



The clean energy provisions of the Inflation Reduction Act of 2022 – a historic effort to encourage the development of clean energy and reduce carbon emissions

Renewables Alert

17 August 2022

By: Jameson L. Calitri | Vanessa Richelle Wilson | Drew M. Young

This alert, originally published on August 10, 2022, was updated on August 17, 2022.

President Joe Biden signed into law the Inflation Reduction Act of 2022 (HR 5376) (the IRA or the Act), on August 16, 2022.

The Act is the Biden Administration's effort to revive a number of provisions designed to reduce GHG emissions from the Build Back Better Act, which was defeated in late 2021. The IRA, as drafted, contains terms which will have a dramatic impact on the development and financing of clean energy projects in the US over the next ten years. As a budget reconciliation bill, the IRA only needed 51 votes to pass in the Senate. It was passed by a vote of 51-50.

The IRA includes a number of key changes relevant to clean energy in the US, among them the extension of the Investment Tax Credit and Production Tax Credit and the addition of expanded tax credits for other technologies and for

manufacturing of clean energy equipment as well as terms allowing parties to more easily monetize the tax credits. The IRA also includes some targeted incentives intended to encourage development in low-income communities and the use of domestically produced materials and compliance with certain prevailing wage requirements. The Act goes further and includes tax credits for carbon capture, incentives for the purchase of electric vehicles and electric HVAC systems and certain fees to be imposed on the release of methane gas in connection with oil and gas production, storage and processing.

The impact of the IRA will be significant. According to the Biden Administration, the Act will result in the investment of \$369 billion in energy security and climate change programs and will aim to reduce carbon emissions by roughly 40 percent by 2030. The American Clean Energy Association projects it will result in the deployment of 550 GWs of clean energy generation in the next decade.

OVERVIEW AND IMPACT

The owners of renewable generation projects in the US have historically enjoyed certain federal tax credits and benefits, including investment tax credits (ITCs), production tax credits (PTCs) and accelerated tax depreciation. These incentives made renewable energy projects more competitive by decreasing the costs associated with constructing such projects and facilitating an additional form of financing known as tax equity financings.

Prior to the IRA, the ITC was being phased down to lower rates for solar projects and the ITC and the PTC was being phased out for other technologies. The clean energy industry has been waiting for two years hoping the Biden Administration would garner sufficient support to pass an extension of the existing tax credits. The IRA not only delivers such extensions but goes well beyond any past legislation in its support of the clean energy industry by expanding the tax credits to apply to additional technologies and allowing project owners to directly transfer such tax credits:

- The ITC and PTC are extended for qualifying projects which commence construction prior to January 1, 2025.
- The tax credits are thereafter supplemented by an expanded clean electricity production credit (CEPTC), which applies to emission-free electricity generation, and the clean electricity investment credit (CEITC), which applies to emission-free electricity generation and storage. Nuclear generation, hydrogen produced with renewable energy and stand-alone energy storage would all qualify, along with solar, wind, hydro and geothermal and other forms of emission-free electricity generation. The CEPTC and CEITC will remain in effect until the later of 2032 or when the annual greenhouse gas emissions from the production of electricity in the United States is equal to or less than 25 percent of such emissions in 2022.
- The base rates for the CEPTC and CEITC are subject to certain adders which apply if prevailing wage and apprenticeship requirements are met, if the steel, iron or other manufactured materials were produced in the US or if the project is in a low-income area referred to as "energy communities."
- The IRA creates a manufacturing tax credit for eligible equipment, including PV cells, solar modules, wind energy components and battery cells, produced in the US and sold between December 31, 2022 and December 31, 2032.
- The most dramatic change under the IRA is that the party claiming the federal tax credits can transfer such credits once to an unrelated party, and the resulting proceeds are not part of the taxable income of the transferring party.
- The IRA includes a plan for the Department of Interior to expand offshore oil and gas leasing. At the same time, it imposes certain fees for the release of methane in excess of 25,000 metric tons of CO₂ per year, which will apply to offshore and onshore oil and gas production, onshore gas processing and LNG storage.
- The Act also extends the existing carbon capture tax credit through 2033 and lowers the requirements for capture to allow additional facilities to qualify.
- \$6 billion is set aside for grant and loan programs for the Advanced Industrial Facilities Deployment Program, which seeks to reduce emissions in connection with the manufacturing of steel, cement and chemicals.
- \$9 billion has been designated for rebate programs targeting more efficient or green home appliances.

The expanded tax credits will encourage the development of projects deploying emissions-free generation on a technology-neutral basis. The Act also includes tax credits for stand-alone energy storage which to date has only qualified when paired with solar or other projects claiming the ITC. The energy storage industry has been seeking an independent tax credit for storage for more than five years. The new tax credits will also be of interest to various industrial sectors as it offers the opportunity to earn tax credits if renewable energy is used for industrial processes such as the manufacturing of cement. On-site production of green hydrogen is incentivized as well as the production of other

renewable fuels.

The IRA also seeks to encourage the development of additional domestic manufacturing capabilities and presumably to provide relief from tariffs and potential tariffs assessed against PV modules and other equipment primarily as imported from China. The solar industry has recently faced a good deal of uncertainty awaiting a decision by the Department of Commerce on whether it will impose tariffs on additional manufacturers in Cambodia, Malaysia, Thailand, and Vietnam accused of circumventing such tariffs by using materials manufactured in China. For a discussion of these issues see US DOC initiates circumvention inquiries against solar cells and modules from Cambodia, Malaysia, Thailand and Vietnam.

Most notably, the ability to transfer or essentially sell tax credits will expand the opportunities for project owners to monetize the tax credits. The complex tax equity financing structure used widely to allow tax equity investors to take an indirect ownership interest in qualifying facilities and claim the tax credits will presumably no longer be needed. Although project-related conditions precedent to the advancement of funds based on these tax credits, including issues as to the qualification of the project, will no doubt still apply, the form of financing will be much easier and presumably less expensive to implement as the transferees of tax credits would no longer need to be indirect owners of the projects. We note, however, that the IRA does not alter the need for ownership to claim depreciation.

The IRA has taken some criticism as to the components which allow for expanded oil and gas production. Most, however, recognize the IRA is the most ambitious legislation on climate change in US history and could have a real and material impact in reducing emissions in the US. The Rocky Mountain Institute says, "This is a historic moment for climate and clean energy progress not only in the United States, but globally. This legislation gives the U.S. a real chance to reach its Paris Agreement target— while lowering costs for American households." A study completed by the Rhodium Group, an energy research company, predicts that the IRA could reduce carbon pollution in the US by between 31 percent and 44 percent by 2030. Industry participants are all watching the progress of the IRA closely and expecting a significant jump in development following its passage.

DETAILS OF THE IRA CLEAN ENERGY PROVISIONS

Additional details regarding key energy components of the IRA are set forth below.

Production Tax Credit

- The Production Tax Credit (PTC) is extended to projects (wind, solar, geothermal, biomass, hydropower) beginning construction before January 1, 2025. However, projects that were placed in service prior to January 1, 2022 remain subject to the existing PTC phase-out.
- The extended PTC is reduced from 1.5 cents/kW to a base amount of 0.3 cents/kW, with an increased credit amount of 5x the base amount (1.5 cents/kW) if prevailing wage and apprenticeship requirements are met. Smaller projects under 1MW are excused from the prevailing wage and apprenticeship requirements.
 - To meet the prevailing wage and apprenticeship requirements, laborers and mechanics must be employed and paid the prevailing wages of their locality and profession during the construction, alteration or repair of the facility and meet certain hours requirements. In the event the taxpayer fails to meet these requirements in a tax year, the bill also allows for a taxpayer an opportunity to correct by paying the difference between the prevailing wages and what the laborer was paid plus interest.
- An additional "bonus" 10 percent PTC is available either if the taxpayer is able to certify that certain steel, iron or manufactured product that is a component of the facility was produced in the US or if the project is located in an "energy community." If eligible for both, the taxpayer may claim both bonus PTCs.
 - Manufactured products are deemed to be domestic if the "adjusted percentage" of the total cost of the components are mined, produced, or manufactured in the United States. For an offshore wind facility, the adjusted percentage is 20 percent.
 - Energy communities include a brownfield site, an area which has (or, at any time during the period beginning after December 31, 1999, had) significant employment related to the extraction, processing, transport, or storage of coal, oil, or natural gas, a census tract or directly adjoining to such where a coal mine closed after December 31, 1999 or a coal-fired electric power plant was retired after December 31, 2009.
- The amount of the PTC allowed may be reduced by up to 15 percent if tax-exempt bonds are used to finance a facility

which began construction after the passage of the Act. The amount of the reduction depends on the amount of tax-exempt financing used. The calculation of the reduction is expressed as a fraction having a numerator equal to the tax-exempt bond proceeds, and the denominator equal to the aggregate amount of additions to the capital account for the qualified facility for the taxable year and all prior taxable years.

Investment Tax Credit

- The Investment Tax Credit (ITC) is extended for ten years. For facilities beginning construction before January 1, 2025, the bill will extend the ITC for up to 30 percent of the cost of installed equipment for ten years and will then step down to 26 percent in 2033 and 22 percent in 2034. For projects beginning construction after 2019 that are placed in service before January 1, 2022, the ITC would be set at 26 percent.
- The ITC base amount is reduced from 30 percent to a base amount of 6 percent, and an increased credit amount of 5x the base amount (totaling 30 percent) is available if prevailing wage and apprenticeship requirements are met, similar to the PTC.
- Extension of the ITC to standalone energy storage with a capacity of at least 5 kWh.
- Qualified property for ITC eligibility includes qualified biogas, microgrid controllers (not greater than 20MW), and interconnection property for small projects.
- Similar to the tax-exempt bond financing reduction of the PTC, the amount of the ITC allowed may be reduced by up to 15 percent if tax-exempt bonds are used to finance a facility which began construction after the passage of the Act. The amount of the reduction depends on the amount of tax-exempt financing used. The calculation of the reduction is expressed as a fraction having a numerator equal to the tax-exempt bond proceeds, and the denominator equal to the aggregate amount of additions to the capital account for the qualified facility for the taxable year and all prior taxable years.

Clean Electricity Production Tax Credit

- The Clean Electricity Production Tax Credit (CEPTC) may be claimed by a qualifying facility placed in service after December 31, 2024 that produces electricity and has a greenhouse gas emissions rate of zero. The electricity produced at the facility must be sold to an unrelated person or consumed or stored by the taxpayer. The CEPTC is available for 10 years following the facility's placed in service date. However, a "qualified facility" does not include any facility for which a credit is allowed claimed under section 45 (including PTC and ITC), 45J, 45Q, 45U, 48A, or 48D.
- The CEPTC base amount is 0.3 cents/kWh and includes an additional of 5x the base amount, or 1.5 cents/kWh, if prevailing wage and apprenticeship requirements are met, similar to those described for the PTC and ITC. Beginning in 2024, the base amount and "bonus" will also be adjusted for inflation for the calendar year the sale, consumption or storage occurs.
- Similar to the PTC, an additional 10 percent CEPTC "bonus" may be claimed if the taxpayer is able to certify that certain steel, iron or manufactured product that is a component of the facility was produced in the US or the project is located in an "energy community."
- The CEPTC phases out beginning the later of either (i) the calendar year in which the Treasury Secretary determines that the annual greenhouse gas emissions from the production of electricity in the United States are equal to or less than 25 percent of the annual greenhouse gas emissions from the production of electricity in the United States for calendar year 2022 and (ii) 2032.

Clean Electricity Investment Tax Credit

- The Clean Electricity Investment Tax Credit (CEITC) is available for any investment in a qualified facility and storage facility that is placed in service after December 31, 2024, and produces or stores electricity with a greenhouse gas emissions rate of zero. However, a qualified facility does not include any facility that is eligible for credits under sections 45 (including PTC and ITC), 45J, 45Q, 45U, 48A, or 45Y.
- The CEITC has a base credit of 6 percent and a "bonus" credit of 30 percent if prevailing wage and apprenticeship requirements are met, similar to those described for the PTC and ITC.
- Similar to the CEPTC, an additional 10 percent CEITC "bonus" may be claimed if the taxpayer is able to certify that certain steel, iron or manufactured product that is a component of the facility was produced in the U.S. or the project is located in an "energy community." Smaller solar and wind and solar projects of less 5MW that are located in a "low income community" are also eligible for an additional 10 percent and 20 percent credit respectively.
- The phase-out of the CEITC is the same as CEPTC. The CEITC would phase out beginning the later of either (i) the calendar year in which the Secretary determines that the annual greenhouse gas emissions from the production of

electricity in the United States are equal to or less than 25 percent of the annual greenhouse gas emissions from the production of electricity in the United States for calendar year 2022 and (ii) 2032.

Clean Hydrogen Credits

- Taxpayers can elect for either the clean hydrogen production credit (CHPTC) or the clean hydrogen investment credit (CHITC).
- The clean hydrogen production credit (CHPTC) may be claimed by a taxpayer producing clean hydrogen after December 31, 2022 at a facility that began construction before January 1, 2033. To qualify for the CHPTC, the facility may not produce more than 4 kilograms of CO₂ per kilogram of hydrogen it produces.
- The base credit amount of the CHPTC is 60 cents/kilogram, subject to inflation adjustments in the calendar year in which the hydrogen is produced, and multiplied by a percentage determined by the applicable lifecycle greenhouse gas emissions rate. If the lifecycle greenhouse gas emissions rate is less than 0.45 kilograms of CO₂, the base credit is multiplied by 100 percent. If emissions are greater than 0.45 kilograms but less than 1.5 kilograms, the base credit multiplied by 33.4 percent. If emissions are between 1.5 kilograms and 2.5 kilograms, the base credit multiplied by 25 percent. If emissions are between 2.5 kilograms and 4 kilograms, the base credit multiplied by 20 percent. Similar to the ITC and PTC, if prevailing wage and apprenticeship requirements are complied with then an increased credit of 5x the base credit is available.
- The base credit amount of the CHITC is 6 percent multiplied by a percentage determined by the applicable lifecycle greenhouse gas emissions rate, similar to the CHPTC. If the lifecycle greenhouse gas emissions rate is less than 0.45 kilograms of CO₂, the base credit is multiplied by 100 percent. Similar to the ITC and PTC, if prevailing wage and apprenticeship requirements are met increased credit of 5x the base (30 percent) is available. If emissions are greater than 0.45 kilograms but less than 1.5 kilograms, the base credit is multiplied by 2 percent, or 10 percent if prevailing wage and apprenticeship requirements are met. If emissions are between 1.5 kilograms and 2.5 kilograms, the base credit multiplied by 1.5 percent, or 7.5 percent if the prevailing wage requirements are met. If emissions are between 2.5 kilograms and 4 kilograms, the base credit multiplied by 1.2 percent, or 6 percent if prevailing wage requirements are met.
- Similar to the tax-exempt bond financing reduction of the PTC and ITC, the amount of the CHPTC allowed may be reduced by up to 15 percent if tax-exempt bonds are used to finance a facility which began construction after the passage of the Act. The amount of the reduction depends on the amount of tax-exempt financing used. The calculation of the reduction is expressed as a fraction having a numerator equal to the tax-exempt bond proceeds, and the denominator equal to the aggregate amount of additions to the capital account for the qualified facility for the taxable year and all prior taxable years.

Direct Pay And Transferability

- Applicable entities, as described below, may elect a direct pay option for the ITC, PTC, CEPTC, CEITC, CHPTC, CHITC, Carbon Capture Credit, advanced manufacturing production credit, clean fuel production credit, alternative vehicle refueling property credit, zero-emission nuclear power production credit, credit for qualified commercial vehicles, and other energy related credits covered in the bill. The direct pay option treats the generated tax credits as a tax payment.
- Direct pay is available on a facility-by-facility basis and must be made in the taxable year when the facility is placed in service. Once elected, direct pay applies for the entire credit period.
- However, the direct pay option is only available to an "applicable entity," which is a tax-exempt entity such as a state or local government, the Tennessee Valley Authority, an Indian tribal government, or any Alaska Native corporation. For the CHPTC, Carbon Capture Credit, and advanced manufacturing production credit, the "applicable entity" restriction does not apply to the first five years of these credits for any taxable year prior to December 31, 2032. Additionally, domestic content requirements also must be met for direct pay eligibility.
- Starting January 1, 2023, taxpayers may also elect to transfer ITC, PTC, CEPTC, CEITC, CHPTC, CHITC, Carbon Capture Credit, advanced manufacturing production credit, clean fuel production credit, alternative vehicle refueling property credit, zero-emission nuclear power production credit, credit for qualified commercial vehicles, and other energy related credits covered in the bill to an unrelated taxpayer.
- The transferred credit must be exchanged for cash and is not included in the transferor's income, nor is it deductible by the transferee. The transferee also cannot further transfer any credits it received in a transfer.
- However, "applicable entities," defined above, may not transfer credits.
- Similar to the direct payment election, the transfer of credits is made on a facility-by-facility basis for each year in which

the credit is available.

- A 20 percent penalty may apply for both direct payment and transfers, where excessive payments have occurred.

Manufacturing Production Credit

- The Advanced Manufacturing Production Credit (AMPTC) is available for the production of eligible components produced in the U.S. and sold after December 31, 2022. The amount of the AMPTC depends on the specific eligible component being manufactured. Eligible components include PV cells, PV wafers, solar grade polysilicon, solar modules, wind energy components, torque tubes, structural fasteners, electrode active materials, battery cells, battery modules, and critical minerals.
- The AMPTC will begin to phase out in 2030 and will not be available for eligible components sold after December 31, 2032.

Carbon Capture Credit

- The Carbon Capture Credit is extended to carbon capture qualified projects that begin construction prior to January 1, 2033.
- A direct air capture qualified facility must capture no less than 1,000 metric tons of qualified carbon oxide during the taxable year. In the case of electricity generation, the qualified facility must capture no less than 18,750 metric tons of qualified carbon oxide during the taxable year and capture at least 75 percent of the baseline carbon oxide produced by the facility. Any other qualified facility must capture no less than 12,500 metric tons of qualified carbon oxide during the taxable year.
 - In the case of an applicable electric generating unit, baseline carbon oxide production means the average annual carbon oxide production, by mass, from an electric generating unit placed in service more than one year prior to the date on which construction of the carbon capture equipment begins, measured for the shorter of either (i) the period starting on the date the unit was placed in service and ending when the carbon capture equipment began construction or (ii) the six-year period preceding the date when carbon capture equipment began construction.
- The Carbon Capture Credit is broken into a base credit and a “bonus” credit, equal to five times the base credit, if prevailing wage and apprenticeship requirements are met, similar to the PTC and ITC. The amount of the credit depends on how the qualified carbon oxide is used and whether the taxpayer uses the captured qualified carbon oxide.
 - For the use of secure geological storage for qualified carbon oxide that is not used by the taxpayer, the base credit is reduced from \$36 to \$17/metric ton of qualified carbon oxide, with an increased credit of up to \$85/metric ton. If direct air capture is used to store qualified carbon oxide in secure geological storage and is not used by the taxpayer, the base credit is increased from \$17 to \$36/metric ton of qualified carbon oxide, with an increased credit up to \$180/metric ton.
 - For the taxpayer’s use of qualified carbon oxide as a tertiary injectant in a qualified enhanced oil or natural gas recovery project that it later disposes of, the base credit is reduced from \$26 to \$12/metric ton of qualified carbon, with an increased credit up to \$60/metric ton. If direct air capture is used to capture qualified carbon oxide that is then used by the taxpayer as a tertiary injectant in a qualified enhanced oil or natural gas recovery project and then disposed of by the taxpayer, the base credit is increased from \$12 to \$26/metric ton of qualified carbon, with an increased credit of \$130/metric ton of qualified carbon.
- The amount of the Carbon Capture Credit allowed may be reduced by up to 15 percent if tax-exempt bonds are used to finance the installation of carbon capture equipment placed in service after December 31, 2022. The amount of the reduction depends on the amount of tax-exempt financing used. The calculation of the reduction is expressed as a fraction having a numerator equal to the tax-exempt bond proceeds, and the denominator equal to the aggregate amount of additions to the capital account for the qualified facility for the taxable year and all prior taxable years.

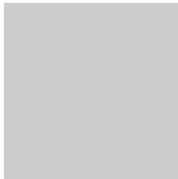
Consumer and Residential Programs

- A \$4,000 tax credit for purchasing a used electric vehicle (EV), which is at least two years old and sold prior to December 31, 2032, or a \$7,500 tax credit for purchasing a new EV placed in service after December 31, 2022.
- EV chargers placed in service prior to December 31, 2032 are eligible for a 6 percent alternative fuel refueling property credit, capped at \$100,000, and 20 percent credit on amounts in excess of \$100,000. However, if wage and apprenticeship requirements are met, the credit may be increased up to five times the base amount for a total of 30 percent.

- The Act extends the residential clean energy credit (RCEC) through December 31, 2034 and adds stand-alone storage for eligibility for the RCEC along with wind, solar and fuel cell. The Act replaces the tax credit for biomass fuel with standalone storage that must have at least 3 kWh of storage and be connected to the taxpayer's dwelling. The credit applied is to 30 percent of the property placed in service between 2022 and 2032, 26 percent for property placed in service during 2033, and 22 percent for property placed in service during 2034.
- The residential energy property credit (REPC) extends credit to residential homeowners who install appliances that make energy efficiency improvements to their homes after December 31, 2022. The credit is subject to an annual limitation of \$1,200. The Act also includes a tax credit of up to \$150 annually for home energy audits.
- The energy efficient home credit is extended through December 31, 2032. Homes meeting the Energy Star Single Family New Homes National Program Requirements or the most recent Energy Star Manufactured Home National program requirements qualify for an increased credit of \$2,500, or \$5,000 for homes that are already certified as a zero-energy home. Multi-family homes meeting the requisite Energy Star Multifamily New Construction National Program Requirements are eligible for \$500, or \$1,000 if such home is already certified as a zero-energy home. Residences that are part of an eligible building and meet prevailing wage requirements are eligible for an additional \$2,500 or \$5,000 if the home is already certified as a zero-energy home.

To learn more about the implications of this landmark legislation in the area of clean energy development and finance, please contact any of the authors or your usual DLA Piper relationship attorney.

AUTHORS



Jameson L. Calitri

Associate

Boston | T: +1 617 406 6000

jameson.calitri@dlapiper.com



Vanessa Richelle Wilson

Partner

Washington, DC | T: +1 202 799 4000

vanessa.wilson@dlapiper.com



Drew M. Young

Partner

New York | T: +1 212 335 4500

drew.young@dlapiper.com
