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Inflation Reduction Act of 2022: Energy and Climate Provisions

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On August 7, 2022, the Senate approved the Inflation Reduction Act of 2022 ("IRA"). Besides addressing the federal deficit, this sweeping package also includes provisions to combat climate change, lower health-care costs, and raises taxes on certain corporations. This blog is the first of several that BILTgroup will post addressing the IRA. In this blog, we will focus on the Energy and Climate Provisions of the IRA.

In a somewhat non-inflation fighting way, the IRA authorizes the biggest burst of spending ($370 billion) in U.S. history to address global warming, with a goal of reducing greenhouse gas emissions to 40 percent below their 2005 levels by 2030.[1] The IRA includes (1) clean energy production tax credits, (2) clean energy investment tax credits, (3) fuel tax credits, (4) clean energy residential tax credits, (5) clean vehicle tax credits, (6) provides funding to carbon management, (7) provides funding for energy innovation, (8) provides funding for offshore wind and gas systems, (9) provides funding for community investment/ "energy justice", (10) provides additional funding to shorten the time it takes to obtain interstate permits, (11) allocates additional funds towards clean energy financing, and (12) allocates funds to existing USDA programs to encourage farmers to adopt climate-smart conservation practices.

1. **Clean Energy Production Tax Credits.**

Three are five clean energy production tax credits created by the IRA: the **Clean Hydrogen Production Tax Credit**, the **Advanced Manufacturing Production Tax Credit** (45X), the **Nuclear Power Production Tax Credit** (45U), the Extension of **Renewable Electricity Production Tax Credit** (§ 45), and the **New Clean Electricity Production Tax Credit** (45Y). **All of these credits include "Direct Pay" and transferability**.

"**Direct Pay**" is a term of art that is associated with a proposal that originated from the House Ways and Means Committee in 2010 in the Domestic Manufacturing and Energy Jobs Act of 2010. The basic mechanism of Direct Pay is that it allows a taxpayer to **treat tax credits that it has earned as an overpayment of taxes**, allowing the taxpayer to utilize the tax refund mechanism in the tax code to receive a direct payment of cash from the Treasury Department in lieu of monetizing the tax credit in other means.

All of these credits are also **transferrable**, meaning that taxpayers can sell all or part of their tax credits to an unrelated party. The sale must be for cash, and there is a 20 percent penalty if the claimed credit exceeds what the project was entitled to. The proceeds would be exempt from income but not deductible to the buyer. However, once a credit is transferred, the transferee cannot transfer it further. Also, credits which have been carried back or carried forward may not be transferred. The IRA would expand the carry back period for tax credit from one year to three years and the carry forward period from 20 years to 22 years.

In contrast to **Direct Pay**, **transferability** would be a market-based system whereby project owners would have to incentivize tax credit builders to purchase their tax credits by offering the credits for less than 100 cents on the dollar.

[1]Romm, Tony. "Senate approves Inflation Reduction Act, clinching long-delayed health and climate bill: The party-line vote marks a major achievement for Democrats, after more than a year of wrangling over a centerpiece of President Biden's economic agenda. It now awaits a vote in the House." *The Washington Post*. 7 August 2022. https://www.washingtonpost.com/us-policy/2022/08/07/senate-inflation-reduction-act-climate/

Most project owners will be ineligible for the direct pay regime, which would have yielded them 100 cents on the dollar for their tax credits.

Direct Pay is considered crucial for clean energy tax policy because it is more efficient, more impactful, and results in more innovation.[2] Additionally, following direct pay, a portion of the value of the tax credit would go to the financial markets rather than the clean energy development itself.[3] Additionally, studies have shown that direct cash subsidies – which function like "direct pay" – incentivize up to double the actual deployment of clean infrastructure per federal dollar spent.[4] Direct pay results in more innovation because the benefits extend beyond just mature technology such as wind and solar to nascent technologies like CCUS, hydrogen, and advanced nuclear which are typically overlooked by the tax equity markets due to the risk appetite of these markets.[5]

While Direct Pay and transferability is a feature of all of the credits in the chart below, only two of these credits provide an additional 10% credit is given in certain situations: (a) for meeting domestic manufacturing requirements for steel, iron, or manufacturing components and (b) for facilities located in energy communities (defined as brownfield sites or fossil fuel communities). These credits are the Extension of **Renewable Electricity Production Tax Credit** (IRC § 45) and the **New Clean Electricity Production Tax Credit** (IRC §45Y). The **New Clean Electricity Production Tax Credit** (§45Y) also provides an **additional 10% credit** for projects located in low-income communities (i.e. Opportunity Zones) or on Tribal land as well as an additional **20% credit** for projects located in low-income residential buildings or part of low-income economic benefit projects. Additional information about all five of the Clean Energy Production Tax Credits included in IRA is found below.

	Highlights	Deadlines to Consider	Additional Details
Clean Hydrogen Production Tax Credit	Creates a new 10-year incentive for clean hydrogen production with four tiers and a maximum of 4 kilograms of CO2 equivalent (CO2e) per kilogram of hydrogen (H2).	Projects must begin construction by 2023.	Eligibility includes retrofit facilities. Intensity calculated with the Greenhouse gases, Regulated Emissions, and Energy use in Technologies model ("GREET"). Cannot stack with the Carbon Capture and Sequestration Tax Credit (45Q).
Advanced Manufacturing Production Tax Credit (45X)	Creates a tax credit to produce clean energy technology components that are produced in the United States or by a U.S. possession.	Begins to phase out in **2029** and phases out completely in **2032.**	Projects Eligible components include solar components, wind turbine and offshore wind components, inverters, many battery components, and the critical minerals needed to produce these components.
Nuclear Power Production Tax Credit (45U)	Creates a tax credit to produce clean energy technology components that are produced in the United States or by a U.S. possession.	Becomes available to facilities already in service in **2024** and ends after **2032**.	N/A
Extension of Renewable Electricity Production Tax Credit (§ 45)	Extends the existing production tax credit for applicable renewable energy sources. This tech-specific PTC ends in **2024** and is replaced by the new tech-neutral Clean Electricity PTC (45Y) which begins in **2025**.	Extends the date of construction for geothermal, wind, closed- and open-loop biomass, landfill gas, municipal solid waste, hydropower, and marine and hydrokinetic facilities to **2024**.	Increases hydropower, municipal solid waste, and marine and hydrokinetic credit to full value (was previously halved). Strikes the offshore wind credit phaseout for facilities placed into service before 2022.

[2] "3 Reasons Why 'Direct Pay' is Crucial for Clean Energy Tax Policy." *Bipartisan Policy Center*. https://bipartisanpolicy.org/download/?file=/wp-content/uploads/2022/06/Energy-Direct-Pay-Infographic.pdf
[3] *Id*.
[4] *Id*.
[5] *Id*.

New Clean Electricity Production Tax Credit (§ 45Y)	This newly established, tech-neutral PTC replaces the above Renewable Electricity Production Tax Credit once it phases out at the end of 2024. 45Y is an emissions-based incentive that is neutral and flexible between clean electricity technologies. Taxpayers choose between a PTC (45Y) and an ITC (48D).	Credits are set to phase out the later of 2032 or when emission targets are achieved (i.e., the electric power sector emits 75% less carbon than 2022 levels). Facilities will be able to claim a credit at 100% value in the first year, then 75%, then 50%, and then 0%.	Creates a PTC credit of **1.5 cents per kWh of electricity produced** and sold or stored at facilities **placed into service after 2024 with zero or negative GHG emissions.** Facilities may use carbon capture, utilization, and storage (CCUS) to reach qualifying emissions levels.

2. Clean Energy Investment Tax Credits.

The IRA also introduces three Clean Energy Investment Tax Credits, all of which include direct pay and transferability: **Extension of Energy Investment Tax Credit** (IRC §48), **New Clean Electricity Tax Credit** (§48(D)), and **Advanced Energy Project Credit** (§ 48C). The **Extension of Energy Investment Tax Credit** and **New Clean Electricity Tax Credit** offers **10% bonus credit** (A) for meeting domestic manufacturing requirements for steel, iron, or manufactured components, and (B) for projects located in energy communities (defined as brownfield sites or fossil fuel communities). The **New Clean Electricity Tax Credit** also offers a **10% bonus credit** for projects located in low-income communities or on Tribal land as well as a **20% bonus credit** for projects located in low-income residential buildings or part of low-income economic benefit projects. Additional information about the Clean Energy Investment Tax Credits is included in the chart below.

	Highlights	**Deadlines to Consider**	**Additional Details**
Extension of Energy Investment Tax Credit (§ 48)	Extends the existing energy investment tax credit for applicable energy projects. This tech-specific ITC ends in 2024 for most technologies and is replaced by the new tech-neutral Clean Electricity ITC (48D), which begins in 2025.	Extends date of construction in most cases to 2024 and maintains a 10% or 30% credit.	- Maintains **30% credit** for solar energy property, geothermal property, fiber-optic solar property, fuel cell property, microturbine property, small wind property, offshore wind property, combined heat and power property, and waste energy recovery property constructed before **January 1, 2025.** - Creates **30% credit** for energy storage technology[3,4] biogas property, microgrid controllers, dynamic glass, and linear generators constructed **before January 1, 2025.** - Extends **10% credit** for microturbine projects constructed before **January 1, 2025.** - **30% credit** for geothermal heat pump projects constructed before **January 1, 2033**. Credit reduces to **26% in 2033** and **22% in 2034**.
New Clean Electricity Investment Tax Credit (§ 48D)	This newly established, tech-neutral ITC (§48D) replaces the above Energy ITC once it phases out at the end of 2024. 48D is an emissions-based incentive that is neutral and flexible between clean electricity technologies. Taxpayers choose between a PTC (45Y) and an ITC (48D).	Credits are set to phase out the later of **2032 or when emission targets are achieved** *(i.e., the electric power sector emits 75% less carbon than 2022 levels).*	- Creates an ITC credit of 30% of the investment in the year the facility is placed in service. - Clean electricity projects smaller than 5 MW can include the costs of interconnection under the ITC. - The Treasury Department is directed to publish emission rates for similar technologies each year for taxpayers to use for purposes of determining their eligibility. Facilities will be able to claim a credit at 100% value in the first year, then 75%, then 50%, and then 0%.

Advanced Energy Project Credit (§ 48C)	Extends the 30% investment tax credit to clean energy projects to strengthen domestic energy manufacturing and support the production and recycling of clean energy products. It also expands to include projects at manufacturing facilities that want to reduce their GHG emissions by at least 20%.		- Tax credit is funded at $10 billion for eligible projects. - Can be applied to low-carbon industrial heat, carbon capture, transport, utilization and storage systems, and equipment for recycling, waste reduction, and energy efficiency.

3. Fuel Tax Credits

The IRA introduces four fuel tax credits: the **Clean Fuel Production Credit** (45Z), the **Sustainable Aviation Fuel (SAF) Credit** (40B), the Extension of **Second Generation Biofuel Incentives**, and the extension of **Biodiesel and Renewable Diesel Credit**. The Clean Fuel Production Credit includes direct pay and transferability. More information about these credits is found in the chart below.

	Details	Deadline
Clean Fuel Production Credit (45Z)	- Maximum credit is **$1 per gallon** (or $1.75 per gallon for sustainable aviation fuel) multiplied by an emissions factor. - Emission factor is calculated proportional to a maximum emission rate standard of 50 kilograms of CO_2e per 1 million British thermal units (mmBTU). - Emission rate is calculated with GREET model.	Creates a new technology neutral 2-year tax credit for low-carbon transportation fuel.
Sustainable Aviation Fuel (SAF) Credit (40B)	Credit starts at **$1.25 per gallon** for aviation fuel that reduces GHG emissions by **50%** and increases by one cent for each additional percent reduction, maxing at **$1.75 per gallon**.	Credit is authorized through 2026
Extension of Second-Generation Biofuel Incentives	Extends existing second-generation biofuel incentives.	Extension lasts through 2024.
Extension of Biodiesel and Renewable Diesel Credits	Extends the current credit of **$1 per gallon**.	Extension lasts through 2024.

4. Clean Energy Residential Tax Credits.

The IRA also provides two Clean Energy Residential Tax Credits: **Credit for Residential Clean Energy** (25D), and the **Credit for Energy Efficiency Home Improvements**.

	Details	Deadline
Credit for Residential Clean Energy (§25D)	- Maintains the previous credit rate but adjusts the project dates. - Applies a **30% credit** for projects started between 2022 and 2032. - Applies a **26% credit** for projects started in 2033. - Applies a **22% credit** for projects started in 2034. - Expands eligibility to battery storage technology.	Extends credit through 2034 for residential solar, wind, geothermal, and biomass fuel.
Credit for Energy Efficiency Home Improvements (§25C).	- Increases credit from **10%** to **30%.** - Replaces lifetime cap on credits with a **$1,200 annual credit limit**, including **$600 for windows** and **$500 for doors**. Increases limit to **$2,000 for heat pumps** and biomass stoves. Removes eligibility on roofs. - Expands credits to cover the cost of home energy audits up to **$150** and electrical panel upgrades up to **$600**.	Extends credit for energy efficiency home improvements through **2032**.

5. Clean Vehicle Tax Credits.

There are four clean vehicle tax credits within the IRA: **Clean Vehicle Credit** (30D), **Previously Owned Clean Vehicle Credit** (25E), **Commercial Clean Vehicle Credit** (45W), and **Extension of Alternative Fuel Refueling Property (Charging Stations) Credit** (30C).

	Details
Clean Vehicle Credit (§30D)	- Maintains the existing **$7,500 consumer credit** for the purchase of a qualified new clean vehicle, including electric vehicles, plug-in hybrids, and hydrogen fuel cell vehicles. Credit is reduced or eliminated if a certain percentage of the critical minerals utilized in battery components are not extracted or processed in a Free Trade Agreement country or recycled in North America. The percentage increases from **40% in 2024** to **80% in 2026**. Credit is reduced or eliminated if EV is not assembled in North America or if the majority of battery components are sourced outside of North America. The percentage increases from **50% in 2024** to **100% in 2028.** - Implements a maximum of **$80,000 per vehicle** for vans, SUVs and pickups and **$55,000 for other vehicles**. - Implements an income eligibility limit **of $150,000 or $300,000 for joint filers**. - **Eliminates the previous manufacturer quota**, which phased out the tax credit for manufacturers as they neared 200,000 clean vehicles sold. models of Tesla, General Motors, and the most popular EV brands would now qualify for the tax credit.
Previously Owned Clean Vehicle Credit (25E)	- Creates a consumer tax credit for the purchase of previously owned clean non-commercial vehicles, including electric vehicles and plug-in hybrids. **Credit is equal to the lesser of $4,000 or 30% of the vehicle cost.** - Sets a **maximum sale price of $25,000**. **Model must be at least 2 years older than the year of sale**. - Implements an income eligibility limit of **$75,000 or $150,000 for joint filers**.
Commercial Clean Vehicle Credit (45W)	- For class 1-3 (under 14,000 lbs.) vehicles for commercial use, creates a **$7,500 tax credit tax for the purchase of electric vehicles** or other qualified clean vehicles. - For class 4 and above (over 14,000 lbs.) vehicles for commercial use, **increases the credit to $40,000**
Extension of Alternative Fuel Refueling Property (Charging Stations) Credit (30C)	- Extends tax credit for alternative fuel refueling property credit to property **placed into service before 2033**. - Increases the **tax credit to 30% of the cost of alternative fuel refueling property up to $100,000.** A **20% tax credit is then applied to amounts over $100,000**. - Includes Direct Pay and Transferability.

6. Carbon Management

The IRA contains provisions related to carbon management. The IRA contains the **Carbon Capture and Sequestration Tax Credit** (45Q), which enhances the tax credit for carbon capture and direct air capture. The IRA also contains **Investment in Low-Carbon Materials & Buildings** as well as provisions about **Biomass, Carbon Removal, and Forest Management**.

	Overview	Details
Carbon Capture and Sequestration Tax Credit (§45Q)	Enhances the tax credit for carbon capture and direct air capture.	- Maintains Extends the **deadline for construction to January 1, 2033** and increases the credit amount: o From $50 to **$85 per ton** for CCUS for industrial facilities and power plants for saline geologic formations. o From $35 to **$60 per ton** for utilization of captured CO2 and its precursor carbon monoxide to produce low and zero-carbon fuels, chemicals, building materials and other products, or for enhanced oil recovery (EOR). o From $50 to **$180 per ton** for DAC stored in saline geologic formations and from $35 to **$130 per ton** for utilization or EOR. o Increases minimum plant size threshold: From 100,000 to **1,000 tons per year** for DAC. o From 500,000 to **18,750 metric tons per taxable year** for Electric Generating Facility paired with design capacity requirement below. o From 25,000 to **12,500 metric tons per taxable year** for any other facility. - Design Capacity Requirement: Point-source carbon capture projects on electric generating units will be required to design capture equipment to **capture at least 75% of unit (not facility) CO2 production**, subject to a review if facility emissions increase in future years. - Direct Pay Compromise: Projects **will receive direct pay for the first 5 years after the carbon capture equipment is placed in service** (no direct pay option for the final 7 years of the credit). Nonprofit organizations and co-ops can receive direct pay for all 12 years of the credit.
Investment in Low-Carbon Materials & Buildings	Supports low-carbon materials procurement for federal projects, along with multiple efforts to standardize environmental impact disclosure, labeling and verification of low-carbon concrete and construction materials—an essential component of federal procurement.	- **$350 million for the Environmental Protection Agency (EPA)** to support the development of standardized, high-quality, transparent environmental product declaration of greenhouse gas emission associated with construction materials, identify and label low-carbon construction materials used for federal buildings and federal transportation projects in consultation with Federal Highway Administration (FHA) and the General Services Administration (GSA). - Procurement of low-carbon materials in federal projects: o **New authority granted to the Federal Emergency Management Agency (FEMA) to cover costs associated with low-carbon materials or to encourage low-carbon and net-zero energy projects when administering disaster relief**. o **$2 billion for FHA** to reimburse or provide a 2% incentive in federal transportation projects for the use of low-carbon construction materials that cost the same or incrementally more than traditional construction materials. o **$2.15 billion to the Federal Buildings Fund** for GSA to acquire and install low-carbon building materials and products.

	Overview	Details
Biomass, Carbon Removal, and Forest Management	Additional Funding Provided for the National Forest System, grants for carbon removal practices, Wood Innovation Grant Program, and additional Provisions to the Clean Electricity Production Credit.	- **$1.8 billion for the National Forest System** to support wild-fire risk reducing activities within wildland-urban interface including eligible biomass removal. - **$50 million in competitive grants to states and eligible entities** to pay forest landowners for practices that increase carbon removal on private lands. - **$100 million for the Wood Innovation Grant Program** to support solutions that utilize forestry residue for innovative end uses. - **$400 million in competitive grants and cost share** to support the participation of forest landowners that are underserved or own less than 2,500 acres in forest resilience activities and climate mitigation markets. - **Clean Electricity Production Credit** (45Y) includes net-negative emission electricity production using solutions like Biomass Energy with Carbon Capture and Storage (BECCS). Net emission for facilities which use combustion and gasification technologies (used to breakdown biomass) is accounted for through cradle-to-gate life cycle assessment.

7. Energy Innovation Provisions.

The IRA contains provisions for an **Advanced Industrial Facilities Deployment Program**, a **National Laboratory Infrastructure**, and provisions to increase **Availability of High-Assay Low-Enriched Uranium** (HALEU). The **Advanced Industrial Facilities Deployment Program** creates a $5.8 billion program under the Office of Clean Energy Demonstration (OCED) to invest in projects aimed at reducing emissions from energy intensive industries. The **Advanced Industrial Facilities Deployment Program** prioritizes projects with greatest GHG reduction benefit and the greatest benefit to largest number of people at facility location.

The IRA **National Laboratory Infrastructure Provisions** fund infrastructure improvements at the Department of Energy (DOE) National Laboratories, which host multi-million-dollar facilities and equipment that advances science and technology development. The IRA will appropriate funding to the DOE Office of Science through 2027 to invest in national lab infrastructure: **$133.2 million for laboratory infrastructure projects**, **$321.6 million for laboratory facilities**, **$800.7 million for laboratory construction and equipment**, and **$294.5 million for energy sciences projects**. An additional **$150 million is appropriated to the Office of Fossil Energy and Carbon Management** for infrastructure and general plant projects through 2027, another $**150 million is appropriated to the Office of Nuclear Energy** for infrastructure and general plant projects through 2027, and another $**150 million is appropriated to the Office of Energy Efficiency and Renewable Energy** for infrastructure and general plant projects through 2027.

Lastly, to **increase the availability of HALEU**, the IRA appropriates $700 million in additional funding to the DOE Advanced Nuclear Fuel Availability program through 2026, which will be used to increase availability of HALEU fuel for civilian domestic research, development, demonstration, and commercial use.

8. Offshore Wind and Gas Systems.

The IRA contains provisions related to **offshore wind energy**, **oil and gas**, and a **methane emissions reduction program**

The IRA makes **$100 million available f**or convening stakeholders and conducting analysis related to interregional transmission development and development of transmission for offshore wind energy. Planning, modeling, and analysis would take into account factors including the economic, reliability, resilience, security, public policy, and environmental benefits of interregional electricity transmission and transmission of electricity from offshore wind energy generation. If developed, electricity from offshore wind energy generation, in theory, could be transmitted to any of the three interconnections (i.e., grids) of the continental U.S. transmission system: the Eastern Interconnection, the Western Interconnection, and the Electric Reliability Council of Texas. These interconnections have limited connections among them.

Additionally, the IRA lifts the offshore wind moratorium in the southeastern U.S. and Eastern Gulf and allows leasing in the U.S. territories. Coastal states must use funding for specified purposes, such as coastal restoration, conservation, or to finance resilient infrastructure. The IRA also requires an oil and gas lease sale of 60 million acres in the prior year for offshore wind lease issuance, for the next 10 years. The IRA increases **offshore oil & gas royalty** rates from 12.5% to a minimum of 16.66% for the next 10 years after its enactment. **Onshore oil & gas** leasing minimum bids are also increased from $2 per acre to $10 per acre for the next 10 years after the IRA's enactment. Annual rental rates for new onshore oil and gas leases will also be increased.

As a component of a **Methane Emissions Reduction Program**, the IRA **gives $1.5 billion to the EPA** to provide incentives, grants, contracts, loans, and rebates for facilities, well operators, and communities to enable methane emission reduction activities like monitoring, reporting, source plugging, obtain technical and financial assistance, install innovative solutions, mitigate negative health impacts, and perform environmental restoration. Further, it establishes a **maximum annual methane waste emission rate of 25,000 metric tons of CO2e** (vented, released, or flared) for a facility and imposes penalty charges starting at **$900 per ton in 2024** and increasing to **$1,500 per ton by 2026** for facilities emitting more than that.

9. Community Investment and Energy Justice Provisions of the IRA.

The IRA contains nine provisions for community investment and "energy justice." **Environmental and Climate Justice Block Grants**, **Neighborhood Access and Equity Grants**, **Grants to Reduce Air Pollution at Ports**, provisions for **Clean Heavy-Duty Vehicles**, a **Low Emissions Electricity Program**, an **Energy Credit for Solar and Wind in Low-Income Communities**, a **Home Energy Performance-Based Whole House Rebate**, **USDA Assistance for Rural Electric Cooperatives**, and **Rural Energy for America Program (REAP)**. More about these provisions are below.

	Highlights	Details
Environmental and Climate Justice Block Grants	**$2.8 million** to the EPA for grants and **$200 million** for technical assistance.	- 3-year grants are available for projects related to climate change and air pollution, including air pollution monitoring, extreme heat risk mitigation, resiliency and adaptation, indoor pollution reduction, and community engagement. - Tribes, local governments, and universities in partnership with community-based non-governmental organizations (NGOs) are eligible, as well as individual or groups of community-based NGOs.
Neighborhood Access and Equity Grants	**$3 billion**, with **$1.1 billion** set aside for disadvantaged communities, to the FHA	- Grants to improve transportation access and mitigate negative safety or environmental impacts in underserved communities. - Grants may be used for improvements to reduce air pollution and GHG emissions, manage stormwater run-off, address urban heat islands, and to monitor air quality, transportation related GHG emissions and pollution, and gaps in tree canopy coverage. - State, local, territory, and Tribal government entities are eligible. - Federal cost share of a project in a disadvantaged or underserved community may be up to 100%.
Grants to Reduce Air Pollution at Ports	**$3 billion to the EPA**, and **$750 million** set aside for ports	- $3 billion to the EPA to award rebates and grants to port authorities, state, regional, local, or Tribal agencies, air pollution control agencies, or private entities for the purchase or installation of zero-emission port equipment, for associated planning, and to develop climate action plans. - $750 million set aside for ports located in nonattainment areas (areas with high air pollution).
Clean Heavy-Duty Vehicles	$1 billion in grants	- $1 billion, with $400 million set aside for communities located in nonattainment areas, for grants and rebates for up to 100% of costs for

		clean heavy-duty vehicles (e.g., school buses and garbage trucks) as well as associated maintenance, workforce training, and planning. - States, municipalities, Tribes, and nonprofit school transportation associations are eligible.
Low Emissions Electricity Program	**$68 million** in total to the EPA	- Includes $17 million for education, $17 million for technical assistance, and $17 million for partnerships within low-income and disadvantaged communities related to GHG emissions reductions. - Includes an additional $18 million appropriated to carry out activities of the program and ensure GHG emissions reductions are achieved from domestic electricity generation and use.
Energy Credit for Solar and Wind in Low-Income Communities	Creates a **40% investment tax credit** for solar or wind projects; 20% in certain scenarios	- Creates a 40% investment tax credit for solar or wind projects located in a low-income community or on Tribal land - 20% for facilities part of low-income residential housing or low-income economic benefit projects.
Home Energy Performance-Based Whole House Rebate	**$4.28 billion** through 2031 to state energy offices	- $4.28 billion through 2031 to state energy offices to provide rebates to homeowners for energy-saving retrofits, including heat pump water heaters, heat pump heating and cooling, improved electrical panels or wiring, and home insulation or sealant. - Eligible recipients must fall below 150% of the area median income.
USDA Assistance for Rural Electric Cooperatives	**$9.7 billion** to the Department of Agriculture (USDA) until 2031	- $9.7 billion to the Department of Agriculture (USDA) until 2031 for financial assistance (including loans) to improve resiliency, reliability, and affordability of rural electric systems, including: (i) Purchase of renewable energy and renewable energy systems, zero-emission systems, or carbon capture and storage systems (ii) Deployment of these systems; (iii) Improvements to electric generation and transmission systems. - Maximum award is $970 million and must not exceed 25% of the total project cost.
REAP	Provides financial assistance for adoption of clean energy technologies in rural communities.	- **$2 billion for the USDA REAP program until 2031 to provide competitive grants and loan guarantees to farmers, ranchers, and rural small businesses for renewable energy systems or energy efficiency improvements.** - More than $300 million is set aside to provide grants and loans to provide financial & technical assistance for "underutilized renewable energy technologies" that are not as widely adopted. - Federal cost share for grants is raised from 25% to a maximum of 50%.

10. Investments in the Permitting Process.

The IRA contains six provisions regarding **Investments in the Permitting Process**. Two of those provisions provide for additional grants. First, the IRA contains **grants to facilitate the siting of interstate electricity transmission lines**. These grants total $760 million through 2026 and will go to the Department of Energy ("DOE") with the aim of accelerating the siting and permitting of interstate transmission projects. Second, the IRA contains $2.25 billion in **grants to reduce air pollution funds** through 2027. Permitting required for zero emission equipment is also an allowable use of the $2.25 billion in funding for EPA to provide grants to purchase and install zero emission equipment at ports.

	Highlights	Details
Federal Permitting Improvement Steering Council Environmental Review Improvement Fund	**$350 million** through 2026	- For the Environmental Review Improvement Fund of the Fixing America's Surface Transportation (FAST) Act that seeks to accelerate and streamline the environmental review process
EPA Reviews	**$40 million** through 2026 to EPA	- For EPA to invest in staffing and equipment that provides for more accurate and timely environmental reviews.
Environmental Review Implementation Fund	**$100 million** through 2026 for EPA	- For EPA to develop review documents and a process that provides for a timelier environmental review process.
NOAA Reviews	**$20 million** through 2026 for NOAA	- For NOAA to invest in staffing and equipment that provides more accurate and timely reviews.

11. Clean Energy Financing.

The IRA has five clean energy financing provisions: the **DOE Loan Programs Office** (LPO), the **Greenhouse Gas Reduction Fund**, the **Domestic Manufacturing Conversion Grants**, the **Enhanced Use of Defense Production Act**, and **Biofuel Infrastructure.**

	Highlights	Details
LPO	LPO has over **$40 billion** in available loan and loan guarantee authority under its three programs: **$21.9 billion for Title 17**, **$15.1 billion for Advance Vehicles Technology Manufacturing** (AVTM), and **$2 billion for Tribal Energy Loan Guarantee Program** (TELGP). IRA increases loan authority for these programs, appropriates additional funds for credit subsidies, and establishes a new LPO program focused on the reutilization of energy infrastructure.	- $40 billion in new Title 17 loan authority available through 2026 with $3.6 billion for credit subsidies. - $3 billion for AVTM credit subsidies and eliminates $25 billion loan authority cap. - $75 million for TELGP loan authority through 2028 for direct loans and loan guarantees and increases loan authority cap from $2 billion to $20 billion. - Creates the Energy Infrastructure Reinvestment Financing program to make loan guarantees, including refinancing, for projects that: o Retool, repower, repurpose, or replace energy infrastructure that has ceased operation (including environmental remediation and carbon management on fossil fuel projects), or o Enable operating energy infrastructure to avoid, reduce, utilize, or sequester greenhouse gas emissions. o Provides $5 billion to carry out program authorities and $250 billion in loan authority through 2026.

	Highlights	Details
Greenhouse Gas Reduction Fund	Provides grants to state, local, regional, and Tribal programs that provide financial support to low and zero carbon technologies and can act as seed capital for regional, local, state, or Tribal green banks that provide financial support for low or zero emission projects.	- For Eligible programs must prioritize projects that would not otherwise have access to financing and any repayments derived from grants must be recycled into the program for additional grants or operation. - The program also provides grants to entities that would then in turn provide funding or technical assistance to establish a financial program as described above. - Provides **$11.97 billion** through 2024 to make grants for eligible financial entities or entities that would in turn provide financial or technical support to establish such financial entities. - Provides **$15 billion** through 2024 to make grants for eligible entities to provide financial and technical support and support the deployment of clean energy technologies in low-income and disadvantaged communities. - Provides **$30 million** for administrative costs of the program through 2031.
Domestic Manufacturing Conversion Grants	**$2 billion** through 2031 for grants	- For grants for domestic production of clean vehicles, including hybrids, plug-in hybrids, EVs, and hydrogen fuel cell vehicles
The Enhanced Use of Defense Production Act	**$500 million** through September 30, 2024	- $500 million to carry out the Defense Product Act of 1950 available until September 2024
Biofuel Infrastructure	**$10 million** to EPA for new grants; $500 million until 2031 for competitive grants	- $10 million to EPA for new grants to support advanced biofuel (excluding corn-starch ethanol) industries that provide 50% GHG emission reduction compared to conventional fuels. - $500 million until 2031 for competitive grants with up to 75% cost share to support infrastructure improvements for blending, storing, supplying, or distributing biofuels with higher levels of ethanol and biodiesel.

12. Agriculture Programs.

The IRA allocates $20 billion to farmers and ranchers who adopt climate-smart conservation practices. This $20 billion is invested to five existing USDA programs under the Natural Resource Conservation Service: the Environmental Quality Incentives Program (EQIP), the Conservation Stewardship Program (CSP), the Agricultural Conservation Easement Program (ACEP), the Regional Conservation Partnership Program (RCPP), and the Conservation Technical Assistance (CTA).

	Highlights	Details
EQIP	**$8.45 billion**	- For grants for practices or enhancements that directly improve soil carbon storage or decreased emissions of nitrous oxide or other GHGs, prioritizing activities that reduce enteric methane emissions. - This includes financial and technical assistance resources for producers and landowners to plan and install structural, vegetative, and land management practices on eligible lands to alleviate natural resource concerns.
CSP	**$3.25 billion**	- $3.25 billion for financial and technical assistance for producers to maintain and improve existing conservation systems and to adopt additional

		conservation activities comprehensively across a producer's entire operation. - Eligible practices or enhancements will directly improve soil carbon storage or decrease emissions of nitrous oxide or other GHGs, allowing for aggregation of activities
AECP	**$1.4 billion**	- $1.4 billion is provided for this program which enables financial and technical assistance through agricultural land easements that limit nonagricultural uses on productive farm or grass lands, and wetland reserve easements that protect and restore wetlands.
RCPP	**$6.75 billion**	- $6.75 billion provided for financial and technical assistance for state, multistate, or watershed-scale projects, establishing partnership opportunities that optimize federal conservation funding for specific areas and resource concerns.
CTA	**$1.3 million**	- $1.3 billion for conservation technical assistance provided through the NRCS to ensure broader and more equitable access to the tools and information farmers and ranchers need to carry out climate-smart practices. o This program provides conservation planning and implementation assistance through field staff in nearly every county in the United States and its territories. o $300 million allocated for NRCS to cooperate with technical service providers and other partners to collect field-based data. This information will be used to evaluate the carbon sequestration and GHG emissions reduction results of the practices supported by CTA.