Tax Credits – IRA & CHIPS

Energy Tax Provisions - Summary

Inflation Reduction Act signed into law on August 16, 2022

Extensions/modifications to:

— Sec. 45 Production tax credits and Sec. 48 investment tax credits for wind, solar, geothermal, hydropower, etc.

— Sec. 45Q Credit for carbon oxide sequestration (increased rates)

— Sec. 48C Credit for manufacturing energy property including EV components, fuel cells, electric grids, etc.

— Sec. 40 Second-generation biofuel credit

— Sec. 40A and 6426 Biodiesel and renewable diesel; biodiesel mixture credit; alternative fuel credit

— Sec. 179D Energy efficient commercial buildings deduction

— Sec. 30D & Sec. 25E for EVs & Sec. 30C charging stations

New Credits for:

— Sec. 45U Zero-emission nuclear power production credit

— Sec. 40B Sustainable aviation fuel

— Sec. 45V Clean hydrogen production credit

— Sec. 45W Qualified commercial clean vehicles

— Sec. 45X Manufacturing credit for solar and wind components, batteries and critical minerals

— Sec. 45Y and 48E Technology neutral clean electricity production and investment credits

— Sec. 45Z Clean fuel production credit

Energy Tax Provisions- New Requirements

Prevailing wage & apprenticeships

— Significantly higher credit rates available for projects which satisfy certain wage and workforce requirements during the construction and operation of the projects

— Under transition rule, generally projects that begin construction on or after January 29, 2023 are eligible for bonus rate even if they don't satisfy the prevailing wage and apprenticeship requirements

— Curing process

Domestic content

— Additional credits available in some cases if projects are constructed using domestically sourced steel and iron, as well as manufactured products

— Effective for projects placed in service after 2022

Other targeted credit enhancements

— Additional credit amounts available in some cases for projects located in low-income communities, brownfield sites, and communities formerly reliant on coal and fossil fuel industries

— Effective for projects placed in service after 2022

Energy Tax Provisions- Monetization

“Direct pay” options for:

— Section 45Q Carbon Oxide Sequestration Tax Credit

— Section 45V Clean Hydrogen Production Credit

— Section 45X Advanced Manufacturing Production Credit

— Tax-exempt entities, states, and political subdivisions thereof

The legislation also allows taxpayers to monetize tax credits by transferring credits to third parties

— Transfer shall be required to be paid in cash

— Transfer shall not be includible in gross income of the transferor

— Amount paid by the transferee shall not be deductible

— Eligible credits can only be transferred **once**

Energy Tax Provisions- Monetization

Transferability & Refundability – Emerging Themes

- Ability of partnerships to elect direct pay on behalf of tax-exempt partners
- Ability to claim partial direct pay
- Timing/ability to expedite refunds under section 6417
- Interplay of refundability and requirement to make estimated tax payments
- Recapture and indemnification
- Ability of individuals to buy tax credits
- Reasonable cause exception to 20% penalty for excessive payments/credit transfers
- Waiting on IRS guidance

Investment Tax Credit

Overview of Investment Tax Credit (ITC)

One-time investment tax credit (ITC) equal to a percentage of the basis of qualifying energy property placed in service during the taxable year.

Eligible Basis × ITC % = ITC

Eligible property

- Solar, fuel cell, small wind, geothermal, microturbine, combined heat and power, waste energy recovery, & offshore wind
- New: energy storage, qualified biogas property, & microgrid controllers

Claimed in the year the qualifying energy property is placed in service.

- 5-year recapture period (20% step-down each year)
- Basis reduction equal to 50% of ITC
- Basis reduced for tax-exempt bonds

Qualifying Energy Property:

- Tangible personal property or other tangible property used as an integral part of the qualified facility
- Must be original use property (not “used” or previously placed in service property)

Investment Tax Credit (ITC)

ITC was beginning to phase down. The new ITC credit rates would generally apply to projects that are placed in service after 2021.

— Exception: newly-eligible technologies effective for projects placed in service after 2022

Beginning of construction deadline: Must begin construction prior to 2025

— Shifting to technology-neutral regime in 2025 – See sections 48E and 45Y

Technologies qualifying for 30% bonus / 6% base rate:

— Solar

— Small wind

— Waste energy recovery property

— Offshore wind

— Fuel cell

— Geothermal (increased rate)

— Combined heat & power (increased rate)

— Energy storage (new)

— Qualified biogas property (new)

— Microgrid controllers (new)

Technologies qualifying for 10% bonus / 2% base rate:

— Microturbine

Credit is transferable for projects placed in service after 2022

Production Tax Credit

Overview of the production tax credit (PTC)

- **Prior to IRA:** No production tax credit (PTC) was available for projects that begin construction after 2021, and there was a PTC rate phaseout for onshore wind projects that began construction prior to 2022.
- **Eligible Property:** Qualified facilities include wind, solar, biomass, geothermal, landfill gas, hydropower
- **Rates**
  - Wind, Geothermal, Hydropower, Closed loop biomass**:** Bonus rate of 1.5 cents per kWh; Base rate of 0.3 cents/ kWh (pre-inflation adjustment)
  - Rates are inflation adjusted. After inflation adjustment, bonus rate for wind, geothermal, hydropower, and closed loop biomass is $2.75/kWh
  - Open-loop biomass, landfill gas: Subject to a 50% credit reduction
- **Effective date:** Applies to projects placed in service in 2021
- **Begin Construction Deadline:** Must begin construction prior to 2025
  - Shifting to technology-neutral regime in 2025 – See sections 48E and 45Y
- **Credit Period:** 10-year credit period beginning in year facility is placed in service
- **Other Requirements:**
  - Electricity must be produced by the taxpayer and sold to an unrelated party
  - Credit reduced for tax-exempt bonds
  - Credit transferable for projects after 2022

Credit for Carbon Sequestration

Section 45Q Legislative Update

Credit Rates

- Permanent Storage- Storage- base credit rate = $17; bonus credit rate = $85
- EOR/Utilization- base credit rate = $12; bonus credit rate = $60
- Direct Air Capture (SGS) - base credit rate = $36; bonus credit rate = $180
- Direct Air Capture (EOR/Utilization) - base credit rate = $26; bonus credit rate = $130
- Rates indexed for inflation after 2026

Refundability

- Elective –election made separately with respect to CCE placed in service during the TY; election in place for 5 years
- No domestic content requirement/phasedown

Minimum capture thresholds (effective for projects BOC after Aug. 16, 2022)

- Permanent Storage- Storage- base credit rate = $17; bonus credit rate = $85 Direct air capture: no less than 1,000 metric tons of carbon oxide per year
- Electricity generating facilities: no less than 18,750 metric tons of carbon oxide and 75% of total carbon emission
- Other industrial facilities: no less than 12,500 metric tons of carbon oxide

Dates

- Extends beginning of construction deadline to December 31, 2032
- All other changes effective after December 31, 2022

Other considerations

- Credit reduced for tax-exempt bonds
- Sunsets the “old” section 45Q for capture equipment placed in service prior to Feb. 8, 2018

Clean Hydrogen

Clean Hydrogen Production Credit (Sec. 45V)

Credit rates

— Determined by multiplying the applicable amount and the kilograms of qualified clean hydrogen produced

— The applicable amount = the applicable percentage * $0.60 (or $3.00 when certain wage and workforce requirements are met)

— Applicable percentage:

- 20% for a process that results in a GHG rate of 2.5 - 4 kg of CO_2-e per kg of hydrogen;
- 25% for a process that results in a GHG rate of 1.5 - 2.5 kg of CO_2-e per kg of hydrogen;
- 33.4% for a process that results in a GHG rate of 0.45 - 1.5 kg of CO_2-e per kg of hydrogen; and
- 100% for a process that results in a GHG rate of < 0.45 kg of CO_2-e per kg of hydrogen.

— Applicable amount would be inflation adjusted

— 10-year credit period

Refundability

— Elective –election made separately with respect to each facility placed in service during the TY; election in place for 5 years

— No domestic content requirement/phasedown

Dates

— Effective for hydrogen produced after 2022; Beginning of construction deadline December 31, 2032

Clean Hydrogen Production Credit

Other requirements

— Hydrogen must be
  - produced in the US
  - in the ordinary course of a trade or business of the taxpayer
  - for sale or use (as verified by an unrelated party)

— Qualified facility – must be owned by the taxpayer; production allocated if more than one owner

Interaction with other sections

— Cannot claim both sections 45Q and the clean hydrogen production tax credit with respect to the same facility

— Can claim the section 45 PTC for electricity produced from renewable resources and the clean hydrogen production tax credit if the electricity is used at the facility to produce clean hydrogen

— In lieu of the clean hydrogen production tax credit, can elect to treat the facility (or a portion of the facility) as energy property under section 48. (The energy percentage would range from 1.2 to 6% base rate and 6 to 30% bonus rate depending on the type of clean hydrogen that is produced.)

Miscellaneous provisions

— Credit reduced for tax-exempt bonds

Qualifying Advanced Energy Property

Inflation Reduction Act: section 48C

The bill authorizes $10 billion in credits

— At least $4 billion of these credits must be allocated to investments in: (i) a brownfield site, (ii) communities formerly reliant on fossil fuel industries (coal, oil, natural gas)

30% ITC available for constructing, re-equipping, or expanding a QAEP manufacturing facility (wind, solar, carbon capture, electric grids, EVs and components)

— Base rate = 6%

Qualified manufacturing facilities were facilities that manufactured the following items:

— Property designed to produce energy from the sun, wind, geothermal deposits or other renewable resources

— Fuel cells, microturbines, or an energy storage system for use with electric or hybrid-electric motor vehicles

— Electric grids to support the transmission of intermittent sources of renewable energy, including storage of such energy

— Property designed to capture and sequester dioxide emissions

— Property designed to refine or blend renewable fuels or to produce conservation technologies (including lighting and smart grid technologies)

— Electric vehicles or components designed specifically for use in such vehicles or

— Other advanced energy property designed to reduce greenhouse gas emissions as may be determined by the Secretary

Inflation Reduction Act: section 48C

The legislation expands the definition of qualified manufacturing facilities. It is expanded to include facilities that produce or recycle the following items:

— Property designed to produce energy from water (i.e., hydropower equipment)

— Property that is an energy storage system regardless of whether it is used in a vehicle

— Property that is grid modernization equipment regardless of whether it supports the transmission of intermittent sources of renewable energy

— Property that uses or removes carbon dioxide emissions in addition to sequestering it

— Property designed to refine, electrolyze, or blend any fuel, chemical or product which is renewable or low-carbon and low-emissions – so prior provision no longer limited to renewable fuels

— Property for producing conservation technologies is clarified to state it applies to residential, commercial and industrial applications

— Property relating to electric vehicles is expanded to include fuel cell vehicles and to apply to technologies, components or materials for such vehicles and ***associated charging or refueling infrastructure (new)***

— Hybrid vehicles with a gross rate of not less than 14,000 pounds as well as technologies, components, or materials for such vehicles (***new***)

Inflation Reduction Act: section 48C

(New) Also eligible -- taxpayers that re-equip an industrial or manufacturing facility with equipment designed to reduce greenhouse gas emissions by at least 20% through the installation of:

— Low- or zero carbon process heat systems

— Carbon capture, transport, utilization and storage systems

— Energy efficiency and reduction in waste from industrial processes or

— Any other industrial technology designed to reduce greenhouse gas emissions, as determined by the Secretary

(New) Taxpayers who re-equip, expand, or establish an industrial facility for the processing refining or recycling of critical materials (as defined in section 7002(a) of the Energy Act of 2020)

No credits can be awarded to any project located in a census tract which previously received an allocation of credits

The credit is transferable

Certifications

— Secretary must issue guidance on applying for an allocation within 180 days of enactment

— In prior credit rounds the application period was four months (Notice 2009-72 – application period opened on August 14, 2009, and ended on December 16, 2009)

— Applicants have two years from the date of acceptance of an allocation of the credit to provide evidence that the requirements of the certification is met

— Applicants which receive a certification have two years from the date of issuance of the certification to place the project in service; if it doesn't do so the certification is revoked

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Advanced Manufacturing Production Credit

Inflation Reduction Act: section 45X

Provides a credit for certain eligible components (wind, solar, battery, critical minerals) produced by the taxpayer and sold to an unrelated person

Available for components produced and sold after 2022

The prevailing wage and apprenticeship requirements do not apply to this credit

Interaction with 48C

— The credit is not allowed for components produced at a facility receiving a section 48C credit

Direct Pay/Refundability

— Taxpayers may elect to make the credit refundable through a direct pay mechanism

— Such election would apply to the taxable year and four subsequent taxable years

Transferability

— A taxpayer may elect to transfer the credit (or any portion of the credit) to an unrelated taxpayer.

— For any taxable years for which a direct pay election is made, taxpayers may not also elect to transfer the credit.

Phase out

— For components sold after 2029, the credit is reduced by 25% each year, and would be unavailable for components sold in 2033 and beyond

— Exception: critical minerals

Clean Fuels

Clean Fuel Provisions

Extension of Existing Incentives for Biodiesel, Renewable Diesel, Alternative Fuels, and Second Gen. Biofuel

Sustainable Aviation Fuel Credit

- For 2023-2024, there is a new tax credit for each gallon of sustainable aviation fuel in a qualified mixture that is sold or used as a fuel in aviation.
- **Credit Amount:** $1.25 per gallon if GHG emissions reduction percentage of at least 50% compared to petroleum-based jet fuel, plus a supplementary credit of up to $0.50 per gallon for each percentage point by which the emissions reduction percentage exceeds 50%

Clean Fuel Provisions, Continued

Clean Fuel Production Credit (Section 45Z)

- New per-gallon tax credit for the production of low-emissions transportation fuel produced and sold from a qualifying facility
- ***Credit Amount:*** The product of: (i) the applicable amount per gallon with respect to any transportation fuel produced at a qualified facility and sold by the taxpayer to an unrelated person for use in the production of a fuel mixture, for use in a trade or business, or for sale at retail and (ii) The emissions factor of such fuel.
  - Base credit rate (applicable amount): \$0.20/gallon (or \$0.35/gallon for aviation fuel)
  - Increased credit rate (applicable amount): \$1.00/gallon (\$1.75 for aviation fuel), if prevailing wage and apprenticeship requirements are met
- ***Emissions Factor:*** The Treasury Department is required to annually publish emissions rates for fuels that are produced using similar feedstocks and production pathways that taxpayers would use for purposes of determining their credit rates. This emissions rate would then be used to compute the emissions factor, with a credit provided for fuels with emissions below 50 kg CO_2e per mmBtu. The lower the emissions rate, the higher the credit would be.
- ***Project Types:*** Fuels would be required to be transportation grade—suitable for use in a highway vehicle or aircraft—but could be used for any business purpose, including as transportation fuel, industrial fuel, or for residential or commercial heat.
- Cannot claim both the 45Z credit and the 45Q, 45V, or the 48 ITC for clean hydrogen in a given tax year.
- ***Key dates:*** Applies to the production of qualified fuel after 2024. Credit sunsets for fuel sold after 2027.

Vehicles and Charging Stations

Inflation Reduction Act – Section 30D

Section 30D for purchases of new cars by individuals

- Up to $7,500 per vehicle
- New requirements added
- Transferable to dealer
- Per manufacturer cap lifted (effective in 2023)

New requirements -

- North American Assembly of Vehicle - Effective August 16, 2022
- North American Manufacture/Assembly of Battery Components – Effective when regulations are issued (expected March 2023)
- Critical Minerals- Effective when regulations are issued (expected March 2023)
  - Requires that critical mineral components of the electric vehicle battery be extracted or processed in a country with which the US has a free trade agreement in effect or recycled in North America.
- MSRP Cap ($80,000 for SUVs and pickups; $55,000 for other vehicles)- Effective January 1, 2023
- AGI Limits ($300,000 for married filing jointly; $225,000 for heads of household; $150,000 for others) - Effective January 1, 2023

Inflation Reduction Act – Section 45W

Commercial Clean Vehicle Credit

- Credit for vehicles purchased use or lease in a trade or business, credit amount is the lesser of:
  - 15% of the basis of such vehicle (30% in the case of a vehicle not powered by a gasoline or diesel internal combustion engine) or
  - The incremental cost of such vehicle.
    - The incremental cost of any eligible vehicle is an amount equal to the excess of the purchase price for such vehicle over such price of a comparable vehicle (*i.e.*, any vehicle that is powered solely by a gasoline or diesel internal combustion engine and which is comparable in size and use to such vehicle). Legislation requires the Secretary to issue guidance on how to determine the incremental cost of any eligible vehicle.
- **The maximum credit for a qualifying vehicle with a gross vehicle weight rating of less than 14,000 pounds would be $7,500. The amount would increase to $40,000 for all other eligible vehicles.**
- No 30D limitations (MSRP, AGI, Assembly, Battery Components, and Critical Minerals)

Inflation Reduction Act – Section 30C

Charging Station Credit

Credit Qualifications

— ***Pre-IRA Qualification:*** Under prior law, taxpayers were eligible to claim an income tax credit for up to 30% of the cost of electric vehicle recharging stations (capped at $30,000 per location per year for business taxpayers). The credit was not available for recharging stations placed in service after 2021.

— ***IRA changes:*** Extended prior law credit for property placed in service in 2022, then starting in 2023 credit is available with potentially higher credits amount, but new location restrictions.

— ***Credit Amount:***

  - Base credit rate: 6%
  - 30% (6% if prevailing wage & apprenticeship requirement not satisfied) tax credit on alternative fuel refueling property up to $100,000 and a 20% tax credits on amounts over $100,000.

— ***Location Requirements:*** Property must be located in an eligible census tract to be eligible for the credit. This is generally, low-income communities for purposes of the New Market Tax Credit, or a location that is not in an urban area.

Available for property placed in service prior to 2023

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CHIPS

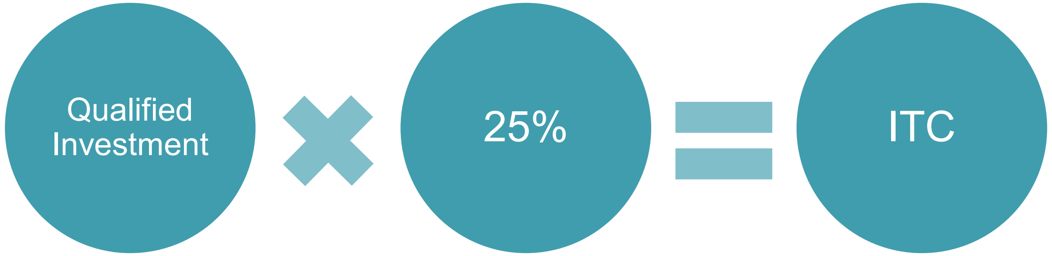
Advanced ITC for Semiconductors (Section 48D)

The CHIPS Act includes a 25% advanced investment tax credit (ITC) for certain investments in semiconductor manufacturing

- Applies to tangible property constructed, reconstructed or acquired by a taxpayer and which is integral to the operation of an advanced manufacturing facility
- Advanced manufacturing facility: facility for which the primary purpose is the manufacturing of semi-conductors or semi-conductor manufacturing equipment
- Eligible taxpayers are able to elect to treat the credit as a payment against tax (“direct pay”)
- The credit is generally available for qualifying property placed in service after December 31, 2022, for which construction begins before January 1, 2027

Section 48D Overview

One-time investment tax credit (ITC) equal to 25% of the qualified investment placed in service during the taxable year.



Qualified investment

The qualified investment is the basis of any qualified property placed in service by the taxpayer during such taxable year which is part of an advanced manufacturing facility.

Qualified property

Qualified property is tangible property with respect to which depreciation (or amortization in lieu of depreciation) is allowable which is

1) constructed, reconstructed, or erected by the taxpayer, or
2) acquired by the taxpayer if the original use of such property commences with the taxpayer

And which is integral to the operation of the advanced manufacturing facility

Qualified property includes buildings and structural components, except for buildings or portions of building used for offices or other non-manufacturing purposes

Section 48D

Definition of Advanced Manufacturing Facility:

Advanced manufacturing facility' means a facility for which the primary purpose is the manufacturing of semiconductors or semiconductor manufacturing equipment

Guidance may be needed to clarify:

- **Application of primary purpose rule**
- **Definition of "semiconductor manufacturing equipment"**

Section 48D Special Rules

Basis Reduction

The basis in the qualified property is reduced by an amount equal to the credit received in the year the qualified property is placed in service

Recapture

The credit will be recaptured if a taxpayer who has claimed the credit invests in a semiconductor manufacturing facility in China within 10 years of claiming the credit

Section 48D Effective Date

The general effective date rule is that the credit is available for all assets placed in service after 2022.

For constructed / reconstructed / erected assets, the credit is only available for pre-2023 costs to the extent the costs were incurred after the date of enactment.

Alternatively, for acquired assets, a taxpayer could have incurred the costs at any time pre-2023 so long as the assets are placed in service after 2022.