

Inflation Reduction Act of 2022: Renewable Energy Tax Credits

Extensions, Expansions and Other Changes

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Poll: 1. Agree or Disagree? There is a lot of tax incentives for the renewable energy industry in the Inflation Reduction Act of 2022.

Inflation Reduction Act of 2022: Overview

- Signed into law on August 16, 2022
- Largest investment in clean energy and climate change by US
 - Projected to significantly reduce greenhouse gas emissions by 2030
 - Promises over \$700 billion for energy and climate change, with over \$370 billion of funding to provide tax credits for clean energy projects
- Expansion of IRS
- Impact on Inflation?

► Tax Credits

Most Common Types of Tax Credits for Renewable Energy

Investment Tax Credits

- Historically used for solar projects and offshore wind projects, but now also used for onshore wind
- Credit allowed up front and based on capital costs
- Credit calculated as a percentage of the basis of eligible equipment used to generate electricity and placed in service by the taxpayer

Production Tax Credits

- More frequently used for wind projects, but now also available for solar projects
- Credit allowed over time and based on project performance
- Credit calculated based on the kilowatt-hours (kWh) of electricity generated and sold from qualified facilities by the taxpayer

Principal Tax Credits

- Renewable/Clean Energy Production Tax Credit (PTC)
 - Renewable energy generation PTC: § 45
 - Zero-emission nuclear power PTC: § 45U
 - Technology-neutral PTC: § 45Y
- Renewable/Clean Energy Investment Tax Credit (ITC)
 - Energy property ITC: § 48
 - Energy storage (e.g., stand-alone battery storage)
 - Clean hydrogen production facility
 - Technology-neutral ITC: § 48E

Principal Tax Credits (cont'd)

- Carbon Capture Credit: § 45Q
- Clean Hydrogen PTC: § 45V
- Manufacturing
 - Solar and wind components, batteries, critical minerals: § 45X
 - Energy property including EV components, fuel cells, electric grids, etc.: § 48C
- Additional credits for alternative fuels, energy efficiency and transportation/EVs

Inflation Reduction Act: PTC Structure

Prior Structure

Maximum of 1.5 cents per kWh, adjusted for inflation to 2.6 cents per kWh for 2022

Phasedown depending on beginning of construction (BOC) date:	
BOC Year	PTC Rate
2016	1.5¢
2017	1.2¢
2018	0.9¢
2019	0.6¢
2020 or 2021	0.9¢
2022 or later	0¢

Structure after IRA

Base and bonus structure:

- Base PTC rate of 0.3 cents per kWh, adjusted for inflation
- Increased to 5X (*i.e.*, to 1.5 cents) if certain prevailing wage and apprenticeship (PWA) requirements are satisfied or an exception applies

The inflation adjusted amount for 2022 is 2.6 cents per kWh for facilities placed in service before 2022; and 2.75 cents per kWh for facilities that satisfy or are exempt from PWA

Inflation Reduction Act: PTC Structure (cont'd)

- PTC now available for solar facilities
- PTC is no longer subject to a phasedown
- Facility must be placed in service before January 1, 2025. After that a new technology-neutral PTC under Section 45Y will replace the Section 45 PTC

Inflation Reduction Act: ITC Structure

Prior Structure

Previously, percentage of basis, up to 30% depending on BOC date

Previous phasedown based on BOC date:	
BOC Year	Energy Percentage
2019	30%
2020, 2021 or 2022	26%
2023	22%
Thereafter	10%

Structure after IRA

Base and bonus structure:

- Base ITC rate of 6%;
- Increased to 5X (*i.e.*, to 30%) if prevailing wage and apprenticeship requirements are satisfied or an exception applies

Inflation Reduction Act: ITC Structure (cont'd)

- Proving cost basis still important
 - Developer fee
 - Sale
- Now available for certain **standalone energy storage property**, such as batteries
- Not expanded to include **transmission property**
- Recapture rules still apply
- Property must be placed in service before January 1, 2025. After that a technology-neutral ITC under Section 48E will replace the Section 48 ITC

Carbon Capture Credits

- Section 45Q provides tax credit for carbon oxide that is captured and either:
 - Sequestered in secure geological storage (and not used), or
 - Used in as an injectant in enhanced oil and gas recovery or otherwise utilized for a permitted purpose
- 12-year credit period from placement in service date
- Changes under the IRA
 - Extended BOC deadline from January 1, 2026, to January 1, 2033
 - Increased credit amounts
 - Reduced minimum capture requirements
 - Applies to facilities placed in service after December 31, 2022

Carbon Capture Credits (cont'd)

- Base credit amounts and enhanced credit amounts (if PWA requirements met):

End Use	Pre-IRA Amount	Base Credit Amount (without PWA)	Enhanced Credit Amount (with PWA)
Traditional Carbon Capture: Carbon Oxide Used or Utilized	\$35	\$12	\$60
Traditional Carbon Capture: Carbon Oxide Sequestered	\$50	\$17	\$85
Direct Air Capture: Carbon Oxide Used or Utilized	\$35	\$26	\$130
Direct Air Capture: Carbon Oxide Sequestered	\$50	\$36	\$180

Carbon Capture Credits (cont'd)

- Reduced minimum capture thresholds:

Facility	New Minimum Capture Threshold
Direct air capture facility	1,000 metric tons
Electricity generating facility	18,750 metric tons; and the facility must have a capture design capacity of at least 75% of the baseline carbon oxide production of such facility
Any other facility	12,500 metric tons

Clean Hydrogen PTC

- PTC amount is \$0.60 per kilogram (kg) of “qualified clean hydrogen” (QCH) produced multiplied by the “applicable percentage” based on the resulting lifecycle greenhouse gas emissions rate
- The amount is multiplied by 5 if construction began before January 29, 2023, or PWA requirements met

kgs of CO2e to produce a kg of QCH	Applicable Percentage	Base PTC Value	5X PTC Value
At least 2.5 but less than 4.0	20%	\$0.12	\$0.60
At least 1.5 but less than 2.5	25%	\$0.15	\$0.75
At least 0.45 but less than 1.5	33.4%	\$0.20	\$1.00
Less than 0.45	100%	\$0.60	\$3.00

Clean Hydrogen PTC (cont'd)

- Hydrogen must be produced through a process that results in a lifecycle greenhouse gas emission rate of not greater than 4 kg of CO₂e per kg of hydrogen
 - That requires taking into account all of the emissions from feedstock through the point the hydrogen is produced
 - Emissions rate must be verified by a third part
- Hydrogen must be produced in the US in the ordinary course of trade for sale or use
- Facility construction must begin before January 1, 2033

Clean Hydrogen ITC

- ITC is equal to the “energy percentage” of the cost basis of each “specified clean hydrogen production facility” placed in service during the taxable year

kgs of CO ₂ e to produce a kg of QCH	Energy Percentage
At least 2.5 but less than 4.0	1.2%
At least 1.5 but less than 2.5	1.5%
At least 0.45 but less than 1.5	2%
Less than 0.45	6%

Clean Hydrogen ITC (cont'd)

- Facility must be placed in service after December 31, 2022
- No double dipping with credit under § 45Q or § 45V
- Taxpayer must make irrevocable election to have the energy ITC apply
- Unrelated third party must verify lifecycle greenhouse gas emissions do not exceed 4 kg of CO₂e



New “Technology Neutral” Clean Electricity PTC & ITC

- The IRA introduced a new “technology neutral” PTC & ITC for projects that generate electricity and yield zero greenhouse gas emissions
 - Will apply to facilities placed in service after December 31, 2024
 - Phases down for facilities beginning construction in the first calendar year after the later of 2032 and the year certain greenhouse gas emissions thresholds are achieved

Choosing PTC vs. ITC

- Wind project can claim ITC, in lieu of PTC
- Solar project can now claim PTC, in lieu of ITC
- Choice between PTC and ITC will depend on a number of variables, including the capacity factor of the project, total project costs, the tax position of the parties, and the availability of any bonus credits
 - Usually, onshore wind farm utilizes the PTC while offshore wind farm utilizes the ITC
 - Solar projects bucking expectations

► Prevailing Wage and Apprenticeship

Prevailing Wage and Apprenticeship

- If prevailing wage and apprenticeship (PWA) requirements satisfied, enhanced tax credit amounts (generally 5X) under:
 - § 30C (Alternative Fuel Vehicle Refueling Property Credit)
 - § 45 (PTC)
 - § 45Q (CCUS Credit)
 - § 45V (Clean Hydrogen PTC)
 - § 45Y (Clean Electricity PTC)
 - § 45Z (Clean Fuel PTC)
 - § 48 (ITC)
 - § 48C (Qualifying Advanced Energy Project Credit)
 - § 48E (Clean Electricity ITC)

- If prevailing wage (PW) requirements satisfied, enhanced tax credit amounts under:
 - § 45L (New Energy Efficient Home Credit Credit)
 - § 45U (Zero-emission Nuclear PTC)

Prevailing Wage and Apprenticeship (cont'd)

- Exceptions to PWA
 - Output of less than 1 MW-AC, or
 - BOC occurs prior to January 29, 2023 (the date that is 60 days after the issuance of guidance on the prevailing wage and apprenticeship requirements)
- BOC
 - Physical work test
 - 5% safe harbor

Prevailing Wage Requirement

- Requirement is that laborers and mechanics employed in construction and in alterations and repairs must be paid at least prevailing rates for similar work in the locality, as determined by the Department of Labor (DOL)
 - Prevailing wage determination published on www.sam.gov
 - If not determination published for certain categories, request can made of DOL, Wage and Hour Division via email at IRAPrevailingwage@dol.gov
- Rules apply during construction and during the PTC credit period or ITC recapture period, as applicable
- Cure provisions and penalties

Apprenticeship Requirement

- Requirement is that a specified percentage of labor hours for construction, alteration or repair work must be performed by qualified apprentices

Year Project Begins Construction	% of Apprentice Labor Hours
2022 or earlier	10%
2023	12.5%
2024 or later	15%

- Cure provisions and penalties
- Requirement excused if no qualified apprentices available from program
- Qualified apprentices must be participating in a registered apprenticeship program
- Each contractor or subcontractor employing more than 4 people for construction, alteration or repair work must use one or more qualified apprentices



Prevailing Wage and Apprenticeship: Recordkeeping

- Taxpayers, contractors and subcontractors must comply with requirements of § 6001 and Treas. Reg. § 1.6001-1
- Records must be sufficient to demonstrate that prevailing wage and apprenticeship requirements met



Bonus Credits

Overview of Bonus Credits

- Additional “bonus” tax credits available for:
 - projects located in certain [energy communities](#),
 - projects located in certain [low-income communities](#), and
 - projects meeting certain [domestic content](#) requirements
- Depending on PTC vs. ITC, bonus credit amount is 10% or 10 percentage points if PWA requirements are satisfied (or 2% or 2 percentage points otherwise)
 - For PTC, additional 10% increase in PTC base rate (so \$0.3 becomes \$0.33)
 - For ITC, additional 10 percentage points added to ITC (so 30% becomes 40%)
- Generally applicable only where placed in service after 2022
- Bonus credits generally can be “stacked”

Energy Communities

- Energy communities include:
 - A brownfield site, including mine-scarred land
 - Essentially land where the presence or potential presence of a hazardous substance, pollutant or contaminant may complicate its expansion, redevelopment or reuse
 - But not if subject to planned or ongoing removal action, listed on the National Priorities List, subject to certain orders requiring cleanup, or subject to certain corrective action
 - A metropolitan or non-metropolitan statistical area that
 - has (or, at any time after 2009, had) at least 0.17% direct employment or at least 25% local tax revenues related to the extraction, processing, transport or storage of coal, oil or natural gas, and
 - has an unemployment rate at or above the national average for the previous year
 - A census tract in which either a coal mine has closed after 1999 or a coal-fired electric generating unit has been retired after 2009, or a directly adjoining census tract



Low and Moderate Income

- LMI bonus ITC available for small solar and wind projects (including related batteries)
 - Project must have net output of less than 5 Mwac, so likely projects are rooftop solar and community solar

- LMI bonus ITC determined based on allocation of “environmental justice solar and wind capacity limitation”
 - Allocation cap is 1.8 GWdc of capacity for 2023 and 2024
 - Project must be placed in service within 4 years of allocation

Low and Moderate Income (cont'd)

- LMI Bonus ITC is 10% if located in communities that qualify for New Markets Tax Credits or on Indian land
- LMI Bonus ITC is 20% if
 - part of low-income residential building project
 - tenants qualify for certain affordable housing programs (*i.e.*, rent subsidies), and
 - financial benefits of the electricity are allocated equitably among the tenants
 - part of a qualified low-income economic benefit project
 - at least 50% of the “financial benefit” of the electricity produced are provided to households with income less than 200% of the poverty line or less than 80% of the area median gross income

Domestic Content

- Domestic Content requirements are that:
 - 100% of the steel or iron used in the project must be produced in US, and
 - A specified percentage of the cost of manufactured products used in the project must be attributable to manufactured products that are mined, produced or manufactured in United States
- Rules similar to Buy America regulations for federally-funded transportation projects apply
- Project must be placed in service after 2022



Domestic Content (cont'd)

Year Project Begins Construction	Offshore Wind Facilities		Other Facilities	
	Clean Electricity Production Credit	Other Credits	Clean Electricity Production Credit	Other Credits
2024 or earlier (if placed in service after 2022)	40%	20%	20%	40%
2025	45%	20%	27.5%	40%
2026	50%	20%	35%	40%
2027	55%	20%	45%	40%
2028 or later	55%	20%	55%	40%

Domestic Content (cont'd)

□ Other rules:

- The “facility” appears to be the end product for purposes of the manufactured product requirement
 - For example, the solar project rather than an array or panel
 - The origin of sub-components appears to be irrelevant, but guidance is key
- “Cost” is the contract price paid by the developer rather than the contractor
- It appears that labor costs at the project site are not counted

► Tax Credit Monetization & Utilization

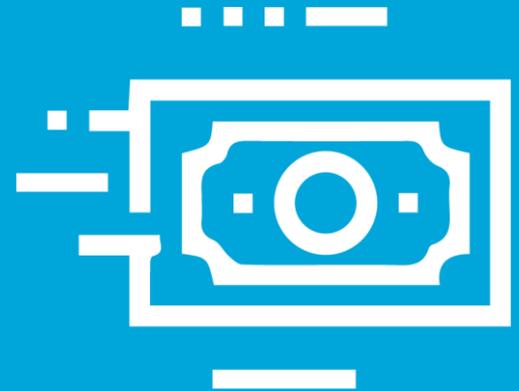


Tax Credit Monetization

- Historically, tax credits generally were available only to project owners and could not be sold
 - Tax equity transactions, including partnership flip
- IRA introduces monetization options
 - Direct pay – § 6417
 - Transferability – § 6418

Direct Pay

- An “applicable entity” may elect with respect to an “applicable credit” to have the amount of the credit be a deemed payment of tax, which may result in a cash refund
 - Applicable entities are generally limited to tax-exempt entities
 - Exceptions for taxable entities with respect to clean hydrogen PTC and ITC, carbon capture credit, and the advanced manufacturing production credit for first 5 years (other than the advanced manufacturing production credit)





Direct Pay (cont'd)

- Applicable entity includes:
 - Any organization exempt from federal income tax
 - Any state or political subdivision thereof
 - Tennessee Valley Authority
 - An Indian tribal government or Alaska Native Corporation
 - Certain rural electricity cooperatives



Direct Pay (cont'd)

- Applicable credit includes (among others):
 - § 45 PTC
 - § 48 ITC
 - § 45Q CCUS Credit
 - § 45V Clean Hydrogen PTC
 - § 45X Advanced Manufacturing Production Credit
 - § 45Y Clean Electricity PTC
 - § 48E Clean Electricity ITC



Direct Pay (cont'd)

□ Election Rules

- Election is required to be made by the tax return filing deadline (as extended)
- Election is irrevocable
- In the case of the PTC, election is made separately for each qualified facility; election applies to all 10 years
- In the case of CO sequestration credit, election is made separately with respect to carbon capture equipment placed in service during year; election applies to first 5 years



Direct Pay (cont'd)

- Available to property placed in service after 2022
- Refund will be paid after the tax return for the applicable year is filed
- Excessive payments are subject to a 20% penalty
 - Reasonable cause exception

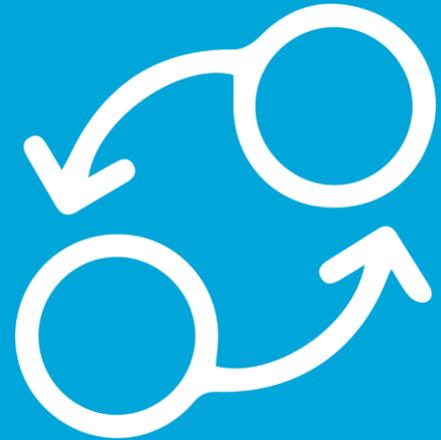


Direct Pay (cont'd)

- For ITCs, basis reduction and capture rules apply
- Beginning in 2024, projects that would otherwise claim the PTC or ITC must comply with phased-in domestic content requirements or suffer a reduced credit amount
 - BOC in 2024 – 90%
 - BOC in 2025 – 85%
 - BOC in 2026 – 0%
- Direct payment will be grossed-up if budget sequestration

Transferability

- An “eligible taxpayer” may elect to transfer all (or any portion) of an “eligible credit” to an unrelated taxpayer in exchange for a payment, such that the transferee is entitled to claim the credit
- Eligible taxpayer means any taxpayer that is not an “applicable entity” under the direct pay rules
- In case of facility owned by a partnership, the election is made at the entity level



Transferability (cont'd)

- Eligible credit includes (among others):
 - § 45 PTC
 - § 48 ITC
 - § 45Q CCUS Credit
 - § 45V Clean Hydrogen PTC
 - § 45X Advanced Manufacturing Production Credit
 - § 45Y Clean Electricity PTC
 - § 48E Clean Electricity ITC

Transferability (cont'd)

- Treatment of Payment
 - Must be paid in cash
 - Not includible in gross income of the transferor
 - Not deductible by the transferee
- If the transferor is a partnership
 - Payment is treated as tax-exempt income
 - Partner's distributive share of such income is based on share of otherwise allowable credit

Transferability (cont'd)

- Election Rules
 - Election is required to be made by the tax return filing deadline (as extended)
 - Election is irrevocable
 - In the case of the PTC and CCUS credit, election is made separately for each facility
- Transferee can't elect to transfer credit again (*i.e.*, no secondary transfers)
- No transfer of credits that have been carried back or carried forward
- Applies to taxable years beginning after 2022

Transferability (cont'd)

- Shortcomings of Transferability
 - Transferor won't capture full value because tax credits are sold at a discount
 - Transferee can't deduct payment; in a tax equity deal, investment is effectively deductible (only 50% in case of ITC) due to depreciation
 - In ITC deal, transfer of tax credits doesn't result in stepped-up basis
 - Transferability does not apply to depreciation
 - Passive activity loss rules apparently still apply

Tax Credit Utilization: Carryback and Carryforward

- Extension of carryback and carryforward of “applicable credits” that are not used currently
 - “Applicable credit” defined in § 6417(b), including § 45 PTC, § 48 ITC, § 45Q CCUS credit, § 45V clean hydrogen PTC
- 3-year carryback (vs. 1 year)
- 22-year carryforward (vs. 20 years)
- Applies for taxable years beginning after December 31, 2022



Miscellaneous



Market Trends

- Tax equity returns have increased slightly
- Greater M&A activity for projects, portfolios and companies
- Transferability is hot, but not necessarily the silver bullet
- Repowering of wind projects
- Increase in offshore wind interest
 - Challenges with “beginning of construction” test due to the longer development and construction period
 - Uncertainty of ITC eligibility of certain equipment – *e.g.*, export cable, onshore transformer
- Storage technology, including stand-alone battery

