

Inflation Reduction Act of 2022: Electric and Clean Vehicle and Alternative Refueling and Charging Tax Credits

This document highlights tax credits and incentives for electric and clean vehicles and alternative refueling and electric vehicle refueling charging stations under the Inflation Reduction Act of 2022 (the “IRA”). The IRA modified and extended existing tax credits for passenger and light truck clean vehicles (Section 30D) by eliminating the per-manufacturer cap, but also placed new restrictions on the credit in the form of critical mineral and battery component requirements and new final assembly rules, among other modifications. The IRA also enacted two new tax credits, one for previously owned clean vehicles (Section 25E) and another for qualified commercial clean vehicles (Section 45W). Additionally, the IRA modified the existing tax credit for alternative fuel vehicle charging stations (Section 30C), significantly increasing the amount of credit available, but adding critical limitations with respect to eligibility for the credit.

Electric and Clean Vehicle and Alternative Refueling and Charging Tax Credit Comparative Matrix	
Key Takeaways	Overall Impact, Commentary, and Considerations
<u>Clean Vehicle Tax Credits</u>	
<p>Key Dates:</p> <p><i>Beginning after 12/31/22</i>, the IRA implements significant new changes to qualify for the Section 30D credit.</p> <p><i>Timeline of IRA-related modifications for Section 30D:</i></p> <p>2023: New vehicle and taxpayer criteria; new critical mineral and battery component requirements</p> <p>2024: Start of new Foreign Entity of Concern restriction for battery components</p> <p>2025: Start of new Foreign Entity of Concern restriction for critical minerals</p>	<ul style="list-style-type: none"> ▪ The extension of clean vehicle incentives reinvigorates demand for passenger vehicles and light-trucks that previously would have sunset under the prior manufacturing limitation (200,000 per manufacturer), which now does not apply for vehicles sold after 12/31/22. ▪ However, the introduction of the final assembly requirement as well as other requirements means that a significant number of EVs currently eligible for credits will no longer qualify unless these automakers pivot their production strategies. ▪ Additionally, previously owned clean passenger vehicles and light trucks and

<p><u>Section 25E</u> (previously owned passenger vehicles and light trucks) and Section 45W (commercial) tax credits are effective for vehicles acquired after 12/31/22.</p> <p>All tax credits expire 12/31/2032.</p>	<p>commercial clean vehicles are newly eligible for a tax credit, potentially increasing demand for and access to such vehicles by a greater variety of individuals and businesses, respectively.</p>
<p>Base Credit and Cap:</p> <p><u>Section 30D</u>: After 12/31/22, qualifying passenger vehicles and light trucks are eligible for a tax credit in the amount of \$3,750 for meeting critical mineral requirements OR the battery component requirements; if qualifying vehicles meet BOTH requirements, <i>a total credit of \$7,500</i> is available, provided that the vehicles also meet the final assembly requirement in both instances.</p> <p><u>Section 25E</u>: Qualifying vehicles are eligible for a tax credit of <i>the lower of \$4,000 or 30% of the sales price</i>.</p> <p><u>Section 45W</u>: Qualifying vehicles are eligible for a tax credit of the lesser of 15% (30% for vehicles not gasoline or diesel powered) of the vehicle’s cost <i>or</i> the incremental cost of the vehicle (as compared to vehicles powered with gasoline or diesel internal combustion engine) <i>for a total credit up to \$7,500</i> for vehicles < 14,000 lb. and \$40,000 for vehicles > 14,000 lb. Notice 2023-9 provides guidance on a safe harbor regarding the incremental cost of two categories of qualified commercial clean vehicles (compact car (e.g., plug-in hybrid vehicles) and street vehicles with a gross weight rating of more than 14,000 pounds) placed in service in 2023. The safe harbor allows taxpayers purchasing these vehicles to use the Department of Energy’s (“DOE”) incremental cost analysis to calculate the maximum credit</p>	<ul style="list-style-type: none"> ▪ For passenger vehicles and light trucks under 14,000 lb., Section 45W and Section 30D have the same credit cap of \$7,500. However, these are separate credits that are mutually exclusive. ▪ Section 25E provides the only tax credit for previously owned vehicles.

<p>amount of \$7,500 and \$40,000, respectively.</p>	
<p><u>Vehicle Requirements and Limitations:</u></p> <p><u>Section 30D:</u> Credit for new clean vehicles. Vehicle must have battery with 7kWh of capacity with external charging or be propelled by fuel cells. The manufacturer’s suggested retail price (“MSRP”) must be <i>less than</i> \$80,000 for vans, SUVs, and pickup trucks and \$55,000 for all other vehicles to be eligible. The MSRP is defined as the sum of the retail price and the retail delivered price suggested for each accessory or item of optional equipment.</p> <p><u>Section 25E:</u> Credit for previously owned clean vehicles. Model year must be two years older than current calendar year and be purchased from a dealer. Tax credit can only be claimed on first sale of vehicle. MSRP must be \$25,000 or less.</p> <p><u>Section 45W:</u> Credit for clean vehicles and mobile machinery. Vehicle required to have battery with 7 kWh or 15 kWh capacity (depending on size of vehicle). No limitations on MSRP.</p>	<ul style="list-style-type: none"> ▪ Battery requirements have been increased from 5kWh to 7kWh for Section 30D credits, which may limit vehicles qualifying for tax credit. ▪ Some EVs previously eligible for a credit because they are American made but that have an MSRP above the new limits will not qualify. ▪ Section 45W offers a new credit for a wider variety of commercial vehicles (vehicles above 14,000 lb., commonly referred to as Class 6 and 7 vehicles and used frequently in commercial fleets and mobile machinery). The Congressional floor record for the Senate passage of the IRA includes colloquy clarifying that, for example, commercial lawn mowers should be eligible for the credit, implying that this should also be the case for other industrial and maintenance vehicles.
<p><u>Sourcing and Manufacturing Requirements</u></p> <p>A. <i>Critical Mineral and/or Battery Component Requirements</i></p> <p><u>Section 30D:</u> Vehicle must meet specified percentages of critical minerals sourced from the United States or any country with which the United States has a free trade agreement to satisfy the critical mineral requirement. The percentage is calculated as the total value of qualifying critical minerals divided by</p>	<ul style="list-style-type: none"> ▪ The new sourcing requirements for critical minerals, battery components, and final assembly may reduce the number of qualifying vehicles under Section 30D. The impact on car manufacturers is uncertain. ▪ There may also be knock-on impacts to the energy storage market more broadly, as many battery manufacturers sell into both EV and standalone storage markets. ▪ The DOE will issue periodic lists of vehicles that satisfy the final assembly in North America rules. Tax credits are

<p>the total value of critical minerals for each supply chain, where “qualifying critical minerals” are defined as applicable critical minerals sourced from the United States or from a country with a free trade agreement, or similar agreement meeting certain minimum trade criteria (e.g., Japan) with the United States. Minerals would qualify if 50% or more of the value added by extraction, processing, or recycling comes from extraction or processing in the United States or in a country with a free trade agreement with the United States or recycling in North America. This 50%-value added threshold only applies in 2023 and 2024 and may be raised in future years, subject to further guidance. The qualifying portion must be determined separately for each procurement chain, and the manufacturer must determine the percentage after the final relevant processing or recycling step. Qualified manufacturers calculating these percentages can do so based on the minerals in a specific vehicle or the average of the content for the vehicle from the same model line, plant, or class over a limited period. The specified percentages rise over the coming years (40% in 2023, 50% in 2024, 60% in 2025, 70% in 2026, and 80% in 2027).</p> <p>Recycling of critical minerals in North America is permitted for purposes of satisfying the sourcing requirement. The critical minerals tracked for the purposes of compliance with this requirement are those authorized as “applicable critical minerals” under</p>	<p>subject to recapture if a vehicle ceases to be (or was not) eligible for such credit, including tax credits that have been transferred under Section 6418 of the Code. Sale agreements may need to include indemnification provisions to limit the risk of misrepresentation.</p> <ul style="list-style-type: none"> ▪ The phase-in period for the FEOC restrictions appears designed to give companies time to diversify their critical mineral sourcing away from China. Treasury will elaborate on these restrictions in future guidance. ▪ The processing of critical minerals into constituent materials (e.g., cathode active materials, anode active materials, and foils) in countries with which the United States has a free trade agreement (e.g., Korea or Japan) will count toward the critical minerals percentage requirements, but the manufacture or assembly of those constituent materials into battery components in such countries will not count towards the battery components percentage requirements.
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<p>Section 45X, the advanced manufacturing credit.</p> <p>Vehicle must also meet battery component sourcing requirements to receive a full or partial credit, such that the applicable percentage of battery components as measured by the value of the components contained in the battery that were manufactured or assembled in North America meets or exceeds the applicable percentage. This percentage is calculated as the total incremental value of North American battery components divided by the total incremental value of all battery components, where “incremental value” is defined as the value of a battery component minus the value of the manufactured or assembled components within the battery component. The applicable percentages rise over the coming years (50% in 2023, 60% in 2024 and 2025, 70% in 2026, 80% in 2027, 90% in 2028, and 100% in 2029).</p> <p>Similarly, manufacturers must determine the percentage after the final relevant processing or recycling step. Qualified manufacturers calculating these percentages can do so based on the minerals in a specific vehicle or the average of the content for a vehicle from the same model line, plant, or class over a limited period.</p> <p>Treasury has classified “constituent materials” as being subject to the critical mineral requirement instead of the battery component requirement. Constituent materials are materials that contain applicable</p>	
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critical minerals and are employed directly in the manufacturing of battery components, which are then assembled into battery components. Constituent materials includes powders of cathode active materials, powders of anode active materials, foils, metals for solid electrodes, binders, electrolyte salts, and electrolyte additives.

Starting in 2024 (for purposes of the battery component test) and 2025 (for purposes of the critical minerals test), the specified percentage of minerals and batteries cannot be sourced from any “foreign entity of concern” (“**FEOC**”). An FEOC includes, among other things, any foreign entity that is owned by, controlled by, or subject to the jurisdiction or direction of a government of a foreign country that is a covered nation (e.g., China, Russia, Iran, or North Korea).

Section 25E and Section 45W:
Critical mineral, battery component, and final assembly requirements do not apply.

B. Final Assembly Requirement

Section 30D: Final assembly of a qualifying vehicle must occur within North America with certain exceptions as described previously. Please note that the Model Year 2022 and early [Model Year 2023 list provided by the Department of Energy](#) is a list of vehicles that may meet the final assembly requirement; Treasury has advised that this list is [not definitive](#). Federal agencies will use the vehicle identification number (“**VIN**”) [VIN Decoder database](#) from the National Highway Traffic Safety

<p>Administration (“NHTSA”) to determine the manufacturing location for specific vehicles. To establish where final assembly occurred, the taxpayer can rely on the vehicle’s plant of manufacture as reported in the VIN or the final assembly point reported on the label. The final assembly point described in vehicle labels is the location where a new passenger motor vehicle is produced or assembled from passenger motor vehicle equipment and from which such vehicle is delivered to a dealer or importer in such a condition that all component parts necessary to the mechanical operation of such automobile are included with such vehicle whether or not such component parts are permanently installed in or on such vehicle.</p>	
<p><u>Eligible Taxpayers and Limitations:</u></p> <p><u>Section 30D: Individuals & businesses.</u> Modified Adjusted Gross Income (“MAGI”) > \$300,000 (married filing jointly); \$225,000 (head of household); \$150,000 (all other). MAGI requirements also apply to previous year taxable income. If sold to a tax-exempt entity, the person who sold such vehicle to the person or entity using such vehicle shall be treated as the taxpayer that placed such vehicle in service. This limitation does not apply to corporations generally, except for passthrough vehicles like partnerships or S corporations. If there are multiple owners of a vehicle, only one person can claim the credit; allocation or proration among multiple owners is only allowed for pass-through entities.</p>	<ul style="list-style-type: none"> ▪ Unlike Section 30D, credit amounts under Section 45W are not subject to taxpayer modified adjusted gross income caps.

<p>If a depreciable vehicle is used for business at least 50 percent of the time, the allowable credit must be treated as a general business credit under Section 38(b)(30) instead of Section 30D. For depreciable vehicles with less than 50 percent business use, the credit is apportioned as follows: (i) the portion of the credit corresponding to percentage of business use is treated as general business credit, and (ii) the portion of the credit corresponding to personal use is treated as a Section 30D credit. Personal credits cannot exceed current year tax liability.</p> <p><u>Section 25E: Individuals:</u> Credit is limited to once every three years. MAGI > \$150,000 (married filing jointly); \$112,500 (head of household); \$75,000 (all other). If sold to a tax-exempt entity, the person who sold such vehicle to the person or entity using such vehicle shall be treated as the taxpayer that placed such vehicle in service.</p> <p><u>Section 45W: Businesses & tax-exempt entities only.</u> If purchased by a business, vehicle must be subject to depreciation allowance to qualify. No taxpayer income limitations. If purchased by a tax-exempt entity, no depreciation allowance is required.</p>	
<p><u>Transferability and Direct Pay:</u></p> <p><u>Section 30D:</u> Effective for vehicles placed in service after 12/31/23, taxpayers can elect to transfer credits to an eligible dealer at the time of sale in lieu of claiming a credit on their tax return. <i>This feature is intended to operationalize a “point of sale” discount at a dealer for car buyers</i></p>	<ul style="list-style-type: none"> ▪ The tax credits under Section 30D and Section 25E are transferable to an eligible dealer for a price reduction, effective 1/1/24. ▪ Section 45W credits cannot be transferred to third parties for cash; thus, the taxpayer who purchases the commercial clean vehicle must claim the credit. However, direct pay for eligible entities is available for Section 45W credits,

<p><i>and ease the ability for purchasers to utilize the credit.</i></p> <p><u>Section 25E</u>: Effective for vehicles placed in service after 12/31/23, taxpayers can elect to transfer credits to an eligible dealer at the time of sale in lieu of claiming a credit on their tax return.</p> <p><u>Section 45W</u>: Tax-exempt entities are eligible for direct pay; transferability is disallowed for 45W.</p>	<p>incentivizing public and non-profit entities to own their commercial vehicles.</p>
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Alternative Fuel Vehicle Refueling Property (Section 30C)

<p><u>Key Dates and Eligible Property:</u></p> <ul style="list-style-type: none"> ▪ Applies retroactively to 1/1/22 for property placed in service by the taxpayer during the taxable year. ▪ New requirements effective for property placed in service after 12/31/22. ▪ Prevailing wage and apprenticeship requirements go into effect 60 days after Treasury publishes guidance. Applies to businesses only. ▪ Tax credits do not apply to property placed in service after 12/31/2032. <p>The updated tax credit extends to alternative fuel vehicle refueling stations for vehicles operating with biodiesel or mixes thereof (in addition to electricity or any fuel at least 85% of the volume which consists of one of the following: natural gas, compressed natural gas, liquefied natural gas, liquefied petroleum gas, or hydrogen), for charging stations servicing vehicles with two or three wheels (powered by electricity only and must be manufactured primarily for use on public streets, roads, or highways), and for bi-directional charging properties.</p>	<ul style="list-style-type: none"> ▪ Section 30C credits provide opportunities for future expansion of alternative fuel vehicle refueling properties. ▪ Addition of bi-directional charging properties potentially improves economic viability of installing refueling stations if developers and investors can recoup costs through any future services sold. Clean vehicles can potentially sell demand response services by reducing charging rate or returning electricity onto the grid. Agreements would need to reflect who owns rights to future services sold (if any). ▪ Relatedly, the coupling of Section 30C bi-directional charging infrastructure with Section 45W and Section 30D may incentivize integration synergies between vehicle-to-grid charging equipment and electric vehicles.
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<p>Base Credit and Cap:</p> <ul style="list-style-type: none"> ▪ Base credit of 6% with 5x multiplier (30%) of qualifying property costs if prevailing wage and apprenticeship requirements are met, or if the beginning of construction occurs before January 29, 2023 ▪ Cap: 30% of costs up to \$100,000 for each “item of property” (for property subject to depreciation allowance) and \$1,000 for all other property <p><i>Must meet location requirements in certain low- income communities to be eligible for any credit; the same requirements that apply to the New Markets Tax Credit under Section 45D were incorporated by reference in Section 30C.</i></p>	<ul style="list-style-type: none"> ▪ The previous credit was capped at \$30,000 per location where charger(s) were installed. The revised Section 30C significantly increases the tax credit for qualifying properties by applying the credit on a per-property instead of a per-location basis. ▪ However, to qualify, the property must meet significantly more burdensome location criteria to be eligible for any credit and meet additional criteria to be eligible for a credit above 6% of construction costs. ▪ Developers and investors should consider the eligible basis of the project and relative costs of meeting prevailing wage and apprenticeship requirements (including but not limited to labor, oversight, risk of noncompliance, and penalty), as well as location restrictions. ▪ Developers and investors should further review Department of Transportation National Electric Vehicle Infrastructure (“NEVI”) state formula funding to assess where public charging stations will be built out along interstate highways and other major public thoroughfares.
<p>Prevailing Wage and Apprenticeship Requirements</p> <ul style="list-style-type: none"> ▪ Qualifying alternative fuel vehicle refueling projects must meet prevailing wage and apprenticeship requirements for the construction, alteration, or repair work of a “qualifying facility” to be eligible to receive a maximum credit of 30% (otherwise, the project can only receive a base credit of 6%). ▪ The prevailing wage requirement is met if laborers constructing the 	<ul style="list-style-type: none"> ▪ Compliance with prevailing wage and apprenticeship requirements will require coordination and monitoring with EPC and other service providers. For larger projects or smaller service providers, the financial risk of noncompliance may counsel in favor of new forms of reporting and documentation, credit support, or labor sourcing practices. ▪ Wilson Sonsini notes that prevailing wage rates should be used as a benchmark to generally gauge increased labor costs; these rates are updated periodically and vary by region. Wage rates by locality are

<p>property and laborers placing into service or maintaining property for five years thereafter are paid prevailing wages. Projects are exempt if they have a beginning of construction date before January 29, 2023. There is a 180-day “cure” period if the entity compensates workers for the prevailing wage difference (with interest) and pays a penalty to Treasury.</p> <ul style="list-style-type: none"> ▪ The apprenticeship requirement is met if apprentices construct the project for specified percentages of total labor hours, starting at 10% and escalating to 15%. The entity and any contractor or subcontractor that employs four or more individuals to perform construction must employ at least one apprentice. An entity that fails to meet the requirement can cure by paying a penalty or be excused from the requirement by making a “good faith effort” to comply. 	<p>determined under the Davis-Bacon Act.¹ Please note that the Department of Labor is presently finalizing rules for how prevailing wages are set, and the impact of these rules could result in prevailing wages being set significantly higher in some localities.</p> <ul style="list-style-type: none"> ▪ Taxpayers who make a “good faith effort” to hire apprentices can claim the bonus credit rate; there are specific requirements to satisfy this standard. In the transition period and until there are enough apprenticeship programs providing qualified apprentices, this “good faith effort” standard may prove especially valuable to businesses to meet this requirement. ▪ It is unclear how the phrase “qualified alternative fuel vehicle refueling project” will be interpreted, i.e., whether it is the construction of one charging station or multiple charging stations in one area. Different interpretations will affect how apprenticeship specifications must be met (i.e., whether each location vs. each charger needs to meet specific ratio, participation, and percentage labor hours by qualified apprentices, the latter being more onerous). ▪ Developers/investors should consider reputational risks if competitors meet prevailing wage and apprenticeship requirements.
<p>Location Requirements</p> <p>Beginning 1/1/23, the Section 30C credit is limited to properties in locations that meet one of the following census tract requirements:</p>	<ul style="list-style-type: none"> ▪ Location requirements are likely the most burdensome requirements to be eligible for the credit. ▪ Designated low-income communities and non-urban areas fluctuate and more guidance is needed on which sources will be considered reputable when identifying

¹ Current wage rates by locality for laborers and mechanics are available at: <https://sam.gov/content/home>.

<p>(1) Designated “low-income community” (as defined under Section 45D(e) (i.e., New Markets Tax Credit)) or</p> <p>(2) Non-urban areas</p> <p>Property must be located within the United States to qualify</p>	<p>project locations to ensure projects qualify.</p> <ul style="list-style-type: none">▪ The Census Bureau has provided urban areas based on the 2020 Census. Urban vs. non-urban areas are defined by the Census Bureau every 10 years (each new census), but the American Community Survey (“ACS”) program releases one-year and five-year estimates annually.▪ Treasury issued a request for comments for Section 30C and Section 45W on November 3, 2022 but has not yet issued guidance on these provisions.
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