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Inflation Reduction Act of 2022

Summary of Credits for Material Renewable Electricity, Renewable Fuels, Energy Storage, Alternative Fuels Vehicles, Carbon Capture, and Manufacturing of Related Components

17 August 2022

On 16 August 2022, President Joe Biden signed the Inflation Reduction Act of 2022 (the IRA). While not as expansive as the Build Back Better Act, the IRA has the potential to dramatically accelerate the energy transition in the United States. Features of the IRA include extensions and tweaks of several popular credits for renewable electricity, alternative fuel vehicles, and carbon capture, as well as numerous new renewable energy and fuels credits and a fundamental pivot after 2024 to renewable electricity credits based on greenhouse gas emissions of generation technology. In addition, new credits for manufacturing and recycling related to the renewable energy sector may help drive increased investment in American manufacturing. In addition, the new direct pay and transferability techniques create opportunities for new financing structures and stakeholders.

The following is a high-level summary of the income tax credits for several key technologies, primarily in a commercial context. There are additional proposals for many other technologies, for example, extensions of the existing production and investment tax credits for geothermal and biomass power generation facilities and expanded credits for hydropower. We have not addressed excise tax credits or those credits that primarily impact consumers and households.

We encourage you to reach out to your contact at K&L Gates or any of the key contacts listed below for more detailed information about any of these provisions and other aspects of the IRA.

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Overarching Provisions

Direct Pay -- *NEW*

The IRA provides for an election to obtain a check from the Department of the Treasury rather than claiming one of a long list of different income tax credits referred to as “applicable credits”.[1] However, direct pay is generally available only to tax-exempt organizations, state government organizations, tribes, electricity cooperatives, and the Tennessee Valley Authority (Applicable Entities), all entities that have not historically been included in typical tax equity structures due to structuring restrictions embedded in the investment tax credit recapture and tax depreciation deduction rules. The good news is that the Senate clearly indicated that including these types of organizations in partnership flip vehicles will not disrupt the amount of credit that is available to taxable investors. Unfortunately, the bill does not go so far as to address the similar concern in the depreciation deduction rules, which may dampen the impact of the general direct pay rules.

Please see the discussion below in ‘Credits for Renewable Fuel - Hydrogen’, ‘Credits for Carbon Capture’, and ‘Credits for Manufacturing Activities - Advanced Manufacturing Production’ for some detail regarding when direct pay may be available to taxable owners of these types of facilities.

Finally, the basis of facilities in respect of which direct pay is claimed will be reduced by one-half of the credit claimed. Although not entirely clear in the IRA, it seems this rule is intended to apply to those credits that are available in respect of the basis of a facility, e.g., the Section 48 Investment Tax Credit.

Direct pay is generally available for taxable years beginning after December 31, 2022.

Carryback Period -- *NEW*

Under current law, a taxpayer is permitted to carry back excess amounts of the income tax credits described in this summary for only one year. The IRA increased that period to three years for applicable credits (as described above in ‘Overarching Provisions - Direct Pay’) in taxable years beginning after December 31, 2022.

Transferability -- *NEW*

At a high level, a taxpayer that is not any of the types of tax exempt and government entities described above in regards to direct pay may elect to transfer any of a long list of income tax credits[2] to another taxpayer that is not related to the transferor for federal income tax purposes. (Interestingly, there is special provision for real estate investment trusts to be able to do this.) In this case, the transferee must pay the transferor in cash (though we do not yet know how much is sufficient) for the credit and the

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[1] Subject to certain limitations, generally: Section 30C Alternative Fuel Refueling Property, Section 45 Production Tax Credit facilities placed in service after 2022, Section 45Q Carbon Capture facilities placed in service after 2022, Section 45U Zero-Emission Nuclear Power Production Credit, Section 45V Clean Hydrogen Production Facilities placed in service after 2012 [this appears to be a typo and likely should refer to 2022], Section 45W Commercial Vehicles (lots of limitations here), Section 45X Advanced Manufacturing Production, Section 45Y Clean Electricity Production, Section 45Z Clean Fuel Production, Section 48 Investment Tax Credit, Section 48C Qualifying Advanced Energy Project Credit, and Section 48E Clean Electricity Investment Credit.

[2] Generally, the same credits as for direct pay, *other than* the Section 45W Commercial Vehicles credit. Note that the placement in service dates provided for direct pay are not included in the transferability section, but transferability is only available in taxable years beginning after December 31, 2022.

transferee will be treated as the taxpayer for purposes of determining credit eligibility. Thus, it appears that not only do the typical rules regarding eligibility apply, but so do the typical rules about recapture.

However, in a case where a credit is transferred, there are a number of questions regarding how the transferee will get comfortable with its risk exposure. For credits that are subject to recapture (generally, all iterations of the investment tax credit and any credit that relies on the new wage and apprenticeship rules), the transferee will take on the risk that the federal government must be repaid some portion of a credit claimed in a prior year. Moreover, all credits bear the risk that the Internal Revenue Service (IRS) will determine on audit that a smaller amount of credit was actually available to begin with. Traditional tax equity structures take these risks into account and deploy a variety of tools to protect the tax equity investor and reduce their risk to a more comfortable level. Outside of the equity context (or a broader lending arrangement), there may be more limited risk mitigation options.

In addition, depreciation deductions cannot be transferred. Thus, a project owner that wants to transfer credits should also strongly consider whether it can use or otherwise monetize depreciation deductions.

Transferability is available for taxable years beginning after December 31, 2022.

Wage and Apprenticeship Bonus Credit Rate -- *NEW*

Many of the credits that are modified or introduced in the IRA will be increased when certain wage and apprenticeship requirements are met.

In general, these requirements apply based on the following timelines:

1. If construction of the facility begins prior to the date that is 60 days after Treasury publishes regulations concerning the wage and apprenticeship requirements (the Regulation Date), the facility will be treated as though it meets the wage and apprenticeship requirements. Thus, in most cases where there is a bonus rate for facilities that meet the wage and apprenticeship requirements, the credit will be equal to the base rate, multiplied by five, for some period after August 16, 2022.
    a. We anticipate that the IRS will issue guidance specifying typical beginning of construction requirements.[3]

[3] Many recent iterations of the Section 48 Investment Tax Credit and the Section 45 Production Tax Credits have utilized a beginning of construction standard. IRS guidance has generally referred to the following two standards, each of which feature many details and requirements not addressed here:

- Beginning of construction has required either (1) spending more than 5% of the total cost of qualifying property in a specified year or (2) beginning physical work on site (e.g., excavating foundations or beginning construction of equipment unique to the planned facility) or off site (e.g., beginning work to manufacture equipment that will be integrated into the qualified property). There are many gray areas in every beginning of construction analysis and we recommend involving competent counsel before implementing any safe harbor strategy.
- The IRS has allowed a taxpayer four years after the year in which construction begins to finish a project without scrutinizing whether a taxpayer engaged in a program of continuous construction.

2. If construction of a facility begins after the Regulation Date, the wage and apprenticeship requirements must be met for the facility to qualify for the higher credit rate.

Note that electric generation facilities with a maximum output of less than 1MW (measured in AC) are not subject to the wage and apprenticeship requirements.

The wage and apprenticeship guidelines themselves are somewhat intricate. At a high level:

1. Wage requirements will apply:
    a. to laborers and mechanics employed by taxpayer and any contractor or subcontractor
    b. during construction of facility (or alteration/repair period for rehabbed facility).
2. Wages must be no less than prevailing rates for construction of a similar character in the locality in which the facility is located. U.S. Department of Labor rates will be used for this purpose.
3. Apprenticeship requirements will apply:
    a. To each taxpayer, contractor, or subcontractor that employs more than four individuals to perform construction AND each such person MUST employ at least one or more qualified apprentices
        i. **PRACTICE NOTE**: Even though there is a little wiggle room here, consider specifying in all contracts that each subcontractor has at least one apprentice because the applicable percentage (see below) appears to apply even in situations where none of taxpayer, contractor, and subcontractor employ four or more individuals.
    b. During construction activities.
    c. Apprenticeship requirements are:
        i. The "applicable percentage" of the total labor hours for construction must be performed by qualified apprentices. The applicable percentage ratchets up as follows:
            1. Facilities beginning construction before January 1, 2023, 10%;
            2. Facilities beginning construction in calendar 2023, 12.5%; and
            3. Facilities beginning construction after calendar 2023, 15%.
        ii. The applicable percentage is subject to any applicable requirements for apprentice-to-journeyworker ratios of U.S. Department of Labor or applicable state apprenticeship agency.
    d. There is a good faith effort standard that may allow taxpayers to avoid the apprenticeship requirements. We note that while the statute gives specific rules for this, providing good faith will require significant documentation.

Any foray into wage and hours rules and labor standards should be approached carefully. We strongly recommend consulting with counsel before concluding that the wage and apprenticeship bonus rate is available after it becomes applicable.

Domestic Content Bonus Credit Rate -- *NEW*

Many of the credits that are modified or introduced in the IRA will be increased when certain domestic content requirements are met. These vary significantly from credit to credit and are discussed in greater detail below. There are a couple of key points that thread throughout the various provisions, however:

1. The domestic content increases focus on both (a) steel and iron and (b) manufactured products.
2. The "Buy America" regulations at 49 CFR 661 will be used to determine if relevant items are "produced" in the United States. These regulations generally apply to federal procurement contracts and are very specific.

When available, this bonus rate will generally become available for property placed in service only after December 31, 2022.

Energy Communities Bonus Credit Rate -- *NEW*

Many of the credits that are modified or introduced in the IRA will also be increased in respect of a facility that is located in an "energy community".

Energy communities include only:

1. Brownfield sites (must comply with 42 U.S.C. 9601(39)(A), (B), or (D)(ii)(III));

   PRACTICE NOTE: The U.S. EPA has mapping tools for brownfield sites. However, we strongly encourage taxpayers to independently confirm that a site is a brownfield that complies with the regulations above.

2. Metropolitan statistical areas or non-metropolitan statistical areas that:
   a. Have (or, at any time after December 31, 2009, had) 0.17% or more direct employment or 25% or more local tax revenues related to the extraction, processing, transport, or storage of coal, oil, or natural gas, and
   b. had an unemployment rate at or above the national average unemployment rate for the previous year; and

   PRACTICE NOTE: The IRS will release guidance to help taxpayers interpret the rules above. In the meantime, it may be difficult to apply this category because the requirements are so detailed.

3. Census tracts:
   a. Where (i) a coal mine has closed after December 31, 1999, or (ii) a coal-fired electric generation unit has been retired after December 31, 2009, and
   b. That are directly adjoining a census tract described in (3)(a)(i) or (ii) above.

PRACTICE NOTE: The federal government determines and publishes census tracts and they are updated periodically. We strongly encourage careful diligence to determine compliance with this requirement.

For projects that qualify, this bonus rate will generally become available for property placed in service only after December 31, 2022.

Credit Reductions for Tax-Exempt Bonds -- *NEW*

Many of the credits that are modified or introduced in the IRA will be reduced when the taxpayer has used tax-exempt bond financing in connection with the relevant property or equipment. In the case of the production tax credits, the credit is reduced annually over the credit period using a method that appears intended to stretch the impact across the credit availability period. In the case of investment tax credits, the basis of the credit-qualified property is simply reduced. When applicable, this new rule will generally apply to property when construction of that property begins after August 16, 2022.

Credits for Renewable Electricity

Much of the IRA provides for extensions and amendments to existing income tax credits, e.g., the Section 45 Production Tax Credit (PTC) and the Section 48 Investment Tax Credit (ITC). In general, these provisions were extended for projects that begin construction through 2024 and the credit calculations changed to a low base rate with bonuses for meeting wage and apprenticeship and domestic content requirements, and locating the facility in certain geographic locations. In terms of transition to the new program, it appears that facilities that begin construction prior to the date that is 60 days after Treasury issues guidance interpreting the new rules will qualify under the current production and investment tax credit rules.

Other notable changes were increases in the Section 45Q Carbon Capture credit rate, the introduction of production and investment tax credits for hydrogen, dramatic changes to the alternative fuel vehicle and refueling property credits, and the creation of income tax credits for sustainable aviation fuel.

Please see our discussion below at 'Post-2024 Income Tax Credits for Renewable Electricity and Fuels' for a summary of the proposed income tax credits that will be tied to greenhouse gas emissions.

Solar -- *EXTENDED, NEW*

Section 48 Investment Tax Credit -- *EXTENDED*

Eligible Property

- No change

Credit Amount

- Base: 6%
- Wage and Apprenticeship Bonus. Base rate multiplied by five when wage and apprenticeship requirements are met.
- Environmental Justice Bonus. Bonus credits may be available when the Secretary of the Treasury (Secretary) makes an allocation of "environmental justice solar and wind capacity limitation" to certain areas of the country.
    - Solar energy facilities generating less than five megawatts (measured in alternating current) and located in low-income communities or on Indian land are eligible for 110% of the credit amount for which such facilities is otherwise qualified.
    - Solar energy facilities generating less than five megawatts that are also part of a qualified low-income residential building project or a qualified low-income economic benefit project are eligible for 120% of the credit amount for which such facilities is otherwise be qualified.

  This bonus will become available for projects placed in service on or after January 1, 2023.
- Energy Community Bonus. 2% (or 10% if wage and apprenticeship requirements are met) bonus credit for any facility located in an energy community.
- Domestic Content Bonus. 2% (or 10% if wage and apprenticeship requirements are met) bonus credit for any facility that meets certain domestic content requirements. This requirement is based on that set forth below for the Section 45 PTC.
- Basis for credit will be reduced by amount of any tax-exempt bond received by the project owner.

Timeline

- Most amendments apply to property placed in service after December 31, 2021. See notes in 'Overarching Provisions' regarding the effective date for the various bonus credit rates above.
- To qualify for the amended Section 48 ITC, construction of qualified solar energy property must begin on or before December 31, 2024.
- We anticipate that the IRS will issue guidance specifying typical beginning of construction requirements.

Direct Pay

Eligible, as described in 'Overarching Provisions - Direct Pay'. However, for facilities that begin construction in calendar year 2024, the amount of direct pay is limited to 90% of the amount that would be available as a credit if the facility does not meet the Domestic Content requirements described above. A facility with a maximum net output of 1MW AC is not subject to this limitation.

Transferability

Eligible, as described in 'Overarching Provisions - Transferability'

Section 45 Production Tax Credit -- *NEW*

The PTC for solar energy facilities used to generate electricity was revived to include facilities the construction of which begins before January 1, 2025. This credit was previously available, but expired several years ago.

Eligible Technology

- Facilities using solar energy to generate electricity

Credit Amount

- Base: 0.3% per kwh of electricity generated by a qualified facility and sold to an unrelated party (but see discussion below in 'Hydrogen')
- Wage and Apprenticeship Bonus. Base rate multiplied by five when wage and apprenticeship requirements are met.
- Domestic Content Bonus. Credit amount otherwise available increased by 10% when certain thresholds for domestically manufactured component parts are met. For facilities other than offshore wind, the threshold is 40% for manufactured products (based on the cost of all manufactured products included in the facility), but 100% for steel and iron.
- Energy Community Bonus. Credit amount otherwise available increased by 10% when facility is located in an energy community.
- The PTC will be reduced to account for any tax-exempt bond received by the facility owner utilizing a formula apparently intended to spread the impact over the 10-year PTC availability period.

Timeline

- The credit will be available for 10 years from the date on which the qualified facility is placed in service.
- Most amendments apply to property placed in service after December 31, 2021. See notes in 'Overarching Provisions' regarding the effective date for the various bonus credit rates above.
- To qualify for the amended Section 45 PTC, the construction of a qualified facility must begin on or before December 31, 2024.
- As described above in 'Solar – Section 48 Investment Tax Credit', we anticipate typical beginning of construction guidelines.

Direct Pay

Eligible, subject to generally applicable restrictions discussed in 'Overarching Provisions - Direct Pay'. However, for a facility that began construction in calendar year 2024, the amount of direct pay is limited to 90% of the amount that would be available as a credit if the facility does not meet the Domestic Content requirements described above. A facility with a maximum net output of 1MW AC is not subject to this limitation.

Transferability

Eligible, as described in 'Overarching Provisions - Transferability'

Onshore Wind -- *EXTENDED*

Section 45 Production Tax Credit

The PTC for wind energy facilities used to generate electricity was revived to include facilities the construction of which begins before January 1, 2025.

Eligible Technology

No change.

Credit Amount

In general, see the discussion in 'Credits for Renewable Electricity - Solar - Section 45 Production Tax Credit'.

Timeline

The IRA amended the sunset provided in the current version of Section 45(b)(5) to apply only to facilities that are placed in service before January 1, 2022. Thus, it appears that facilities that have begun construction and are placed in service on or after January 1, 2022 should be subject to the generally applicable Section 45 rules, as amended by the IRA, including the timelines for the wage and apprenticeship bonus credit rates discussed in 'Overarching Provisions - Wage and Apprenticeship Requirements'.

Direct Pay

Eligible, as described in 'Overarching Provisions - Direct Pay'

Transferability

Eligible, as described in 'Overarching Provisions - Transferability'

Section 48 Investment Tax Credit

The ITC for wind facilities through an election under Code Section 48(a)(5) was revived to include facilities the construction of which begins before January 1, 2025.

Eligible Technology

No change.

Credit Amount

In general, see the discussion in 'Credits for Renewable Electricity - Solar - Section 48 Investment Tax Credit'.

Timeline

Aside from the note above, see the discussion in 'Credits for Renewable Electricity - Solar - Section 48 Investment Tax Credit'.

Direct Pay

Eligible, as described in 'Overarching Provisions - Direct Pay'

Transferability

Eligible, as described in 'Overarching Provisions - Transferability'

Offshore Wind -- *ALTERED*

The offshore wind credits received little attention in the IRA, but we note that a provision not related to tax ties the rate and magnitude of offshore wind leasing in federal waters to the rate and magnitude of oil and gas leasing. In addition, the IRA contains an appropriation for certain transmission planning for offshore wind.

Section 45 Production Tax Credit

The PTC provisions do not single out *offshore* wind facilities, but note that when a taxpayer utilizes the PTC for offshore wind, the Domestic Content Bonus described above in 'Electrical Generation Credits – Solar – Section 45 Production Tax Credit' requires only 20% domestic content.

Eligible Technology

No change.

Credit Amount

In general, see the discussion in 'Credits for Renewable Electricity - Onshore Wind - Section 45 Production Tax Credit'.

Timeline

In general, see the discussion in 'Credits for Renewable Electricity - Onshore Wind - Section 45 Production Tax Credit'.

Direct Pay

Eligible, as described in 'Overarching Provisions - Direct Pay'

Transferability

Eligible, as described in 'Overarching Provisions - Transferability'

Section 48 Investment Tax Credit

The ITC remains available for offshore wind facilities. However, the IRA removed the current sunset period such that the Section 48 Investment Tax Credit is available for offshore wind facilities that begin construction at any time on or before December 31, 2024. Projects that begin construction after that date may qualify for the credits discussed in 'Post-2024 Income Tax Credits for Clean Electricity and Fuels'.

Eligible Technology

No change.

Credit Amount

In general, see the discussion in 'Credits for Renewable Electricity - Onshore Wind - Section 48 Investment Tax Credit'.

Timeline

Aside from the note above, see the discussion in 'Credits for Renewable Electricity - Solar - Section 48 Investment Tax Credit'.

Direct Pay

Eligible, as described in ‘Overarching Provisions - Direct Pay’

Transferability

Eligible, as described in ‘Overarching Provisions - Transferability’

Credits for Energy Storage

Section 48 Investment Tax Credit -- *NEW*

The IRA includes a new ITC for standalone storage facilities, including property that stores energy:

- For conversion to electricity and
- In the form of hydrogen.

The same credit also applies to microgrid controllers and heat pumps, which are not addressed here.

Eligible Property

- Property not used primarily in the transportation of goods or individuals and not for the production of electricity that receives, stores, and delivers energy for conversion into electricity (or, in the case of hydrogen, that stores energy) and has a nameplate capacity of at least five kilowatt hours.
  - Modifications to property placed in service prior to the enactment of the IRA are eligible if:
    - The property has a nameplate capacity less than five kilowatt hours is modified such that, after modification, the property has a nameplate capacity of at least five kilowatt hours, or
    - The modifications result in an increase in nameplate capacity of at least five kilowatt hours.
  - In the case of modifications, a taxpayer's basis in the property prior to modification will not count towards the calculation of the available credit amount.
- Thermal energy storage property, which is any property directly connected to an HVAC system, that removes or adds heat to a storage medium for subsequent use, and provides energy for the heating or cooling of a residential or commercial building.
  - Swimming pools, combined heat and power property, and a building or its structural components are specifically excluded from "thermal energy property."

Credit Amount

- Credits are generally the same as set forth above in 'Credits for Renewable Electricity - Solar - Section 48 Investment Tax Credit', including the Environmental Justice Bonus.

Timeline

- Only available for property the construction of which begins on or before December 31, 2024.
  - We anticipate that IRS will issue guidance specifying typical beginning of construction requirements.

Direct Pay

Eligible, as described in 'Overarching Provisions - Direct Pay'

Transferability

Eligible, as described in 'Overarching Provisions - Transferability'

Credits for Renewable Fuel

Renewable Natural Gas (Biogas) -- *NEW*

Section 48 Investment Tax Credit for Biogas Property

Eligible Property

- "Qualified biogas property" is any property comprising a system that converts biomass into a gas that is either:
  - At least 52% methane, or
  - Concentrated by the system into a gas that is at least 52% methane and captures the resulting gas for sale or productive use (and not for disposal by combustion).

  This includes property that cleans or conditions the biogas. Guidance issued under previous iterations of Section 48 must be analyzed to determine whether an item of property should be treated as qualified for this credit.

- For this purpose, biomass is any organic material other than coal, oil, natural gas, and any products of the foregoing.

Credit Amount

- Base: 6%
- Wage and Apprenticeship Bonus. Base rate multiplied by five when wage and apprenticeship requirements are met.
- Energy Community Bonus. 2% (or 10% if wage and apprenticeship requirements are met) bonus credit for any facility located in an energy community.
- Note that basis for credit will be reduced by amount of any tax-exempt bond received by the project owner.

Timeline

- To qualify for the ITC, "qualified biogas property" must be placed in service after December 31, 2022 and construction of the property must begin on or before December 31, 2024.
  - We anticipate that typical beginning of construction requirements will also apply here.
- The credit is available in the year in which the qualified facility is placed in service.

Direct Pay

Eligible, as described in 'Overarching Provisions - Direct Pay'

Transferability

Eligible, as described in 'Overarching Provisions - Transferability'

Hydrogen -- *NEW*

Section 45V Clean Hydrogen Production Credit

Eligible Property

- Property owned by the taxpayer that produces hydrogen through a process resulting in lifecycle greenhouse gas emissions of no more than 4 kg of CO_2 per kilogram of hydrogen.
- Property must produce the hydrogen in the U.S. or a U.S. possession.
- The production of hydrogen must be in the ordinary course of business for the taxpayer and the hydrogen must be produced for sale or use. Production and sale or use must be verified by an unrelated party.
- **PRACTICE NOTES**:
    - The focus on sale <u>or use</u> allows taxpayers to claim the credit for hydrogen that is produced and subsequently used by the taxpayer or a related party or used to produce additional substances, e.g., methanol or ammonia.
    - Electricity that is produced by a PTC-qualified facility will qualify for the PTC when used by the taxpayer or transferred to a related party, in each case to manufacture clean hydrogen. In that case, an unrelated third party must measure the amount of electricity so used. This allows taxpayer to claim credits for both portions of an integrated electrolytic hydrogen production facility, including facilities used to produce e-methanol. This provision will be effective for electricity <u>produced</u> after December 31, 2022.
    - The statute refers to the Clean Air Act and the GREET model produced by Argonne National Labs for purposes of determining lifecycle GHG emissions. The language is drafted broadly, which invites interpretation in regulations. It is not clear which way this will go, so we strongly encourage industry participants to comment on the regulations that IRS releases in this area.

Credit Amount

- Base: A percentage of $0.60 per kilogram of clean hydrogen produced during a taxable year at a qualified facility. The applicable percentage is based on the lifecycle GHG emissions as follows:
    - 2.5–4 kg of CO_2e per kg of hydrogen: 20%
    - 1.5–2.49 kg of CO_2e per kg of hydrogen: 25%
    - 0.45–1.49 kg of CO_2e per kg of hydrogen: 33.4%
    - 0.0–0.44 kg of CO_2e per kg of hydrogen: 100%
- Wage and Apprenticeship Bonus. Base rate multiplied by five when wage and apprenticeship requirements are met.
- The credit rates will be annually increased to account for inflation.

- The credit will be reduced to account for any tax-exempt bond received by the facility owner utilizing a formula apparently intended to spread the impact over the 10-year availability period.

Timeline

- To qualify for the clean hydrogen production credit, construction of qualified clean hydrogen production facilities must begin before January 1, 2033.
    - We anticipate that typical beginning of construction requirements will also apply here.
- The credit is available in respect of hydrogen produced after December 31, 2022.
- The credit will be available for 10 years from the date on which the clean hydrogen facility is placed in service.

Direct Pay

Eligible, as described above in 'Overarching Provisions - Direct Pay'

In addition, persons other than Applicable Entities may elect direct pay in respect of Section 45V Clean Hydrogen Production Credit for credits available during the tax year in which the production facility is placed in service and the four subsequent tax years, but only to the extent those tax years end before January 1, 2033. This is an odd formulation, particularly given that placement in service of a facility generally will not occur on the first day of a taxpayer's tax year.

Transferability

Generally eligible, as described in 'Overarching Provisions - Transferability'

However, the Section 45V Clean Hydrogen Production Credit cannot be transferred during the direct pay time period discussed above if the taxpayer elects direct pay in respect of the credits. Although not entirely clear, it seems that the intent here is to prevent a taxpayer from electing direct pay and transferability in the same year, likely to prevent double dipping.

Section 48 Investment Tax Credit

Taxpayers may elect to treat a clean hydrogen production facility as energy property for purposes of the ITC in a manner similar to that used for many other PTC-qualified facilities.

Eligible Property

- See 'Hydrogen - Section 45V Clean Hydrogen Production Credit'

Credit Amount

- Base: 0.9% to 6% depending on amount of CO_2 per kilogram of hydrogen produced by the facility
- Wage and Apprenticeship Bonus. Base rate multiplied by five when wage and apprenticeship requirements are met.
- Energy Community Bonus. 2% (or 10% if wage and apprenticeship requirements are met) bonus credit for any facility located in an Energy Community.

- Domestic Content Bonus. 2% (or 10% if wage and apprenticeship requirements are met) bonus credit for any facility that meets certain domestic content requirements.

- Basis for credit will be reduced by amount of any tax-exempt bond received by the project owner.

- This credit may not be claimed in respect of a clean hydrogen facility when the Section 45Q credit for carbon capture is also available in respect of the facility (regardless of whether the Section 45Q credit is claimed).

Timeline

- To qualify for the clean hydrogen production credit:

    - The property generally must be placed in service after December 31, 2022;

    - If construction of the property begins before January 1, 2023, the credit will be available to the extent of the basis of the property that is attributable to the construction, reconstruction, or erection of property after December 31, 2022; and

    - Construction of the "qualified clean hydrogen production facilities" must begin on or after and before January 1, 2033.

  We anticipate that typical beginning of construction requirements will also apply here.

- The credit will be available in the year in which the clean hydrogen facility is placed in service.

Direct Pay

Eligible, as described above in 'Overarching Provisions - Direct Pay'.

It appears that taxpayers that are not Applicable Entities may not claim direct pay for the Section 48 Investment Tax Credit for hydrogen facilities.

Transferability

Eligible, as described in 'Overarching Provisions - Transferability'

Sustainable Aviation Fuel -- *NEW*

Section 40B Sustainable Aviation Fuel Production Credit

Eligible Property

- Qualifying mixtures including sustainable aviation fuel must be:
    - A mixture of sustainable aviation fuel and kerosene,
    - Produced in the United States,
    - Used by the taxpayer (or sold by the taxpayer for use) in an aircraft,
    - Sold or used in the taxpayer's ordinary course of business, and
    - Transferred into the aircraft's fuel tank within the United States.
- "Sustainable aviation fuel" is liquid fuel, the portion of which is not kerosene, and that:
    - Meets the requirements of ASTM International Standard D7566 or Fischer Tropsch provisions of ASTM International Standard D1655, Annex A1,
    - Is not derived from coprocessing certain glycerides, fatty acids, or fatty acid esters with a non-biomass feedstock,
    - Is not derived from palm fatty acid distillates or petroleum, and
    - Has a lifetime GHG emissions reduction percentage of at least 50%.
- Producers of sustainable aviation fuel must register with the Secretary and provide such certifications as the Secretary requires.

Credit Amount

- Base: $1.25 per gallon of sustainable aviation fuel in a qualifying mixture
- Bonus of $0.01 per percentage point by while the lifecycle GHG emissions reduction exceeds the 50% minimum reduction. The maximum bonus credit is $0.50.
- The credit will be reduced to take into account any benefit received by reason of a new excise tax credit for sustainable aviation fuel (not discussed here).

Timeline

- Available for sales or uses occurring after December 31, 2022 and on or before December 31, 2024.

Direct Pay

Eligible, as described in 'Overarching Provisions - Direct Pay'

Transferability

Eligible, as described in 'Overarching Provisions - Transferability'

Credits for Clean Vehicles and Related Refueling Property

Consumer Vehicles -- *EXPANDED*

Sections 30D and 25E New and Previously-Owned Clean Vehicle Credits

These credits are generally for consumer vehicles. For commercial vehicles, please see 'Credits for Clean Vehicles and Related Refueling Property - Section 45W Qualified Commercial Clean Vehicles' below.

The amendments to Sections 30D significantly expand the prior new consumer plug-in electric vehicle credit by eliminating the per-manufacturer volume caps, adding a credit for two and three wheel vehicles, and causing fuel cell vehicles to generally be treated in the same way (rather than being considered an alternative motor vehicle under Code Section 30B). However, it also provided for key restrictions related to source of critical minerals and requiring final assembly of vehicles in the United States.

The amendments to Section 25E add a similar credit for used consumer clean vehicles that meet somewhat less robust requirements.

Eligible Property

- <u>New</u> "clean" vehicles, generally plug-in electric (using the pre-IRA version of the definition of plug-in electric vehicles) and fuel cell vehicles. Several new requirements apply for qualification, including:
    - The vehicle must not have an MSRP in excess of $55,000 (raised to $80,000 for pickup trucks, vans, and SUVs);
    - The vehicle must be acquired for taxpayer's personal use and not for resale
    - The vehicle must be made by a "qualified manufacturer" that agrees to abide by certain reporting and recordkeeping requirements; and
    - Final assembly of the vehicle must occur in the United States.
    - Exclusions:
        - Vehicles placed in service after December 31, 2024 having batteries containing critical minerals that were extracted, processed, or recycled by a "foreign entity of concern" are not eligible for credits; and
        - Vehicles placed in service after December 31, 2023 having battery components that were manufactured or assembled by a "foreign entity of concern" are not eligible for credits.
- <u>Used</u> clean vehicles meeting substantially the same requirements as new vehicles under either Code Section 30D (as amended) or 30B and that:
    - Have a model year at least two years earlier than the calendar year in which the taxpayer acquires the vehicle;
    - Is sold by a dealer for a price less than $25,000; and

- Has not previously been sold to anyone other than the original user at any time after the enactment of the IRA.

Credit Amount

- New Vehicles:
  - Critical Minerals Credit:
    - $3,750 if, in the year when the vehicle was placed in service, the "applicable percentage" of certain minerals used in the batteries that power the vehicle are extracted or processed (i) in the U.S., or (ii) in a country with which the U.S. has a free trade agreement in effect, as follows:
      - Placement in service prior to January 1, 2024: 40%;and
      - Thereafter, increasing by 10% each year until reaching 80% for vehicles placed in service after December 31, 2026.

      The required percentage of minerals sourced or processed in accordance with the requirements above begins at 40% of the batteries' mineral content for vehicles placed in service before January 1, 2024 and increases by 10% each year until stabilizing at 80% content for vehicles placed in service after December 31, 2026.
  - Battery Component Credit:
    - $3,750 if, in the year when the vehicle was placed in service, the "applicable percentage" of the components used in the vehicle's batteries were assembled or manufactured in North America, as follows:
      - Placement in service prior to January 1, 2024: 50%;
      - Placement in service in calendar year 2024 or 2025: 60%; and
      - Thereafter, increasing by 10% each year until reaching 100% for vehicles placed in service after December 31, 2028.
  - The Critical Minerals and Battery Component credits are assumed to be additive, but this is not expressly stated in the IRA. Assuming that they are, the combination effectively means that plug-in electric vehicles are still favored under Code Section 30D.
  - The credit is phased out for taxpayers earning in excess of certain income levels.
- Used vehicles:
  - The lesser of $4,000 or 30% of the sale price of the vehicle.
  - The credit is phased out for individuals above certain income levels; note that these levels are lower than those for which the new vehicle credit is phased out.

Timeline

- There are several applicability dates for various aspects of the credits. In general:

- The amended Section 30D credit for <u>new</u> consumer vehicles generally applies to vehicles placed in service (or, in the case of used vehicles, acquired) after December 31, 2022 and on or before December 31, 2032.

  However, the amendment to require final assembly in the United States applies to any vehicles sold after the enactment of the IRA, the per vehicle dollar limitation applies only after Treasury issues guidance, and the per-manufacturer limitation applies to vehicles sold through December 31, 2022.

  However, there is fa transition rule for vehicles under contract before the enactment of the IRA.

- The new Section 25E <u>used</u> consumer vehicle credit generally applies to vehicles acquired after December 31, 2022 through December 31, 2032.

Direct Pay
Not eligible

Transferability
Not eligible

However, the new and used vehicle credits may be transferred to a dealer provided that the dealer has made an advance payment to the taxpayer equal to the credit amount.

The Secretary is also directed to establish programs through which dealers may receive advance payments of new and used clean vehicle tax credits that have been transferred to dealers that have advanced payments to taxpayers under the above transfer provision.

Commercial Vehicles -- *NEW*

Section 45W Qualified Commercial Clean Vehicles

Of note is that this credit applies to a variety of commercial vehicles, as well as mobile machinery. The mobile machinery category should apply to many off-road vehicles used in the construction trades.

Eligible Property

- Qualified commercial clean vehicles, including mobile machinery (including for off-road applications), that are "clean" vehicles as defined in Code Section 30D (as amended by the IRA) or fuel cell vehicles as defined in Code Section 30B. In addition the vehicle must be:
  - Acquired for use or lease by the taxpayer and not for resale,
  - Of a character subject to the allowance for depreciation (unless <u>not</u> subject to a lease <u>and</u> placed in service by a tax-exempt entity), and
  - Of a character for which no credit under the Section 30D Clean Vehicle Credit has been allowed.
- If the vehicle is a clean vehicle, it must be:
  - Propelled to a "significant extent" by an electric motor that draws electricity from a battery that has a capacity of at least 15 kilowatt hours (or, for commercial vehicles with a gross vehicle weight rating (GVWR) of less than 14,000 pounds, at least 7 kilowatt hours of battery capacity), and
  - Capable of being recharged from an external source of electricity.
- Qualified Fuel Cell Motor Vehicles are also eligible for the commercial vehicle credit.

Credit Amount

- The lesser of:
  - 15% of the basis in the vehicle (increased to 30% if the vehicle is neither gas nor diesel powered), or
  - The increased price of the clean vehicle relative to a comparable vehicle.
    - A "comparable vehicle" is any vehicle of comparable size and use to the eligible clean vehicle and that is powered solely by a gasoline or diesel engine; comparable vehicles need not necessarily be of the same model or even of the same manufacturer.
- The credit amount is subject to a hard cap of:
  - $7,500 for vehicles with a GVWR of less than 14,000 pounds, or
  - $40,000 for all other eligible vehicles.

Timeline

- Eligible commercial vehicles must be acquired after December 31, 2022 and on or before December 31, 2032.

Direct Pay

Eligible, as described in 'Overarching Provisions - Direct Pay'

Transferability

Not eligible

Alternative Fuel Refueling Property -- *EXPANDED*

Section 30C Alternative Fuel Refueling Property

The existing credit for alternative fuel refueling property has enjoyed little success, largely because of short eligibility periods and unclear statutory language. The IRA provides for a 10-year period during which property could qualify, an expansion of qualifying property, an increase in the credit available, several key clarifications of existing statutory language, and an expansion of the credit to cover charging equipment installed at a taxpayer's principal residence. *However,* the credit will only be available in respect of property that is placed in service in low-income and rural census tracts, which may significantly reduce its utility.

Eligible Property

- Property that provides refueling facilities for:
    - Vehicles using electricity, including bidirectional charging equipment, and
    - Other vehicles provided that the fuel dispensed is at least 85% of one or more of the following: ethanol, natural gas, compressed natural gas, liquefied natural gas, liquefied petroleum gas, or hydrogen.
- Charging stations for vehicles with two or three wheels provided that such charging stations are of a character subject to depreciation.
- The property may be installed on a taxpayer's principal residence.
- Property must be installed in certain eligible census tracts, which include low income communities (as described in Section 45D(e) for the New Markets Tax Credit), and non-urban communities.

Credit Amount

- Generally: 30% of the cost of the property
- Property subject to depreciation:
    - Base: 6%
    - Wage and Apprenticeship Bonus. Base rate multiplied by five when wage and apprenticeship requirements are met.
- Cap: $100,000 per any single item of qualified property (the per location limitation was removed by the IRA)

Timeline

- Property must be placed in service after December 31, 2022 and on or before December 31, 2032.

Direct Pay

Eligible, as described in 'Overarching Provisions - Direct Pay'

Transferability

Eligible, as described in 'Overarching Provisions - Transferability'

Credits for Carbon Capture

Section 45Q Carbon Capture -- *EXPANDED, INCREASED*

Section 45Q will be extensively changed in a variety of ways under the IRA. Here, we focus on changes to the definition of eligible facilities and the credit rate.

Eligible Facilities

- Direct air capture facilities must capture at least 1,000 metric tons of qualified carbon oxide during the taxable year.
- Electrical generation facilities. Carbon capture equipment installed on a generation unit (not the entire facility) must:
  - Have a capture design capacity of not less than 75% of the carbon oxide production of that unit, and
  - Capture at least 18,750 metric tons of qualified carbon oxide during the taxable year.
- Other facilities must capture at least 12,500 metric tons of qualified carbon oxide during the taxable year.

Credit Amount

- Base for direct air capture facilities placed in service after December 31, 2022:
  - $36 per metric ton for qualified carbon oxide disposed of in secure geological storage; and
  - $26 per metric ton for qualified carbon oxide used as a tertiary injectant or utilized.

  Credits available in taxable years after 2026 will be annually increased to account for inflation after 2026.
- Base for electric generation facilities and other facilities: The following credit rates apply in 2017 and later:
  - $17 per metric ton for qualified carbon oxide disposed of in secure geological storage; and
  - $12 per metric ton for qualified carbon oxide used as a tertiary injectant or utilized.

  Credits available in taxable years after 2026 will be annually increased to account for inflation after 2026.
- Wage and Apprenticeship Bonus. In the case of all of the Section 45Q credits, the base rate multiplied by five when wage and apprenticeship requirements are met.
- The credit will be reduced to account for any tax-exempt bond received by the facility owner utilizing a formula apparently intended to spread the impact over the 12-year availability period.

Timeline

- The new facility qualification rules discussed above apply to facilities or equipment in the construction of which begins after August 16, 2022.
- All other material amendments to Section 45Q apply to facilities and equipment placed in service after December 31, 2022.
- To qualify for the amended credit, construction of “qualified carbon oxide capture facilities” must begin on or before December 31, 2032.
    - We anticipate that typical beginning of construction requirements as described above will apply here.
- The credit remains available for 12 years after the date on which a qualified facility is placed in service.

Direct Pay

Eligible, as described above in 'Overarching Provisions - Direct Pay'

In addition, persons other than Applicable Entities may elect direct pay in respect of Section 45Q Carbon Capture credits available during the tax year in which the qualified facility is placed in service and the four subsequent tax years, but only to the extent those tax years end before January 1, 2033. This is an odd formulation, particularly given that placement in service of a facility generally will not occur on the first day of a taxpayer’s tax year.

Transferability

Generally eligible, as described in 'Overarching Provisions - Transferability'

However, the Section 45Q Carbon Capture credit cannot be transferred during the direct pay time period discussed above if the taxpayer elects direct pay in respect of the credits. Although not entirely clear, it seems that the intent here may be to prevent a taxpayer from transferring a credit to an Applicable Entity that then elects direct pay.

Credits for Manufacturing Activities

Section 45X Advanced Manufacturing Production Credit - *NEW*

In an apparent effort to meet the substantial new demand for domestically manufactured components for a variety of renewable energy, fuels, and clean vehicles, the IRA also added a production based tax credit for certain extraction and manufacturing activities. While the credits available are material, the rate structure is complex and distinguishing between components will be complicated in many cases. Taxpayers will need robust guidance to interpret this provision and we will not be surprised if corrections and clarifications on these calculations roll out over time as the pace of adoption accelerates.

In addition, the timelines for domestic content requirements in the credits discussed above are very near term and the Section 45X credits begin to phase out in 2030. Given the length of time typically required to convert existing manufacturing lines, let alone build new manufacturing facilities or establish new extractive activities, it is not clear how actively taxpayers will pursue these credits.

Eligible Property

- Numerous eligible components parts including:
    - A variety of parts and components used in the manufacture of solar and wind energy facilities, including solar grade polysilicon, photovoltaic cells, solar modules, and tracker components, blades, nacelles, and towers,
    - A variety of inverters,
    - Battery components, including cells and modules, and
    - A long list of specified critical minerals;
- Offshore wind vessels and both fixed and floating platforms; and
- Eligible property must be produced by the taxpayer in the United States or a U.S. possession and in the course of a trade or business.
- The taxpayer must sell the eligible property to an unrelated person by the piece or after integration into another eligible component that is sold to an unrelated person. A component that is sold by a person related to the taxpayer to an unrelated person will be treated as having been sold by the taxpayer to an unrelated person.

Credit Amount

- The amount of available credit under Section 45X is highly granular and is determined based on the specific component type, such component's electrical generation or storage capacity, and the number of such components sold.
- No double dipping. No credit is be allowed under Section 45X in respect of property that is produced at a facility if <u>any</u> Section 48C credit was claimed in respect of <u>any</u> property that is part of that facility.

Timeline

- Full credit available for eligible components sold on or before December 31, 2029 with a 25% per year phase-out resulting in no credit for components sold after December 31, 2032.
    - Critical minerals are exempt from the phase-out and termination of this credit.

Direct Pay

Eligible, as described above in 'Overarching Provisions - Direct Pay'

In addition, persons other than Applicable Entities may elect direct pay in respect of the Section 45X credit for credits available during the tax year in which the relevant facility is placed in service and the four subsequent tax years, but only to the extent those tax years end before January 1, 2033. This is an odd formulation, particularly given that placement in service of a facility generally will not occur on the first day of a taxpayer's tax year.

Transferability

Generally eligible, as described in 'Overarching Provisions - Transferability'

However, the Section 45X credit cannot be transferred during the direct pay time period discussed above if the taxpayer elects direct pay in respect of the credits. Although not entirely clear, it seems that the intent here is to prevent a taxpayer from electing direct pay and transferability in the same year, likely to prevent double dipping.

Section 48C Advanced Energy Production Credit – *RENEWED*

The IRA provides for a new appropriation for the Section 48C Advanced Energy Production Credit that was enacted several years ago, but unfunded for several years. This credit is limited to available funding so there will be a rigorous application and selection process to obtain authorization for the credit.

The IRA also significantly expanded the types of activities that may qualify for the credit, all of which are complementary to other credits and Biden administration priorities.

Given the success of prior iterations of the Section 48C credit, we expect that the amounts appropriated this time will be very quickly allocated. Taxpayers should plan ahead and act quickly to apply for these credits.

Eligible Property

- Qualified Investments must be certified by the Secretary as eligible for this credit.
- For investment in a project to be certified and eligible, the project must be either:
  - An industrial or manufacturing facility for the production or recycling of:
    - Property designed to be used to produce energy from the sun, water, wind, geothermal deposits, or other renewable resources,
    - Fuel cells, microturbines, or energy storage systems and components,
    - Electric grid modernization equipment or components,
    - Property designed to capture, remove, use, or sequester carbon oxide emissions,
    - Equipment designed to refine, electrolyse, or blend any renewable or low carbon and low emission fuel, chemical, or product,
    - Property designed to produce energy conservation technologies,
    - Light-, medium-, or heavy-duty electric of fuel cell vehicles, including technologies, components, or materials and associated charging or refueling infrastructure for such vehicles, or
    - Hybrid vehicles with a gross vehicle weight rating of at least 14,000 pounds, including technologies, components, or materials for such vehicles.
  - To re-equip an industrial or manufacturing facility with equipment designed to reduce GHG emissions by at least 20% through the use of:
    - Low or zero carbon process heat systems,
    - Carbon capture, transport, utilization, and storage systems,
    - Energy efficiency and waste reduction from industrial processes, or
    - Any other technology designed to reduce GHG emissions.

  - To re-equip, expand, or establish an industrial facility for the processing, refining, or recycling of critical materials (as defined in 30 U.S.C. 1606(a)).

- The Secretary may choose to certify only a portion of an investment in a project.

Credit Amount

- Base: 6%
- Wage and Apprenticeship Bonus. Base rate multiplied by five when wage and apprenticeship requirements are met.
- Section 48C credits are not available for any investment for which any of the following credits are allowed:
  - Section 48 Investment Tax Credit
  - Section 48A Qualifying Advanced Coal Project
  - Section 48B Qualifying Gasification Project
  - Section 48E Clean Electricity Investment
  - Section 45Q Carbon Capture
  - Section 45V Clean Hydrogen Production

Amount Appropriated

- $10 billion.
- $4 billion of the $10 billion is specifically earmarked for qualified investments located qualified census tracts as defined in the extended PTC that did not have a project that was allocated credits under prior iterations of Section 48C.
  - For this purpose, qualified census tracts are census tracts where (i) a coal mine has closed after December 31, 1999, (ii) or a coal-fired electric generation unit has been retired after December 31, 2009, or (iii) that is directly adjoining a census tract described in (i) or (ii).

Timeline

- Amendments take effect on January 1, 2023.
- There is no specified end date; credits will be available until funds are exhausted.

Direct Pay

Eligible, as described in 'Overarching Provisions - Direct Pay'

Transferability

Eligible, as described in 'Overarching Provisions - Transferability'

Post-2024 Income Tax Credits for Clean Electricity and Fuels

One of the biggest changes in the IRA is the introduction of new tax credits the availability of which will be tied to the lifecycle greenhouse gas (GHG) emissions of the electricity or fuel produced. In addition, these credits will be available through the later of 2033 or the year following the year in which the United States' national greenhouse gas emissions is reduced to less than 25% of national greenhouse gas emissions in calendar year 2022. These provisions are similar to those introduced previously by Senator Wyden on a few occasions and that were widely believed to be intended to be added to the Build Back Better Act before it died in the fall of 2021.

These new credits will require extensive regulations and other guidance from the IRS. Since the credits are concerned with zero emissions production methods of electricity and fuel, they are technology agnostic. Accordingly, the IRS must issue guidance to specify how different technologies will be graded in terms of emissions, how carbon capture will be accounted for, and many other heavily scientific considerations. Thankfully, the IRA also provides for an appropriation of a more than $80 billion increase in the IRS budget.

Section 45Y Clean Electricity Production Credit – *NEW*

Eligible Property

- Generally, any facility that produces electricity for which the GHG emissions is no more than zero and that is located in either the United States or a U.S. possession.
    - GHG emissions will generally be determined in terms of emissions by a facility. However, GHG emissions by a facility that produces electricity through gasification or combustion will be rated on net emissions on a lifecycle basis. In both cases, the GHG score may take into account capture of carbon that is then disposed of in secure geological storage or utilized, in each case as described in Section 45Q.
- Usable heat produced by a cogeneration facility will be treated as electricity produced in certain circumstances. The GHG score of the heat will be considered in determining whether the facility qualifies.
- The Section 45Y Clean Electricity Production Credit is not available in respect of electricity produced by a facility for which any of the following credits are or have previously been allowed:
    - Section 45 Production Tax Credit
    - Section 45J Advanced Nuclear Power Facility Production
    - Section 45Q Carbon Capture Credit
    - Section 45U Zero-Emission Nuclear Power Production
    - Section 48 Investment Tax Credit
    - Section 48A Advanced Coal Project
    - Section 48E Clean Electricity Investment

Credit Amount

- Base: $0.003 per kwh of electricity produced at a qualified facility and either:
    - Sold to an unrelated taxpayer, or
    - Sold, consumed, or stored by the taxpayer during the taxable year when the electricity is generated as a facility equipped with a metering device that is owned and operated by an unrelated person.
- Wage and Apprenticeship Bonus. Base rate multiplied by five when wage and apprenticeship requirements are met.
- Domestic Content Bonus. Credit amount otherwise available increased by 10% when the taxpayer certifies that at least 55% of the steel, iron or “manufactured product” that is a component of the facility was produced in the United States.

    - The percentage applicable to this bonus rate is lower for projects that begin construction in 2026 and prior years, but the lowest percentage (for projects that begin construction before 2025) is still 40%.
    - The applicable percentage is also generally lower for offshore wind facilities (beginning at 20% for facilities that begin construction prior to 2025), but even these facilities must meet a 55% domestic content threshold for facilities that begin construction after 2027.

- Energy Community Bonus. Credit amount otherwise available increased by 10% when facility is located in an energy community.
- The credit rates will be annually increased to account for inflation.
- Credit will be reduced to account for any tax-exempt bond received by the facility owner utilizing a formula apparently intended to spread the impact over the credit availability period.
- Note that there is a special provision for patrons of agricultural cooperatives to claim this credit.

Timeline

- The credit is available in respect of electricity generated by a facility placed in service after December 31, 2024.
- This credit will begin to sunset in the later of 2033 or the year following the year in which the United States' national greenhouse gas emissions is reduced to less than 25% of national greenhouse gas emissions in calendar year 2022. In each case, the sunset will be based on when construction of a facility begins.

Direct Pay

- Eligible, as described in 'Overarching Provisions - Direct Pay'. However, the amount of direct pay declines quickly beginning in 2024 (based on when construction began) for facilities that do not meet the Domestic Content requirements described above. A facility with a maximum net output of 1MW AC is not subject to this limitation.

Transferability

- Eligible, as described in 'Overarching Provisions - Transferability'

Section 48E Clean Electricity Investment Credit – *NEW*

Eligible Property

- Generally, the definition is the same as that set forth above for the Clean Electricity Production Credit, plus energy storage, as described in 'Credits for Energy Storage - Section 48 Investment Tax Credit' below.

- The Clean Electricity Investment Credit may not be taken in respect of a facility when the taxpayer also claims or has previously claimed any of the following credits in connection with that facility:

    - Section 45 Production Tax Credit
    - Section 45J Advanced Nuclear Power Facility Production
    - Section 45Q Carbon Capture
    - Section 45U Zero-Emission Nuclear Power Production
    - Section 45Y Clean Electricity Production
    - Section 48 Investment Tax Credit
    - Section 48A Advanced Coal Project

Credit Amount

- Base: 6%

- Wage and Apprenticeship Bonus. Base rate multiplied by five when wage and apprenticeship requirements are met.

- Energy Community Bonus. 2% (or 10% if wage and apprenticeship requirements are met) bonus credit for any facility located in an energy community.

- Domestic Content Bonus. Available as described in 'Credits for Renewable Electricity - Solar - Section 48 Investment Tax Credit - Credit Amount.'

- Environmental Justice Bonus. Bonus credits may be available when the Secretary makes an allocation of "environmental justice capacity limitation" to certain areas of the country and the qualified facility does not produce electricity through combustion or gasification.

    - Facilities generating less than five megawatts (measured in alternating current) and located in low-income communities or on Indian land eligible for 110% of the credit amount for which such facilities would otherwise be qualified.

    - Facilities generating less than five megawatts that are also part of a qualified low-income residential building project or a qualified low-income economic benefit project would be eligible for 120% of the credit amount for which such facilities would otherwise be qualified.

- Tax-exempt bond proceeds received by the project owner will reduce the credit. The statute links to a similar reduction in the Section 45 Production Tax Credit provisions, which does not seem to have direct application to the Section 48E Clean Electricity Investment Credit. It is possible this will be corrected before the House vote.

- The credit will be subject to recapture in a manner similar to the current version of the Section 48 Investment Tax Credit.

Timeline

- The credit is available in respect of electricity generated by a facility placed in service after December 31, 2024.
- This credit will begin to sunset in the later of 2033 or the year following the year in which the United States' national greenhouse gas emissions is reduced to less than 25% of national greenhouse gas emissions in calendar year 2022. In each case, the sunset will be based on when construction of a facility begins

Direct Pay

- Eligible, as described in 'Overarching Provisions - Direct Pay' and subject to the limitations described in 'Post-2024 Income Tax Credits for Clean Electricity and Fuels - Section 45Y Clean Electricity Production Credit - Direct Pay'

Transferability

- Eligible, as described in 'Overarching Provisions - Transferability'

Section 45Z Clean Fuel Production Credit – *NEW*

While exciting, the new Section 45Z Clean Fuel Production Credit applies only to clean fuels that are used for transportation. Thus, it seems Congress chose to not incentivize the production of clean fuels for industrial applications beyond the special provisions for biogas and hydrogen discussed below in 'Credits for Renewable Fuels'.

Eligible Property

- A facility is qualified if it is used for the production of transportation fuels, provided none of the following credits are available in the year in which the Section 45Z Clean Fuel Production Credit is claimed:
  - Section 45V Clean Hydrogen Production
  - Section 48 Clean Hydrogen Investment
  - Section 45Q Carbon Capture
- Transportation fuel is any fuel that is produced in the United States by a registered producer, is suitable for use as fuel in a highway vehicle or aircraft, has an emissions rate not greater than 50 kg of C02e per mmBTU, and is not derived from co-processing certain glycerides, fatty acids, or fatty acid esters with a non-biomass feedstock.
- **PRACTICE NOTE**: The statute refers to the Clean Air Act and the GREET model produced by Argonne National Labs for purposes of determining lifecycle GHG emissions. The language is drafted broadly, which invites interpretation in regulations. It is not clear which way this will go, so we strongly encourage industry participants to comment on the regulations that IRS releases in this area.

Credit Amount

- Base (general): The product of:
  - 20 cents per gallon of any transportation fuel produced at a qualified facility and sold to an unrelated taxpayer:
    - For use by such person:
      - In the production of a fuel mixture, or
      - In a trade or business, or
    - Who sells such fuel at retail to another person *and* places that fuel in the other person's fuel tank; and
  - The emissions factor for the fuel, which will be annually set in guidance issued by Treasury.
- Base (sustainable aviation fuel): 35 cents per gallon of SAF sold to an unrelated taxpayer in the manner outlined above.

  - Sustainable aviation fuel for this purpose is liquid fuel, that portion that is not kerosene, and that meets /and is not derived from palm fatty acid distillates or petroleum.

- Wage and Apprenticeship Bonus. Base rate multiplied by five when wage and apprenticeship requirements are met.

- The credit rates will be annually increased to account for inflation.

- Note that there is a special provision for patrons of agricultural cooperatives to claim this credit.

Timeline

- Credit is available in respect of fuel produced after December 31, 2024 and sold through December 31, 2027.

Direct Pay

- Eligible, as described in 'Overarching Provisions - Direct Pay' and subject to the limitations described in 'Post-2024 Income Tax Credits for Clean Electricity and Fuels - Section 45Y Clean Electricity Production Credit - Direct Pay'

Transferability

- Eligible, as described in 'Overarching Provisions - Transferability'