

The American Energy Innovation Act: Stronger with a National Climate Bank

Summary

On February 27, 2020, Senators Lisa Murkowski (R-Alaska) and Joe Manchin (D-W. Va.) introduced their much delayed, bipartisan American Energy Innovation Act. The bill is a collection of over 50 different measures that have languished in the Energy & Natural Resources Committee, waiting for the opportunity to come to the floor of the Senate for a vote. Though not expressly a climate bill, the American Energy Innovation Act contains numerous measures to support the research, development, and demonstration of innovative technologies that, if deployed at scale, could markedly reduce greenhouse gas emissions.

The National Climate Bank Act (S. 2057, H.R. 5416) is, therefore, not just a complementary bill. In fact, the National Climate Bank is necessary to make sure that these worthy down payments on new technology pay off in the long-run with wide scale deployment and usage.

Section-by-Section Analysis

Below is a list of programs in the American Energy Innovation Act that would only be strengthened if there were a Climate Bank to enable complementary deployment finance for the targeted technologies.

Energy Efficiency Materials Pilot Program (Section 1002)

This program would authorize grants to nonprofit organizations for the purchase of energy efficient materials, setting forth limits on each grant (of \$200,000). Unless the grants are for 100 percent of the project cost, the non-profits who benefit from the program will need to still cover the remaining upfront costs, which the Climate Bank could finance. Finance is also the way to make this valuable idea scalable.

Grants for Energy Efficiency Improvements and Renewable Energy Improvements at Public School Facilities (Section 1004)

This program would authorize grants for public schools to make energy efficiency and renewable energy improvements, and is silent on the amount of the grants available. Similarly to Section 1002 above, if those grants do not cover the full upfront cost of the improvements, then this program will leave barriers to deployment at scale. The Climate Bank could break those barriers.

About CGC

The Coalition for Green Capital (CGC) is a non-profit organization focused on accelerating the growth of clean energy markets through the creation of Green Banks. CGC offers a unique and proven capacity as the leading creator, advocate, and expert on Green Banks since 2009. CGC works directly to support the formation of Green Banks with governmental and civil society partners, and provides on-going consulting and guidance to operating Green Banks. For more information visit coalitionforgreencapital.com/.

Smart Building Acceleration (Section 1005)

This program would demonstrate innovative techniques for smart building technologies in federal and public buildings that are commercially operated. This good idea warrants broad deployment given the multiple uses and value streams from smart technology. The upfront cost of these technologies, however, is significant, which is where the Climate Bank could come in. Building energy efficiency is in fact one of the sectors that would qualify for financing under the National Climate Bank Act.

Extended Product System and Energy Efficient Transformer Rebate Programs (Section 1042-1043)

The bill would create rebate programs for the purchase or installation of energy efficient motors and transformers. Both of these would, however, be limited, and qualifying entities would have to incur the expenses before they would be able to apply for the rebates. Grants and finance are invaluable complements. The Climate Bank would ensure the upfront cost of a project is paid for in a cost-effective manner. And because these projects generate cost savings, they can repay a loan.

Weatherization Assistance Program (Section 1101)

The Weatherization Assistance Program (WAP) is a vital thread of the safety net in this country. The bill takes great steps by reauthorizing the program through 2025, expanding the definition of weatherization to include renewable energy, opening the grant program to private contractors that provide weatherization services, and enabling grants for weatherization enhancements and innovation. The program would also limit financial assistance to each eligible entity (no more than \$2,000,000) and the use of appropriated funds per calendar year depending on how much money is granted. The annual battles over budget funding could be partially alleviated if a Climate Bank were able to deliver low-cost financing to some program participants. In addition, under the newly-created grant program for weatherization enhancements and innovation, one of the factors in awarding competitive grants is actually to improve the capacity of low-income persons that qualify for grants to leverage additional funds for weatherization services once those grants have been expended. The Climate Bank is thus a vital complement to this enhanced WAP program.

Hydroelectric Production Incentives and Efficiency Improvements (Section 1201)

This program would extend existing incentives for hydroelectric production and efficiency improvements through 2036. As we have seen for years in the solar and wind market, long-term incentives are only valuable if they can be monetized through innovative upfront financing. The Climate Bank, which under the National Climate Bank Act would be authorized to finance hydropower projects, can help create the necessary structures and deploy capital for these projects.

Marine Energy Research and Development (Section 1202)

The bill would create a program to accelerate the introduction of marine energy by promoting research on various technologies and their associated environmental impacts, as well as the development of marine technologies that can be commercially utilized and that contribute to lower costs and increased reliability. Proving that a technology works does not mean it can be deployed. Technology research and development must be integrated into a deployment strategy that includes both public and private actors. The National Climate Bank Act actually empowers the Bank to invest in ocean and hydrokinetic projects.

Advanced Geothermal Innovation Leadership (Section 1203)

The bill would create an initiative for the demonstration of enhanced geothermal energy systems for power production. It would also create a program to provide financial assistance to public and private entities for the demonstration and expansion of geothermal heat pumps in large buildings, commercial districts, residential communities, and large municipal, agricultural or industrial projects. Just like with Section 1302 above, the Climate Bank could play an ideal role by providing public financing, which would in turn attract private investment to increase the deployment and commercial feasibility of geothermal energy. Geothermal energy would qualify for investment under the National Climate Bank Act.

Wind Energy Research and Development (Section 1204)

The bill would create a program for research, development, demonstration, and commercialization of wind energy technologies, including through competitive grants through public and private entities, with a view to improving the cost-effectiveness, efficiency, reliability, and integration of wind technology. While research will reveal new areas for technology demonstration, wind technology is amply demonstrated and commercially competitive. The Climate Bank could finance both deployment of new areas and scaling of adequately demonstrated ones. The Climate Bank would be authorized to invest in wind projects.

Solar Energy Research and Development (Section 1205)

Similar to Section 1204, the bill would create a program for research, development, demonstration, and commercialization of solar technologies to improve their efficiency, cost-effectiveness, reliability, resilience, and integration. This program would also allow the government to make competitive grants for projects. Like with respect to the wind energy program, while research is needed to further develop certain technologies, solar is amply demonstrated and commercially competitive, and the Climate Bank could finance deployment of advanced technologies and scaling of those ones that are already competitive. The National Climate Bank Act entitles the Climate Bank to invest in solar projects.

Better Energy Storage Technology (Section 1301)

The bill would enable funding for research, development, and deployment for energy storage systems, including specifically a limited number of grants for public and private entities to develop pilot projects that meet certain cost and reliability targets, with a view to enabling large commercial deployment. The energy storage need and opportunity in the U.S. is enormous, and finance remains a significant challenge because of merchant risks for some projects. Competitive grants to demonstrate that certain models are commercially feasible, paired with a long-term finance solutions through the Climate Bank, would take the storage technology to scale. Storage is one of the authorized sectors under the National Climate Bank Act.

Industrial Emissions Reduction Technology Development Program (Section 1603)

This program authorizes funding for research, development, and commercial application of technologies that achieve emissions reductions in the industrial sector, including competitive grants for demonstration projects. Industrial decarbonization is a vital part of a path to net zero emissions, but the technology still has a long way to go, so it is a great idea to invest in development. The Climate Bank could help to bring that technology to market, as it would qualify for investment under the National Climate Bank Act.

Vehicle Research and Development, Medium- and Heavy-Duty Commercial and Transit Vehicles Program, and Class 8 Truck and Trailer Systems Demonstration (Sections 1705-1707)

Section 1705 of the bill would create a research, development, demonstration, and commercial application program for technologies that reduce petroleum and emissions from passenger and commercial vehicles.

Section 1706 focuses specifically on medium- and heavy-duty commercial and transit vehicles, and Section 1707 on Class 8 trucks and trailers. Innovative financing models are essential for broad deployment of electric and alternative fuel vehicles, and this is particularly true for fleets. The Climate Bank would enable investments in both technology development and deployment. Clean transportation is also eligible for investments under the National Climate Bank Act.

Grid Storage Program (Section 2210)

The bill would establish a research, development, and demonstration program for grid storage, including grants to state governments for this purpose. As described above, the storage investment opportunity is real, and so are the barriers. The Climate Bank, which would be authorized to invest in grid storage, could help overcome these barriers by leveraging public funding to enable private investment in this area.

Technology Demonstration on the Distribution System (Section 2211)

The bill would establish a grant program to carry out grid modernization projects to improve performance and integration of the electric distribution system. Grid technology is one of the seven authorized sectors for investment in the National Climate Bank Act, so projects could be scaled with finance.

Microgrid and Hybrid Microgrid Systems Program (Section 2212)

The bill would establish a program to promote the development of microgrids to expand access to isolated communities and increase the resilience of critical infrastructure, to be carried out by different levels of government, educational institutions, and private entities. The needs for investment will far outstrip the government's grant making capacity. The Climate Bank could step in with finance to expand this program. The Climate Bank is required to prioritize investment in certain communities, including rural communities and communities adversely affected by climate change.

State Green Banks and the DOE Loan Program Office

There is also a section about green banks in the bill. Section 1807 would expand the eligibility criteria under the Department of Energy's Loan Guarantee Program (also known as LPO for "Loan Program Office"). Under the bill, projects that are being co-financed by state green banks that qualify as "state energy financial institutions" would be eligible to apply for DOE loan guarantees if those projects avoid, reduce, or sequester greenhouse gases. Importantly, those projects would not have to comply with the existing restriction that only projects using "new technologies" are eligible for LPO financing. Therefore, a broad new set of projects, supported by state green banks, would theoretically become eligible under the LPO.

This could be a powerful way to expand innovative financing to technologies that are commercially proven but, in reality, struggle to secure financing at scale. However, this program can only come to life if there is a National Climate Bank in place. History has shown that due to the fee structure of LPO financing, only projects that are several hundred million dollars in scale are cost-effective. To date, no state green bank has participated in such a large transaction because they do not have the balance sheet capital to do so. But if there was a National Climate Bank, which under the National Climate Bank Act is empowered to provide capital for state and local green banks, then every state in the U.S. would be able to have a green bank with enough capital to finance the large projects that would then be eligible under these expanded LPO rules.

Thus, to create the most effective policy for clean technology development and deployment, the American Energy Innovation Act should be paired with the National Climate Bank Act.