INFLATION REDUCTION ACT – CLEAN ENERGY INCENTIVES

The following chart provides an outline of the clean energy provisions contained in the Inflation Reduction Act as passed by the House on August 12, 2022. This chart highlights only some of the key issues and is not intended to address all aspects of the legislation.[1] If you have any questions, please contact Jonathan Storms or Mary Duffy.

As of January 31, 2024

RENEWABLE ENERGY AND REDUCTION IN CARBON EMISSIONS		
Proposal/Bill Section	**Description**	**Effective Date**
Elective Payment and Three-Year Carryback Period for Energy Property and Electricity Produced from Certain Renewable Resources [Bill Sec. 13801, New Sec. 6417]	Allows taxpayers to make an election to be treated as having made a payment of tax equal to the value of the credit they would otherwise be eligible for under: • Sec. 48 Investment Tax Credit (ITC), • Sec. 45 Production Tax Credit (PTC), • Sec. 45Q Credit for Carbon Capture and Sequestration, • Sec. 30C Alternative Fuel Vehicle Refueling Property Credit, • Sec. 48C Advanced Energy Project Credit, • Sec. 48E Clean Electricity Investment Credit, • Sec. 45U Zero-Emission Nuclear Power Production Credit, • Sec. 45V Clean Hydrogen Production Credit, • Sec. 45X Advanced Manufacturing Production Credit, • Sec. 45Y Clean Electricity Production Credit, • Sec. 45Z Clean Fuel Production Credit. Direct payment is generally only available under the Act for an *applicable entity.* An applicable entity means any tax-exempt entity or state or local government. The *applicable entity* limitation does not apply to the first five years of the credit period for the following credits: • Sec. 45V Clean Hydrogen Production Credit • Sec. 45Q Carbon Oxide Sequestration Credit • Sec. 45X Advanced Manufacturing Production Credit While generally an annual election is due by the extended due date of the year in which the credit would otherwise be taken, for facilities placed into service under Secs. 45, 45Q, and 45X the taxpayer must make an up-front, irrevocable election in the taxable year the facility is placed in service. For certain credits, the amount of the credit eligible for the direct-pay election is reduced if certain domestic content requirements are not met. Provides a three-year carryback period (instead of the current one-year period) for certain credits including: • Sec. 30C Alternative Fuel Vehicle Refueling Property Credit, • Sec. 45 Production Tax Credit • Sec. 45Q Credit for Carbon Capture and Sequestration	Applies to taxable years beginning after December 31, 2022.

[1] As outlined in Inflation Reduction Act legislative text.

RENEWABLE ENERGY AND REDUCTION IN CARBON EMISSIONS (CONT.)		
Proposal/Bill Section	**Description**	**Effective Date**
Elective Payment and Three-Year Carryback Period for Energy Property and Electricity Produced from Certain Renewable Resources [Bill Sec. 13801, New Sec. 6417] (Cont.)	• Sec. 45U Zero-Emission Nuclear Power Production Credit • Sec. 45V Clean Hydrogen Production Credit • Sec. 45Y Clean Electricity Production Credit, • Sec. 48E Clean Electricity Investment Credit, • Sec. 48C Advanced Energy Project Credit, • Sec. 45Z Clean Fuel Production Credit. • Sec. 45X Advanced Manufacturing Production Credit, • Sec. 45W Credit for Qualified Commercial Electric Vehicles (in certain situations).	
Transfer of Credits [Bill Sec. 13801, New Sec. 6418]	Effective after December 31, 2022, taxpayers may elect to transfer certain credits to an unrelated taxpayer. The transfer election is available for: • Sec. 30C Alternative Fuel Vehicle Refueling Property Credit • Sec. 45 Production Tax Credit • Sec. 45Q Carbon Oxide Sequestration Credit • Sec. 45U Zero-Emission Nuclear Power Production Credit • Sec. 45V Clean Hydrogen Production Credit • Sec. 45X Advanced Manufacturing Production Credit • Sec. 45Y Clean Electricity Production Credit • Sec. 45Z Clean Fuel Production Credit • Sec. 48 Investment Tax Credit • Sec. 48C Advanced Energy Project Credit • Sec. 48E Clean Electricity Investment Credit Consideration paid for the tax credits is not taxable income to the transferor nor deductible by the transferee. After the credit is transferred, transferee cannot further transfer the relevant credit. Credits which have been carried back or carried forward cannot be transferred.	Applies to taxable years after December 31, 2022.
Renewable Electricity Production Tax Credit (PTC) [Bill Sec. 13101, Sec. 45]	Extends the beginning of construction deadline to include electricity production at qualified facilities for which construction begins before 2025. A similar extension applies for the election to claim the ITC in lieu of the PTC. The provision provides a 20% base credit, and an increased credit of 80% if certain wage and apprenticeship requirements are met. The provision increases the applicable credit rate by 10% for facilities that certify that the steel, iron, and manufactured products used in such facility were produced in the United States. The provision also increases the applicable credit rate (determined without the domestic content bonus) by 10% for qualified facilities located within an *energy community*. If eligible for both, taxpayers may stack these bonus credits. Wind: For wind facilities placed in service from 2017 to 2021, the PTC will be reduced. The full credit is available for wind facilities placed in service after 2021, and the construction of which began before 2025. Solar facilities: The PTC for solar energy is reinstated for facilities placed in service after 2021 and, like other qualified facilities, is extended to include facilities for which construction begins before 2025.	Applies to facilities placed into service after December 31, 2021.

RENEWABLE ENERGY AND REDUCTION IN CARBON EMISSIONS (CONT.)		
Proposal/Bill Section	**Description**	**Effective Date**
Carbon Oxide Sequestration Credit [Bill Sec. 13104, Sec. 45Q]	Extends the credit for carbon oxide sequestration equipment and facilities to include equipment and facilities that begin construction before the end of 2032. The provision provides a base credit rate of $17 or a bonus credit rate of $85 per metric ton of carbon oxide captured for geological storage and a base credit rate of $12 or a bonus credit rate of $60 per metric ton of carbon oxide captured and utilized for an allowable use by the taxpayer. The provision provides a credit for direct air capture facilities at a base rate of $36 or a bonus rate of $180 per metric ton of carbon oxide captured for geological storage and base rate of $26 or a bonus rate of $130 per metric ton of carbon captured and utilized for an allowable use by the taxpayer. Certain wage and apprenticeship requirements must be met for the bonus credit rates. The credit rate is reduced for facilities financed by tax-exempt bonds. The proposal lowers the qualified carbon dioxide capture thresholds that must be met to be a qualified facility.	Applies to facilities or equipment placed in service after December 31, 2022.
Zero-Emission Nuclear Power Production Credit [Bill Sec. 13105, New Sec. 45U]	Creates a new credit concerning the production of electricity from a qualified nuclear power facility that is sold to an unrelated party. The provision provides a base credit rate of 0.3 cents/kilowatt hour and a bonus credit rate of 1.5 cents/kilowatt hour if certain wage and apprenticeship requirements are met. The credit is reduced as the sale price of such electricity increases. Under the credit reduction formula, the credit with respect to any qualified nuclear power facility for any taxable year is reduced (but not below zero) by 80% of the excess of the gross receipts (excluding certain state and local zero-emissions grants) from any electricity produced and sold by such facility over the product of 2.5 cents times the amount of electricity sold during the taxable year. A qualified nuclear power facility is any nuclear facility that is owned by the taxpayer, that uses nuclear energy to produce electricity, that is not defined as an advanced nuclear power facility under Sec. 45J(d)(1).	Applies to electricity produced and sold after December 31, 2023, in taxable years beginning after such date and terminates for taxable years beginning after 2032.
Energy Investment Tax Credit (ITC) [Bill Sec. 13102 and 13103, Sec. 48]	Extends the ITC for investments in certain properties for which construction begins before 2025, including solar property, qualified fuel cell property, qualified microturbine property, qualified small wind energy property, and qualified investment credit facility property. The provision also expands the definition of eligible property under the ITC to include several new technologies. One major change is for battery storage as the provision expands the definition of energy property to include standalone storage with a capacity of at least 5 kWh. Other newly included energy properties include qualified biogas property, dynamic glass, microgrid controllers, electromechanical process property, and some interconnection properties. For most eligible property the ITC is broken into a 6% base credit, with an increased credit of up to 30% available if applicable wage and apprenticeship standards are satisfied. An extension is provided for waste heat recovery property, geothermal heat pump property, and combined heat and power system property for which construction begins before 2035. Such property would be eligible for a base credit of 6% for property placed in service after 2022 where construction started before 2035. A phase-down applies if construction begins in 2033 or 2034.	The expansion to include new types of energy property applies to property placed in service after December 31, 2021, but only to the extent the basis of such property is attributable to the construction, reconstruction, or erection after December 31, 2021. The increased credit for energy property in connection with a low-income community is effective on January 1, 2023.

RENEWABLE ENERGY AND REDUCTION IN CARBON EMISSIONS (CONT.)		
Proposal/Bill Section	**Description**	**Effective Date**
Energy Investment Tax Credit (ITC) [Bill Sec. 13102 and 13103, Sec. 48] (Cont.)	The provision increases the applicable credit rate by 10% for qualified facilities located within an *energy community*. This lowers to 2% if certain labor standards are not satisfied. Certain solar and wind energy properties which have received an allocation of the environmental justice solar and wind capacity limitation would be eligible for a 10-20% increase if such property has a net maximum output of less than 5 megawatts and meets one of the following categories: • Category 1 (10%): The facility is located in a low-income community. • Category 2 (10%): The facility is located on Indian Land. • Category 3 (20%): The facility is part of a qualified low-income residential building project. • Category 4 (20%): The facility is part of a qualified low-income economic benefit project. A reduction to the basis of eligible property applies for property financed with tax-exempt bonds.	

RENEWABLE FUELS TAX CREDITS		
Proposal	**Description**	**Effective Date**
Renewable Fuels Credits and Second-Generation Biofuel Incentives [Bill Sec. 13201 and 13202]	Extends tax credit for biodiesel, renewable diesel, and biodiesel mixtures by $1.00 through December 31, 2024. Extends tax credit alternative fuels and alternative fuel mixtures by $0.50 per gallon through December 31, 2024. Extends the tax credit for qualified second-generation biofuel production through December 31, 2024.	Applies to fuel sold or used after December 31, 2022, or qualified second-generation biofuel production after December 31, 2022.
Sustainable Aviation Fuel Credit [Bill Sec. 13202 and 136203, New Sec. 40B]	Creates a new excise tax credit for the sale or use of qualified aviation fuel fixture equal to number of gallons of sustainable aviation fuel in such mixture times the sum of $1.25 plus an additional $0.01 for each percentage point by which the lifecycle emissions reduction of such fuel exceeds 50% (up to $1.75).	Applies to fuel sold or used after December 31, 2022, and before January 1, 2025.
Credit for Production of Clean Hydrogen [Bill Sec. 13204, New Sec. 45V]	Creates a new tax for credit clean hydrogen produced by a taxpayer at a qualified clean hydrogen facility after December 31, 2022, and before January 1, 2033. The credit is generally available during the 10-year period beginning on the date such facility is placed in service. In lieu of the new credit, taxpayers may instead elect to treat the qualified clean hydrogen facility as energy property for purposes of the Sec. 48 ITC. The applicable amount of the credit is equal to the applicable percentage of the base rate of $0.60/kilogram or the bonus rate of $3.00, indexed to inflation, multiplied by the applicable percentage. The applicable percentage is 100% if the lifecycle greenhouse gas emissions are less than 0.45 kilograms of CO_2e per kilogram of hydrogen. The bonus credit is only available if certain wage and apprenticeship requirements are met. The provision also terminates the existing excise tax credit contained in Sec. 6426(d)(2) for hydrogen fuel sold or used after 2021.	Applies to production occurring at qualified facilities for which construction beings after 2022 and before 2033.

ENERGY EFFICIENT PROPERTY		
Proposal	**Description**	**Effective Date**
Nonbusiness Energy Property Credit [Bill Sec. 13301, Sec. 25C]	Extends the nonbusiness energy property credit for 10 years to include to property placed in service before the end of 2032. Beginning in 2023, the provision modifies and expands the credit, including by: • Increasing the percentage of the credit for installing qualified energy efficiency improvements from 10% of the cost to 30%. • Replacing the lifetime cap on credits with a $1,200 annual credit limitation and a $600 limitation per-item of property. These limitations exclude expenditures for geothermal and air source heat pumps, electric heat pump water heaters, and biomass stoves. • Updating various standards and associated limits to reflect advances in energy efficiency and removing eligibility of roofs, advanced main air circulating fans, and certain windows. • Requiring that manufacturers and taxpayers comply with reporting the identification number of certain property placed into service in order to access the credit; and • Expanding the credit to cover the costs of home energy audits, allowing a credit of 30% of such costs up to a maximum credit of $150. • Renames credit to “Energy Efficient Home Improvement Credit”.	Generally, applies to property placed in service from January 1, 2023, to December 31, 2032. The modification for home energy audit costs is effective for amounts paid or incurred after 2022. The identification number requirement applies to property placed in service after 2023.
Residential Energy-Efficient Property [Bill Sec. 13302, Sec. 25D]	Extends the credit for the cost of qualified residential energy efficient property expenditures through the end of 2034. The credit phases down to 26% in 2032 and 22% in 2033. The credit expires after the end of 2034. The provision also expands the definition of eligible property to include battery storage technology. The provision disallows the carryforward of any unused credit beginning with calendar year 2023 and would make the credit refundable starting in 2024.	Generally effective for expenditures after December 31, 2022.
Energy-Efficient Commercial Buildings Deduction [Bill Sec. 13303, Sec. 179D]	Starting in 2023, the provision updates and expands the energy efficient commercial buildings deduction by increasing the maximum deduction which is determined using a sliding scale. It also changes this maximum from a lifetime cap to a three-year cap. The provision updates the eligibility requirements so that property must reduce associated energy costs by 25% or more in comparison to a building that meets the ASHRAE standard affirmed by the Secretary as of four years prior to the date such building is placed into service. A bonus credit rate is available if certain wage and apprenticeship requirements are met. In addition, the provision allows taxpayers to tax an alternative deduction for energy efficient retrofit building property for property placed in service after December 31, 2022, if pursuant to a qualified retrofit plan. The amendments made by this provision expire after December 31, 2032.	Generally effective for property placed in service after December 31, 2022.

ENERGY EFFICIENT PROPERTY (CONT.)

Proposal	Description	Effective Date
Energy-Efficient New Home Credit [Bill Sec. 13304, Sec. 45L]	Extends the Sec. 45L new energy efficient home credit for 10 years through 2032. Single family and Manufactured Homes. In the case of new homes acquired after 2023 which are eligible to participate in the ENERGY STAR Residential New Construction Program or Manufactured Homes Program, the provision provides a $2,500 credit for energy efficient single family and manufactured new homes meeting certain Energy Star requirements. Provides a higher tier credit of $5,000 credit for eligible single family and manufactured new homes certified as a zero-energy ready under the Department of Energy Zero Energy Ready Home Program. Multifamily Homes. In the case of new homes acquired after 2022 which are eligible to participate in the ENERGY STAR Multifamily New Construction Program, provision provides a base credit of $500 and a bonus credit of $2,500 for multifamily units which meet certain Energy Star requirements. Provides a higher tier base credit of $1,000 or a bonus credit of $5,000 for eligible multifamily unites certified as a zero-energy ready under the Department of Energy Zero Energy Ready Home Program.	Applies to dwelling units acquired from January 1, 2023, to December 31, 2032.

FLEET AND ALTERNATIVE VEHICLES

Proposal	Description	Effective Date
Clean Vehicle Credit [Bill Sec. 13401, Sec. 30D]	Provides tax credit for new qualified plug-in electric drive motor vehicles placed into service by the taxpayer during the taxable year. The credit is limited to one vehicle per taxpayer, per taxable year. The provision does not place a limit on the number of credit eligible vehicles each manufacturer can sell. For vehicles placed in service (took delivery) January 1 to April 17, 2023, the credit available is: • $2,500 base amount • Plus $417 for a vehicle with at least 7 kilowatt hours of battery capacity • Plus $417 for reach kilowatt hour of battery capacity beyond 5 kilowatt hours • Up to $7,500 total For vehicles placed in service April 18, 2023, and after, the credit available is: • $3,750 if the vehicle meets the critical minerals requirement only • $3,750 if the vehicle meets the battery components requirement only • $7,500 if the vehicle meets both The credit is unavailable if the taxpayer’s adjusted gross income for the taxable year (or the prior taxable year) exceeds a threshold amount: • $300,000 for taxpayers filing a joint return • $225,000 for head of household filers • $150,000 for other filers Taxpayers who obtain electronic vehicles may elect to transfer the credit to the dealer.	Applies to vehicles acquired after December 31, 2022, and before January 1, 2033.

FLEET AND ALTERNATIVE VEHICLES (CONT.)		
Proposal	**Description**	**Effective Date**
Alternative Fuel Refueling Property Credit [Bill Sec. 13404, Sec. 30C]	Extends the alternative fuel vehicle refueling property credit through December 31, 2032. Beginning in 2023, the provision expands the credit for zero-emissions charging and refueling infrastructure installed for personal and commercial use. For depreciable property, the provision provides a base credit of 6% for expenses up to $100,000 and 4% for allowable expenses in excess of such limitation that meet certain requirements. Provides an alternative bonus credit level of 30% (20% for the 4% level) if certain wage and apprenticeship requirements are met. The credit is limited to property placed in service in an eligible census tract (i.e., certain low-income census tracts under section 45D(e) or property that is not located in an urban area.	Effective for property placed in service after December 31, 2022.
Credit for Previously Owned Qualified Plug-In Electric Drive Motor Vehicles (EVs) [Bill Sec. 13402, New Sec. 25E]	Extends refundable credit for the purchase of two-year-old batteries and fuel-cell electric cars through 2032 equal. Buyers can claim a base credit of $2,000 for the purchase of qualifying used EVs with an additional $2,000 based on battery capacity. The credit is capped at the lesser of $4,000 or 30% of the sale price To qualify for this credit, used electronic vehicles, taxpayers' gross income must not be greater than: • $150,000 for taxpayers filing jointly • $112,500 for head of household filers • $75,000 for other filers	Applies to vehicles acquired after December 31, 2022, and before January 1, 2032.
Credit for Qualified Commercial Electric Vehicles [Bill Sec. 13403, New Sec. 45W]	Provides a new credit for qualified commercial clean vehicles sold before December 31, 2032, equal to the lesser of either 30% of the cost (or 15% in the case of a hybrid) or the incremental cost over the price of a comparable vehicle powered by a gasoline or diesel engine. The credit shall not exceed $40,000 for any vehicle, but is limited to $7,500 for vehicles weighing less than 14,000 lbs. Any vehicle receiving credit for 30D will not be given credit under 45W.	Applies to vehicles acquired after December 31, 2022, and before January 1, 2033.

GREEN WORKFORCE		
Proposal	**Description**	**Effective Date**
Advanced Energy Project Credit [Bill Sec. 13501, Sec. 48C]	Revives the Sec. 48C qualified advanced energy property credit allowing the Secretary to allocate an additional $10 billion in credits. No more than 60% may be used for projects outside of "energy communities" Credit is for facilities that manufacture energy storage systems and components, electric grid modernization equipment or components, electric and hybrid vehicles, property used to produce energy conservation technologies, and re-equipment technology for manufacturers. The base credit is 6%, increased up to 30% if wage and apprentice requirements are satisfied. The 48C credit cannot be claimed if the taxpayer is also claiming 48, 48A, 48B, 48E, 45Q or 45V.	Effective beginning January 1, 2023.

GREEN WORKFORCE (CONT.)		
Proposal	**Description**	**Effective Date**
Advanced Manufacturing Production Credit [Bill Sec. 13502, Sec. 45X]	Creates production credit for each eligible component that is produced by the taxpayer as part of a trade or business within the United States and sold during the particular taxable year to an unrelated person. Eligible components include solar polysilicon, wafers, cells, modules, wind blades, nacelles, towers, offshore foundations, PV cells, PV wafers, polymeric backsheets, solar molecules, torque tubes, structural fasteners, electrode active materials, battery cells, battery modules, and certain critical minerals. For battery cells, the credit amount is equal to the product of $35, multiplied by the capacity (per kWh) of such battery cell. In the case of a battery module, the credit amount is equal to $10 (or in the case of a battery module which does not use battery cells, $45), multiplied by the capacity (per kWh) of such battery module. The credit would begin to phase out for components sold after December 31, 2029, and would be unavailable for components sold after December 31, 2032.	Applies to components produced and sold after December 31, 2022. Phases out for eligible components sold after December 31, 2032.
Reinstatement of Superfund [Bill Sec. 13601]	Reinstatement of "Hazardous Substance Superfund"	Effective as of January 1, 2023.

CLEAN ELECTRICITY AND TRANSPORTATION		
Proposal	**Description**	**Effective Date**
Clean Electricity Production Credit [Bill Sec. 13701, Sec. 45Y]	Creates a production credit for electricity generating facilities equal to the kilowatt hours of electricity produced at a qualified facility and sold to an unrelated person during the tax year times the applicable amount. The applicable amount is equal to a base credit rate of 0.3 cents per kilowatt-hour produced plus a bonus credit equal to 1.5 cents if certain wage and apprenticeship program requirements are met. The credit is increased by 10% for a qualified facility placed in service within an *energy community* or if *domestic content* requirements are met. To be eligible, the construction of the electricity generating facility used to produce the credit-eligible electricity must be begin after December 31, 2024, and must have a greenhouse gas emissions rate that is not greater than zero. An expansion of an existing facility may also qualify for the credit; however, the credit amount is limited to the increased amount of electricity produced due to the expansion. A reduced credit is appliable to facilities financed by tax-exempt bonds. **Exclusion:** Credit is not available if taxpayer claimed a credit for the facility in the taxable year or any prior taxable year under Secs. 45, 45J, 45Q, 48, 48A, or 48F.	Applies to electricity produced at a qualified facility for which construction begins after December 31, 2024.

CLEAN ELECTRICITY AND TRANSPORTATION (CONT.)

Proposal	Description	Effective Date
Clean Electricity Investment Credit [Bill Sec. 13702, Sec. 48E]	Creates an investment credit equal to the applicable percentage of the basis of qualified facility property or energy storage technology placed in service during a taxable year for which construction begins after December 31, 2024, and for which the greenhouse gas emissions rate is not greater than zero as well as any grid improvement property. An expansion of an existing facility may also qualify for the credit. The applicable percentage is generally 6%; however, a bonus rate of 30% is available for a qualified facility which meets certain output, wage, and apprenticeship program requirements. The base credit is further increased by 10% for a qualified facility placed in service within an *energy community*. An additional 2%-10% increase may also apply for a project that meets certain domestic content requirements. The credit is increased for facilities placed in service in connection with low-income communities. The credit will begin to phaseout over a 3-year period beginning the later of 2032, or the calendar year in which the Secretary of Treasury determines that the annual greenhouse gas emissions from the production of electricity in the United States are equal to or less than 25% than that of calendar year 2022.	Applies to property placed in service after December 31, 2024.
Clean Fuel Production Tax Credit [Bill Sec. 13704, New Sec. 45Z]	Creates a new credit for the domestic production of clean fuels equal to the applicable amount per gallon with respect to any transportation fuel which is produced by the taxpayer at a qualified facility and sold by the taxpayer times the emissions factor for such fuel. While the clean fuels must be transportation grade, they are not eligible for the credit if they are used for any business purposes including as transportation fuel industrial fuel, or for residential or commercial heat. The credit is equal to 20 cents per gallon (35 cents for aviation fuel). Bonus credit rates of $1.00 per gallon ($1.75 for aviation fuel) are available if certain wage and apprenticeship requirements are met. However, the amount of the credit may be increased or decreased depending on the lifecycle carbon emissions of a given fuel. Qualifying production is restricted to production in the United States of fuel that is used or sold. No credit shall be allowed at a facility which includes property for which a credit is allowed under Sec. 45Q, Sec. 45V, or the Sec. 48 ITC for clean hydrogen production facilities during the taxable year. The credits are set to phase out upon the latter of 2031 or when emission targets are achieved. The incentives will be phased out over three years. Facilities will be able to claim a credit at 100% value in the first year then 75%, then 50%, and then 0%.	Applies to transportation fuels produced after December 31, 2024, and sold before December 31, 2027.