



Energy Tax Credits Summary

This is a summary prepared for internal use and is subject to change as further guidance is released.

Purpose and Background

Congress passed the Inflation Reduction Act (IRA) of 2022, which revised and created energy tax credits to stimulate and quickly upscale the energy economy. Tax credits are now available to the University of Illinois System for certain energy saving initiatives. Generally, credits range from 6% to 30%, but could be as high as 50% of the cost of the energy property, providing significant cost savings for new energy initiatives that drive progress towards the fulfillment of each University's Climate Commitments. This communication creates an awareness of these tax credits to facilitate reviewing potential projects or purchases and to determine whether they may qualify for one of the credits.

IRA Energy Tax Credits

The availability of these tax credits are as follows:

- **Investment Tax Credits** are obtained when a unit invests in a qualified energy property or technology by either construction or acquisition for initial use.
- **Carbon Sequestration Credit** is for carbon captured and (1) stored and/or (2) properly utilized.
- **Clean Vehicle Credits** are for purchases of qualified clean commercial vehicles and the cost of alternative fuel refueling or charging stations located in low-income or rural areas.
- **Production Tax Credits** are obtained when a unit produces energy from a qualified energy source and sells it to an unrelated party.

These credits do not apply to installation of energy efficiency projects that reduce total annual energy and power costs (e.g., interior lighting/HVAC/hot water systems, or the building envelope).

Benefits and Timing of Credits

These credits are valuable because they may result in refundable direct payments of the full credit, as opposed to being limited to offsetting the System's tax liabilities. The applicability and calculation of the credits can be complex. As necessary and at the expense of the department claiming the credit, the Tax Department will consult with KPMG to assist with the qualification determinations, calculations, and reporting requirements. The Tax Department will obtain an estimate from KPMG for expenses related to a particular project or purchase credit.

Timing should be factored into plans for qualifying projects or purchases as receiving funds is dependent on the IRS's processing time. The IRS requires the system to pre-register credits once the energy property is placed in service. Therefore, it is important for departments to timely notify their university sustainability liaison listed below. Additional guidance is anticipated toward the end of 2023. The system will report the credits on its Form 990-T, Unrelated Business Income Tax Return. An example of the timing is as follows:

In general, credits may be claimed in the first year the equipment or property is placed in service. Credits generated in July 2023 will be included on the system's tax return for fiscal year ending June 30, 2024, which will be filed in May 2025. Note that credits may not be received from the IRS until calendar year 2026.

Next Steps

The Energy Tax Credit Form provides information regarding specific credits a department may consider.

At the onset, project managers need to:

- Review the information provided in this summary with the appropriate personnel and project experts (e.g., architect, contractor, or building designer);
- Determine credit qualifications for approved projects; and
- Complete and submit [Energy Tax Credit Form](#) to the university sustainability liaison identified below as early as possible for review.

University sustainability liaisons will then work directly with University Office of Capital Programs and Real Estate Services (UOCPRES). As necessary, UOCPRES will work with other System Offices, such as Tax and Legal Counsel.

University sustainability liaisons are as follows:

- UIC – Andy Mitchell
- UIS – Chuck Coderko
- UIUC – Morgan White
- System – Angie Stanford (also UOCPRES contact)

Once the determination is made that the project qualifies for an investment tax credit, departments are encouraged to identify and prioritize use of the funds when obtaining approval. Examples include, but are not limited to, debt reduction of the project, deferred maintenance, UIC Green Revolving Fund (GRF), or UIUC Revolving Loan Funds (RLF).

Departments need to collect, provide, and maintain all related documentation to substantiate the credit, which must be retained for a period of seven (7) years after the credit is claimed.

Summary of Energy Credits

Each project or purchase must be reviewed to ensure it qualifies, meets all requirements, and identifies potential restrictions.

Conditions and Restrictions

Credits may be maximized if various conditions are met, such as:

- Most credits have prevailing wage, apprenticeship, domestic content, energy community, and/or low-income community requirements for additional bonus credits.

Prevailing wage - Laborers and mechanics employed by the University or any contractor or subcontractor in the construction of a facility, and the alteration or repair of such facility, shall be paid wages at rates not less than the prevailing rates for construction, alteration, or repair. The minimum wages shall be based on the wages the Secretary of Labor determines to be prevailing for the corresponding classes of laborers and mechanics employed on projects of a character similar to the contract work in the civil subdivision of the State in which the work is to be performed.

Apprenticeship - The University shall ensure that the applicable percentage of the total labor hours of the construction, alteration, or repair work (including such work performed by any contractor or subcontractor) shall be performed by qualified apprentices. This requirement shall be subject to any applicable requirements for apprentice-to-journeyworker ratios of the Department of Labor or the applicable State apprenticeship agency. For a facility, the construction of which begins after 12/31/2022, and before 1/1/2024, the applicable percentage shall be 12.5%, and in the case of a facility the construction of which begins after 12/31/2023, 15%. The University, each contractor, or

subcontractor who employs four or more individuals to perform construction, alteration, or repair work with respect to the construction of a qualified facility shall employ one or more qualified apprentices to perform such work. Exceptions to this requirement are available if the University pays a penalty commiserate to the number of labor hours in lieu of apprenticeship or has made good faith efforts in requesting qualified apprentices from a registered apprenticeship program.

Additional information on these two conditions is provided in [IRS Publication 5855](#).

Domestic Content

For steel and iron:

- All steel and iron manufacturing processes must take place in the United States, except metallurgical processes involving refinement of steel additives.
- The steel and iron requirements apply to all construction materials made primarily of steel or iron and used in infrastructure projects such as transit or maintenance facilities, rail lines, and bridges. These items include, but are not limited to, structural steel or iron, steel or iron beams and columns, running rail and contact rail.
- These requirements do not apply to steel or iron used as components or subcomponents of other manufactured products or rolling stock, or to bimetallic power rail incorporating steel or iron components.

For manufactured products:

Not less than 40% of the total costs of all manufactured products of such facility are attributable to manufactured products (including components) that are mined, produced, or manufactured in the US.

Additional information on the domestic content bonus credit is provided in [IRS Notice 2023-38](#).

Energy Community

See [mapping tool](#) for statistical area and coal closure categories of energy communities. Note that brownfield sites are not shown on the map. A brownfield site, as defined at [42 U.S.C. 9601\(39\)](#), also qualifies as an energy community.

Additional information is provided in [IRS Notice 2023-45](#), and [IRS Notice 2023-47](#), which updated [IRS Notice 2023-29](#).

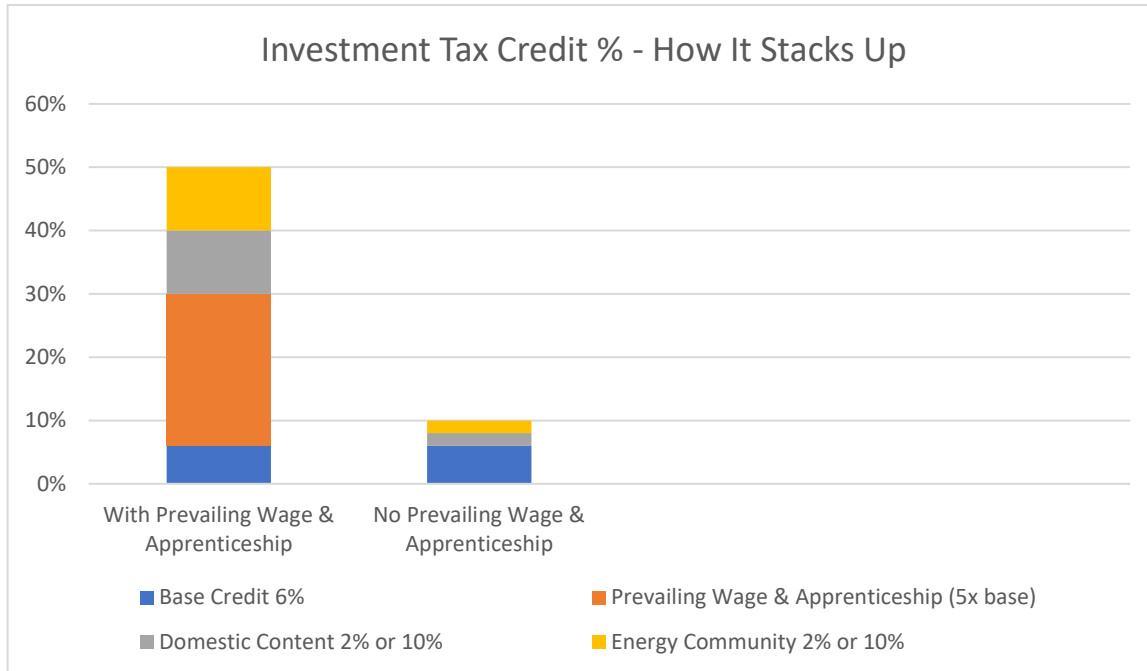
- Credits may be subject to various restrictions, such as:
 - Credits may be reduced if the energy property is financed with tax-exempt bonds or restricted grants (i.e., funds received specifically for acquiring such energy property). Note: Funding sources are not considered to determine credit eligibility other than these two financing mechanisms.
 - The system must own the property and cannot take advantage of credits as a lessee.
 - In P3 arrangements, the system is deemed to be the property owner and is eligible for the credits.
 - In power purchase agreements, the system is not the property owner, and is not eligible for the credits.
 - Certain credits have other restrictions (e.g., a placed-in-service date).
 - Sales must be to unrelated parties.

Investment Tax Credits

48, 48E, and 48C

Investment Tax Credits are obtained when a unit invests in a qualified energy property or technology by either construction or acquisition for initial use.

Unless otherwise specified, each of these credits establishes a “base” credit (6%), with a “bonus” credit available for projects meeting prevailing wage and apprenticeship requirements. The bonus credit is five (5) times the base credit amount (30%). Investment tax credits apply an additional 10% (40%) bonus for meeting domestic content manufacturing requirements and an additional 10% (50%) bonus for facilities located in energy communities.



IRC Section 48 Investment Tax Credit

This credit is for capital investment in qualified energy property or technology by either construction or acquisition for initial use. The energy property must begin construction on or after 1/1/2023 but before 1/1/2025. For geothermal projects, construction must begin prior to 1/1/2035. This tech-specific investment tax credit ends 12/31/2024 for most technologies and is replaced by the new tech-neutral Clean Electricity Investment Tax Credit (48E), which begins 1/1/2025.

Examples of qualified energy properties include:

- Solar
- Small wind energy properties
- Combined heat and power system properties (cogen)
- Geothermal heat pumps
- Energy storage technology
- Waste energy recovery
- Thermal energy storage properties
- Fuel cell power plants
- Biogas properties

- Microturbine power plants (the base credit rate for this is 2%, as opposed to 6% of capital investment)
- Microgrid controllers

The base credit is equal to 6% of the basis of the energy property. The above-mentioned bonus credits apply for qualifying properties.

IRC Section 48E Technology-Neutral Clean Electricity Investment Tax Credit

Note: Successor credit to replace IRC Section 48, effective 1/1/2025.

This credit is for capital investment in any qualified facility used to generate electricity, placed in service after 12/31/2024, with a greenhouse gas emissions rate not greater than zero. This credit may also be used for any energy storage technology, including thermal energy storage properties. This newly established investment tax credit replaces the above IRC Section 48 Investment Tax Credit once it phases out for most technologies after 12/31/2024. Taxpayers may choose between this credit and the Clean Electricity Production Tax Credit (45Y).

The base credit is equal to 6% of the basis of the energy property. The above-mentioned bonus credits apply for qualifying properties (30-50%), plus an additional 10% bonus for projects located in low-income communities. The credit may *not* be combined with credits described under IRC Sections 45, 45J, 45Q, 45U, 45Y, 48, or 48A.

IRC Section 48C Advanced Energy Project Tax Credit

Note: Due to the “industrial or manufacturing facility for the production or recycling of clean energy products” requirement, it is likely that this credit will not apply.

This credit is for investment in a qualifying advanced energy project, which is available when the project is placed in service. The credit provides \$10 billion in total allocations, at least \$4 billion which must be allocated in energy communities. This credit is available until allocations are exhausted. All projects must be certified and awarded by the Secretary of the Treasury, in consultation with the Secretary of Energy, for qualification.

An advanced energy project is any project certified and awarded by the Secretary which re-equips, expands, or establishes an industrial or manufacturing facility for the production or recycling of clean energy products. Advanced energy projects may also re-equip an industrial or manufacturing facility with equipment designed to reduce greenhouse gas emissions by at least 20%.

The credit is equal to 6% of the qualifying investment. The above-mentioned bonus credits apply for qualifying properties. This credit may *not* be combined with credits under IRC Sections 48, 48A, 48B, 48E, 45Q, 45V or 45X.

Carbon Management

IRC Section 45Q Carbon Capture and Sequestration Credit

This credit is for any industrial facility or direct air capture facility construction of which begins on or after 1/1/2023 and before 1/1/2033. The credit is for carbon captured and stored or utilized during a 12-year period.

The credit is \$17 per metric ton of CO₂ captured and sequestered; \$12 per metric ton of CO₂ injected for enhanced oil recovery or utilized. For direct air capture facilities, the credit is \$36 per metric ton of CO₂ captured and sequestered and \$26 per metric ton of CO₂ injected for enhanced oil recovery or utilized. To qualify for a bonus rate equal to five (5) times the base amount, the project must meet prevailing wage and

apprenticeship requirements. The credit is only available for CO2 captured and disposed of or used within the US. The credit may *not* be combined with credits described under IRC Section 45V.

Clean Vehicle Credits

45W and 30C

IRC Section 45W New Commercial Clean Vehicles Tax Credit

This credit is for purchases of qualified clean commercial vehicles acquired for commercial use or lease. Vehicles must be acquired between 1/1/2023 and 12/31/2032.

For vehicles with a weight < 14,000 pounds, the credit is the lesser of:

- 15% of the vehicle's basis for vehicles with an internal combustion engine or 30% for vehicles without an internal combustion engine (electric vehicle – EV), or
- \$7,500

For vehicles with a weight > 14,000 pounds, the credit is the lesser of:

- 15% of the vehicle's basis for vehicles with an internal combustion engine or 30% for vehicles without an internal combustion engine (EV), or
- \$40,000

IRC Section 30C Alternative Fuel Vehicle Refueling Property Tax Credit

This credit is for the cost of an alternative fuel refueling or charging station located in a low-income or non-urban (rural) area. Alternative fuels include electricity, ethanol, natural gas, hydrogen, and biodiesel. The charging station must be placed in service between 1/1/2023 and 12/31/2032.

The credit is equal to 6% of the cost of the charging or refueling station. To qualify for the bonus rate of 30%, the project must meet prevailing wage and apprenticeship requirements. The credit is limited to a maximum of \$100,000 per item of property.

Low Income – any population census tract if:

- The poverty rate for such tract is at least 20%, or
- In the case of a tract not located within a metropolitan area, the median family income for such tract does not exceed 80% of statewide median family income, or
- In the case of a tract located within a metropolitan area, the median family income for such tract does not exceed 80% of the greater of statewide median family income or the metropolitan area median family income

Urban Area – a census tract (defined by the Bureau of the Census) which, according to the most recent decennial census, has been designated as an urban area by the Secretary of Commerce; the [US Census Bureau](#) defines an “urban area” as “a territory that must encompass at least 2,000 housing units or have a population of at least 5,000. This includes adjacent territory containing non-residential urban land uses.”

See [2020 Census Qualifying Urban Areas and Final Criteria Clarifications](#).

Production Tax Credits

45, 45Y, 45U, 45V, 45X, and 45Z

Note: Since the University does not own its solar farms and building solar would be consumed within the system, it is likely that this credit will not apply.

Production Tax Credits are obtained when a unit produces energy from a qualified energy source and sells that energy to an unrelated party during the tax year. Keep in mind that sales to an unrelated party may create taxable unrelated business income.

Unless otherwise specified, each of these credits establishes a “base” credit, with a “bonus” credit available for projects meeting prevailing wage and apprenticeship requirements. The bonus credit is five (5) times the base credit amount. Production tax credits apply an additional 10% bonus for meeting domestic content manufacturing requirements and an additional 10% bonus for facilities located in energy communities.

IRC Section 45 Production Tax Credit

This credit is for energy produced from qualified energy resources at a qualified facility during a 10-year period (beginning with the date the property is placed in service) and sold by the taxpayer to an unrelated party during the taxable year. This tech-specific production tax credit ends 12/31/2024 and is replaced by the new tech-neutral Clean Electricity Production Tax Credit (45Y).

Examples of qualified energy resources include:

- Wind
- Closed-loop biomass
- Open-loop biomass
- Geothermal
- Solar
- Small irrigation power
- Municipal solid waste
- Qualified hydropower production and
- Marine and hydrokinetic renewable energy

A qualified facility is a facility owned by the taxpayer, placed in service on or after 1/1/2023, with construction beginning before 1/1/2025.

The base credit is equal to .3 cents per kWh of electricity produced and sold. The above-mentioned bonus credits apply for qualifying facilities.

Non-IRC Section 45Y Technology-Neutral Clean Electricity Production Tax Credit

Note: Since the University does not own its solar farms and building solar would be consumed within the system, it is likely that this credit will not apply.

This credit is for a qualified facility used to generate electricity sold to an unrelated party or stored during the tax year, placed in service after 12/31/2024, with a greenhouse gas emissions rate not greater than zero. The credit is for energy produced and sold or stored during a 10-year period. This newly established production tax credit replaces the above IRC Section 45 Production Tax Credit once it phases out after 12/31/2024. Taxpayers may choose between this credit or the Clean Electricity Investment Tax Credit (48E).

The base credit is equal to .3 cents per kWh produced and sold. The above-mentioned bonus credits apply for qualifying facilities, plus an additional 10% bonus for projects located in low-income communities. The credit may *not* be combined with credits described under IRC Sections 45, 45J, 45Q, 45U, 48, or 48A and 48E.

IRC Section 45U Zero-Emission Nuclear Production Tax Credit

Note: Since the University has no plans to fund and own a nuclear facility, it is likely that this credit will not apply.

This credit is for a nuclear facility used to generate electricity sold to an **unrelated party** during the tax year, placed in service after 12/31/2023 through 12/31/2032.

The base credit is equal to .3 cents per kWh of electricity sold to a third party, less 16% of the facility's gross receipts > 2.5 cents per kWh. The bonus credit for prevailing wage requirements applies. Facilities eligible for a credit under IRC Section 45J are *not* eligible for this credit. Payments from federal, state, or local zero-emission nuclear subsidies reduce the credit amount.

IRC Section 45V Clean Hydrogen Tax Credit

This credit is for production of clean hydrogen sold to an **unrelated party** during the tax year. The hydrogen must be produced on or after 1/1/2023 at a facility with construction beginning before 1/1/2033. The credit is for clean hydrogen produced during a 10-year period.

The base credit is equal to \$.60 per kg of clean hydrogen produced, multiplied by an applicable percentage dependent on the greenhouse gas emissions rate of production. See the table below:

<u>Carbon Intensity (kg CO₂e/kg H₂)</u>	<u>Base Hydrogen PTC Credit (\$/kg H₂)</u>
0-0.45	\$.60
0.45-1.5	\$.20
1.5-2.5	\$.15
2.5-4	\$.12

The bonus rate for prevailing wage and apprenticeship requirements applies. The credit may *not* be combined with credits described under IRC Section 45Q.

IRC Section 45X Advanced Manufacturing Production Tax Credit

Note: Due to the "domestic manufacturing of components for solar and wind energy, inverters, battery components, and critical minerals" requirement, it is likely that this credit will not apply.

This credit is for domestic manufacturing of components for solar and wind energy, inverters, battery components, and critical minerals. The components must be produced by the taxpayer and sold to an unrelated party during the taxable year. The credit is permanent for production of critical minerals, but available 2023-2029 for all other components, with a phasedown period 2030-2032.

The tax credit is for varying rates based on the product manufactured. The applicable rate is multiplied by the number of manufactured items to determine the credit. This credit may *not* be combined with credits under IRC Section 48C.

IRC Section 45Z Clean Fuel Production Tax Credit

Note: Due to the "domestic production of clean transportation fuels, including sustainable aviation fuels, sold to an unrelated party during the tax year" requirement, it is likely that this credit will not apply.

This credit is for domestic production of clean transportation fuels, including sustainable aviation fuels, sold to an **unrelated party** during the tax year. Registered US producers are eligible for the credit, and fuels must have less than 50 kg of CO₂ equivalent per million BTU (< 50 kg CO₂e / mmBTU).

The credit is equal to \$.20/gallon for non-aviation fuel and \$.35/gallon of aviation fuel. The bonus rate for prevailing wage and apprenticeship requirements applies.

Summary Charts

See summary charts of all energy tax credits below.

Energy Tax Credits Revised under the Inflation Reduction Act

Credit	Benefits	Restrictions	Period ¹	Footnotes
Alternative Refueling Property Credit (IRC Section 30C)	6% - 30% of costs, up to \$100,000 an item	<ul style="list-style-type: none"> •Prevailing Wage Requirements •Apprenticeship Requirements •Leases are excluded •Subject to recapture 	7/1/2023 through 12/31/2032	30C(e)(2) – Property used by tax-exempt entity and must be used in low-income tract areas
Production Tax Credit (IRC Section 45)	Credit is 0.55 cents per kWh/ bonus credit 2.75 cents per kWh	<ul style="list-style-type: none"> •45(b)(7) – Prevailing Wage Requirement •45(b)(8) – Apprenticeship Requirements 	7/1/2023	45(b)(3) – Credit reduced for TEB 45(b)(9) – Bonus for domestic content
Credit for Carbon Sequestration (IRC Section 45Q CCUS)	\$22 - \$30 per metric ton of CO2	<ul style="list-style-type: none"> •45Q(f)(1)-Domestic capture and disposal only •45Q(h)(3)-Prevailing Wage Requirements •45Q(h)(4)-Apprenticeship Requirements •Cannot be combined with 45V 	7/1/2023 and includes projects that begin before 12/31/2032	45Q(f)(8) – Credit reduced for TEB
Investment Tax Credit (IRC Section 48)	6% - 30% credit based on capital investment of renewable or conventional energy technology (timing)	<ul style="list-style-type: none"> •48(a)(5)(B)- Denial of production credit •48(a)(10) – Prevailing Wage Requirement •48(a)(11) – Apprenticeship Requirement •48(a)(15) - Cannot be combined with section 45V or 45Q 	7/1/2023, construction of facilities begins prior to 1/1/25. If geothermal, construction begins prior to 1/1/2035.	<ul style="list-style-type: none"> •48(a)(12) – Domestic Bonus Credit Amount •48(a)(4) – Credit reduced for TEB
Advanced Energy Project Tax Credit (IRC Section 48C)	30% of qualified investment in advanced energy projects not to exceed \$2.3B	<ul style="list-style-type: none"> •48C(d)(2) – Application for certification required •48C(e)(5) – Prevailing Wage Requirement •48C(e)(6) – Apprenticeship Requirement •48C(f) – Cannot be combined with Sections 48, 48A, 48B, 48E, 45Q, 45V or 45X 	7/1/2023, construction of facilities begins prior to 1/1/2025 for larger projects	48C(d)(2)(c) – Period of Issuance

¹ Dates reflected are based on the University's 6/30 fiscal year end.

Energy Tax Credits Introduced under the Inflation Reduction Act

Credit	Benefits	Restrictions	Period ²	Footnotes
Zero Emissions Nuclear Facility Credit (IRC Section 45U)	.3 cent per kWh of electricity sold to a third party	<ul style="list-style-type: none"> •45U(d)(2) – Prevailing Wage Requirements •45U(d)(3) – Regulations and Guidance 	12/31/23 through 12/31/32	45U(d)(1) – Credit increased for qualified nuclear power facilities (5x)
Clean Hydrogen Production Tax Credit (IRC Section 45V)	\$0.60 per kg of clean hydrogen produced	<ul style="list-style-type: none"> •45V(e)(3) – Prevailing Wage Requirements •45V(e)(4) – Apprenticeship Requirements •45V(d)(4) – Modification of Existing Facilities •45V(d)(2) – Cannot be combined with section 45Q 	7/1/2023 and construction of facilities begins before 1/1/33	•45V(d)(3) – Credit reduced for TEB
Qualified Commercial Clean Vehicles (IRC Section 45W)	\$7,500 for vehicles under 14,000 lbs. and \$40,000 for vehicles up to 14,000+ lbs	<ul style="list-style-type: none"> 45W(d)(3) – Cannot be combined with Section 30D <p>This credit is preferred to Section 30D since it is based on direct pay whereas the latter is not and may only be used to offset tax liabilities.</p>	Vehicles placed in service between 12/31/2022 and 12/31/2032	•45W(d)(2) – Vehicles placed in Service by Tax-Exempt Entities
Advanced Manufacturing Credit (IRC Section 45X)	Varying rates multiplied by the number of items manufactured, e.g., \$35/kWh of capacity for a battery cell or \$.07/direct current watt of capacity	<ul style="list-style-type: none"> •45X(d)(1) – Sale to related persons disallows this credit •45X(d)(2) – Production and sale must occur within United States •45X(c)(1) – Cannot be combined with section 48C 	Components produced and sold on or after 7/1/2023	
Clean Electricity Production Credit (IRC Section 45Y)	0.3 - 1.5 cents per kWh produced and sold to third parties	<ul style="list-style-type: none"> •45Y(g)(9) – Prevailing Wage Requirements •45Y(g)(10) - Apprenticeship Requirements •45Y(b)(1)(D) – Cannot be combined with Sections 45, 45J, 45Q, 45U, 48, or 48A and 48E 	Facilities placed in service before 1/1/2025 with phaseout	<ul style="list-style-type: none"> •45Y(g)(8) – Credit reduced for TEB •45Y(g)(12)(C) – Subject to phaseout³
Clean Fuel Production Tax Credit (IRC Section 45Z)	\$0.20 - \$1.00 per gallon	<ul style="list-style-type: none"> •45Z(f)(1) – Only Registered Production in the U.S. •45Z(f)(6) - Prevailing Wage Requirements •45Z(f)(7) – Apprenticeship Requirements 	Transportation fuel produced during 12/31/2024 - 12/31/2027	
Clean Electricity Investment Tax Credit (IRC Section 48E)	6% - 30% of qualified capital investment in in electric generating facility or energy storage property for which GHG rate is not greater than zero	<ul style="list-style-type: none"> •48E(d)(3) Prevailing Wage Requirements •48E(d)(4) Apprenticeship Requirements •48E(b)(3)(C) – Cannot be combined with Sections 45, 45J, 45Q, 45U, 45Y, 48, or 48A 	Facilities placed into service before 1/1/2025 with phaseout	<ul style="list-style-type: none"> •48E(d)(2) – Credit reduced for TEB •48E(e)(2) – subject to phaseout⁴

²Dates reflected are based on the University's 6/30 fiscal year end.

³ If construction of such facility began before 1/1/2024, then 100%, in calendar year 2024 then 90%, in calendar year 2025 then 85%, and after 12/31/2025, then 0%.

⁴ Same as Section 45Y.