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U.S. DEPARTMENT OF ENERGY
BEFORE THE
COMMITTEE ON ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE
REGARDING
PROCESS AND DUE DILIGENCE OF GRANTS AND LOANS AND SPURRING INNOVATION THROUGH THE DEPARTMENT'S SELECTION STRATEGY
OCTOBER 19, 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), and Inflation Reduction Act (IRA). All of us at DOE are incredibly grateful for the leadership of this Committee in formulating and enacting these landmark pieces of legislation and for your ongoing guidance during their implementation.

These two laws are truly historic investments in renewing American infrastructure for decades to come. We are together rebuilding American manufacturing and increasing American competitiveness. We are bolstering our energy security. We are creating millions of lasting, good-paying jobs and helping communities across the country tackle huge challenges and take advantage of opportunities. We are assisting communities in realizing the impacts of rapid energy technology transitions and ensuring that cities and towns have access to new energy technologies that can reduce families' and businesses' energy bills as quickly as they can be deployed, while enhancing America's energy security.

Overview of BIL and IRA Provisions

Through the BIL, Congress provided more than $62 billion for 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 expanding funding for 12 existing research, development, demonstration, and deployment programs from wind to clean hydrogen. The BIL also provides funding for 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.

In the IRA, Congress invested approximately $35.5 billion in programs administered by the Department of Energy, including $8.8 billion for the Home Energy Rebates Program, nearly $6 billion for industrial decarbonization, and increased loan authority for our Loan Programs Office (LPO) to help bolster burgeoning American innovation and domestic energy production.

This longer-term, demonstration and deployment-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 research and development initiatives.

The Office of Clean Energy Demonstrations (OCED), which manages more than $25 billion in funding, is tasked with scaling emerging technologies in partnership with the private sector to accelerate deployment, market adoption, and the equitable transition to a clean energy future. This year OCED announced selections to negotiate $189 million in Federal funding for eight carbon capture front-end engineering and design (FEED) studies, up to $1.2 billion to advance the development of two commercial-scale direct air capture facilities in Texas and Louisiana, and up to $325 million for 15 long duration energy storage projects across seventeen states, one Tribal nation, and six national lab sites. Recently, OCED announced seven selections to negotiate $7 billion in awards under the Regional Clean Hydrogen Hubs Program.

The Department's Loan Programs Office (LPO) is tasked with providing financing to support the commercialization and deployment of innovative energy infrastructure and advanced vehicle technology manufacturing projects in the United States. The LPO portfolio spans technology sectors, from transmission and storage to advanced nuclear and critical materials projects. The BIL and IRA included significant resources to enhance longstanding LPO programs – such as the Tribal Energy Financing and Title 17 Clean Energy Financing (Title 17) Programs. The legislation also provided new abilities to support projects that will reinvest in energy infrastructure that has ceased operations or make operating energy infrastructure more efficient (Section 1706) and non-innovative energy projects that receive support from an eligible state energy financing institution (SEFI). LPO has developed an active and wide-ranging applicant pipeline, with 177 active applications from every part of the United States currently seeking $157.1 billion in cumulative financing across its programs.

In the last year, through LPO's Advanced Technology Vehicles Manufacturing (ATVM) Program, the Department has issued or committed more than $13 billion for projects across the electric vehicle and battery storage supply chain in Arizona, Kentucky, Nevada, Tennessee, and Texas, playing a key role in the Administration's goal to onshore and re-shore manufacturing of zero-emissions vehicles and critical materials production. In the Title 17 program, LPO closed a $504.4 million loan guarantee to the Advanced Clean Energy Storage project in Utah – helping finance the construction of the largest clean hydrogen storage facility in the world – and, more recently, announced the closing of a $3 billion partial loan guarantee to Sunnova Energy Corporation's Project Hestia to make distributed energy resources, including rooftop solar, battery storage, and virtual power plant (VPP)-ready software available to more American homeowners.

The impacts of BIL and IRA investments will touch every corner of the country through grants, formula funding, rebates, and loan programs that are thoughtfully designed and diligently administered by DOE experts, including career civil servants, after thoughtfully incorporating extensive feedback, including from the private sector and other stakeholders, into our program design. Awards and selections to negotiate awards are also made by career officials via a merit-based process, with program integrity at the top of mind.

Departmental Realignment

In February of this year, DOE celebrated the one-year anniversary of our strategic departmental realignment, which created the new Under Secretary for Infrastructure and three new offices – the Grid Deployment Office, the Office of Manufacturing and Energy Supply Chains, and the Office of State and Community Energy Programs. This Under Secretariat also includes the BIL-created Office of Clean Energy Demonstrations, as well as mission-aligned program offices, like LPO, the Office of Cybersecurity, Energy Security, and Emergency Response, the Office of Indian Energy Policy and Programs, the Federal Energy Management Program, and the Power Marketing Administrations. This new structure helps maximize the efficacy of BIL and IRA programs and boosts DOE's ongoing work to reduce energy costs through low-cost clean energy resources, stimulate American manufacturing and industrial competitiveness and create jobs, increase equity and environmental justice, and support meeting ambitious climate goals.

Since its implementation, the strategic realignment has allowed the Department to be nimbler and more responsive in its deployment of BIL and IRA, and to meet the challenges of implementing these historic laws. In addition, these structural changes set DOE up for success in carrying out all of our missions – and to carry them forward for the coming years and decades. Seizing 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 skillsets that will serve the American public for decades to come.

Process and Due Diligence of Financial Assistance

The Department takes seriously its responsibilities to manage competitive funding opportunities and loan programs purposefully to the benefit of the taxpayer. We engage in the necessary due diligence and oversight mechanisms to ensure integrity in our programs and to be responsible stewards of the taxpayer dollar. Below, we highlight our due diligence process for competitive financial assistance opportunities from the perspective of the Office of Clean Energy Demonstrations, as well as our process for loan programs from the perspective of the Loan Programs Office.

Competitive Financial Assistance Opportunities

To ensure the transition from new energy technological discovery to commercial readiness, and in recognition of the challenges of administering any demonstration project in addition to navigating the significant barriers to private sector adoption of new technologies, OCED established four key tenets for federally-funded demonstration projects:

1. Create a pathway to technical and commercial risk reduction and make projects commercially viable by addressing technology challenges and driving down cost curves;
2. Target relevant operational environments, scales, and timeframes to validate the performance, cost, and value;
3. Enable downstream market adoption and deployment to accelerate scale-up; and
4. Mitigate substantial risk and the known and unknown risks factors that impact project outcomes.

This process begins at the Funding Opportunity Announcement (FOA) development stage, where OCED conducts extensive outreach to industry, communities, non-profits and think tanks, other stakeholders, and with other DOE offices to develop a better understanding of the opportunities and challenges facing any given sector. The feedback from this outreach and the direction provided by Congress informs the FOA design to maximize strong applications and ultimately reach the programs goals.

Once applications are submitted, OCED undertakes a rigorous merit review process that includes an initial check for eligibility followed by review by a panel of independent experts on the projects; technical merit, financial and market viability, workplan, management team, and Community Benefits Plan. The Community Benefits Plan is required as part of all BIL and IRA funding opportunity announcements and is based on a set of four core policy priorities: investing in America's workforce; engaging communities and labor; advancing diversity, equity, inclusion, and accessibility; and implementing Justice 40. In most cases for grants, these plans are scored at 20 percent of the technical merit review of proposals. Specific asks for Community Benefits Plans may vary due to the range of project types. For example, large place-based demonstration and deployment projects will require the most robust plans. When an applicant is selected, their Community Benefits Plan will be part of the contractual obligation of the funding recipient.

The merit review may include additional questions to the applicants, potential interviews, and review by the Office of Research, Technology, and Economic Security. And as part of the review, OCED may evaluate applicant risks such as financial stability; quality of management systems, personnel, and ability to meet management standards, history of performance; audit reports and findings; an applicant's ability to effectively implement statutory and regulatory requirements, as well as an assessment of community and labor engagement, availability of a skilled workforce, and public and worker health and safety considerations. The steps OCED takes in its due diligence process are comparable to those taken in the private sector, in line with industry best practices and project management standards.

After the merit review process is complete, OCED makes selections for award negotiations for a cooperative agreement, wherein OCED and the selectee will negotiate key terms and milestones of the first phase of the project.

OCED divided its project management oversight into four phases:

1. Phase one is detailed project planning where activities focus on completing specific details about the overall project plan and analysis to refine projections submitted as part of the proposal. These activities must provide assurance to DOE that the overall project plan is technologically, financially, and legally viable, and appropriately incorporates input from relevant local and community partners.
2. Phase two is project development, permitting, and financing, which encompasses advanced planning activities. Recipients finalize their project development plans, commercial agreements, and financial structure, and complete the necessary permitting and approval activities required to begin construction.
3. Phase three is installation, integration, and construction. This phase focuses on implementation and requires recipients to employ industry-standard project management tools and provide regular status updates as well as track, manage, and report on previously and newly identified risks.
4. Phase four is ramp-up and sustained operations. In Phase four, recipients transition to operations and commence with completion of award-specific criteria negotiated in prior phases.

At each phase OCED negotiates specific goals and milestones required to advance to the next phase of the project and can halt a project if those milestones are not met. Funding for projects is available based on budget periods within each phase to ensure maximum insight into project progress. OCED recognizes that each project and each phase present unique opportunities and challenges and so milestones and key performance indicators are negotiated per award and phase based on the proposed project.

The Department's commitment to project oversight goes beyond the rigorous vetting of applicants and individual project management of OCED's programs. DOE established the Demonstration and Deployment Advisory Board (DDAB), which focuses on demonstration and deployment projects throughout the Department funded with financial assistance over $100 million. The DDAB is made up of the Under Secretary for Infrastructure and the Under Secretary for Science and Innovation, as well as the directors from offices across the Department to ensure maximum oversight.

The Department has also established processes for independent project reviews of demonstration projects receiving over $100 million in federal funding, consistent with Congressional direction. The Department has already undertaken three such reviews for the two Advanced Reactor Demonstration Program projects as well as a demonstration project managed by the Office of Nuclear Energy.

These processes are in place to ensure that the Department is receiving the highest quality applications, can meet Congressional intent in its programming, is able to target the most effective and maximally impactful projects in selection, and make certain that selected projects have strong oversight to ensure their success and that taxpayer dollars are being used to maximum effectiveness.

LPO Application Process and Rigorous Due Diligence
The LPO takes seriously its responsibility to protect taxpayer resources. Ever since its first loan programs were authorized by Congress in the Energy Policy Act of 2005, LPO has been evolving and making improvements to the office that have increased both internal and interagency oversight, clarified its management responsibilities, institutionalized risk management practices, and put in place portfolio-wide safeguards and monitoring of all LPO projects, among other enhancements.

For example, since the time of the 2012 independent audit of LPO and its portfolio known as the Allison Report, LPO has bolstered or refined its practices by:

- Developing a robust and consistent process for deep due diligence of applications in review;
- Improving internal and external coordination of the processes involved in the oversight of LPO programs, including through added transparency;
- Proactively monitoring and managing transactions after loan closing through a dynamic portfolio management process; and
- Establishing an updated leadership and organizational structure, including a Risk Management Division (RMD) and Portfolio Management Division (PMD), staffed with professionals with deep experience in underwriting and monitoring complex transactions and for whom responsible stewardship of taxpayer money is a top priority.

It is important to note that, based on the authority provided by Congress, LPO evaluates applications across all statutorily-eligible technologies on a level playing field. LPO does not pick and choose the technologies that come to the office and that are ultimately offered a conditional commitment or issued a loan. Applicants are invited to contact LPO and submit applications at any time.

LPO conducts rigorous due diligence that is comparable to, if not more stringent than, what might be done in the private sector. Eligible projects are vetted by LPO in a multi-step application process and must meet the specific requirements of the program. As supported by industry-leading third-party advisors, LPO conducts rigorous due diligence of every application, and if an eligible project meets all application requirements, only then provides financing (subject to available authority).

LPO's rigorous evaluation and underwriting process includes vetting a potential borrower's inputs and assumptions about the proposed project, including but not limited to the project sponsors' financial and technical assumptions, the market for their output, and project risks including provisions relating to foreign ownership and control. In addition, during its evaluation of a potential project, DOE employs mitigation measures against the assessed risks of a potential project, as is routine in the evaluation and underwriting of any project loan. These factors are also carefully evaluated outside of LPO by a Department vetting process that includes Committee on Foreign Investment in the United States (CFIUS) expertise in the Office of

International Affairs. For all potential project sponsors and borrowers, LPO employs robust Know Your Customer policies, background checks, and other measures to ensure a clear understanding of the potential borrower.

After a conditional commitment is offered, and prior to DOE issuing a loan, this rigorous process continues. In negotiating a term sheet and financing documents with any borrower, LPO includes binding provisions that ensure the issues flagged in due diligence are appropriately addressed to the Department's satisfaction prior to financial close and through the life of the loan.

Together, these practices have allowed the portfolio to grow in a way that takes measured risk to accelerate deployment of innovative technologies in various clean energy sectors and of technologies that increase the manufacturing competitiveness in the domestic supply chain—all while protecting taxpayer dollars. While supporting the build out of first-of-a-kind technologies, the LPO portfolio has simultaneously achieved the following through extensive due diligence and proactive portfolio management.

- LPO maintains a healthy loan portfolio concentrated in creditworthy assets, with 70% of exposure held by investment-grade borrowers, and it maintains a low aggregate loss rate of around 3% of funds disbursed.
- Of the approximately $33 billion that has been disbursed to date, $14.17 billion in principal has been repaid, along with $4.74 billion in interest.
    - Every active LPO borrower remaining in the portfolio repaid principal in FY2022, achieving $1.7 billion in principal retirement and $523 million in interest payments to the U.S. Treasury.
- FY2022 marked a significant milestone as the portfolio achieved an internal investment-grade rating equivalent to BBB-, the first time in history that the overall weighted portfolio rating reached investment-grade by the end of the fiscal year.

A combination of the robustness of LPO's due diligence, underwriting, and oversight capabilities, and the conservative approach LPO has taken to selecting and modeling projects and approving financing, has amounted to a healthy, effective portfolio. As LPO continues to implement its mandate, DOE looks forward to doing so in a transparent and responsible manner.

Because LPO projects are often first movers in key energy sectors, a rigorous risk management approach across LPO's portfolio like the one described above is critical. By providing flexible access to capital for borrowers in clean energy sectors where traditional commercial debt is unavailable, LPO can help U.S. companies scale up domestic manufacturing capacity, help support American entrepreneurs' ability to deploy new technologies, and scale up domestic supply chains and create good-paying American jobs. Investment in American manufacturing helps the United States lead the world in clean energy industries and positions U.S. firms to export these technologies to our global partners.

Spurring Innovation in the Private Sector

Earlier this year, DOE launched a department-wide initiative to drive public and private sector engagement critical to the development of effective clean energy industrial strategy. The

Pathways to Commercial Liftoff effort, coordinated through DOE's Office of Technology Transitions and contributed to by the offices testifying today as well as a number of other DOE program offices, are a series of reports that provide a valuable, engagement-driven resource on how and when certain technologies—including industrial decarbonization, virtual power plants, clean hydrogen, advanced nuclear, and long duration energy storage—can reach full scale deployment.

The Liftoff reports provide insights that will help steer public sector and private sector investments at a critical time. The BIL and IRA provided DOE billions of dollars to invest in and support large-scale demonstration and deployment of clean energy technologies over the next decade. These historic investments are intended to drive commercialization and unlock trillions in private investment to set the nation on a course to hit critical long-term decarbonization objectives. Public and private partnerships are more important than ever in enabling the nation's broader industrial strategy—creating high quality American jobs, strengthening domestic supply chains and global competitiveness, and facilitating an equitable energy transition. Look no further than the recent Regional Clean Hydrogen Hubs announcement, where our $7 billion is attracting over $40 billion in private investment.

Importantly, the Pathways to Commercial Liftoff reports are developed through extensive stakeholder engagement and a combination of system-level modeling and project-level financial modeling – leveraging insights from conversations with several hundred private sector partners to date, as well as public sector experts. The Liftoff reports are designed to be "living documents," and will continue to be updated to add new private and public sector insights as the commercialization outlook on each technology evolves and as other technologies are addressed by new Liftoff reports in turn.

Research, Technology, and Economic Security

With the enactment of BIL and IRA, it has become more important than ever for the Department to have a comprehensive and rigorous approach to research, technology, and economic security (RTES) policy and procedures for its awards and loans. DOE developed, and continues to improve upon, a number of RTES measures to mitigate risk that malign foreign governments pose to our scientific and technological development ecosystem, supply chains, and intellectual property.

To ensure a robust RTES approach, DOE took three major actions to address the many forms of RTES risks. First, DOE enhanced its existing vetting processes to ensure that risks of undue foreign influence are considered early in the competitive process and throughout the life of a DOE supported project or loan. DOE also included strict RTES requirements for its financial assistance and loan programs. For example,

- No person participating in foreign talent program sponsored by a country of risk may participate in a project.
- Entities applying for funding must be fully transparent regarding foreign connections associated with individuals and entities proposed to participate in the project. Transparency includes sharing sources of intellectual property, foreign collaborations

related to the project scope, foreign ownership, and foreign affiliations. Continued transparency is required during the life of a project.

Second, DOE established a department-wide RTES working group to review, develop, and assist in the implementation of RTES policies. Third, the Department established a new RTES Office to implement DOE’s enhanced vetting process for financial assistance and loan projects, build awareness internally within DOE on RTES issues, engage with external stakeholders, and review DOE national lab agreements involving foreign entities.

Engagement with the Office of Inspector General

The Office of the Under Secretary for Infrastructure has been engaging from day one and will continue to routinely engage with the Office of Inspector General (OIG) to mitigate risks. The Department’s OIG plays a critical oversight function in ensuring that new programs mitigate the risk of fraud, waste, and abuse – from the program design phase all the way through to the project management phase. 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.

To that end, the Department appreciates the OIG’s prospective considerations for the implementation of the BIL, which came in the form of several Special Reports in 2022. While these were not the end products of traditional audits – which normally provide the Department with repeated opportunities to engage with OIG staff and review draft reports and to provide context, suggested factual corrections, and feedback, and which generally contain formal recommendations – they contain and collect helpful historical context and guidance on best practices going forward. Some common tips from across those reports included setting aside sufficient resources for adequate Federal staffing, building out strong internal controls to ensure Government and taxpayer protection, and developing comprehensive policies and procedures to minimize fraud, waste, and abuse in these new programs.

One key recommendation from the Inspector General relates to adequately staffing the Department to provide critical oversight of funded programs and projects. Accordingly, we have been focused on hiring sufficient staff from day one, particularly on hiring project and program oversight specialists, grant management and contracting specialists, and financial and audit oversight staff to responsibly oversee the tremendous investment Congress has made.

Conclusion

The Department of Energy looks forward to seeking the guidance of this Committee as we continue to ensure the integrity of the implementation of the BIL and IRA. These historic laws provide an unparalleled catalytic investment to our nation’s infrastructure and energy security, and the Department stands ready to meet this moment, while ensuring that we are executing stringent oversight and stewardship of the taxpayer dollar along the way.

As we look to secure the United States' leadership in energy technology, development, and infrastructure through the BIL and IRA, 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 future 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 the opportunity to testify before you today. We look forward to answering your questions.