

Federal Funding Opportunities for Scaling Climate Solutions

I. Executive Summary

For decades, clean energy and climate innovation and deployment have relied on, and been accelerated by, the U.S. Department of Energy (DOE) support through non-dilutive loans, grants, and other financial awards, combined with the DOE's vast infrastructure of national labs and other partnerships and collaborations to spur research and technology development. That track record of success has been recognized and profoundly expanded upon by new laws designed to amplify the DOE's capacity and reach, as well as empower other federal agencies to deepen their existing programs and launch new, complementary programs.

A trio of laws passed in the 117th Congress, the Bipartisan Infrastructure Law of 2021 (BIL), the CHIPS Act of 2022 (CHIPS), and the Inflation Reduction Act of 2022 (IRA), are the United States' most significant steps to a transformational global role in advancing clean energy technologies, climate solutions, and a sustainable economy.

The United States has acted decisively to address climate change.

We at Wilson Sonsini are greatly encouraged by such transformational federal support into clean energy innovation and deployment, and acknowledge that this trio of laws will re-shape the industry and how we power our economy. We stand ready to support clients to fully leverage this moment to transition to a more sustainable world, and help them work with the DOE and other federal agencies to make these federal investments successful and impactful.

This white paper offers an overview of major provisions providing federal funding opportunities to advance clean energy and climate solutions, with a focus on innovation-driven companies, their investors, and strategic partners. Our goal is to make the outlines of these new laws clear, and in the process introduce a new, electronic platform and resource for our clients and those in the sector who are trying to match their innovation to available federal resources. These federal funding opportunities are non-dilutive, support a redundant and therefore stable [capital stack](#), bring a host of reputational benefits, and allow enterprises to leverage federal systems and expertise.

This white paper also introduces Wilson Sonsini's new [Clean Energy & Climate Solutions Federal Funding Database](#)—a single source to track current clean energy funding and tax credit opportunities across the federal government (the DOE, U.S. Environmental Protection Agency (EPA), and U.S. Department of Agriculture (USDA), among others). By our calculation, these laws will propel a total of **more than \$750 billion** into these agencies for ultimate investment

in clean energy and climate solutions through grants, loans, and other assistance. The IRA further authorizes new and extends existing clean energy tax credits that will transition to a technology-neutral investment tax credit (ITC) and production tax credit (PTC). Importantly, the IRA creates a **stable** clean energy tax policy; the technology-neutral PTC and ITC do not expire at the end of the 10-year budget reconciliation window. Rather, the ITC and PTC expire when the power sector has reduced emissions by 75 percent or more or in 2032, whichever is later. This stability will provide for sustained, long-term investments and propel the billions of dollars in direct investments through these trio of laws even further.

Wilson Sonsini understands that tracking all these current and upcoming funding opportunities specifically for clean energy across multiple agencies can be a difficult task. As the IRA is implemented and as subsequent funding announcements pursuant to the BIL and CHIPS are announced, the database will be kept up to date with specific deadlines, opportunities to engage, eligibility requirements, and links to application information.

We provide this white paper additionally as a general guide for understanding *how* federal funding works at a high level, particularly for those with less background on these topics. This is not intended as legal or strategic advice for how best to apply for the funding. This paper attempts to outline the current landscape of opportunities, and we encourage you to remain in touch with our [Energy and Climate Solutions](#) group for more details and counsel on how to best leverage these opportunities.

II. Federal Clean Energy Development and Deployment Opportunities Through the DOE

The DOE provides billions in funding each year through a variety of programs and offices. Funding comes in the form of direct loans, loan guarantees, cooperative agreements, grants, or other funding mechanisms. Opportunities generally require a competitive application process that includes multiple independent reviews from experts familiar with the science and technology. Selection for funding serves as an independent stamp of approval from the DOE. If selected, awards are typically granted as an 80/20 cost share, where the government funds 80 percent of the project, multiplying capital four times, with no dilution.

The BIL, officially the Infrastructure Investment and Jobs Act (IIJA) was signed into law on November 6, 2021. The IIJA allocates more than \$62 billion to the DOE over five years (FY22-26) for the improvement of the electrical grid, promotion of clean energy, and development of new technologies to reduce emissions.¹

The deal directs \$20 billion to the DOE to establish the Office of Clean Energy Demonstrations. This office will fund projects demonstrating innovative technology in areas such as the production of clean hydrogen, carbon capture, and storage of renewable energy, helping to drive technology toward net-zero emissions by 2050.

The IRA further invests \$369 billion in the DOE and other federal agencies such as the USDA and EPA to spur the deployment and innovation of clean energy technologies. Furthermore, not included in the topline amount of the IRA is more than \$300 billion directed to the DOE's Loan Programs Office for awarding direct loans and loan guarantees across a broad range of clean energy technologies, manufacturing capability, and other eligible purposes.

Finally, CHIPS dedicates approximately \$69 billion to the DOE for a range of clean energy research, deployment, and innovation programs, including the new Foundation for Energy Security and Innovation, a low-emission steel program, and new funding to expand the Office of Technology Transitions at the DOE, to include a new national incubator program.

All together, these trio of laws invests upward of \$750 billion to clean energy deployment and innovation.

Please refer to the [Clean Energy & Climate Solutions Federal Funding Database](#) for more information on each opportunity and the deadlines, where available. Please feel free to reach out to the [Energy and Climate Solutions](#) group directly for any questions or inquiries on how to best take advantage of one or multiple opportunities.

Some program highlights include²:

- **Clean Hydrogen:** \$9.5 billion in the BIL will support the development, production, and use of clean hydrogen technologies. \$8 billion of the Office of Clean Energy funding will be directed to the development of at least four regional clean hydrogen hubs connecting producers with consumers. A wide variety of projects supporting the production, processing, delivery, storage, and use of hydrogen will be eligible for grants. \$1 billion is available to improve the efficiency and reduce the cost of hydrogen production using electrolyzers and \$500 million is available for improving the recyclability and environmental impact of the hydrogen fuel cycle.
- **Carbon Capture Utilization and Storage:** \$9.5 billion in the BIL is allocated to the development and deployment of carbon capture technology, including \$3.5 billion directed toward direct air capture of carbon dioxide and \$2.5 billion for carbon dioxide storage. \$2.5 billion will fund four projects capturing carbon dioxide directly from natural gas and coal electric plants, and two projects capturing carbon dioxide from non-electric generating industrial facilities. The remaining \$1 billion will fund the scaling of carbon capture technology from laboratory to commercial scale.
- **Battery Technologies:** As a key component of implementing clean energy, battery research and development will receive over \$6.3 billion in funding from the BIL. Grants focus on developing more environmentally friendly ways of mining, manufacturing, and recycling key materials required.

- **Bipartisan Infrastructure Spending:** There are billions more in funding that can be viewed [here](#). There are diverse projects that focus on funding driving innovation and enabling net-zero emissions by 2050. Demonstration projects include building, manufacturing, and recycling efficiency improvements, as well as electric grid upgrades focusing on smart grids and cybersecurity.
- **Nuclear:** The IRA includes a new tax credit for nuclear facilities, effective for electricity produced and sold after the end of 2023. The base credit will be 0.3 cents multiplied by kw of hours of electricity produced, with multipliers if prevailing wage requirements are met.
- **Energy Efficiency:** IRA provides \$4.3 billion for rebates to retrofit homes under the Home Energy Performance Based, Whole House Rebates program. Rebates of up to \$2,000 for individual homes and \$4,000 for multifamily housing will be available. A further \$4.3 billion is allocated to state energy offices to develop electric home rebates, to include up to \$8,000 to install heat pumps, and further rebates for water heaters, heat pump clothes driers, electric stoves, and more.
- **Industrial Decarbonization:** CHIPS created a new low-emission steel program at the DOE. This new program will propel new low-emissions steel manufacturing technology through an R&D program focused on heat generation, carbon capture, resource efficiency, and high-performance computing.
- **DOE Loan Programs Office:** The IRA provides over \$300 billion in new direct loan and loan authority across the Advanced Technology Vehicle Manufacturing program, Tribal Energy Loan Guarantee program, Title 17 program, and a new program now incorporated as Section 1706, which will provide \$250 billion to enable project financing for projects that replace energy infrastructure that has ceased operations with infrastructure that reduces greenhouse gas emissions.
- **Clean Energy Innovation:** CHIPS created a new Foundation for Energy Security and Innovation at the DOE. This program will foster partnerships between government, industry, start-ups, and outside funding organizations to increase funding opportunities from the private sector, accelerate commercialization, and provide workforce training in energy security and innovation. Further, CHIPS authorizes a new clean energy technology transfer program that expands the Office of Tech Transitions at the DOE, to include a national incubator program, a university clean energy tech prize competition, and other programs to increase entrepreneurship and innovation in national labs.
- **Transmission:** The IRA allocates \$2 billion for direct loans to non-federal borrowers to finance projects to construct or modify transmission facilities. An additional \$760 million will be available to the DOE to make grants to siting authorities and others for covered transmission projects to deploy more needed transmission infrastructure.

- **Defense Production Act (DPA):** The IRA includes \$500 million to the Defense Production Act Fund available until September 30, 2024, for solar panel parts (photovoltaic modules and module components); building insulation, transformers, and electric grid components; heat pumps; insulation; and electrolyzers, fuel cells, and platinum group metals pursuant to executive actions taken by President Biden in June 2022. DPA funds will be managed by the DOE. The DOE is still working to conduct listening sessions for how best to deploy these funds.

These grants are a competitive process. To be eligible, applicants must register with several government agencies and complete a detailed application. Many projects require a letter of intent and concept paper so the DOE can make an early assessment of competitiveness to encourage or discourage the full application. New applications are posted on a rolling basis, with peak season for posting in May and September. Registration can take up to two months, so an early start is highly recommended.

The Advanced Research Projects Agency-Energy (ARPA-E), created from the mold of the highly successful DARPA, funds research and development of high-risk, high-reward technologies that may not be ready for commercial investment. Since 2009, ARPA-E has awarded over \$3 billion to early-stage projects, which have gone on to raise over \$10 billion in follow-on private funding. Funding is available to both targeted programs such as deep-water wind turbines, but also OPEN programs, where ARPA-E seeks proposals for disruptive technologies that do not fit into one of the targeted categories.³

III. Opportunities Through the USDA

The USDA under the Biden administration has made climate solutions a priority. Under the Partnerships for Climate-Smart Commodities Funding Opportunity, the USDA invested \$1 billion in partnerships to support climate-conscious ranchers, farmers, and foresters. The program's purpose is to fund pilot projects that create market opportunities for U.S. climate-smart agricultural and forestry commodities. To be climate-smart, the commodities must be produced using practices that reduce greenhouse gas emissions or sequester carbon. Pilot project proposals for the program were required to include the implementation of climate-smart forestry or agriculture production practices on a large-scale; measure, monitor, report, and verify climate results achieved; and develop markets and promote climate-smart commodities created through the project. Entities eligible to submit applications were a range of public and private entities, including for-profit organizations. For the fiscal year 2022, the USDA provided funding in two pools. The first funding pool was for proposals from \$5 to \$100 million; the second was for proposals from \$250,000 to \$4,999,999. The program was so popular that the USDA extended the deadlines for applicants to submit project proposals.⁴

The USDA also uses financial programs, including loans, loan guarantees, and grants, for clean/renewable energy projects to support climate solutions.

Please refer to the [Clean Energy & Climate Solutions Federal Funding Database](#) for more information on each opportunity and the deadlines.

- **Rural Energy for America Program (REAP) Renewable Energy Systems & Energy Efficiency Improvement Guaranteed Loans and Grants⁵:** This program provides loan guarantees and grant funding to rural small businesses and agricultural producers to make energy efficiency improvements or for renewable energy systems. For purposes of this program, agricultural producers must have at least 50 percent of their gross income from agricultural operations and rural small businesses must be located in areas with populations of 50,000 residents or less. The funds can be used for renewable energy systems, including biomass, hydrogen, wind, solar, and ocean generation. The program provides loan guarantees on up to 75 percent of the total eligible project costs, grants for up to 25 percent of total eligible costs, and a combined grant and loan guarantee funding up to 75 percent of total eligible costs. It provides grants for renewable energy systems between \$2,500 and \$500,000 and grants for energy efficiency between \$1,500 and \$250,000. Applicants must pay at least 75 percent of the project cost if applying for a grant only and 25 percent if applying for a loan. The IRA provides an additional \$1.7 billion for this program.
- **Rural Distributed Generation Energy Project Financing⁶:** This program provides loans and loan guarantees to energy project developers for distributed energy projects—including renewables—that provide retail or wholesale electricity to existing electric program borrowers or to rural communities served by other utilities. There are three common scenarios and different loan requirements in each situation. The three scenarios are an existing borrower owns and operates the project, a project developer builds and operates the projects that have a PPA to serve rural customers, and a wholly owned subsidiary of an existing RUS borrower operates and owns the project and has a PPA with that borrower to take the whole output.
- **Rural Energy Efficiency and Conservation Loan Program⁷:** This program provides loans to finance conservation and energy efficiency projects for residential, commercial, and industrial consumers. The loans under this program are available to utility systems that have direct or indirect responsibility to provide retail electric services to persons in towns or unincorporated areas with populations less than 20,000. Entities included are businesses that provide retail electric service to consumers, transmission service to generation or distribution entities, or wholesale electric supply to distribution entities.
- **Rural Electric Infrastructure Loan and Loan Guarantee Program⁸:** This program makes insured loans and loan guarantees for retail or power supply providers serving qualified rural areas, including corporations and LLCs. Insured loans principally finance construction of rural electric distribution facilities. The guaranteed loans finance the construction of electric transmission, distribution, and generation facilities, including energy efficiency improvements and on-grid and off-grid renewable energy

systems. Loan guarantees can be up to 100 percent and 100 percent of the construction work planned can be financed. Applications are accepted year-round. The IRA includes an additional \$1 billion for loans under this program.

- **Biorefinery, Renewable Chemical, and Biobased Product Manufacturing Assistance Program⁹:** This program provides loan guarantees of up to \$250 million to support the construction, development, and retrofitting of emerging technologies such as advanced biofuels, biobased products, and renewable chemicals. Public and private entities including corporations can be borrowers. The total amount of federal participation must be below 80 percent of the total eligible costs and the borrower and other principals must make a significant cash equity contribution.
- **Rural Business & Industry Loan Guarantees¹⁰:** This program provides loan guarantees for lenders to rural businesses. The borrowers can be private or public entities engaged in projects in rural areas, including for-profit businesses. Rural areas under this program are city or towns with a population less than 50,000 inhabitants, but the borrower's headquarters can be in a large city if the project being funded is in an eligible rural area. The loans can be used for business repair, enlargement, modernization, or development; purchasing and developing land, buildings, and related infrastructure for industrial or commercial properties; installation and purchase of equipment and machinery; and debt refinancing if that refinancing creates jobs and improves cash flow. Applications are accepted year-round.
- **Rural Energy Savings Program¹¹:** This program provides loans to rural utilities and companies that provide energy efficiency loans to qualified consumers to implement energy efficiency measures that are cost-effective. Entities eligible for this program are current and existing RUS borrowers, subsidiaries of RUS borrowers, and entities providing retail electric service in rural areas, including corporations. Applications are on a first-come, first-serve basis until funds are depleted.
- **Rural Energy Resource Conservation¹²:** This program allows existing Rural Utilities Service borrowers to defer payment of principal and interest to make funds available to their consumers for renewable energy projects and energy conservation.
- **USDA Assistance for Rural Electric Cooperatives:** The IRA provides \$9.7 billion for loans and financial assistance to rural electric cooperatives to purchase renewable energy systems, zero-emissions systems, and carbon capture and storage systems, to deploy such systems or to make energy efficiency improvements to electricity generation and transmission systems. The federal cost share is capped at 25 percent of the total project cost and no eligible entity may receive an amount equal to more than 10 percent of the total amount provided under this section.
- **Additional Agricultural Conservation Investments:** The IRA provides \$20 billion (allocated in certain amounts each year between FY 23-26) to existing Farm Bill

conservation programs administered by the USDA, including the Environmental Quality Incentives Program (EQIP), the Regional Conservation Partnership Program (RCPP), the Conservation Stewardship Program (CSP), and the Agricultural Conservation Easement Program. These programs—while each structured differently and with different primary focuses—provide financial and/or technical assistance to farmers and/or forest owners for implementing conservation practices on their land. While this section broadly directs more money to these existing programs, it also includes language requiring the prioritization of projects directly related to the impacts of climate change, including, for example, requiring certain funds be made available for conservation practices that directly improve soil carbon, reduce nitrogen losses or greenhouse gas emissions or that capture greenhouse gas emissions from agricultural production; and mandating research on innovative conservation methods to reduce methane emissions from ruminants through changes in their diet.

IV. Opportunities Through the EPA, DOT, USPS, and FEMA

The EPA provides several financial resources for states and tribes to reduce diesel emissions. Further, significant investments have been made to the Department of Transportation.

Please refer to the [Clean Energy & Climate Solutions Federal Funding Database](#) for more information on each opportunity and the deadlines.

- **Diesel Emissions Reduction Act (DERA) State Grants¹³:** This program provides funding to states to reduce heavy-duty diesel emissions. The EPA allocated \$27.6 million for the FY 2022 state grants. Eligible equipment includes school buses, transit buses, medium-duty or heavy-duty trucks, marine engines, locomotives, and nonroad engines, equipment, or vehicles. Common projects that are funded by the grants are vehicle replacements, engine replacements, verified idle reduction technology, and verified exhaust retrofits.
- **Diesel Emissions Reduction Act (DERA) Tribal and Insular Area Grants¹⁴:** This program provides funding to tribal governments, Alaska Native Villages, and insular area government agencies with jurisdiction over air quality or transportation to reduce diesel emissions. The EPA allocated \$8 million for funding for this program and there will be no mandatory cost share requirements for projects.
- **EPA Clean School Bus Program¹⁵:** Under the BIL, the EPA now has \$5 billion to provide rebates and grants to replace school buses with clean and zero-emission models. The program is split into two funding streams: one is dedicated to funding only EV school buses; the other is dedicated to funding both EV school buses and alternative fuel school buses. The eligible new buses for this second funding stream must have a battery-electric, CNG, or propane drivetrain. Further, they must be EPA certified model year 2021 or newer, have a Gross Vehicle Weight Rating equal to or greater than 10,001

pounds, not be ordered prior to selection for EPA funding, be purchased, and serve the school district on the application for at least five years.

- **Clean Heavy-Duty Vehicles:** The IRA appropriates \$1 billion for a new program under the Clean Air Act that will allow EPA to issue grants and rebates to replace Class 6, 7, and other qualifying heavy-duty vehicles, in addition to charging and refueling infrastructure; for-profit entities eligible. Awards will be issued to cover the incremental costs of replacing dirty medium- and heavy-duty vehicles with zero-emitting vehicles, and rebates may be up to 100 percent of the cost of the vehicle. New vehicles must be “zero-emission” as defined by the EPA Administrator, but the statute provides that they at a minimum mean a vehicle with a drivetrain that produces zero exhaust of any air pollutant listed under Section 108(a) of the Clean Air Act and any greenhouse gas as defined under Section 211(a)(1)(G) of the Clean Air Act. Funds may also be used to fund workforce development and training for the operation and management of zero-emission vehicles and charging. \$400 million of these funds shall be reserved to make awards to eligible recipients and contractors to replace vehicles in communities located in nonattainment areas. Eligible contractors are those that have the capacity to sell, lease, license, or contract for service zero-emission vehicles or charging equipment, or to arrange financing for such a sale. Eligible entities are states, municipalities, Native American tribes, and nonprofit school transportation associations.
- **Greenhouse Gas Reduction Fund:** The IRA appropriates \$27 billion to better leverage private sector investment and community lenders to buy wind, solar, electric vehicle, and energy efficiency projects at the community level. This would be the first launch of a U.S. fund to support state green banks at \$7 billion, and \$20 billion remainder set aside for federal investments.
- **Grants to Reduce Air Pollution at Ports:** The IRA appropriates \$3 billion to replace, purchase, and install zero-emission port equipment or technology, conduct relevant planning or permitting, and develop qualified climate action plans. Private entities are eligible to apply in partnership with public port authority or governmental agency.
- **Greenhouse Gas Corporate Reporting:** The IRA appropriates \$5 billion appropriated to the EPA through 2031 to support enhanced standardization and transparency of corporate climate action commitments and plans to reduce greenhouse gas, enhanced transparency regarding progress toward meeting such commitments, and implementing plans.
- **Methane Emissions Reduction Program:** The IRA institutes a fee on methane for the upstream methane emissions for oil and gas (leaking pipelines, etc.) that begins in 2025. Covered entities include offshore and onshore petroleum and natural gas producers, onshore natural gas processing, onshore natural gas transmission compression, underground natural gas storage, LNG storage, LNG import and export

equipment, onshore petroleum and natural gas gathering and boosting, and onshore natural gas transmission pipelines. The fee shall be calculated as an eligible entity's number of metric tons of methane emissions multiplied by \$900 for FY 2024, \$1,200 for FY 2025, and \$1,500 for FY 2026 and thereafter. Further fees apply depending upon the facility. Because methane is worse than carbon, this methane fee will be a big component for getting the United States to our 2030 goal of cutting emissions to half of peak levels. The fee provides a financial penalty that would penalize producers of oil and gas that emit above a low threshold level over covered processes (wells, compressor stations, storage tanks, pipelines, etc.). The provision provides approximately \$1.55 billion to issue loans, grants, rebates, and contracts to the oil and gas sector to reduce methane emissions—so it's not all stick, and some carrot. Importantly, the fee works hand in hand with the [EPA proposed methane rule](#) as well. The IRA provides that if a company complies with the proposed EPA methane regulation, then they are not subject to the methane fee. Essentially, the new regime will strike the following deal with covered entities: meet the EPA rules and the EPA will provide grants to assist with reducing methane emissions, and in exchange, entities don't meet the EPA rules, then they will have to start paying significant fees.

- **Low-Carbon Transportation Materials Grants:** The IRA provides \$2 billion to the Federal Highway Administration to reimburse or provide incentives to public sector entities, Native American tribes, or certain other related entities for the use of low-embodied carbon construction materials and products in projects on federal-aid highway, tribal transportation facility, federal lands transportation facility, or federal lands access transportation facility, provided, however, that funds made available under this section cannot be used for projects that result in additional travel lanes for single-occupancy vehicles. Reimbursements shall equal the incrementally higher costs of using such materials relative to traditional materials, and incentives shall equal 2 percent of the cost of using low-embodied carbon construction materials. There is no cost-share requirement; the federal government will cover 100 percent of the reimbursement or incentive. “Low-embodied carbon construction materials and products” will be further defined by the EPA and will broadly adhere to the statutory requirement of materials and products that have substantially lower levels of embodied carbon as compared to estimated industry averages of similar products or materials.
- **United States Postal Service Clean Fleets:** The IRA provides \$3 billion to the U.S. Postal Service (USPS) for the purchase of zero-emission delivery vehicles and the purchase, design, and installation of requisite infrastructure to support these vehicles at USPS facilities that USPS owns or leases. Even without this funding, earlier in July 2022, the USPS already pledged to electrify at least 40 percent of its new delivery fleet,¹ a number that may increase further with such additional funding.

¹ Jacob Bogage, *USPS Will Make 40% Of Its New Trucks Electric, Up From 10%*, WASHINGTON POST, July 20, 2022,

- **FEMA Building Materials Program:** The IRA authorizes FEMA to provide financial assistance for costs associated with low-carbon materials and incentives that encourage low-carbon and net-zero energy projects, which may include an increase in the federal cost share for these projects. This section specifically authorizes FEMA’s pre-disaster hazard mitigation program under 42 U.S.C. 5133(h), the hazard mitigation program under 42 U.S.C. 5170c(a), and a provision under the Stafford Act authorizing FEMA to make funds available for the repair, restoration, and replacement of damaged facilities pursuant to a major disaster under 42 U.S.C. 6172(b).

The EPA also provides funding to states and tribes through the Multipurpose Grant Program.¹⁶ This program awards the states and tribes with multipurpose funds to be used at their discretion on activities that complement activities funded under established environmental statutes. In FY 2021, the program funded \$10 million in grants. These grants can fund state and tribe activities like clean-up and remediation of water sources and water systems, air quality mitigation efforts, and conservation activities.

The EPA’s Small Business Innovation Research (SBIR) program¹⁷ provides funding to small businesses for R&D related to the commercialization of innovative technologies that protect human health and the environment. The 2022-2023 topics of interest include six topic areas: clean and safe water, air quality and climate, homeland security, circular economy/sustainable materials, safer chemicals, and risk assessment. There are two phases of the program: phase I proof of concept and phase II attempting to push the technology as close as possible toward full-scale commercialization. During phase I, the EPA estimates making about 25 awards of up to \$100,000 with a performance of six months or less. Companies that successfully complete phase I are then eligible to complete phase II. Project proposals are due August 23, 2022, at 12:00 PM ET.

V. Tax Credits

The IRA includes a suite of new and extended tax credits for clean energy deployment and establishes a tax credit structure for clean energy technologies that will provide benefits for at least 10 years. Broadly, the IRA extends the current ITC and PTC for solar and wind through 2024 with full bonus credit eligibility and without phase-downs, and expands these provisions to include new technologies such as energy storage, among other modifications. Further, the IRA establishes a framework to transition the PTC and ITC to technology-neutral credits for all zero-carbon and low-carbon electricity generation technologies from 2025 through at least 2032. Importantly, these credits include an automatic stabilizer: that is, they do not expire before the power sector has reduced emissions by 75 percent or more or 2032, whichever is later.

Bonus credits are available for projects that pay workers a prevailing wage, as determined in the locality where the energy project is located, for projects that use domestic materials, and for projects that are in low-income communities, among other bonus eligibility criteria. “Direct pay” provisions are included for non-profit and governmental entities, with some availability for-

profit entities, and transferability provisions are included for tax-paying entities for most tax credits. Estimates project that these tax credits alone could more than [triple](#) clean power production.

For more information regarding these tax credits and how they will impact tax equity structures, commercial transactions, and more, please contact the firm's [Energy and Climate Solutions group](#).

A. New Tax Credits

- 48 (Low-Income Solar)
- 45U (Nuclear)
- 25D (Used EV Credit)
- 45W (Commercial EV Credit)
- 45Y (Technology-Neutral PTC)
- 48D (Technology-Neutral ITC)

B. Extended Credits

- 45 (PTC)
- 48 (ITC)
- 45Q (Carbon Capture)
- 40A (Biodiesel)
- 40(b) (Second Generation Biofuel)
- 45V (Clean Hydrogen)
- 25C (Energy Property)
- 25D (Residential Energy Efficiency)
- 45L (Energy Efficient Homes)
- 30D (Commercial EV)
- 30C (Alternative Fuel / EV Charging)
- 48C (Advanced Energy ITC)
- 45X (Advanced Manufacturing)
- 45Z (Clean Fuel PTC)

VI. Lawyer Contacts

Watch for [procurement](#) and [grant opportunities](#) posted on the [various federal websites](#), or follow the [Clean Energy & Climate Solutions Federal Funding Database](#) to be alerted of funding announcements.

Elise Zoli
ezoli@wsgr.com
617-598-7882

Todd Glass
tglass@wsgr.com
415-947-2071

Jaron Goddard
jgoddard@wsgr.com
206-883-2656

VII. End Notes

¹ *BIL Factsheet*, U.S. DEP'T OF ENERGY, <https://www.energy.gov/sites/default/files/2022-04/BIL%20Factsheet.pdf>.

² *Bipartisan Infrastructure Law Programs at Department of Energy*, U.S. DEP'T OF ENERGY <https://www.energy.gov/bil/bipartisan-infrastructure-law-programs-department-energy> (last visited July 27, 2022).

³ *About ARPA-E*, U.S. DEP'T OF ENERGY, <https://arpa-e.energy.gov/about> (last visited July 27, 2022).

⁴ *News Release: USDA to Extend Application Deadlines for Partnerships for Climate-Smart Commodities Funding Opportunity*, U.S. DEP'T OF AGRIC. (Mar. 11, 2022), <https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/newsroom/releases/?cid=NRCSEPRD1898239>.

⁵ *Rural Energy for America Program Renewable Energy Systems & Energy Efficiency Improvement Guaranteed Loans & Grants*, U.S. DEP'T OF AGRIC., <https://www.rd.usda.gov/programs-services/energy-programs/rural-energy-america-program-renewable-energy-systems-energy-efficiency-improvement-guaranteed-loans> (last visited July 27, 2022).

⁶ *Distributed Generation Energy Project Financing*, U.S. DEP'T OF AGRIC., <https://www.rd.usda.gov/programs-services/electric-programs/distributed-generation-energy-project-financing> (last visited July 27, 2022).

⁷ *Energy Efficiency and Conservation Loan Program*, U.S. DEP'T OF AGRIC., <https://www.rd.usda.gov/programs-services/electric-programs/energy-efficiency-and-conservation-loan-program> (last visited July 27, 2022).

⁸ *Electric Infrastructure Loan & Loan Guarantee Program*, U.S. DEP'T OF AGRIC., <https://www.rd.usda.gov/programs-services/electric-programs/electric-infrastructure-loan-loan-guarantee-program> (last visited July 27, 2022).

⁹ *Biorefinery, Renewable Chemical, and Biobased Product Manufacturing Assistance Program*, U.S. DEP'T OF AGRIC., <https://www.rd.usda.gov/programs-services/energy-programs/biorefinery-renewable-chemical-and-biobased-product-manufacturing-assistance-program> (last visited July 27, 2022).

¹⁰ *Business & Industry Loan Guarantees*, U.S. DEP'T OF AGRIC., <https://www.rd.usda.gov/programs-services/business-programs/business-industry-loan-guarantees> (last visited July 27, 2022).

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- ¹¹ *Rural Energy Savings Program*, U.S. DEP'T OF AGRIC., <https://www.rd.usda.gov/programs-services/electric-programs/rural-energy-savings-program> (last visited July 27, 2022).
- ¹² *Energy Resource Conservation*, U.S. DEP'T OF AGRIC., <https://www.rd.usda.gov/programs-services/electric-programs/energy-resource-conservation> (last visited July 27, 2022).
- ¹³ U.S. ENV'T PROT. AGENCY, 2022 DIESEL EMISSIONS REDUCTION ACT (DERA) STATE GRANTS OVERVIEW (May 2, 2022), <https://www.epa.gov/system/files/documents/2022-05/2022-dera-state-grants-overview-webinar-2022-05-02.pdf>.
- ¹⁴ U.S. ENV'T PROT. AGENCY, TRIBAL AND INSULAR AREA GRANTS: DIESEL EMISSIONS REDUCTION ACT (DERA) (June 2022), <https://www.epa.gov/system/files/documents/2022-06/dera-rfa-tribal-insular-grants-coming-soon-flver-2022-06.pdf>.
- ¹⁵ *School Bus Rebates: Clean School Bus Program*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/cleanschoolbus/school-bus-rebates-clean-school-bus-program> (last updated July 8, 2022).
- ¹⁶ *Multipurpose Grants to States and Tribes*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/grants/multipurpose-grants-states-and-tribes> (last visited July 22, 2022).
- ¹⁷ *SBIR Funding Opportunities*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/sbir/sbir-funding-opportunities> (last updated June 15, 2022).