

**STATEMENT OF
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U.S. DEPARTMENT OF ENERGY
BEFORE THE
COMMITTEE ON ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE
REGARDING
IMPLEMENTATION OF THE BIPARTISAN INFRASTRUCTURE LAW
February 2, 2023**

Introduction

Chairman Manchin, Ranking Member Barrasso, and distinguished Members of the Committee, thank you for this opportunity to provide an update on the Department of Energy’s (DOE or Department) efforts to implement the Infrastructure Investment and Jobs Act, also referred to as the Bipartisan Infrastructure Law (BIL). All of us at DOE are incredibly grateful for the leadership of this committee in formulating and enacting this landmark legislation and for your ongoing guidance during its implementation.

The BIL is a truly historic investment in renewing American infrastructure for decades to come. We are together rebuilding American manufacturing and increasing American competitiveness. We are creating millions of lasting, good-paying jobs here at home, and helping to tackle huge challenges such as climate change, equity, and environmental justice. The BIL is also the culmination of years of this committee’s work and vision, building upon the Bipartisan Energy Act of 2020. On behalf of the Department, we thank you and your staffs for your vision, leadership, and partnership.

We at the DOE feel a sense of urgency so that our fellow Americans in all parts of our country can benefit from this law. We are also working with a sense of deliberateness and professionalism, understanding that we are entrusted with investments being made by our fellow taxpayers. By implementing the BIL, DOE will strive to lower energy costs for Americans, improve reliability and energy security, and ensure that America is positioned to lead the world in energy innovation and deployment.

Overview of BIL Energy Provisions

Through the Bipartisan Infrastructure Law, Congress provided more than \$62 billion for provisions and programs under the purview of the Department of Energy. The BIL requires DOE to stand up 60 new programs – including 16 demonstration and 32 deployment programs – and expanded funding for an additional 12 existing Research, Development, Demonstration, and Deployment programs. The BIL breathes life into many programs authorized by the bipartisan Energy Act of 2020, including energy storage demonstration projects, the Advanced Reactor Demonstration Program, carbon capture demonstration and pilot programs, industrial emissions demonstration projects, and more.

This longer-term, infrastructure-focused mandate given to the Department by Congress also reflects a departure from other infrastructure packages in recent history – like the American Recovery and Reinvestment Act – which were more focused on short-term projects coupled with research and development initiatives. The impacts of these new BIL investments will touch every

corner of the country through grants, formula funding, and loan programs that are thoughtfully designed and diligently administered by career civil servants. Awards and selections are also made by career officials via a merit-based process, with program integrity at the top of mind.

Year One Progress

In the 14 months since President Biden signed the BIL into law, DOE has been working with urgency while doing the work necessary to get the greatest impact from this historic funding. As of January 30, 2023, the Department has solicited 50 Requests for Information for input from the public and real-world actors on BIL program design, released a total of 38 Funding Opportunity Announcements worth more than \$37 billion in initial investments for BIL Programs representing total allocations of \$53 billion. We also conditionally awarded \$1.1 billion in credits for zero-emission energy generation, made available \$4.25 billion in formula funding to state and local governments, and Tribal nations for energy efficiency improvements, and selected for negotiation nearly \$3 billion in awards for battery material processing, manufacturing and recycling. While continuing to carry out important programs outside of the BIL's purview, the Department has built new internal organizational structures and operations to best facilitate the effective and efficient implementation of the infrastructure law.

DOE is coming up on the one-year anniversary of our departmental realignment, which created a new Under Secretary for Infrastructure and four new offices – the Grid Deployment Office, the Office of Manufacturing and Energy Supply Chains, the Office of State and Community Energy Programs, and the Office of Clean Energy Demonstrations. This new structure will maximize the effectiveness of BIL programs and boost DOE's ongoing work to reduce energy costs through low-cost clean energy resources, create jobs and stimulate American manufacturing and industrial competitiveness, increase equity and environmental justice, and support meeting ambitious climate goals.

The realignment is allowing the Department to be nimbler and more responsive in its implementation of BIL, and to meet the challenge of implementing a once-in-a-generation piece of legislation. In addition, these structural changes also set DOE up for success in carrying out all our missions – and to carry them forward for the coming years and decades. The energy transition, which is already well underway, creates a huge opportunity to lower energy costs for American families, to boost American manufacturing competitiveness, and to maximize community benefits of new energy projects, especially in disadvantaged communities and those that have historically relied on the fossil fuel industry.

To seize this opportunity requires active engagement with the private sector and communities as we deploy and oversee this unprecedented level of Federal clean energy investment, including in some areas and types of activities that are new to the Department. Our strategic realignment optimizes the world-class expertise of our talented staff and maximizes our ability to bring in new talent and skill sets that will serve the American public for decades to come.

We have also partnered with the Department of Transportation to stand up the Joint Office of Energy and Transportation, which aligns resources and expertise across our two departments to reach the President's goal of deploying a network of 500,000 electric vehicle chargers, zero-

emission fueling infrastructure, and providing technical assistance for zero-emission transit and school buses.

Since the BIL's enactment, we are proud to have selected 20 projects to receive \$2.8 billion for battery materials processing and component manufacturing across 12 states that will create more than 8,000 jobs, including 5,000 permanent jobs. We have also awarded nearly \$74 million for 10 projects in 7 states to advance technologies and processes for electric vehicle battery recycling and reuse. We are working diligently to ensure the BIL dollars support critical domestic battery manufacturing supply chains and improve national and economic security by lessening dependence on critical minerals sourced by hostile regimes. In fact, since the President took office, the US has seen over \$92 billion in public and private investment in new or expanded battery manufacturing operations.

As required in the BIL, we developed a National Clean Hydrogen Strategy and Roadmap and in the spirit of collaboration and transparency, we released a draft for stakeholder and congressional feedback before finalizing this year. We have made \$7 billion available for regional Clean Hydrogen Hubs and issued announcements for another \$750 million of BIL funding that includes electrolyzer manufacturing research and demonstrations. These BIL activities directly support the Department's Hydrogen Energy Earthshot to enable the availability of affordable clean hydrogen within a decade.

We have also made \$2 billion available to cover the Government's cost of supporting large-capacity, shared carbon dioxide transportation projects through grants, loans, or loan guarantees to help commercial deployment of carbon management technologies. Further, the Department has opened applications for projects that will strengthen the grid, improve American energy security, reduce energy costs for low-income households, and provide cleaner electricity and fuels, including the first \$3.9 billion tranche of a \$10.5 billion total investment to modernize the electric grid; \$3 billion for weatherization and energy efficiency in homes and businesses, like upgrades to insulation, heating, ventilation, and air conditioning systems, and repair or replacement of windows and doors; \$425 million for the State Energy Program; the first \$80 million of a \$500 million total allocation for upgrading energy infrastructure in public schools; \$250 million to fund state loan programs for energy efficiency upgrades in residential and commercial buildings; and the first \$45 million of a \$225 million total investment to support the implementation of resilient and efficient energy building codes.

Specific Program and Initiative Highlights

I want to spend some time today highlighting some of our new and revamped programs and initiatives to help the Department implement the BIL most effectively.

Office of Clean Energy Demonstrations

The Bipartisan Infrastructure Law directed DOE to establish the Office of Clean Energy Demonstrations, also known as OCED, which was officially stood up in December 2021. OCED's mission is to deliver clean energy demonstration projects at scale in partnership with the private sector to accelerate deployment, market adoption, and the equitable transition to a decarbonized energy system.

In just over a year since its establishment, OCED has already announced funding opportunities for a wide range of major programs, including the Regional Clean Hydrogen Hubs, Regional Direct Air Capture Hubs, Long-Duration Energy Storage Demonstrations, and Carbon Capture Demonstration Projects. In developing these programs, OCED coordinates closely with other DOE offices – working across the spectrum of research, development, demonstration, and deployment.

Building a Better Grid Initiative

Last month, the Department celebrated the anniversary of the Building a Better Grid Initiative, which is enabled by the Bipartisan Infrastructure Law and administered primarily by the Grid Deployment Office, or GDO – one of the new offices established under the realignment. The focus of this initiative is to catalyze the nationwide development of new and upgraded high-capacity transmission lines and support investments to modernize the flexibility and resilience of the distribution system to create a more resilient electric grid, which is essential to increase energy reliability and resilience, give more families and businesses access to lower-cost electricity, and to enable the other benefits of the huge amount of new clean energy coming online as we move toward our 2035 decarbonization goals.

The Grid Deployment Office also announced its first Request for Proposals (RFP) on the Transmission Facilitation Program, a \$2.5 billion revolving fund program that will provide Federal support to overcome the financial hurdles in the development of large-scale new transmission lines and upgrading existing transmission, as well as the connection of microgrids in Alaska, Hawaii, and U.S. territories. The first RFP focuses on capacity contracts for large-scale new transmission and upgrading of existing transmission. Future RFPs will include other facilitation and financing tools and will solicit proposals on microgrids.

One of the Grid Deployment Office's first steps in implementing its other mandate – maintaining existing zero-carbon generating assets – was establishing the BIL's Civil Nuclear Credit Program, which helps preserve our existing zero-emission nuclear power fleet and save thousands of high-paying jobs across the country. Under the first round of funding announced in November, the Diablo Canyon nuclear facility located near Avila Beach, California, received a conditional award of up to \$1.1 billion in credits, paving a path forward for the facility to remain open. Diablo Canyon supports 1,500 jobs and produces approximately 15 percent of the state's zero-carbon energy.

The Grid Deployment Office is also making transformative investments in grid technology and efficiency. GDO will deploy \$13 billion to finance grid modernization with a focus on improving flexibility, reliability, and resilience against the growing threats of extreme weather events and climate change, including up to \$2.3 billion over five years through State and Tribal Grid Resilience Formula Grants.

Securing New Energy Technology

As threats to our critical energy infrastructure continue to evolve, DOE is using all the tools at our disposal to lock down cybersecurity vulnerabilities of today and tomorrow. America's critical energy infrastructure must remain reliable, resilient, and secure.

The Office of Cybersecurity, Energy Security, and Emergency Response (CESER) leads this mission, ensuring all relevant projects funded by the BIL incorporate secure-by-design principles. By implementing BIL provisions that allow the Department to require cybersecurity plans, DOE will ensure that these energy systems of the future are built with security in mind. This effort, along with BIL cybersecurity programs such as the Rural and Municipal Utility Advanced Cybersecurity Grant Program, will improve the ability of our power grid to handle threats ranging from adverse weather events to cyberattacks.

Strengthening America's Supply Chains and Reshoring the Industrial Base

As part of the departmental realignment, DOE created the Office of Manufacturing and Energy Supply Chains (MESC), which is tasked with strengthening and securing manufacturing and energy supply chains needed to modernize our country's energy infrastructure support a clean and just energy transition, and maximize the use of goods, products, materials, and services made in America.

The nearly \$3 billion battery manufacturing and electric drive battery recycling initiative mentioned earlier is spearheaded by MESC. This BIL program will support new, retrofitted, and expanded commercial-scale domestic facilities to produce battery materials and launch battery recycling and manufacturing demonstrations. The Department is preparing to make announcements regarding a second tranche of the battery manufacturing and recycling funding later this year.

MESC will also lead the Bipartisan Infrastructure Law's Advanced Energy Manufacturing and Recycling Grant Program, which will provide grants to small- and medium-sized manufacturers to enable them to build new or retrofit existing manufacturing and industrial facilities to produce or recycle advanced energy technologies – like clean electricity, fuels, or transportation – in communities where coal mines or coal power plants have closed, as well as the Industrial Assessment Centers programs, expanded by the BIL, which are based at institutions of higher education and train engineers to partner with manufacturers in the region on how to leverage technology to improve their energy efficiency and, in turn, save costs.

Working with State and Community Partners to Drive Decarbonization

DOE's Office of State and Community Energy Programs, also known as SCEP, works with our partners at the state and local level to deploy clean energy resources through BIL programs, such as the Grants for Energy Efficiency Improvements and Renewable Improvements at Public Schools and the Energy Efficiency and Conservation Block Grant Program, as well as existing programs that have been bolstered by the Bipartisan Infrastructure Law, including the Weatherization Assistance Program and the State Energy Program.

Last month, SCEP published a funding opportunity announcement for \$440 million in Energy Efficiency and Conservation Block Grant (EECBG) Program funds, which allows eligible state, local, and Tribal governments to apply to receive formula funding allocations to help them coordinate with partners on the ground to implement strategies to reduce energy use, reduce fossil fuel emissions, and improve energy efficiency. The EECBG Program will work in tandem with the \$8.8 billion allocated in the Inflation Reduction Act for home electrification rebates to help boost energy efficiency across local communities.

Unleashing Private Sector-Led, Government-Enabled Investment

The Bipartisan Infrastructure Law, coupled with the Energy Act of 2020, Inflation Reduction Act of 2022, and the recent FY 2023 Omnibus Appropriations, further empowers DOE's Loan Programs Office (LPO) to work with the business community to effectively leverage public- and private-sector dollars to set new, innovative clean energy technologies on a path to commercialization and onshore critical mineral mining and processing here in the United States. This includes new authority from the Bipartisan Infrastructure Law to allow the Department to issue loan guarantees to eligible projects that increase the domestically produced supply of critical minerals.

Along with a \$2.5 billion direct loan to Ultium Cells to help finance the construction of new lithium-ion battery cell manufacturing facilities in Ohio, Tennessee, and Michigan, LPO issued a \$102.1 million direct loan to Syrah Technologies for the expansion of its Vidalia, Louisiana, facility – a processing facility that produces graphite-based active anode material (AAM), a critical mineral used in lithium-ion batteries for electric vehicles (EVs) and other clean energy technologies.

The Syrah Vidalia facility will be the only vertically integrated, largescale AAM manufacturer outside of China, bringing a key industry to the United States to support the growing EV sector – bolstering our energy security as well as our national security.

LPO also provided a \$504.4 million loan guarantee to Advanced Clean Energy Storage in Delta, Utah. The guarantee will help finance construction of the largest clean hydrogen storage facility in the world, capable of providing long-term, low-cost seasonal energy storage and furthering grid stability.

Most recently, LPO announced a conditional commitment to lend up to \$700 million to Ioneer Rhyolite Ridge in Esmeralda County, Nevada, to develop a domestic supply of lithium carbonate for EV batteries. If finalized, this project could potentially support production of lithium for approximately 370,000 EVs each year – right here in the United States.

Driving Renewable Energy RDD&D

The Bipartisan Infrastructure Law provided appropriations for several renewable power programs that were recently reauthorized under the Energy Act of 2020. These appropriations directed DOE's Office of Energy Efficiency and Renewable Energy (EERE) to conduct cutting-edge research, development, demonstration, and deployment (RDD&D) of renewable power technologies.

As of January, 2023 EERE has announced over \$200 million in BIL funding opportunities to drive the deployment of renewable energy technologies, with more exciting announcements planned for 2023. Those funding opportunities include a \$28 million funding opportunity to address key deployment challenges for offshore, land-based, and distributed wind, a \$26 million funding opportunity to demonstrate how large-scale solar, wind, and energy storage can support the power grid by automatically adjusting to changing demand and disruptions, a \$74 million

funding opportunity to support enhanced geothermal systems pilot demonstration projects, and \$28.5 million for hydropower and pumped storage research, development, and demonstration.

Internal Oversight

Given the scope and magnitude of the Department's responsibility in implementing the Bipartisan Infrastructure Law, it is more critical than ever for DOE to conduct stringent oversight of program designs and rollouts. This will protect the taxpayers' investment, and keep program operations running efficiently to ensure that BIL provisions and initiatives are launched in a timely manner. In order to take advantage of the extraordinary expertise across DOE, reduce redundancies and learn lessons from past experiences, our infrastructure team has developed a system of intra-departmental coordination for project and program design, in which staff from across program offices review and provide feedback on programs that are in the development phase.

In addition to core project and program oversight responsibilities, such as hiring dozens of project and program oversight specialists, contracting officers, and budget oversight staff to responsibly oversee the tremendous investment Congress has made, DOE is institutionalizing oversight of large, complex, potentially higher-upside projects. The Office of the Under Secretary for Infrastructure is also working with the Office of Clean Energy Demonstrations and across DOE to implement a new Demonstration and Deployment Advisory Board to advise on projects, primarily with a focus on demonstration and deployment projects that receive financial assistance of more than \$100 million in federal funding.

We are also continuously updating protocols across all program offices to better mitigate the risks of foreign ownership of U.S energy assets, even as we double down on efforts to onshore and re-shore critical supply chains. The Department is also focusing on protecting against physical and cyber threats to the grid and other energy assets.

The Office of the Under Secretary for Infrastructure has been engaging and will continue to routinely engage with the Office of Inspector General (OIG) on risk mitigation, whether they are implementing programs funded through regular appropriations or new programs created through the BIL. DOE's OIG plays a critical oversight function in ensuring that new programs mitigate the risk of fraud, waste, and abuse. The OIG has coordinated with Department leadership to review spending plans and has recommended prospective actions that DOE and its program offices can take to best protect taxpayer dollars and program integrity. The OIG will also continue to engage in periodic performance reviews and audits while also responding to complaints and tips on behalf of DOE employees and the general public.

The 2023 Outlook

The Department is looking forward to building on the momentum from the last 14 months since the enactment of the BIL. DOE has fewer programs based on formula funds than many other sister agencies and has worked to establish over 60 new programs as directed by Congress.

DOE has worked diligently on program design, getting programs to the stage of their first Funding Opportunity Announcement throughout the first year and will move expeditiously on additional funding opportunities, and in particular, more project selections and awards in 2023.

This quarter, along with the Energy Efficiency and Conservation Block Grant funding opportunity that was announced last month, we are also anticipating funding opportunity announcements for the second round of Civil Nuclear Credits and massive investments in our nation's carbon management infrastructure through the Precommercial and Commercial Direct Air Capture Technologies Prize Competitions and Carbon Capture Large Scale Pilot and Demonstration Projects.

This year, we are also planning to announce a \$750 million funding opportunity that will kick off two key BIL hydrogen programs— Clean Hydrogen Electrolysis and Clean Hydrogen Manufacturing and Recycling. These two programs will ultimately provide a total of \$1.5 billion in funding to drive down the cost of clean hydrogen and support the long-term viability of the hydrogen hubs. Hydrogen can be produced from diverse domestic resources with the potential for near-zero greenhouse gas emissions and once produced, generates electrical power in a fuel cell, emitting only water vapor and warm air. Our ability to produce and utilize clean hydrogen is critical to our energy security and meeting our clean energy goals.

To that end, the Department also anticipates making selections for the Regional Clean Hydrogen Hubs program this year, which will invest up to \$7 billion to establish Clean Hydrogen Hubs throughout the country. This program will establish regional hubs that demonstrate the production, processing, delivery, storage, and end-use of clean hydrogen, driving down costs and building demand by locating key aspects of the hydrogen value chain in close proximity to each other. The Hubs will serve as the foundation of a clean hydrogen network that will help us to decarbonize multiple sectors of the economy and create thousands of good paying jobs.

Additionally, we are working toward announcing a funding opportunity for the Clean Energy Demonstration Program on Current and Former Mine Land, among other programs. The Department also plans to release a joint Funding Opportunity Announcement with the Office of Manufacturing and Supply Chains on Battery and Critical Mineral Recycling. The announcement will support battery recycling research, development, and demonstration grants, state and local programs, as well as provide support for retailers as battery collection points. Anticipated award selections this year include Energy Storage Demonstration and Pilot Grants, Regional Direct Air Capture Hubs, and much more.

We also look forward to continuing to leverage private sector partnerships and boost commercial sector investments in the clean energy transmission through the Loan Programs Office and other program offices, which help usher demonstrated innovative technology across a “bridge to bankability” into full market acceptance by the private sector.

Conclusion

The Department of Energy looks forward to seeking the guidance of this Committee as we meet our shared commitment to ensuring the integrity of the implementation of the Bipartisan Infrastructure Law. This law provides an unparalleled catalytic investment to our nation's infrastructure and energy security, and the Department stands ready to meet this moment.

As we look to secure the United States' leadership in energy technology, development, and infrastructure through the BIL, we also know that the investment in our nation's energy

infrastructure is not a five-year or decade-long project. It is a long-term investment in our economic and energy security that will require continued leadership from Congress and partnership between the Department and this Committee. We look forward to having further conversations about how we can make that long-term vision a reality.

Chairman Manchin, Ranking Member Barrasso, and Members of the Committee, thank you again for entrusting the Department of Energy with the historic responsibility to implement the Bipartisan Infrastructure Law, as well as for the opportunity to testify before you today. I look forward to answering all your questions.