THIRD WAY

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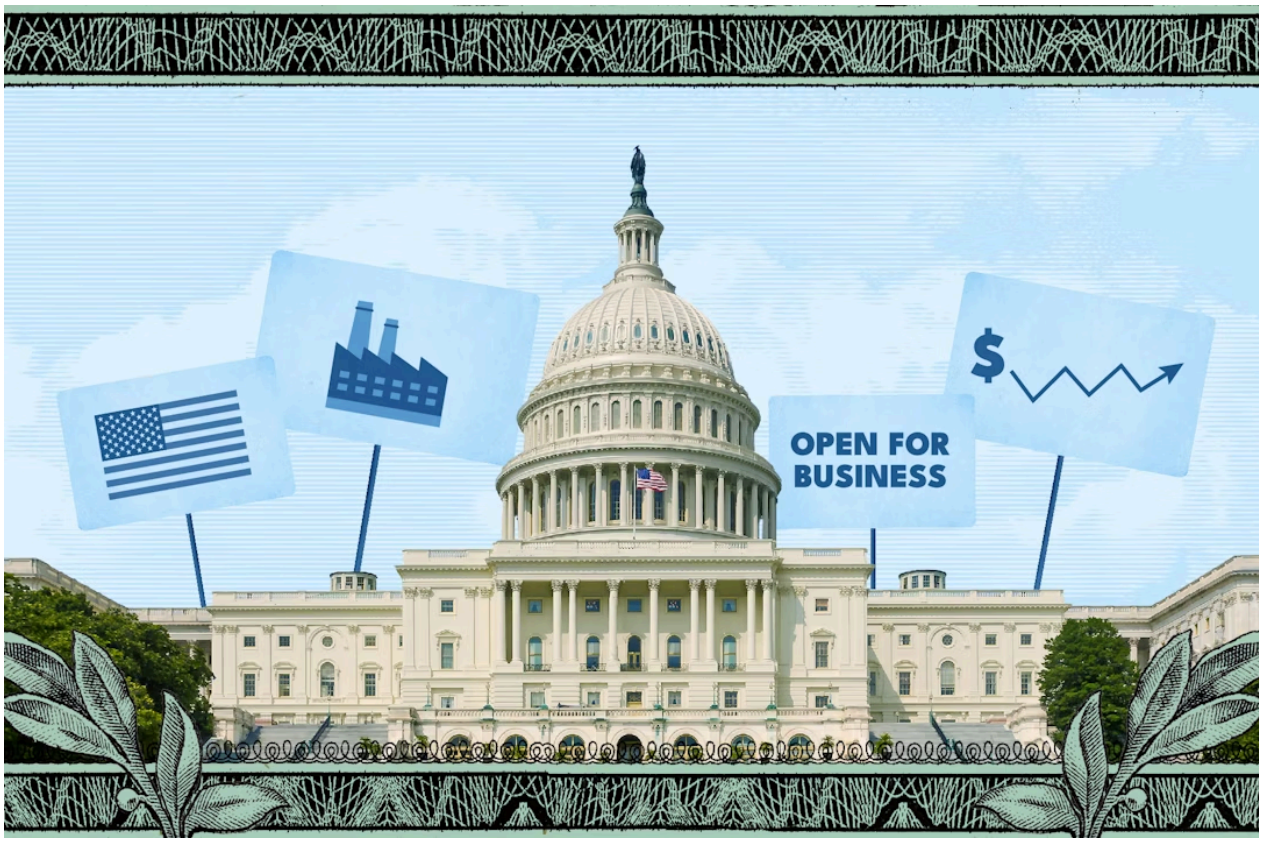
Bipartisan Senate Energy Funding Bill Would Boost US Competitiveness



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Takeaways

- Investing in clean energy innovation is essential to helping US firms compete and win in global clean energy markets. This means ensuring robust annual appropriations for key programs at the Department of Energy.
- The bipartisan Senate energy appropriations bill passed out of committee last August rises to the occasion, boosting funding for everything from clean energy demonstrations to decarbonization of heavy industry to R&D of emerging technologies. Unfortunately, the House version of this bill fails to provide the needed investments, which risks ceding our competitive advantage to countries outpacing us in funding.
- The choice is clear: as Congress continues the FY25 appropriations process, appropriators must fight for the Senate funding levels to ensure the US can remain a global clean energy leader.

Two Visions for US Competitiveness

Investing in clean energy innovation is critical to our global competitiveness: we want new technologies to be developed and demonstrated here, and we want to make sure we're supporting the supply chains, advanced manufacturing, and workforce needed to keep the value of these technologies here in this country. The federal government has long played a role in fostering the innovation that has brought new clean energy technologies to market, making US firms leaders in the global clean energy race.

But last July, House Republicans unveiled an Energy & Water (E&W) Appropriations bill for fiscal year 2025 (FY25) that would significantly harm our ability to remain globally competitive. While the bill gets some things right, it largely cuts funding to critical research, development, and demonstration (RD&D) programs, ceding our technological leadership to competitors like China. The Senate, meanwhile, has put forward a bipartisan E&W bill that provides the robust funding across DOE innovation activities needed to ensure we can remain competitive. [1]

Other countries aren't sitting around waiting for us to show them the way. If we don't secure this funding, the US could fall behind, with our competitors owning next-generation clean energy

technologies and not us. As Congress begins work on the remainder of FY25, it's critical that appropriators fight for the Senate funding levels.

Six Places Where the House Bill Misses the Mark

The House E&W bill would set us back across a wide array of clean energy technologies. Here are just six of the many areas where cuts in the House bill would hurt America's ability to remain competitive, and where the Senate bill does a better job of setting American workers and businesses up for success.

Comparing the House and Senate FY25 Energy & Water Appropriations Bills

Federal Program	FY24 Enacted	FY25 House Bill	FY25 Senate Bill
Energy Efficiency and Renewable Energy (EERE)	$3,460,000,000	$1,960,000,000	$3,460,000,000*
Geothermal Technologies Office (GTO)	$118,000,000	$118,000,000	$130,000,000
Industrial Decarbonization Crosscut	Included	Not Included	Included
Industrial Efficiency and Decarbonization Office (IEDO)	$237,000,000	$179,000,000	$237,000,000
Industrial Decarbonization Roadmap	Allows implementation	Blocks implementation	Allows implementation
Carbon Dioxide Removal (CDR) Crosscut	Not less than $118,000,000	None	Not less than $144,000,000
CDR Purchase Pilot Prize	$20,000,000	$0	$40,000,000
Office of Clean Energy Demonstrations (OCED)	$50,000,000	$27,500,000	$125,000,000
Title 17 Clean Energy Financing Program	Maintains current loan authority	Rescinds $6.5B in loan authority	Maintains current loan authority

* The Senate FY25 bill moves the Office of Manufacturing and Energy Supply Chains (MESC) out of EERE's budget line; to allow for a direct comparison with the House FY25 bill and the FY24 enacted level, the Senate funding level for MESC ($20 million) is added to the funding level for EERE ($3.44 billion).

Source: Consolidated Appropriations Act, 2024 (P.L. 118-42), Energy and Water Development and Related Agencies Appropriations Act, 2025 (H.R. 8997), Energy and Water Development and Related Agencies Appropriations Act, 2025 (S. 4927)

Energy Efficiency and Renewable Energy

The Office of Energy Efficiency and Renewable Energy (EERE) plays a crucial role in helping research institutions and businesses develop new clean energy technologies and bring down costs. By investing in research and development, EERE drives innovation across many of the technology areas, from clean electricity production to advanced manufacturing, that will be in high demand in the global marketplace.

These investments are essential to maintaining our competitive edge in these technologies and avoiding over-reliance on our competitors. We've seen what can happen when the U.S. falls behind. China has a significant lead in electrolyzers, controlling over half of the global market for clean hydrogen. The U.S. will have a hard time competing on the current generation of electrolyzers, but RD&D support can help us leapfrog today's technology and put us in the lead with the next generation of hydrogen production technologies, including those that require fewer critical minerals like platinum group metals.

Despite this urgency, the House bill proposes slashing $1.5 billion from EERE, nearly halving the funds for clean energy programs, including wind, solar, and other clean technologies. These cuts would severely undermine America's ability to compete globally in clean energy innovation, allowing other nations to outpace the U.S. in a sector that is crucial for future economic growth. In contrast, the Senate bill would help maintain U.S. leadership in the rapidly expanding market for sustainable technologies by providing level funding for EERE in FY25. [2] While we ultimately need to boost funding for EERE in order to keep pace with our competitors, level funding is certainly preferable to a significant cut.

Geothermal Technologies Office

Geothermal energy is a source of clean and dispatchable electricity as well as heat for industrial applications. Next-generation geothermal technologies, like enhanced geothermal systems and supercritical drilling, carry the potential to bring geothermal to every part of the country. The Geothermal Technologies Office (GTO) provides grants to businesses and research institutions that are developing these new technologies; recent awards have helped bring down the cost of drilling new geothermal wells, test new drilling technologies that can operate at higher temperatures, and demonstrate the potential to harness geothermal energy in previously untappable areas.

The US currently holds a strong competitive advantage in geothermal energy—few countries can match us in project development and engineering, procurement, and construction (EPC). But as next-generation geothermal moves out of the lab and into the field, there's no guarantee we'll keep this advantage: other countries, from New Zealand to Indonesia to Turkey, are eyeing the same opportunity, and they're investing accordingly.

The Senate bill recognizes the importance of maintaining our leadership in this arena, increasing funding for GTO by 10%. Unfortunately, House Republicans would keep GTO's funding flat, effectively a funding cut when accounting for inflation. This would put America at a disadvantage against our competitors, who will race ahead of us if we don't pick up the pace of our investments.

Industrial Decarbonization

The successful decarbonization and, therefore, long-term viability of heavy industry in the United States is being supported by actions taken across the government, including at DOE. Decarbonization is essential to ensure global competitiveness, protect national security, and support US communities. While the House bill does acknowledge the need to steer funding toward steel decarbonization efforts, only the Senate bill includes the Industrial Decarbonization Crosscut. By excluding the crosscut, the House does not recognize the across-the-board investments needed in critical decarbonization technologies in historically "hard-to-abate" sectors. Within the EERE budget, funding for research, development, and pilot demonstrations led by the Industrial Efficiency and Decarbonization Office (IEDO) would take a 25% cut from FY24 levels if the House appropriations bill prevails. This would provide IEDO with almost 40% less funding than the office requested for FY25 at a time when its programs are already in very high demand and their efforts have the potential to have cascading effects across US industries and for long-term global decarbonization.

In addition to excluding the industrial decarbonization crosscut, the House also passed an amendment attempting to block DOE's current efforts, with potential ramifications for both sector-specific and cross-sectoral technology development. Rep. Harriet Hageman's (WY-AL) amendment would prohibit the use of FY25 funds to implement the 2022 Industrial Decarbonization Roadmap. In her introduction of the amendment on the floor, Rep. Hageman stated that the Roadmap "targets industries that contribute to the stability of the nation's economy and supply chain." That is correct—and it's exactly why we need to invest in the continued competitiveness of the industrial sector in the United States. If this amendment became law, it could grind DOE's efforts to test and develop technologies to a halt, and inhibit the Department's ability to execute its statutory responsibilities. This will lead to US industry getting left behind, and it will hurt our long-term competitiveness and the communities in which these goods are manufactured and deployed. The Senate's bipartisan commitment to continue to fund these efforts is indispensable for the future of manufacturing and industry in the US.

Carbon Dioxide Removal RD&D

Carbon dioxide removal (CDR) is an upcoming technology sector that will play a critical role in helping us utilize and modernize legacy workforces and skill sets to meet the energy and climate challenges of the 21st century. CDR solutions, such as Direct Air Capture (DAC), can remove carbon emissions and potentially other pollutants that have accumulated in the atmosphere due to the burning of fossil fuels. Our polling shows that Americans support a diverse mix of energy sources, including both clean energy and fossil fuels. DAC, along with other CDR technologies, can complement existing energy strategies and contribute to pragmatic, multi-faceted solutions to energy and climate issues. Notably, the US has the potential to remove up to 1 billion tons of carbon

dioxide per year by 2050, which can potentially create more than 440,000 long-term jobs—nearly five times the number of jobs lost from the coal industry since 1990. The CDR Research, Development, and Deployment (RD&D) Crosscut provides funding to coordinate efforts between DOE's Office of Fossil Energy and Carbon Management (FECM), Office of Science (OS), and EERE to support the RD&D of diverse CDR technologies and solutions. Furthermore, the CDR Purchase Pilot Prize supports a demand-side approach to CDR RD&D, enabling DOE to purchase high-quality carbon removals from CDR developers and support competitive technological innovation.

The enactment of the Bipartisan Infrastructure Law (BIL) and the Inflation Reduction Act (IRA), in combination with annual appropriations for CDR RD&D, have established the US as a global leader in CDR innovation and deployment. Continued federal support is needed to ensure that the US maintains its global leadership in CDR RD&D, especially as CDR technologies continue to advance in other parts of the world, such as Canada, India, Kenya, and the European Union. The Senate appropriations bill recognizes the importance of maintaining this funding stream, including $144 million for the CDR RD&D Crosscut and $40 million to support the continuation of the CDR Purchase Pilot Prize. The House's version of the bill provides zero funding for these programs. Consequently, the Senate bill will go much further to help ensure that the US is well-positioned to achieve both our emissions reduction and competitiveness goals.

Office of Clean Energy Demonstrations

Large-scale demonstration projects are a critical part of the research, development, demonstration, and deployment (RDD&D) lifecycle, helping to prove the viability of a technology at scale. By supporting these demonstration projects, DOE's Office of Clean Energy Demonstrations (OCED) is at the forefront of ensuring the US remains technologically competitive on the global stage. But this innovation ecosystem—long a source of US industrial strength—is now being threatened by budget cuts proposed in the House E&W bill.

The House bill understates the importance of demonstration projects, slashing OCED's budget by 55% and limiting their ability to fund new demonstrations. Conversely, Senate appropriators correctly noted in their bill that there remains a "continued need for high-impact, timely, large-scale energy demonstration programs to accelerate commercial liftoff, ensure domestic competitiveness, and enable a rapid, effective, and equitable energy transition." The Senate bill increases OCED funding by 125% and provides encouraging language on clean firm power, collaboration with the National Labs, and support for a range of next-generation geothermal technologies. Whereas the House bill only includes funding for Program Direction—and at a level that may not even be enough to sustain the office's ability to oversee its existing grant awards—the Senate bill goes much further to support OCED's mission and role within the innovation ecosystem. As the US continues to compete with a surging China, ensuring funding for the entire RDD&D

lifecycle is more important now than ever. OCED plays a critical role within that ecosystem and must be fully funded if the US wants to lead on the technologies of the future.

Financing for Nuclear Energy Projects

Next generation nuclear energy technology, or advanced nuclear, is widely seen as the emerging competitive landscape for new nuclear builds and holds the potential to expand use of nuclear energy beyond the power sector into industrial and other applications. The US holds a slight competitive advantage in developing advanced nuclear technology due to the high number of original equipment manufacturers (OEMs) based domestically. However, the vertically integrated nature of Chinese and Russian nuclear industries, as well as the scale of investments in nuclear RD&D efforts by these nations, puts the US at a significant competitive disadvantage when financing and constructing new reactors. While no global vendors have yet seized the market for advanced nuclear, American companies must quickly overcome early project financing hurdles to compete in the market long-term.

This reality highlights the immense importance of DOE's Loan Programs Office (LPO), which provides loans and loan guarantees to enable the deployment of emerging technology and help make clean energy projects bankable. Recent awards under LPO's Energy Infrastructure Reinvestment (EIR) program have conditionally committed up to $1.52 billion to Holtec Palisades, LLC to restore the Palisades Nuclear Plant in Covert Township, Michigan. This project would bring more firm 24/7 clean energy online and pave the way for deployment of two new small modular reactors (SMRs) at the Palisades facility. Further, because the EIR program provides loans to projects that "retool, repurpose, repower, or replace" energy infrastructure that has ceased operations, it's uniquely positioned to support clean energy transition projects such as coal-to-nuclear. Without access to this kind of low-cost financing for innovative technologies and infrastructure reinvestment, domestic stakeholders will struggle to deploy advanced nuclear technology and be outpaced by China and Russia.

As of September 2024, LPO has or plans to receive around $65 billion in Title 17 loan guarantee applications specific to nuclear energy, including efforts to restart nuclear reactors, develop supply chains for fuel and manufacturing, and build new SMRs and large reactors domestically. These investments would have sweeping impacts for rebuilding our domestic infrastructure and enable future nuclear projects to deploy successfully. The Senate bill recognizes the importance of investing in our global competitiveness, maintaining the existing LPO Title 17 funding while also making other redirected funding available for near-term nuclear demonstrations. While the House bill does significantly increase funding for new nuclear demonstrations, it proposes to offset that with a catastrophic slash-and-redirect of $6.5 billion in Title 17 program funding. It's fortunate that both the House and Senate recognize the tremendous value of our near-term advanced nuclear demonstrations. However, without continued access to LPO's programs, it will be significantly

harder for US developers to adopt new technologies, thereby jeopardizing our pathways to commercialization and playing directly into our competitors' major advantage.

Investments Worth Fighting For

A budget isn’t just a list of dollar figures: it’s a statement of priorities. If we want to remain a dominant player in the global energy economy, then we need to prioritize the investments in innovation that will help us maintain and grow our leadership in emerging technologies. Thankfully, the bipartisan Senate bill would provide those investments. As appropriators continue working on an FY25 spending package, it is critical that they fight for the Senate bill’s funding levels so we can secure America’s continued leadership and put American workers and businesses at the forefront of clean energy markets.

ENDNOTES

1. The House Appropriations Committee reported its Energy & Water bill on July 11, 2024; the House considered amendments to the bill on July 23, but final passage of the bill was postponed indefinitely. The Senate Appropriations Committee reported its Energy & Water bill on August 1, 2024, but it did not receive floor consideration.

2. For FY25, the President's Budget Request (PBR) proposed moving the Office of Manufacturing and Energy Supply Chains (MESC), the Federal Energy Management Program (FEMP), and the Office of State and Community Energy Programs (SCEP) out of EERE's budget line and giving them their own accounts in the budget. The House bill keeps these three offices within EERE and cuts total EERE funding by roughly $1.5 billion. The Senate bill provides a separate account for MESC while keeping FEMP and SCEP within EERE; when accounting for this shift, the Senate bill provides level funding from FY24.