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Kirkland Alert

“One Big Beautiful Bill Act” Brings Big Changes to Green Energy Tax Credits

06 August 2025

On July 4, 2025, President Trump signed into law a sweeping budget reconciliation bill commonly known as the “One Big Beautiful Bill Act” (the Act). The Act includes the following significant transition provisions and other changes with respect to energy tax credits:

- accelerates the phase-outs for solar and wind projects under the tech-neutral investment tax credits (ITCs) and production tax credits (PTCs), but retains the longer runway for non-wind and solar generation (e.g., storage, hydropower and geothermal);
- modifies the advanced manufacturing PTCs (45X Credits) by curtailing wind-component eligibility, providing temporary credits for metallurgical coal, and revising rules for integrated producers;
- extends the eligibility timeframe for clean fuel production tax credits (45Z Credits) and modifies the 45Z Credit values and computation methodology;
- eliminates after 2025 tax credits for commercial and residential electric vehicles (with a phase-down depending on volume of cars sold), individual tax credits for residential solar systems and the tax credits for charging stations and energy efficient homes; and
- adopts foreign entity of concern (FEOC) rules imposing certain foreign supply chain and ownership restrictions on taxpayers seeking certain tax credits, including ITCs and PTCs.

These changes are discussed in greater detail below. A quick reference chart and applicability roadmap are included at the end of this *Alert*.

Key Changes Affecting Energy Tax Credits

Sections 48E (Technology-Neutral ITC) and 45Y (Technology-Neutral PTC)

If a wind or solar facility does not begin construction within one year of the Act's enactment (i.e., by July 4, 2026), then ITCs and PTCs are terminated unless the facility is placed in service on or before December 31, 2027. New "beginning of construction" guidance is expected to be issued pursuant to a recent executive order (discussed below).

The phase-out of the Section 48E ITC and Section 45Y PTC for all other qualified facilities – including energy storage facilities and fuel cells – begins in 2034. Facilities that begin construction in 2034 will be eligible for 75% of the full credit amount, dropping to 50% for construction beginning in 2035, and phasing out entirely for projects beginning in 2036 or later.

For taxable years beginning after July 4, 2025, the 48E ITC and 45Y PTC will no longer be available for investments in certain qualified properties under Section 25D – such as solar water heating or residential small wind energy systems – if the taxpayer rents or leases the property to a third party during the taxable year.

Executive Order Targeting Solar and Wind Credits

On July 7, 2025, the president issued an executive order (the EO) directly targeting ITCs and PTCs for solar and wind facilities. The EO directs Treasury to issue new "beginning of construction" guidance for purposes of Sections 45Y and 48E by August 18, 2025. According to the EO, this guidance will restrict "the use of broad safe harbors unless a substantial portion of a subject facility has been built." This guidance could significantly impact safe harbor strategies on which taxpayers have historically relied.

This EO signals the Trump administration's intention to increase enforcement of the technical requirements for solar and wind energy tax credits. This additional scrutiny builds upon the Biden administration's ramp-up in audits of taxpayers claiming green energy tax credits. Taxpayers should maintain detailed, contemporaneous documentation to support eligibility for any credits claimed.

Section 45X (Advanced Manufacturing)

The Act phases out or eliminates the Section 45X Credit at different rates depending on the component or critical mineral produced.

For critical minerals – excluding metallurgical coal, which is newly eligible but only through 2029 – the 45X Credit begins to phase out starting in 2031. Specifically, the credit is reduced to 75% for critical minerals produced in 2031, 50% in 2032, 25% in 2033 and fully eliminated for critical minerals produced in 2034 and beyond.

The current phase-out schedule for the 45X Credit for advanced manufacturing of solar and storage components remains unchanged. However, the credit is eliminated for wind components sold after December 31, 2027. Additionally, for taxable years beginning after July 4, 2025, battery modules qualify for the credit only if they are “comprised of all other essential equipment needed for battery functionality, such as current collector assemblies and voltage sense harnesses, and other energy collection equipment.”

Under the “FEOC Ownership Restrictions” described below, for taxable years beginning after July 4, 2025, taxpayers are ineligible for the 45X Credit if they either receive material assistance from a prohibited foreign entity or are themselves classified as a prohibited foreign entity.

Finally, the Act introduces new requirements for vertically integrated producers that generate multiple 45X Credits by manufacturing more than one eligible component. For taxable years beginning after 2026, the credit will be available only if the “primary” eligible component is integrated into a “secondary” eligible component within the same facility and the secondary component is sold to an unrelated party. In addition, at least 65% of the secondary component’s direct material costs must be attributable to primary components mined, produced, or manufactured in the U.S.

Section 45Z (Clean Fuels)

The Act extends the Section 45Z Credit for two years through December 31, 2029, but eliminates the \$1.75 increased credit value that was previously available for sustainable aviation fuels (SAFs) produced after 2025.

For clean fuels produced after 2025, the 45Z Credit is unavailable if any foreign feedstocks – that is, feedstocks that are not produced in the U.S., Mexico or Canada – are used in their production. And for clean fuels that can be used as feedstocks for other clean fuels (such as clean ethanol used to produce clean jet fuel), the definition

of “transportation fuel” has been revised to require that the base fuel not be one for which a 45Z Credit is claimed.

When determining a fuel’s carbon intensity, the Act excludes emissions attributed to indirect land use change, which should in many cases reduce the carbon intensity and increase the credit’s value. For example, if a forest is cleared to grow crops for biofuels, the net emission increase associated with the land use change will be excluded from the lifecycle analysis, resulting in lower reported emissions. The Act also removes negative emissions rates – except for certain animal manure feedstocks – when calculating the value of the 45Z Credit.

Under the “FEOC Ownership Restrictions” described below, the 45Z Credit is unavailable to any taxpayer that is either a specified foreign entity for taxable years after July 4, 2025, or a foreign-influenced entity (ignoring, for this purpose, any payments made to a specified foreign entity that provides the specified foreign entity with certain effective control over the taxpayer’s facility).

The SAF credit under Section 6426 is eliminated for any SAF (i) for which a 45Z Credit is claimed, if such SAF was sold or used after July 4, 2025, or (ii) sold or used after September 30, 2025.

The Act adds a new 20-cent-per-gallon small agri-biodiesel producer credit under Section 40A. The new credit – which can be stacked with the 45Z Credit and transferred under Section 6418 – is available for fuel produced after June 30, 2025, and sold or used before 2027.

Section 45Q (Carbon Capture and Sequestration)

The Act retains the Section 45Q Credit for qualified facilities that start construction before 2033. For equipment or qualified facilities placed in service after July 4, 2025, the amount of the 45Q Credit for enhanced oil recovery activities and carbon sequestration activities is the same. Beginning in 2027, the credit’s value is indexed for inflation.

Under the “FEOC Ownership Restrictions” described below, for taxable years beginning after July 4, 2025, the 45Z Credit is unavailable to any taxpayer that is either a specified foreign entity or a foreign-influenced entity (ignoring, for this purpose, any payments made to a specified foreign entity that provides the specified foreign entity with certain effective control over the taxpayer’s facility).

Section 45V (Clean Hydrogen)

The Act terminates the Section 45V clean hydrogen PTC for facilities that begin construction after 2027.

Publicly traded partnerships are allowed to treat income from the transportation or storage of liquified or compressed hydrogen as “qualifying” income.

Foreign Entity of Concern (FEOC) Rules

Historically, direct or indirect ownership by certain individuals and entities incorporated in or with a strong nexus to China, North Korea, Russia or Iran (each, a “covered nation”), jeopardized eligibility for the clean vehicle and advanced microchip tax credits. However, using supply chains with components from a covered nation did not previously impact credit eligibility. The Act introduces new FEOC rules that expand these restrictions and include both ownership *and* supply chain involvement.

FEOC Ownership Restrictions

For taxable years beginning after July 4, 2025, the Act prohibits any taxpayer that is a “prohibited foreign entity” from claiming most ITCs and PTCs. Prohibited foreign entities include “specified foreign entities” and “foreign-influenced entities.”

A “specified foreign entity” is an FEOC or covered nation described in one of several lists maintained pursuant to the National Defense Authorization Act for fiscal years 2021 and 2024 or any “foreign-controlled entity.” A “foreign-controlled entity” includes a subnational government body, agency or instrumentality of a covered nation, as well any entity that is 50% or more owned by, or that is organized or has its principal place of business in, a covered nation (or a subnational body, agency or instrumentality thereof).

A “foreign-influenced entity” is any entity with respect to which one or more specified foreign entities:

- can appoint directors, executives or equivalent officers;
- hold an aggregate 40% or more of the equity (or 25% if held by a single specified foreign entity);
- for publicly traded companies, hold an aggregate 15% or more of the debt; or

- receive, in the prior taxable year, payments under a contractual arrangement giving a specified foreign entity (or an entity related thereto) specific authority over “key aspects” of, or intellectual property rights related to, a qualified facility or energy storage technology owned by the entity or an eligible component produced by the entity.

There is a limited exception for bona fide purchases or sales of intellectual property rights that do not confer “effective control” on a specified foreign entity. However, under the statutory language, it appears that entering or modifying an intellectual property licensing agreement with a specified foreign entity after July 4, 2025, generally is deemed to confer “effective control,” resulting in the licensee being treated as a “foreign-influenced entity” (and thus a prohibited foreign entity).

The determination of whether a taxpayer is a prohibited foreign entity is made on the *first day* of the first taxable year beginning after July 4, 2025 (i.e., January 1, 2026, for calendar-year taxpayers) and on the *last day* of the taxable year for all subsequent years (i.e., on December 31, 2027, and thereafter, for calendar-year taxpayers).

For the Section 48E ITC, the Act includes a 10-year recapture period if a taxpayer claiming the credit for any taxable year beginning after July 4, 2027, makes certain “applicable payments” during the recapture period. Applicable payments include those made to a specified foreign entity that result in such entity obtaining effective control over a qualified facility.

FEOC Supply Chain Restrictions

Projects that begin construction after 2025 – based on the now-codified solar and wind start-of-construction safe harbors¹ – will be ineligible for ITCs and PTCs if they receive “material assistance from a prohibited foreign entity.” This restricts eligibility for projects that rely heavily on components sourced from China or other covered nations. A limited transition safe harbor applies to products manufactured under contracts executed before June 16, 2025.

The Act uses a “material assistance cost ratio” to determine if a taxpayer received “material assistance from a prohibited foreign entity.” If a project’s ratio is **below** the applicable threshold percentage, then the taxpayer is treated as having received material assistance from a prohibited foreign entity, rendering the project ineligible for ITCs and PTCs.

The material assistance cost ratio is computed by dividing (i) the direct costs of manufactured products (for qualified facilities or energy storage property, as defined in existing domestic content guidance) or direct material costs (ii) for eligible components *not attributable* to a prohibited foreign entity by the *total* direct material costs.

As shown below, the applicable threshold percentage – below which credit eligibility is lost – varies by facility, property or component type, and depends on the taxable year in which construction begins on the facility or property or the component is sold (starting in 2026).

<i>48E Tech-Neutral ITCs and 45Y Tech-Neutral PTCs</i>					
Begins Construction in:	2026	2027	2028	2029	2030 and after
Qualified Facility (e.g., solar PV, wind)	40%	45%	50%	55%	60%
EST	55%	60%	65%	70%	75%
<i>45X Credits for Eligible Components</i>					
Components Sold in:	2026	2027	2028	2029	2030 and after
Solar	50%	60%	70%	80%	85%
Wind	85%	90%	N/A	N/A	N/A
Inverter	50%	55%	60%	65%	70%
Battery Component	60%	65%	70%	80%	85%
<i>45X Credits for Critical Minerals</i>					
Components Sold in:	2026–2029	2030	2031	2032	2033 and after
	0%	25%	30%	40%	50%

The Act also directs Treasury to publish “safe harbor tables” in future guidance, which taxpayers may rely on to determine the percentage of costs attributable to manufactured products or eligible components – provided they do not know the listed percentage is inaccurate. In the interim, taxpayers may rely on the tables included in IRS Notice 2025-08, issued under the existing domestic content rules.

Significant Treasury and IRS guidance will be needed to help taxpayers interpret and comply with these new FEOC supply chain restrictions.

Section 6418 (Transferability), Depreciation

The Act preserves transferability of renewable energy tax credits under Section 6418 for the full duration of the applicable credit period. However, it introduces an FEOC restriction that prohibits the transfer of any portion of the credits under Sections 45Q, 45X, 45Y, 45Z or 48E to any specified foreign entity.

In addition, the Act restores bonus depreciation (i.e., 100% expensing), including for energy properties. Qualified facilities eligible for ITCs and PTCs are also eligible for 5-year accelerated depreciation.

Many of the Act’s changes will require the IRS and Treasury to issue new guidance, which we will be monitoring closely. In the meantime, please reach out to any member of your Kirkland Tax team – including the authors listed below – with any questions or for further discussion.

Quick Reference Chart of the Act’s Changes²

<i>Credit</i>	<i>Accelerated Phase-Out Schedule</i>	<i>FEOC Restrictions</i>	<i>Additional Considerations</i>
Section 45X (advanced manufacturing)	For critical minerals produced in: 2031: 75% of credit 2032: 50% of credit	FEOC ownership restrictions apply to taxable years beginning after July 4, 2025.	For taxable years beginning after 2026, eligible components (primary component) must be integrated

	<p>2033: 25% of credit</p> <p>2034: Credit eliminated</p> <p>Credit eliminated for wind energy components produced after December 31, 2027.</p> <p>Metallurgical coal is a critical mineral eligible for a credit through 2029.</p> <p>For all other eligible components (unchanged) produced in:</p> <p>2030: 75% of credit</p> <p>2031: 50% of credit</p> <p>2032: 25% of credit</p> <p>2033: Credit eliminated</p>	<p>FEOC material assistance restrictions apply to components used in a product sold in taxable years beginning after July 4, 2025.</p>	<p>into another eligible component (secondary component) within the same facility, with such secondary component sold to an unrelated person to retain 45X eligibility.</p> <p>Additionally, at least 65% of the direct material costs used to produce such secondary components must come from primary components that are mined, produced or manufactured in the U.S.</p>
Section 45Y (technology-neutral PTC)	<p>Wind and solar projects must be placed in service on or before December 31, 2027, unless they start construction on or before July 4, 2026.</p> <p>For all other projects</p>	<p>FEOC ownership restrictions apply to taxable years beginning after July 4, 2025.</p> <p>FEOC material assistance restrictions apply for projects that begin construction after 2025.</p>	<p>Beginning in 2026, credits are unavailable for any investment during the taxable year with respect to certain qualified properties under Section 25D (solar water heating property or small wind energy property) if the</p>

Section 48E (technology-neutral ITC)	beginning construction in: 2034: 75% of credit 2035: 50% of credit 2036: Credit eliminated	With respect to ITC (but not PTC) claimed during any taxable year beginning after July 4, 2027, taxpayer is subject to a 100% recapture if “applicable payments” are made within the 10-year period after the placed-in-service date to a specified foreign entity that would cause such entity to exercise effective control over a qualified facility.	taxpayer rents or leases such property to a third party during the taxable year.
Section 45Q (carbon capture)	N/A (credit <i>remains available</i> for projects that begin construction before the end of 2032)	FEOC ownership restrictions apply to taxable years beginning after July 4, 2025.	For qualified facilities or equipment placed in service after July 4, 2025, the credit amount for both enhanced oil recovery and commercial utilization is the same (i.e., up to \$85 per metric ton).

Section 45Z (clean fuels)	N/A (credit availability <i>extended</i> through 2029)	<p>FEOC ownership restrictions apply to taxable years beginning after July 4, 2025.</p> <p>Foreign-influenced entity restrictions apply to taxable years beginning after July 4, 2027.</p>	<p>Beginning in 2026, the credit is denied if any foreign feedstocks (other than from Canada or Mexico) are used.</p> <p>The higher credit amount for sustainable aviation fuel (SAF) is removed for SAF produced after 2025. The SAF credit under Section 6426 also is eliminated for any SAF sold after September 30, 2025.</p>
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ITC/PTC Roadmap for Applicability of the Act's Restrictions

1. Will the project claim Section 48/45 ITC/PTCs or Section 48E/45Y tech-neutral ITC/PTCs?

- a. If Section 48/45 → Stop; none of the Act's restrictions apply
- b. If Section 48E/45Y → Proceed to #2

2. Phase-out / Availability

a. (Wind/Solar only) Did you start construction on or before July 4, 2026?

- i. YES → Proceed to #3
- ii. NO → Will the project be placed in service on or before December 31, 2027?
 - i. Yes → Proceed to #3
 - ii. No → 48E/45Y NOT AVAILABLE

b. (All others) Did you start construction by the end of 2033?

- i. YES → Proceed to #3

- ii. NO → Credit amount is subject to phase-out schedule, but proceed to #3

3. FEOC Ownership Rules

- a. FEOC ownership rules apply to your project. Proceed to #4.

4. FEOC Material Assistance Rules

a. Did you start construction by the end of 2025?

- i. YES → Stop; FEOC material assistance rules do not apply
- ii. NO → FEOC material assistance rules apply; proceed to #4(b) if claiming Section 48E ITC.

b. If you are claiming Section 48E, will the asset be placed in service in a taxable year beginning after July 4, 2027 (i.e., 2028)?

- i. YES → Recapture rules for payments conveying effective control to a specified foreign entity apply for the 10-year period. Proceed to #5.
- ii. NO → FEOC Recapture rules do not apply. Proceed to #5

5. Domestic Content Adder % Threshold (Section 48E only) – Did you start construction before June 16, 2025?

- a. YES → 40%
- b. NO → 45% threshold applies, with increasing annual thresholds depending on the year construction began

1. The FEOC rules directly reference IRS Notices 2013-29 and 2018-59, including all amendments and revisions to those Notices in effect as of January 1, 2025. [↩](#)

2. The dates listed below generally are applicable to calendar-year taxpayers; special effective date rules, outside the scope of this Alert, apply to fiscal-year taxpayers. [↩](#)

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Suggested Reading

- 24 July 2025 Kirkland Alert UK Issues Draft Legislation Relating to Taxation of Carried Interest
- 14 July 2025 Kirkland Alert Final “One Big Beautiful Bill Act” Features Enhanced Tax Breaks and Targeted Tax Increases – But No Changes to Carried Interest and No “Revenge” Tax
- 06 June 2025 Kirkland Alert Carried Interest: UK Tax Update

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