

# Inflation Reduction Act summary: Energy and climate provisions

September 8, 2022 (Updated February 27, 2023)



[The Inflation Reduction Act of 2022](#) (IRA) advances historic investments in confronting climate change and building a clean energy economy. The following summarizes many of the provisions in the legislation that can improve patient and community health and equity and support U.S. health care organizations in building climate resilience and decarbonizing by reducing their scope 1 (e.g., stationary fuel combustion such as onsite boilers, generators, and incinerators as well as fleet fuel combustion, refrigerants and waste anesthetic gases), scope 2 (e.g., purchased electricity) and [scope 3](#) (e.g., purchased food, goods or services, leased fleet vehicles, transportation and distribution, employee commuting, business travel, etc.) emissions.

The provisions highlighted below in **GREEN** can directly help health systems to reduce their greenhouse emissions by investing in clean renewable electricity, electrifying vehicle fleets, installing electric vehicle charging stations, increasing building energy efficiency, and through additional clean energy project financing opportunities.<sup>1</sup>

## SECTIONS:

CLEAN ELECTRICITY

TRANSPORTATION: VEHICLES AND FUELS

BUILDINGS

ENVIRONMENTAL JUSTICE

RESILIENCE

MANUFACTURING AND INDUSTRY

FINANCING

---

<sup>1</sup>Many of the tax credits included in the legislation allow direct payments (“direct pay”) to be made instead of a reduction in tax liability. There is also an option to monetize the credits by transferring them to an entity with greater tax liability (“transferability”), however tax-exempt entities eligible for direct pay are not permitted to also transfer tax credits. Direct pay is limited to certain tax exempt and governmental entities for most of the eligible tax credits. This limitation does not apply to the first 5 years of the clean hydrogen credit, carbon capture and sequestration credit, and advanced manufacturing credit. The direct pay option is available for the following sections of the IRA for projects placed in service after December 31, 2022: 30C – Alternative Fuel Refueling Property Credit; 45(a) – Renewable Electricity Production Credit; 45Y – Clean Electricity Production Credit; 48 – Energy Credit; 48E – Clean Energy Investment Credit; 45Z – Clean Fuel Production Credit; 48C -Advanced Energy Project Credit; 45Q – Carbon Dioxide Sequestration Credit; 45U – Zero-emission Nuclear Power Production Credit; 45V – Clean Hydrogen Production Credit; 45X – Advanced Manufacturing Production Credit; and 45W – Qualified Commercial Clean Vehicles Credit. [Explainer on benefits of direct pay.](#)

## CLEAN ELECTRICITY

- ★ **Clean Electricity Tax Credits** (45(a), 45Y, 48, 48E) — The key driver of decarbonization in the IRA is the long-term 10-year extension, and expansion, of clean electricity tax credits. The legislation extends the current federal [investment and production tax credits \(ITC and PTC\) for clean energy sources](#) until the end of 2024, and then establishes a new technology-neutral ITC and PTC for all zero-carbon (and some very low-carbon) electricity generation technologies, from 2025-2032. There is a base credit that is increased up to 5 times for projects that meet certain labor requirements and bonus credits for projects that meet domestic content requirements and are located in “energy communities,” low-income and tribal communities. These credits now include the direct pay option for non-profits allowing nonprofit health systems to move beyond power purchase agreements (PPA) to directly using the PTC to own large clean electricity producing projects, or alternatively to using the ITC to fund investments in clean electricity generation and storage.
- *Investment Tax Credit* (ITC - 48, 48E):
    - 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, biogas property, microgrid controllers, dynamic glass, and linear generators constructed before January 1, 2025.
    - Provides a 30% credit for geothermal heat pump projects constructed before January 1, 2033. Credit reduces to 26% in 2033 and 22% in 2034.
    - Applies a 10% bonus for meeting domestic manufacturing requirements for steel, iron, or manufactured components, and a 10% bonus for projects located in energy communities (defined as brownfield sites or fossil fuel communities).
    - For solar and wind facilities smaller than 5MW, there is a 10% bonus if located in low-income communities or on tribal land; or a 20% bonus if located on a low-income residential building with the electricity produced being equitably allocated to the residents or as part of low-income economic benefit projects. These will be determined by an application and award process with a total of 1.8 GW/year for all projects.
    - Clean electricity projects smaller than 5 MW can include the costs of interconnection.

- For most technologies this tech-specific ITC (48) is replaced beginning in 2025 by the new tech-neutral ITC (48E), an emissions-based incentive that is neutral and flexible between clean electricity technologies. The bonus credit structure remains the same.
  - *Production Tax Credit (PTC - 45(a), 45Y):*
    - Restores the PTC for applicable renewable energy sources to their full pre-“phaseout” rates, including for projects that began construction before 2022 and were or will be placed in service in 2022. Revives and extends the PTC for solar facilities, which ended in 2006, out to 2024.
    - 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.
    - Applies a 10% bonus for meeting domestic manufacturing requirements for steel, iron, or manufactured components, and a 10% bonus for facilities located in energy communities (defined as brownfield sites or fossil fuel communities).
    - The tech-specific PTC (45(a)) is replaced beginning in 2025 by the new tech-neutral PTC credit (45Y), an emissions-based incentive that is neutral and flexible between clean electricity technologies, for electricity produced and sold or stored at facilities placed into service. Facilities may use carbon capture, utilization, and storage (CCUS) to reach qualifying emissions levels. The bonus credit structure remains the same.
  - For both the PTC and ITC, facilities with a maximum net output of less than 1 MW are exempt from the labor requirements and receive that bonus automatically.
  - The PTC and ITC cannot be used together, must choose one or the other.
  - ITC and PTC are set to phase out by 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%.
- **Electric Transmission Investments** — While the IRA does not include an investment tax credit for transmission, it does include around \$3 billion for transmission infrastructure, which will help to improve grid reliability. That includes \$2 billion from DOE for

transmission loans, \$76 million in grants to states to facilitate transmission siting, and \$100 million for interregional and offshore transmission planning.

- **Carbon Capture and Sequestration Tax Credit (45Q)** — Extends the tax credit for carbon capture and sequestration at power plants and industrial facilities and expands it to direct air capture with sequestration. Extends the deadline for construction to January 1, 2033 and increases the credit amount and decreases minimum plant size eligibility threshold. 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) CO<sub>2</sub> production.
- **Low Emissions Electricity Program** — Provides \$87 million in total to the Environmental Protection Agency (EPA), including \$17 million for consumer-related education and partnerships; \$17 million for education, technical assistance, and partnerships within low-income and disadvantaged communities; \$17 million for industry-related outreach and technical assistance; \$17 million for outreach and technical assistance to State and local governments; \$1 million for assessing the anticipated reductions in greenhouse gas (GHG) emissions that result from changes in domestic electricity generation and use through fiscal year 2031; and an additional \$18 million is allocated to carry out the activities of the program and ensure GHG emissions reductions are achieved from domestic electricity generation and use.

## TRANSPORTATION: VEHICLES AND FUELS

- ★ **Qualified Commercial Clean Vehicle Credit (45W)** — Starting in 2024, [qualified clean commercial vehicles](#) will be eligible for a tax credit equal to 30% of the difference between the cost of the clean vehicle and its gas-powered counterpart. Heavy-duty vehicles make up [over a quarter of transportation pollution](#) and contribute greatly to pollution like particulate matter and nitrogen oxides that create smog and soot. The credit includes the direct pay option allowing nonprofit health systems to use these funds to help electrify their fleets. The provision is subject to a series of limits:
  - \$7,500 cap for vehicles lighter than 14,000 lbs (Class 1-3)
  - \$40,000 cap for vehicles heavier than 14,000 lbs (Class 4-8)
  - Reduced credit of 15% for vehicles powered by an internal combustion engine.
- ★ **Alternative Fuel Refueling Property Credit (30C)** — Incentives that individuals and commercial entities such as retailers, local businesses, or commercial fleet operators can use to install charging infrastructure on qualified properties. Provides a 10-year extension and enhances the amount of credit available for the installation of EV infrastructure and increases EV accessibility by targeting investments toward rural and lower-income residents. This credit includes a direct pay option and so could be used by

nonprofit health systems to install EV charging infrastructure if they meet the various requirements.

- Qualified Properties Census Tract Requirement limits eligibility to infrastructure installed as defined by:
  - A population census tract where the poverty rate is at least 20%; or
  - Non-metropolitan area: the median family income  $\leq$  80% of the statewide median family income;
  - Metro-area: the median family income  $\leq$  80% of statewide median family income or the metropolitan area median family income.
- Individual Credit: \$1,000 or 30% of the installed cost, whichever is of lesser value.
- Commercial Credit: Increases incentive from \$30,000 per property location to \$100,000 per item. The maximum incentive is now 30% of the cost of the alternative fuel refueling property up to \$100,000 per charger, whichever is of lesser value, and is calculated per single unit rather than per location.
  - Base and bonus structure: 6% base credit of the cost of the qualified property but organizations can receive a bonus credit for projects that meet prevailing wage and apprenticeship<sup>2</sup> requirements to get the full 30% tax credit.
- **Electric Vehicle Tax Credits (30D)** — Provides [consumer tax credits](#) to allow eligible individuals to receive up to \$7,500 off the purchase of a new EV. Implements an income eligibility limit of \$150,000 or \$300,000 for joint filers.
  - Credit is reduced or eliminated if a certain percentage of the critical minerals utilized in battery components are not extracted or processed in the U.S. or a Free Trade Agreement country or recycled in North America. The percentage required 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.
  - Eliminates the previous manufacturer quota, which phased out the tax credit for manufacturers as they neared 200,000 clean vehicles sold.
- **New 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.

---

<sup>2</sup>For construction before January 1, 2024, the hours of apprenticeship must equal 12.5% of the total labor hours. For construction that begins after, the apprenticeship hours must amount to 15% of the total labor hours.

- **New Clean Hydrogen Production Tax Credit (45V)** — Creates a new 10-year incentive to support clean hydrogen production that meets certain lifecycle greenhouse gas pollution standards. Projects must begin construction by 2033 and this covers retrofit facilities.
- **New Clean Fuel Production Credit (45Z)** — Creates a new technology neutral tax credit for low-carbon transportation fuel produced at a qualifying facility and sells for qualifying purposes. Fuel must meet certain emissions standards. Credit-per-gallon base amounts are \$0.20 (non-aviation fuel) and \$0.35 (aviation fuel). Increases in credit amount to \$1.00 per gallon (non-aviation fuel) and \$1.75 per gallon (aviation fuel) if wage and apprenticeship requirements are met. Under the credit, the lower a fuel's carbon intensity score, the higher the potential credit. Applies to clean fuel produced after 2024 and generally sold before 2028.
  - **New Sustainable Aviation Fuel Credit (40B)** - Creates an incentive for producers of sustainable aviation fuel mixtures to lower aviation transportation emissions in 2023 and 2024.
  - **Extension of Biodiesel and Renewable Diesel and Second Generation Biofuel Credits (40, 40A)** - Retroactive reinstatement of expired credits. Extension of credits for biodiesel, biodiesel mixtures, renewable diesel, renewable diesel mixtures, small agri-biodiesel producer, alternative fuels and alternative fuel mixtures. Extends tax credit for second-generation biofuel after 2021. Both extended through 2024.
- **Grants to Reduce Air Pollution at Ports** — The bill provides \$2.3 billion to the EPA for a competitive grant and rebate program for the purchase or installation of zero-emission port equipment or technology; planning and permitting in connection with the purchase or installation of zero-emission port equipment or technology; and the development of qualified climate action plans. Qualified climate action plans are defined as those that include goals, strategies and practices to reduce emissions, GHGs, air pollutants or hazardous air pollutants at ports; a strategy to collaborate, communicate or address potential impacts on stakeholders that may be affected by the plan; and measures to increase the resilience of the ports involved. In addition, \$750 million is set aside for rebates and grants to ports located in areas that do not meet air quality standards. Ports tend to be pollution hot spots because of all the heavy-duty vehicles and ships that are required to move goods in and out.

## BUILDINGS

- ★ **Energy Efficient Commercial Buildings Tax Deduction (179D)** — Increases the [deduction for commercial properties](#) that achieve higher levels of efficiency, and provides another boost for projects that meet prevailing wage requirements for any involved contractors and subcontractors.

- Significantly expands the incentive for 10 years, from \$1.80 per square foot currently to sliding scale of \$2.50 to \$5.00 per square foot for businesses achieving 25 to 50 percent reductions in energy use over existing building performance standards, with a pathway for existing building retrofits to access the deduction.
- Maintains the provision to allocate the deduction for public projects (city, state, etc.) to the project designer/developer, and expands this allocation option to be used for tribal government projects and projects by nonprofit (e.g. tax-exempt) entities. This means that a health system that is building or retrofitting a hospital or other medical building space can now pass on the deduction to the developer thereby reducing project costs.
- **Building Energy Code Adoption Grants** — Provides assistance in the latest and zero building energy code adoption to ensure that there are more zero-emission buildings that meet the highest standards for energy efficiency, which will minimize energy bills and improve health and safety. The bill also gives additional funds to help states and cities adopt and implement strong building energy codes, with one-third for jurisdictions adopting the latest model codes and two-thirds for those adopting codes to require zero-net-energy buildings. These codes promise major reductions in energy waste in all new buildings while making them more resilient, comfortable, and healthy for their occupants.
- **Homebuilder Energy Efficient Tax Credit (45L)** — Significantly expanded homebuilder tax credit extended for 10 years, providing up to \$5,000 to developers to build homes that qualify for the Department of Energy’s Zero Energy Ready Homes standard. This applies to new single family, multifamily and manufactured homes, as well as existing homes that undergo a deep retrofit.
- **Residential Clean Energy Credit (25D)** — Extends the full 30 percent credit for eligible expenditures for on-site residential solar electric, solar water heating, fuel cell, small wind energy, biomass fuel and geothermal heat pumps through the end of 2032. The credit then phases down to 26 percent in 2033 and 22 percent in 2034, expiring at the end of 2034. Expands eligible property to include battery storage.
- **Energy Efficiency Home Improvements Credit (25C)** — Extends credit for energy efficiency home improvements through 2032. 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. Expands credit to cover the cost of home energy audits up to \$150 and electrical panel upgrades up to \$600.
- **Home Energy Performance-Based Whole House Rebates (HOMES)** — \$4.3 billion through 2031 to DOE to help state energy offices implement a HOMES rebate program

to provide rebates to homeowners and aggregators for whole-house energy saving retrofits. Additional funding can be provided to low- and moderate-income individuals, who earn less than 80% of the area median income.

- **High-Efficiency Electric Home Rebate Program** — \$4.3 billion through 2031 for grants from DOE to States and Tribes to implement a high-efficiency electric home rebate program. Provides up to \$14,000 per household including \$8,000 for heat pumps, \$1,750 for heat pump water heaters, and \$840 for electric stoves. Also includes rebates for improvements to electrical panels or wiring and home insulation or sealant. Eligible recipients must fall below 150% of the area median income.
- **Apprenticeship Programs and Worker Training** — In addition to the clean energy tax incentives supporting apprenticeship programs, the bill provides some financial support for worker training. This includes programs like the State-Based Home Energy Efficiency Contractor Training Grants, with \$200 million to states for training and education to contractors involved in the installation of home energy efficiency and electrification improvements. Additionally, new clean heavy-duty vehicles investments can be used to support workforce development and training in maintenance, charging, fueling, and operation of zero-emission vehicles.

## RESILIENCE

- ★ **Investing in Coastal Communities and Community Resilience** — Provides \$2.6 billion to the National Oceanic and Atmospheric Administration (NOAA) for direct expenditures, contracts, grants, cooperative agreements or technical assistances to support the conservation, restoration and protection of coastal and marine habitats and resources to enable coastal communities to prepare for extreme storms and other changing climate conditions. Eligible grant recipients include coastal states, local and tribal governments, nonprofit organizations, institutions of higher education and the District of Columbia.
- **Tribal and Native Hawaiian Climate Resilience** — Includes \$220 million for Tribal climate resilience and adaptation programs along with \$12 million for near-term drought relief activities. Provides \$23 million for climate resilience, adaptation activities, and technical assistance to Native Hawaiian communities.

## ENVIRONMENTAL JUSTICE

- **Environmental and Climate Justice Block Grants** — The bill provides \$3 billion for community-led projects covering a range of eligible activities, from pollution monitoring and prevention, to mitigating health risks from climate events like heat and wildfires, to climate resilience and adaptation, to increasing community engagement in public processes like rulemakings. The fund includes \$200 million to provide technical assistance to communities.



- **New Neighborhood Access and Equity grant program** — Supports projects that improve walkability, reduce vehicle pollution, and help residents use affordable transportation to access essential services and green spaces, especially in disadvantaged and underserved communities. This would be the first program focused on transportation equity funded at this level.
- **Climate & Economic Justice Screening Tool** — Provides \$32.5 million to support the White House Council on Environmental Quality's (CEQ) work on the Climate & Economic Justice Screening Tool. This tool, which was first released in February 2022, is intended to help the federal government identify those disadvantaged communities impacted by environmental harms ensuring per the Biden administration's Justice40 Initiative that no less than 40% of the benefits of climate and clean energy federal investment accrue to these disadvantaged communities.
- **Efficiency and Resilience Investments in Affordable Housing** — \$1B in grants and loans through HUD for sustainability improvements to affordable housing, authorized to seed up to \$4B in loans. Eligible projects include energy or water efficiency; indoor air quality or sustainability; climate resilience; and low-emission technologies, materials, or processes such as zero-emission electricity generation, energy storage, or building electrification. These investments will help to lower utility bills and ensure climate disaster preparedness in our most vulnerable low-income communities.
- **Air Pollution Monitoring** — The IRA provides \$170 million for disadvantaged and low-income communities to benefit from improved air quality monitoring and multi-pollutant monitoring stations. These investments will empower the EPA and local clean air agencies to more accurately track the pollution burden in the most vulnerable communities.
- **Black Lung Liability Trust Fund** — Major step to support coal miners and their families by extending the tax rate to fund the Black Lung Liability Trust Fund. In January 2022, the excise tax on coal production that supports this fund dropped by 50 percent, endangering the solvency of this important federal program that supports coal miners suffering from black lung disease.

## MANUFACTURING AND INDUSTRY

- **New Advanced Manufacturing Production Tax Credit (45X)** — Creates a tax credit for the production of clean energy technology components that are produced in the United States or by a U.S. possession. Eligible components include solar components, wind turbine and offshore wind components, inverters, many battery components, and the critical minerals needed to produce these components. Begins to phase out in 2029 and phases out completely in 2032.

- **Advanced Energy Project Credit (48C)** — Extends the 30% Investment Tax Credit (ITC) to build clean energy technology manufacturing facilities to strengthen domestic energy manufacturing and support the production and recycling of clean energy products. It also expands the credit to include projects at manufacturing facilities that want to reduce their GHG emissions by at least 20%.
  - Funding applies to facilities for the production and recycling of 1) renewable energy, 2) energy storage or components, 3) grid modernization equipment or components, 4) and light-, medium-, or heavy-duty electric vehicles; including technologies, components, materials for such vehicles, and associated charging or refueling infrastructure.
  - Funding applies to projects that re-equip, expand, or establish an industrial facility for processing, refining, or recycling of critical materials.
- **Advanced Industrial Facilities Deployment Program** — Creates a new DOE program to invest in projects aimed at reducing emissions from energy intensive industries. Includes iron, steel, concrete, glass, pulp, paper, ceramics, and chemical production.
- **Methane Emissions Reduction Program** — Incentivizes oil and gas companies to cut their emissions of this potent greenhouse gas, and place a fee on those companies that do not of \$900/ton in 2023, rising to \$1500/ton in 2025. EPA will also 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.
- **Enhanced use of Defense Production Act** — The IRA appropriates \$500 million to support applications of the Defense Production Act. President Biden has directed DOE to support the manufacturing of several critical clean energy technologies under the DPA, including heat pumps, grid components, and solar panels, among others.
- **Investment in Low-Carbon Materials & Buildings** — Supports identifying, labeling and procuring low-carbon construction materials used for federal buildings and federal transportation projects, along with efforts to support the development of standardized, high-quality, transparent environmental product declaration of greenhouse gas emission associated with construction materials. standardize environmental impact disclosure, labeling and verification of low-carbon concrete and construction materials.

## FINANCING AND REPORTING

- ★ **Greenhouse Gas Reduction Fund** — Provides EPA funding to give grants to state, local, regional, and Tribal programs to in turn provide low-cost financing for clean energy, low and zero carbon technology projects around the country. It can be used as seed capital for regional, local, state, or Tribal green banks and is modeled after the success of state

and local [green banks](#). EPA must begin distribution of the grants within 180 days, finishing by 2024. Health systems can apply to these green banks or other programs set up for the financing of clean energy projects.

- \$12 billion in grants for eligible financial entities or entities that would in turn provide financial or technical support to establish such financial entities.
  - \$15 billion in grants for eligible entities to provide financial and technical support and to support the deployment of clean energy technologies in low-income and disadvantaged communities.
  - 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.
  - Qualified projects, activities and technologies include those that reduce or avoid GHG emissions and other forms of air pollution in partnership with the private sector and those that assist communities in reducing or avoiding GHG emission and other forms of air pollution. Eligible applicants include non-profit organizations that can provide capital for the swift deployment of low and zero-emission products.
- **DOE Loan Guarantees** — Provides \$8.6 billion for Department of Energy (DOE) loan guarantees, enabling \$290 billion in loan guarantee authority. The DOE Loan Guarantee Program is a powerful tool for leveraging major private sector investment in clean and innovative energy technologies. These investments include \$5 billion for energy infrastructure loan guarantees, enabling \$250 billion in loan guarantee authority to retool, repower, repurpose, or replace retired energy infrastructure (like coal power plants), or build new clean energy infrastructure, and \$3.6 billion for clean energy loan guarantees, which enables \$40 billion in loan guarantee authority.
  - **Greenhouse Gas Corporate Reporting** — Provides \$5 million for EPA to carry out a program that helps enhance standardization and transparency of corporate climate action commitments and plans to reduce greenhouse gas emissions.