



Understanding US federal government energy funding opportunities

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Major federal government funding for the energy transition

The US government has recently stepped up support for the development and implementation of clean and renewable energy technologies, energy efficient measures, and carbon management practices. This support comes in various forms including grants, low-cost loans, and tax credits.

The Inflation Reduction Act (IRA) of 2022 provides almost \$400 billion to fund energy and climate projects. The Act, a \$740 billion package in total, is considered the most significant US investment ever to combat the effects of climate change, with a goal of reducing carbon emissions – mostly from power generation and transportation – by at least 40 percent by 2030. These funding programs are having a significant impact on the sector. Projects that may otherwise have been unprofitable or marginal stand to generate sizable returns for investors.

This guide discusses:

- The most relevant fiscal programs administered by the **Department of Energy** and the **Department of Defense**
- Top points for project sponsors seeking Federal funding, including:
 - **The National Environmental Policy Act (NEPA) – review process**
 - **Compliance with Davis Bacon Act**
 - **Compliance with the Cargo Preference Act**
- Recent changes to **tax incentives** that are relevant to the energy transition sectors

DLA Piper has vast experience assisting clients in accessing these and other similar federal funding programs. We advise companies that wish to pursue public funding opportunities for renewable energy and clean tech projects, from evaluating available funding opportunities and structuring proposals to negotiating the funding instrument with the state or federal agency to ongoing compliance during administration of the project.

We can also work with you and leverage our alliance with the international strategic consulting firm The Cohen Group, headed by former US Secretary of Defense William S. Cohen, to develop new funding opportunities. Energy transition is a key political issue at this time, and we can help clients with emerging technologies that are driving the energy transition through an unprecedented range of legal and business consulting services.

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The Department of Energy (DOE)

The Department of Energy is committed to promoting clean energy and sustainable technologies through a variety of funding mechanisms including grants, loans, and financing programs. The Department of Energy alone offers \$157.4 billion in funding for fiscal year 2023. Various offices within the DOE are responsible for managing these programs, including the Office of Fossil Energy and Carbon Management (FECM), Office of Energy Efficiency and Renewable Energy (EERE), Office of Clean Energy Demonstrations (OCED), and Loan Programs Office (LPO), all of which work towards the common goal of reducing greenhouse gas emissions and promoting clean energy. The specific objectives of each are as follows:

- **Office of Fossil Energy and Carbon Management (FECM)** The Office of Fossil Energy and Carbon Management (FECM) partners with industry, academia, and research facilities to further the development of carbon management and resource sustainability technologies. Competitive solicitations issued as funding opportunity announcements (FOAs) are the principal mechanism used to contract for cost-shared research, development, and demonstration projects.
- **Office of Energy, Efficiency and Renewable Energy (EERE)** The Office of Energy Efficiency and Renewable Energy's funding programs advance clean energy technologies to ensure an equitable transition to a decarbonized economy. EERE's mission is to accelerate the research, development, demonstration, and deployment of technologies and solutions to equitably transition the US to net-zero greenhouse gas emissions economy-wide by no later than 2050. By creating good-paying jobs across the country, the office seeks to ensure the clean energy economy benefits all US residents – especially workers and communities impacted by the energy transition and those historically underserved by the energy system and overburdened by pollution.
- **Office of Clean Energy Demonstrations (OCED)** OCED is a multi-technology office with demonstrations that include clean hydrogen, carbon management, advanced nuclear reactors, long-duration energy storage, industrial decarbonization, demonstrations in rural areas and on current and former mine land, and more.
- **Loan Programs Office (LPO)** The Loan Programs Office (LPO) within the Department of Energy provides a variety of different loans and loan guarantees for energy-related projects, with over \$40 billion in total funding available for such programs. The LPO provides access to debt capital; flexible financing; close partnerships throughout the loan term; and financial, legal, technical, and environmental information to the programs listed below. These programs also focus on projects which aim to reduce, avoid, or sequester greenhouse gas emissions.
 - **Advanced Fossil Energy Projects Loan Guarantees**
 - **Advanced Nuclear Energy Projects Loan Guarantees**
 - **Advanced Technology Vehicles Manufacturing Loan Program**
 - **Innovative Clean Energy Loan Guarantees**
 - **Tribal Energy Loan Guarantee Program**

To receive federal energy funding or grants, organizations or individuals must apply and demonstrate that their project meets the specific criteria outlined by the funding agency. Most grants are made to fund a specific project and require the recipient to comply with the terms of the grant and report on the outcome of the project or program. A list of existing funding programs follows at Appendix I.

With a clear role in commercializing critical clean energy technologies, OCED fills the gap between the research, development, and early-stage demonstration projects including those within DOE technology offices and initial deployments supported by the private sector and/or other DOE programs, such as the Loan Programs Office.

The Department of Defense (DOD) – Defense Production Act Title III

The Defense Production Act (DPA) Title III program is dedicated to ensuring the timely availability of essential domestic industrial resources to support national defense and homeland security requirements. The program works in partnership with the uniformed services, other government agencies, and industry to identify areas where critical industrial capacity is lagging or non-existent. Once an area is identified, the program engages with domestic companies to mitigate these risks using grants, purchase commitments, loans, or loan guarantees.

On March 31, 2022, President Joe Biden signed a determination permitting the use of Title III authorities to strengthen the US industrial base for large-capacity batteries. With this action, President Biden gave the DOD the authority to increase domestic mining and processing of critical materials for the large-capacity battery supply chain.

The DPA Title III program targets investments that create, maintain, protect, expand, or restore domestic industrial base capabilities that are critical to the Department and the American Warfighter.

The DPA Title III has three broad focus areas:

- **Sustain critical production**
Programs addressing industrial base capability and capacity, whose primary focus is generating and sustaining material availability, reliability, maintainability, mobility, commonality, or affordability
- **Commercialize research and development investments**
Advanced component or system development and demonstration capabilities may require investments to retain a qualitative edge in capabilities and establish commercial viability or scale up. Typical programs may begin with a technology proven capable of producing prototype components or systems in a production relevant environment
- **Scale emerging technologies**
Emerging technology investments enable the rapid and affordable introduction of new capabilities into the organic or commercial marketplace. The technologies

may be developed to respond to an emerging threat, a capability gap, or may enhance interoperability or service of existing systems or platforms. The interest in these projects may be the result of revolutionary RD&D capabilities

Title III programs are determined through a white paper process. Companies can submit a white paper in accordance with the requirements of the relevant funding opportunity announcement (see Appendix II). General requirements include, but are not limited to, the following:

1. White papers must include proof that the submitter is a domestic source as defined by the Defense Production Act 1950
2. White papers must include proof of meeting the Defense Production Act Title III criteria as follows:
 - A. The industrial resource, material, or critical technology item is essential to the national defense
 - B. Without presidential action, US industry cannot reasonably be expected to provide the capability for the needed industrial resource, material, or critical technology item in a timely manner, and
 - C. Purchases, purchase commitments, or other action pursuant to the DPA are the most cost-effective, expedient, and practical alternative method for meeting the need



3. White papers should be unclassified and must include a brief technical discussion of no more than ten pages, a page of biographical sketches of key personnel who will perform the effort, and a rough order of magnitude (ROM) no more than two pages.
4. Once white papers have been received and reviewed, companies whose white papers have been reviewed favorably may be asked to submit a proposal. General requirements include, but are not limited to, the following:
 - A. Proposals must include proof that the submitter is a domestic source as defined by the Defense Production Act 1950
 - B. Proposals must include a technical discussion that identifies the technical approach and how the project addresses each of the Defense Production Act Title III criteria
 - I. The industrial resource, material, or critical technology item is essential to the national defense
 - II. Without presidential action, US industry cannot reasonably be expected to provide the capability for the needed industrial resource, material, or critical technology item in a timely manner, and
 - III. Purchases, purchase commitments, or other action pursuant to the DPA are the most cost-effective, expedient, and practical alternative method for meeting the need
 - C. Proposals must include a summary business plan. An outline for the summary business plan is provided as Appendix III to the FOA
 - D. Proposals must include a statement of work
 - E. Proposals must include a cost proposal. A sample cost proposal spreadsheet is provided as Appendix IV to the FOA

Top points for projects accessing federal funding

Project sponsors seeking federal funding for energy transition projects may be subject to certain requirements under federal legislation. While not an exhaustive list, three key considerations include:

- The National Environmental Policy Act (NEPA) – review process
- Compliance with Davis Bacon Act and
- Compliance with the Cargo Preference Act

A brief overview of these requirements is set out below.

A. The National Environmental Policy Act (NEPA) – review process

The National Environmental Policy Act (NEPA) process begins when a federal agency develops a proposal to take a major federal action, which includes the provision of funding under these programs.

A federal action may be categorized as follows and subject to the varying levels of assessment noted below:

1. Categorical exclusion (CATEX) – The federal action may be excluded from a detailed environmental analysis when the action normally does not have a significant effect on the human environment
2. Environmental assessment (EA)/finding of no significant impact (FONSI) – The EA determines whether or not a federal action has the potential to cause significant environmental effects. Each federal agency has adopted its own NEPA procedures for the preparation of EAs. For the programs discussed in this guide, the DOE or the DOD will follow the applicable procedures

Based on the EA, the following actions can occur:

- If the agency determines that the action will not have significant environmental impacts, the agency will issue a FONSI. A FONSI is a document that presents the reasons why the agency has concluded that there are no significant environmental impacts projected to occur upon implementation of the action

- If the EA determines that the environmental impacts of a proposed federal action will be significant, an environmental impact statement is prepared

3. Environmental impact statements (EIS) – Federal agencies prepare an EIS if a proposed major federal action is determined to significantly affect the quality of the human environment. The regulatory requirements for an EIS are more detailed and rigorous than the requirements for an EA

B. Compliance with Davis Bacon Act

The Davis-Bacon Act of 1931 is a US federal law that establishes the requirement for paying the local prevailing wages on public works projects for laborers and mechanics. It applies to “contractors and subcontractors performing on federally funded or assisted contracts...”. Consequently, compliance with the Davis-Bacon Act may be required upon receiving federal funding for an energy transition project. Applicants should be aware that there may be a cost implication on the project, both in terms of the requirement to pay prevailing wages as well as the reporting and other compliance requirements that must be managed across all contractors and subcontractors.

C. Compliance with Cargo Preference Act

Cargo Preference is a national shipping strategy mandated by law and is designed to maintain a nation’s presence and economic viability in the international shipping market. In short, certain percentages of certain cargo classes must be carried on vessels registered to a nation when the cargo is supported by that nation’s federal funding.

Such cargo is commonly referred to as “government-impelled” and is typically moving as a direct result of federal government involvement, indirectly through financial sponsorship of a federal program, or in connection with a guarantee provided by the federal government (*ie*, grants, loans, or loan guarantees). Cargo preference applies to all phases of the shipping process, including shipments made foreign-to-foreign, foreign-to-US, or US-to-foreign.



Tax credits

Inflation Reduction Act of 2022 – new tax credits for manufacturers of clean energy equipment

The Inflation Reduction Act of 2022 offers tax credits for renewable energy project developers as well as other industrial sectors that are involved in the energy transition. The below summary focuses on the amendments to section 48C[1], a tax credit for the cost of factories to that manufacture clean energy components, and the enactment of section 45X, which provides manufacturers with a credit for each unit of clean energy components manufactured.

A. Section 48C manufacturers' tax credit

Effective January 1, 2023, the Act expands section 48C to provide \$10 billion in tax credits. The tax credit is 30 percent of the amount invested in new or upgraded factories to build specified renewable energy components.

There are several notable expansions to the list of manufactured products that will qualify for the advanced energy project credit under section 48C. The definition of "qualifying advanced energy project" for purposes of section 48C is expanded from strictly facilities that manufacture certain renewable energy components to include facilities that also recycle qualifying property. Qualifying property and components will include products designed to be used to produce energy from water, along with those designed to produce energy from the sun, wind, geothermal deposits, and other renewable resources.

The new list also includes grid modernization equipment and components; property designed to "capture, remove, use, or sequester carbon oxide emissions" equipment designed to "refine, electrolyze, or blend any fuel, chemical, or product which is renewable or low-carbon and low emission"; products designed to produce energy conservation technologies and technology, components, and materials for electric or fuel cell vehicles and their associated charging or refueling infrastructure including, specifically, heavy-duty vehicles (ie, those with a weight rating of over 14,000 pounds).

Factory owners must apply to the IRS for an allocation of the section 48C credit. A factory may be eligible for the section 48C credit if it meets the statutory qualifications, but the factory owner may not claim the credit without being awarded an allocation from the IRS. Applications will likely be competitive, and the Secretary of the Treasury will rely on certain selection criteria such as commercial viability of the project, the amount of domestic job creation the related to the project, and timing of project completion, among others, to determine if a project will be allocated credits.

The Act's amendment to section 48C prohibits certain double tax credit benefits. A taxpayer is not allowed to benefit from the expanded section 48C credit if the investment in the factory already qualifies for a tax credit under section 48D (clean electricity investment credit), section 45Q (carbon capture credit for carbon oxide sequestration), or section 45V (clean hydrogen production credit).

B. Section 45X advanced manufacturing production credit

The Act adds new section 45X that provides a tax credit for each eligible component, as described below, produced in the US and sold by a manufacturer to an unrelated person.

Eligible components under section 45X include photovoltaic cells and wafers, solar grade polysilicon, polymeric backsheets, solar modules, wind energy components, torque tubes, structural fasteners, electrode active materials, battery cells, battery modules, and certain critical minerals. It is important to note that the 45X credit is limited only to production of eligible components in the US or in possession of the US. The credit would apply to components produced and sold after December 31, 2022, and the percentage of the credit allowed would begin to phase out starting in 2030.

Those minerals considered "applicable critical minerals" are defined more specifically under section 45X(c)(6). The allotted tax credit amount per mineral shall be 10 percent of the costs incurred by the taxpayer with respect to the production of such mineral.

Appendix I

US Department of Energy (DOE) – funding and financing

A. Office of Fossil Energy and Carbon Management funding opportunities

FECM Program	Program Title	Estimated federal funding / Summary	Open / close dates	Status / FOA number
Carbon Management – Regional Direct Air Capture Hubs	BIL FOA 2735: Regional Direct Air Capture Hubs	\$1.2 billion DOE announced \$3.5 billion for the development of four domestic Regional Direct Air Capture Hubs (the DAC Hubs) to accelerate commercialization of, and demonstrate the processing, transport, secure geologic storage, and/or conversion of, carbon dioxide (CO ₂) captured from the atmosphere and storage of that CO ₂ permanently in a geologic formation or through its conversion into products. The first funding opportunity announcement (FOA) released under this program will make available more than \$1.2 billion to begin the process for conceptualizing, designing, planning, constructing, and operating the direct air capture hubs, with additional opportunities expected to follow in the coming years.	Open: 12/13/2022 Close: 03/13/2023	Accepting FOA applicants DE-FOA-0002735
Carbon Management – Direct Air Capture Prize Competitions	Direct Air Capture Prize Competitions	\$115 million DOE announced the Direct Air Capture (DAC) Prize for support and prize awards totaling \$115 million to promote diverse approaches to direct air capture. The Direct Air Capture Pre-Commercial Prize provides up to \$15 million in prizes to incubate and accelerate research and development of breakthrough direct air capture technologies. The Direct Air Capture Commercial Prize provides up to \$100 million in prizes to qualified direct air capture facilities for capturing carbon dioxide from the atmosphere.	N/A Close: 03/20/2023	Competition website launched FOA number: N/A
Carbon Management – Carbon Utilization Procurement Grants	BIL NOI for FOA 2829: Carbon Utilization Procurement Grants	\$100 million DOE announced up to \$100 million in funding toward the Carbon Utilization Procurement Grants Program, which will provide grants to support the commercialization of technologies that reduce carbon emissions while also procuring and using commercial or industrial products developed from captured carbon emissions.	Open: 12/13/2023 Close: Q2 fiscal year 2023	NOI released DE-FOA-0002829/DE-FOA-0002895
Carbon Management – Regional Initiative to Accelerate Carbon Capture, Utilization, and Storage (CCUS) Deployment	FOA 2799: Regional Initiative to Accelerate Carbon Capture, Utilization, and Storage (CCUS) Deployment: Technical Assistance for Large-Scale Storage Facilities and Regional Carbon Management Hubs	\$20 million DOE announced \$20 million in funding for projects that will improve stakeholder access to region-specific information and technical assistance regarding the commercial deployment of carbon capture, transport, conversion, and storage technologies across the US.	Open: 12/12/2022 Close: 02/10/2023	Accepting FOA applicants DE-FOA-0002799
Resource Sustainability – Production of Critical Minerals and Materials (CMM) from Coal-Based Resources	BIL NOI for FOA 2846: Front-End Engineering Design (FEED) Studies for Production of Critical Minerals and Materials (CMM) from Coal-Based Resources	\$32 million DOE issued a Notice of Intent (NOI) to fund a \$32 million Bipartisan Infrastructure Law (BIL) program supporting front-end engineering design (FEED) studies to produce rare earth elements (REEs) and other critical minerals and materials (CMMs) from domestic coal-based resources.	Open: 10/12/2022 Close: Q1 calendar year 2023	NOI released DE-FOA-0002846
Technology Commercialization Fund: Carbon Dioxide Removal Measurement, Reporting, and Verification Best Practices and Capabilities	Lab Call: BIL: Technology Commercialization Fund: Carbon Dioxide Removal Measurement, Reporting, and Verification Best Practices and Capabilities	\$15 million DOE's Office of Technology Transitions (OTT), in partnership with the Office of Fossil Energy and Carbon Management (FECM), issued a lab call for \$15 million in funding to accelerate commercialization of carbon dioxide removal technologies, including direct air capture, by advancing measurement, reporting, and verification best practices and capabilities.	Open: 12/07/2022 Close: 03/23/2023	Accepting Applicants DE-LC-00L100

B. Office of Energy, Efficiency and Renewable Energy (EERE) funding opportunity announcements

EERE Program	Announcement Title	Estimated federal funding / Summary	Deadlines / Link to document
DE-FOA-0002813: Bipartisan Infrastructure Law: Resilient and Efficient Codes Implementation	Bipartisan Infrastructure Law: Resilient and Efficient Codes Implementation	\$45 million DOE issued a Notice of Intent (NOI) to fund a \$32 million Bipartisan Infrastructure Law (BIL) program supporting front-end engineering design (FEED) studies to produce rare earth elements (REEs) and other critical minerals and materials (CMMs) from domestic coal-based resources.	Concept paper: 01/31/ 2023 Full application: 03/27/2023 DE-FOA-0002813
DE-FOA-0002921: Notice of Intent to Issue Bipartisan Infrastructure Law (BIL) Funding Opportunity Announcement No. DE-FOA-0002922 "Clean Hydrogen Electrolysis, Manufacturing, and Recycling"	Notice of Intent to Issue Bipartisan Infrastructure Law (BIL) Funding Opportunity Announcement No. DE-FOA-0002922 "Clean Hydrogen Electrolysis, Manufacturing, and Recycling"	\$1.5 billion The BIL will invest \$500 million for the development of manufacturing and recycling of clean hydrogen technologies, as well as \$1 billion for electrolyzer development for the five-year period encompassing fiscal years 2022 through 2026. The initiative is intended to support the broader government-wide approach to accelerate progress in clean hydrogen technologies and maximize the benefits of the clean energy transition as the nation works to curb the climate crisis, empower workers, and advance environmental justice.	Deadlines: TBD DE-FOA-0002921
DE-FOA-0002883: Bi-Partisan Infrastructure Law (BIL) Request for Information on Energy Efficiency Conservation Block Grant (EECBG) Competitive Program	Bi-Partisan Infrastructure Law (BIL) Request for Information on Energy Efficiency Conservation Block Grant (EECBG) Competitive Program	\$550 million Through section 40552 (b) of the BIL, Congress authorized \$550 million for the EECBG Program. The program supports the Biden Administration's goal to achieve a carbon-free electric grid by 2035 and a net-zero emissions economy by 2050. The purpose of EECBG is to assist eligible entities in implementing strategies to reduce fossil fuel emissions created as a result of activities within the jurisdictions of eligible entities; reduce the total energy use of the eligible entities; and improve energy efficiency in the transportation, building, and other relevant sectors.	Deadlines: TBD DE-FOA-0002883
DE-FOA-0002788: Buildings Energy Efficiency Frontiers & Innovation Technologies (BENEFIT) – 2022/2023	Buildings Energy Efficiency Frontiers & Innovation Technologies (BENEFIT) – 2022/2023	\$45.2 million The 2022/2023 BENEFIT FOA will invest a maximum of \$15.35 million to \$45.2 million across five topic areas to allow interested parties to research and develop high-impact, cost-effective technologies and practices that will reduce carbon emissions, improve flexibility and resilience, and lower energy costs.	Concept paper: 02/07/2023 Full application: 04/05/2023 DE-FOA-0002788
DE-LC-000L100: Bipartisan Infrastructure Law Technology Commercialization Fund: Carbon Dioxide Removal Measurement, Reporting, and Verification Best Practices and Capabilities Lab Call	Bipartisan Infrastructure Law Technology Commercialization Fund: Carbon Dioxide Removal Measurement, Reporting, and Verification Best Practices and Capabilities Lab Call	\$15 million The lab call is funded by the Infrastructure Investment and Jobs Act, also known as the Bipartisan Infrastructure Law (BIL), as part of the DOE Technology Commercialization Fund (TCF). OTT expects to make \$15 million in BIL TCF federal funding available for projects led by DOE national laboratories, plants, and sites and supported by diverse industry partnerships spanning the emerging CDR sector.	Concept paper: 01/20/2023 Full application: 03/03/2023 DE-LC-000L100
DE-FOA-0002866: Bipartisan Infrastructure Law: Industrial Assessment Centers Program - Centers of Excellence	Bipartisan Infrastructure Law: Industrial Assessment Centers Program - Centers of Excellence	\$18.7 million Awards will support up to five regional Centers of Excellence for activities which include identifying new technologies, tools, and practices of particular importance to regional IAC clients and supporting the development of new or expansion of existing assessment tools to incorporate these new technologies, tools, and practices.	Letter of intent: 01/20/2023 Full application: 02/17/2023 DE-FOA-0002866

UNDERSTANDING US FEDERAL GOVERNMENT ENERGY FUNDING OPPORTUNITIES

EERE Program	Announcement Title	Estimated federal funding / Summary	Deadlines / Link to document
DE-FOA-0002756: 2022 Funding Opportunity Announcement for Energy Improvements at Public K-12 School Facilities - Bipartisan Infrastructure Law (BIL) - Renew America's Schools	2022 Funding Opportunity Announcement for Energy Improvements at Public K-12 School Facilities - Bipartisan Infrastructure Law (BIL) - Renew America's Schools	\$80 million The activities to be funded under this FOA support BIL Section 40541 and the broader government-wide approach to support projects that enable replicable and scalable impacts; create innovative, sustaining partnerships; leverage funding and economies of scale; focus on disadvantaged communities; improve student, teacher, and occupant health; enrich learning and growth; and assist schools that serve as community assets (eg, neighborhood cooling centers or disaster recovery shelters) and which are crafted thoughtfully within the context of public school facilities (eg, procurement restraints, construction windows).	Concept paper: 01/26/2023 Full application: 04/21/2023 DE-FOA-0002756
DE-FOA-0002882: Notice of Intent to Issue BIL, Section 40552(b): Administrative and Legal Requirements Document and Application Instructions for the Energy Efficiency and Conservation Block Grant Program	Notice of Intent to Issue BIL, Section 40552(b): Administrative and Legal Requirements Document and Application Instructions for the Energy Efficiency and Conservation Block Grant Program	\$62 million The BIL appropriates more than \$62 billion to DOE to invest in US manufacturing and workers; expand access to energy efficiency and clean energy; deliver reliable, clean, and affordable power to more US residents; and demonstrate and deploy the technologies of tomorrow through clean energy demonstrations.	Deadlines: TBD DE-FOA-0002882
DE-LC-0001000: Notice of Intent (NOI) to Issue FY23 Appropriated Technology Commercialization Fund (TCF)	Notice of Intent (NOI) to Issue FY23 Appropriated Technology Commercialization Fund (TCF)	\$20 million The estimated funding available for this appropriated TCF lab call is approximately \$20 million, and the solicitation could offer an opportunity for industry, state and local governments, and other non-federal entities to partner with a national lab to advance energy-related technologies and intellectual property.	Deadlines: TBD DE-LC-0001000
DE-FOA-0002768: Notice of Intent to Issue Funding Opportunity Announcement no. DE-FOA-0002779- Bipartisan Infrastructure Law: Additional Clean Hydrogen Programs (Section 40314): Regional Clean Hydrogen Hubs	Notice of Intent to Issue Funding Opportunity Announcement No. DE-FOA-0002779 - Bipartisan Infrastructure Law: Additional Clean Hydrogen Programs (Section 40314): Regional Clean Hydrogen Hubs	\$8 billion Investment in building out the hydrogen (H2) economy is a significant portion of the BIL funding at DOE. The BIL authorizes and appropriates \$8 billion over the five-year period encompassing fiscal years 2022 through 2026 to support the development of at least four H2Hubs that demonstrably aid achievement of the clean hydrogen production standard developed under section 822(a) of Energy Policy Act of 2005 (EPAct 2005); demonstrate the production, processing, delivery, storage, and end use of clean hydrogen; and can be developed into a national clean hydrogen network to facilitate a clean hydrogen economy.	Deadlines: TBD DE-FOA-0002768
DE-FOA-0002920: Hydrogen and Fuel Cell Technologies Office FOA in Support of Hydrogen Shot	Hydrogen and Fuel Cell Technologies Office FOA in Support of Hydrogen Shot	\$47 million The research, development, and demonstration (RD&D) activities to be funded under this FOA will support the government-wide approach to the climate crisis by driving innovation that can lead to the deployment of clean energy technologies. Specifically, this FOA will support the goals of the H2@Scale Initiative, which aims to advance affordable hydrogen production, transport, storage, and utilization to enable decarbonization and revenue opportunities across multiple sectors.	Concept paper: 02/24/2023 Full application: 04/28/2023 DE-FOA-0002920
DE-FOA-0002944: Notice of Intent to Issue Funding Opportunity Announcement No. DE-FOA-0002945 for Onsite Energy Technical Assistance Partnerships	Notice of intent to issue Funding Opportunity Announcement NO. DE-FOA-0002945 for Onsite Energy Technical Assistance Partnerships	\$23 million This FOA supports technical assistance for deployment of onsite clean energy technologies, including but not limited to solar photovoltaics, solar thermal, wind power, renewable fuels, geothermal, battery storage, thermal storage, industrial heat pumps, combined heat and power (CHP), and district energy.	Deadlines: TBD DE-FOA-0002944
DE-FOA-0002700: Assisting Federal Facilities with Energy Conservation Technologies (AFFECT) 2022 Appropriations	Assisting Federal Facilities with Energy Conservation Technologies (AFFECT) 2022 Appropriations	\$13 million FEMP will seek to make awards that support achievement of the Administration's goals for federal leadership in clean energy, climate, environmental justice, and equity. Applications are sought from federal agencies for technical solutions that are in alignment with three topic areas: projects under development facing reductions in scope due to adverse changes in fiscal/economic conditions, load management projects (energy performance contracts), and load management projects (other procurement mechanisms).	February 28, 2023 DE-FOA-0002700

EERE Program	Announcement Title	Estimated federal funding / Summary	Deadlines / Link to document
DE-FOA-0002847: Notice of Intent to Issue Funding Opportunity Announcement No. DE-FOA-0002845: Bipartisan Infrastructure Law (BIL), Section 41006(a)(2): U.S. Tidal Energy Advancement	Notice of Intent to Issue Funding Opportunity Announcement No. DE-FOA-0002845: Bipartisan Infrastructure Law (BIL), Section 41006(a)(2): U.S. Tidal Energy Advancement	\$35 million To support the development of tidal and current energy systems in the US, and to move the state of these technologies, DOE will provide the first large-scale investment for the development of a tidal research, development, and demonstration (RD&D) site. This FOA will provide \$35 million in total funding supporting Section 41006(a)(2) to fund a tidal or river current site development, preferably led by a project/site developer in the US, and fund in-water demonstration of at least one tidal energy system.	Deadlines: TBD DE-FOA-0002847
DE-FOA-0002840: Notice of Intent to issue DE-FOA-0002828 Bipartisan Infrastructure Law FOA to Address Key Deployment Challenges for Offshore, Land-Based, and Distributed Wind	Notice of Intent to issue DE-FOA-0002828 Bipartisan Infrastructure Law FOA to Address Key Deployment Challenges for Offshore, Land-Based, and Distributed Wind	\$27.9 million The activities under this FOA support BIL Section 41007(b)(1): Wind Energy as well as the broader government-wide approach to enable the innovations needed to advance US wind systems; reduce the cost of electricity; and accelerate the deployment of wind power, maximize the benefits of the clean energy transition as the nation works to curb the climate crisis, empower workers, and advance environmental justice.	Deadlines: TBD DE-FOA-0002840
DE-LC-0001000: Notice of Intent (NOI) to Issue FY23 Appropriated Technology Commercialization Fund (TCF)	Notice of Intent (NOI) to Issue FY23 Appropriated Technology Commercialization Fund (TCF)	\$20 million US Department of Energy's Office of Technology Transitions intends to issue its annual appropriated TCF solicitation, a call for proposals from national laboratories, plants, and sites. The goal of TCF is to improve US energy competitiveness and security by accelerating commercialization and shepherding critical clean energy technologies from lab to market, where the private sector will continue to innovate.	Deadlines: TBD DE-LC-0001000

C. Office of Clean Energy Demonstrations (OCED)

Opportunity	Funding opportunity number	Estimated total federal funding / Summary	Open / close dates Link to pdf
DE-FOA-0002935: Notice of Intent to Issue Funding Opportunity Announcement No. DE-FOA-0002936 titled "Industrial Decarbonization and Emissions Reduction Demonstration-to-Deployment Funding Opportunity Announcement"	DE-FOA-0002935	\$500 million OCED anticipates funding high-impact, large-scale, transformational projects to significantly reduce greenhouse gas (GHG) emissions from high-emitting industrial subsectors in an effort to build confidence in the technical and commercial viability of emissions reduction technologies and integrated solutions. OCED will support cross-cutting industrial decarbonization approaches via energy efficiency; industrial electrification; low-carbon fuels, feedstocks, and energy sources; and carbon capture and utilization for emissions that are difficult to abate through other pathways.	Deadlines: TBD DE-FOA-0002935
DE-FOA-0002906: Notice of Intent to Issue: DE-FOA-0002907 - Bipartisan Infrastructure Law: Advanced Energy Manufacturing & Recycling Grant Program (BIL Section 40209)	DE-FOA-0002906	\$350 million This anticipated FOA aims to strengthen and secure manufacturing and energy supply chains needed to modernize the nation's energy infrastructure and help foster a clean and equitable energy transition. The initiative will support the Advanced Energy Manufacturing and Recycling Grant Program, as established by BIL Section 40209. The FOA will provide approximately \$350 million in awards with a focus on projects with high supply chain impacts and strong community benefits plans.	Deadlines: TBD DE-FOA-0002906
DE-FOA-0002806: Notice of Intent to Issue Funding Opportunity Announcement No. DE-FOA-0002738 Titled BIL: Carbon Capture Demonstration Projects Program (Section 41004(B))	DE-FOA-0002806	\$2.2 billion This FOA will address Section 41004(b) of the BIL, and will require detailed information regarding how the applicant will incorporate environmental justice, community engagement and consent-based siting, equity, and workforce development when developing carbon capture demonstration projects to support the Biden Administration's decarbonization goals. Proposed projects must demonstrate at least 95-percent CO2 capture efficiency for power, industrial, and other commercial applications.	Deadlines: TBD DE-FOA-0002806

D. Loan Programs Office (LPO)

Program	Program title	Summary	Link to program guide
Innovative Clean Energy: Fossil Loan Guarantees	INNOVATIVE CLEAN ENERGY: FOSSIL LOAN GUARANTEES	The LPO has \$8.5 billion in loan guarantee authority for Advanced Fossil Energy projects under the Title 17 Innovative Energy Loan Guarantee Program (Title 17), authorized by the Energy Policy Act of 2005. The program helps finance projects in four broad technology categories: advanced resource development, low-carbon power systems, carbon capture, and efficiency improvements.	Title 17 Innovative Clean Energy Loan Guarantee Lending Reference Guide
Innovative Clean Energy: Nuclear Loan Guarantees	INNOVATIVE CLEAN ENERGY: NUCLEAR LOAN GUARANTEES	The LPO has \$10.9 billion in loan guarantee authority for advanced nuclear energy projects, including \$2 billion for front-end projects, under the Title 17 Innovative Energy Loan Guarantee Program (Title 17), authorized by the Energy Policy Act of 2005. Title 17 helps finance projects in four broad technology categories: advanced nuclear reactors, small modular reactors, uprates and upgrades at existing facilities, and front-end nuclear technology (uranium conversion or enrichment and/or nuclear fuel fabrication).	Innovative Clean Energy: Nuclear Technical Eligibility Reference Guide
Advanced Technology Vehicles Manufacturing Loan Program	ADVANCED TECHNOLOGY VEHICLES MANUFACTURING LOAN PROGRAM	The LPO has \$17.7 billion in loan authority to support the manufacture of eligible light-duty vehicles and qualifying components under the Advanced Technology Vehicles Manufacturing Loan Program (ATVM), authorized by the Energy Independence and Security Act of 2007. Two types of borrowers are eligible under ATVM: manufacturers of advanced technology vehicles that achieved defined fuel economy targets and manufacturers of components or materials that support eligible vehicles' fuel economy performance.	ATVM Lending Reference Guide
Innovative Clean Energy Loan Guarantees	INNOVATIVE CLEAN ENERGY LOAN GUARANTEES	The LPO has \$2.5 billion in loan guarantee authority for Innovative Clean Energy Projects under Title 17, authorized by the Energy Policy Act of 2005. Technology areas of interest for this program include advanced grid integration and storage, drop-in biofuels, waste-to-energy technology, enhancement of existing facilities, and efficiency improvements.	Technical Eligibility Guide – Title 17 Innovative Clean Energy
Tribal Energy	TRIBAL ENERGY LOAN GUARANTEE PROGRAM	The LPO has \$2 billion in loans to support economic opportunities for tribes through energy development projects and activities via the Tribal Energy Loan Guarantee Program (TELGP). DOE can guarantee up to 90 percent of the unpaid principal and interest due on any loan made to a federally recognized Indian tribe or Alaska Native Corporation for energy development. The tribal borrower must invest equity in the project, and all project debt will be provided by non-federal lenders.	Tribal Energy Lending Reference Guide



Appendix II

Department of Defense (DOD) – DPA Title III

Program	Funding opportunity number	Estimated federal funding / Summary	Closing date / Link to document
Defense Production Act Title III Expansion of Domestic Production Capability and Capacity	FA8650-19-S-5010	\$5 billion The DPA Title III Program has derived three broad topic areas for potential projects, including the Sustainment of Critical Production, Commercialization of Research and Development Investments, and Scaling of Emerging Technologies. Each call will contain a more descriptive summary as well as a statement of objectives (SOO) for that particular project. White paper submissions as part of the open portion of this FOA must identify which topic area(s) the white paper is technically scoped within.	July 12, 2024 FA8650-19-S-5010
Defense Production Act Title III Expansion of Domestic Production Capability and Capacity; CALL 012 - Critical Chemicals Production	FA8650-19-S-5010-CALL-012	\$200 million The objective of this effort is to establish domestic supplier(s) of critical chemicals that are essential for national defense. Enabling, maintaining, and expanding domestic sources for critical chemicals is a priority for the DPA Title III Program, and Title III funding will be used to mitigate defense industrial base (DIB) reliance on foreign sources for those chemicals. Successful awardees shall be domestic manufacturers whose proposal(s) demonstrate solutions that emphasize modularity of facilities and equipment to produce as many critical chemicals as possible and utilize efficient manufacturing techniques while minimizing environmental impact.	March 9, 2023 FA8650-19-S-5010-CALL-012

Appendix III

Credits and deductions under the Inflation Reduction Act of 2022

Credit and deductions for businesses

Title	Summary	Link to document
Carbon Oxide Sequestration Credit	A tax credit is available for the capture of carbon oxide for use in enhanced oil recovery or for permanent storage in a geologic formation (Code Sec. 45Q, as amended by the Inflation Reduction Act of 2022 (P.L. 117-169; Reg. §1.45Q-1). The credit is claimed on Form 8933 and is part of the general business credit, subject to its tax liability limitation and carryover rules (§11465). Each credit is recaptured with respect to any qualified carbon oxide that ceases to be captured, disposed of, or used in accordance with the credit requirements.	Form 8933
Commercial Clean Vehicle Credit	Businesses and tax-exempt organizations that buy a qualified commercial clean vehicle may qualify for a clean vehicle tax credit of up to \$40,000 under Internal Revenue Code (IRC) 45W. The credit equals the lesser of 15 percent of your basis in the vehicle (30 percent if the vehicle is not powered by gas or diesel) and the incremental cost of the vehicle. The maximum credit is \$7,500 for qualified vehicles with gross vehicle weight ratings (GVWRs) of under 14,000 pounds and \$40,000 for all other vehicles.	Pending finalized form
Biodiesel, Renewable Diesel, and Alternative Fuel Credits	The per-gallon incentives for biodiesel, agri-biodiesel, and renewable diesel are extended for two additional years, through December 31, 2024. In addition, the alternative fuel credit, the alternative fuel mixture credit, and the related outlay payment provision are retroactively extended for three additional years, through December 31, 2024. A special rule has been provided to address retroactive claims for excise credits and payments for periods after December 31, 2021 and before August 16, 2022.	Notice 2022-39
Sustainable Aviation Fuel Credit	A refundable blenders tax credit applies to each gallon of sustainable aviation fuel sold or used after December 31, 2022, as part of a qualified fuel mixture (IRC § 40B, as added by the Inflation Reduction Act of 2022 (P.L. 117-169)). The sustainable aviation fuel credit tax year is equal to \$1.25 for each gallon of sustainable aviation fuel in a qualified mixture sold or used during the year, plus the applicable supplementary amount with respect to the sustainable aviation fuel.	Notice 2023-06

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