthering the development of technologies for large-scale commercial deployment at hourly and sub-hourly durations, daily (6 hours), weekly and monthly (10 to 100 hours) and seasonal durations.
- Establishes an **Energy Storage Pilot Grant Program**, which calls for three demonstrations of innovative new technologies by September 30, 2023.
- Launches a **Long-Duration Demonstration Initiative and Joint Program**, which includes a DOE demonstration project and a joint-program between DOE and DoD to address issues pertaining to the bulk power system, behind the meter, microgrid, and off-grid applications.
- Establishes a **Critical Material Recycling and Reuse Research, Development, and Demonstration Program** focused on reuse and recycling of energy storage systems that contain critical materials.

Renewables, Including Geothermal and Hydropower

- Sets a goal of enabling no less than **25 gigawatts of wind, solar, and geothermal deployment on federal lands by 2025** and improves the permitting process for those technologies.
- Launches an **Enhanced Geothermal System moonshot initiative, which aims to demonstrate four** projects in diverse geographic areas. Also expands the FORGE deep drilling program that has so far been successful in Utah.
- Improves federal regulations enabling co-production of geothermal on oil and gas leases.
- Establishes a **Reservoir Thermal Energy Storage RD&D program** that emphasizes deep-direct use applications of geothermal.
- Authorizes R&D to demonstrate the co-production of geothermal energy and critical minerals, focused on improving cost-effectiveness of removing critical minerals from geothermal brines, increasing mineral recovery rates, and decreasing water use.
- Adds “thermal energy” to the definition of renewable energy for the purposes of federal procurement policies.
- Reorients the DOE water power office’s research, development, and demonstration programs and authorizes the **National Marine Energy Testing Center**.
- Reauthorizes the Hydroelectric Incentive Program, which provides funding for retrofitting dams with hydroelectric generating capabilities as well as the Hydroelectric Efficiency Improvement Program

Critical Minerals:

- Instructs federal agencies to update a list of critical minerals every three years and requires the U.S. Geological Survey to publish assessments of undiscovered mineral resources.
- Bolsters R&D program for the office of Fossil Energy at DOE on the extraction and recovery of rare earths and critical minerals from coal and coal byproducts.
- Expands an RD&D program at DOE focused on all levels of the critical mineral supply chain, including extraction, separation, processing, production and recycling technologies. Also includes R&D to develop critical material substitutes.
- Establishes a **Critical Materials Consortium** at DOE, described as a “centralized entity for multidisciplinary, collaborative critical materials research and development.”
- Directs DOE to support construction of a **Critical Materials Supply Chain Research Facility** as an “integrated, rapidly configurable research platform” to advance RD&D and commercialization throughout the supply chain.

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ABOUT CLEARPATH ACTION

ClearPath Action's vision is that America leads in affordably powering the world with reliable clean energy. ClearPath Action's mission is to develop and advance conservative policies that accelerate clean energy innovation. To advance that mission, ClearPath Action develops cutting-edge policy and collaborates with academics and industry. Learn more at clearpathaction.org. Follow us on Twitter: @ClearPathAction, @JayFaison1, @powellrich