KPMG

First guidance on the material assistance cost ratio under sections 45Y, 48E, and 45X

Analysis and observations on Notice 2026-15

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Overview

Public Law No. 119-121, commonly referred to as the "One Big, Beautiful Bill Act" (OB3), added new restrictions to sections 45Y, 48E, and 45X, denying taxpayers clean energy tax credits for qualified facilities, energy storage technologies (ESTs), and eligible components that include 'material assistance from a prohibited foreign entity' (PFE). Whether material assistance from a PFE exists is determined by computing a material assistance cost ratio (MACR) and comparing it to statutory applicable threshold percentages.

In plain terms, the MACR measures how much of your project's cost came from non-PFE sources. If that ratio is less than the applicable statutory threshold, the taxpayer's credit is denied in most cases.

On February 12, 2026, the Treasury Department and the IRS released Notice 2026-15 ("Notice"), providing the first substantive guidance on how taxpayers should calculate the MACR. The Notice walks taxpayers through two separate frameworks for computing the MACR—one for the tech-neutral clean electricity credits under sections 45Y and 48E (the "Clean Electricity MACR"), and another for the advanced manufacturing production credit under section 45X (the "Eligible Component MACR").

KPMG observation

Notice 2026-15 is a MACR-focused Notice. It provides little guidance on the general PFE rules themselves. For example, there is no clarity on what constitutes a debt issuance or effective control for purposes of determining whether an entity is a foreign influenced entity, beyond a brief mention of how effective control may be established under a licensing agreement for the provision of intellectual property. Treasury and the IRS intend to issue more comprehensive proposed regulations regarding PFE definitions and material assistance. Comments with respect to the Notice are requested by March 30, 2026.

Two MACR frameworks

The Notice establishes two distinct step-by-step MACR calculations, each tailored to the credit being claimed. The key difference is what costs are measured: the Clean Electricity MACR looks at the taxpayer's total direct costs of manufactured products and their components within a qualified facility or energy storage technology (EST), while the Eligible Component MACR looks at the taxpayer's direct material costs of the constituent materials that go into the eligible component itself.

Clean electricity MACR (sections 45Y / 48E)

The Clean Electricity MACR applies to taxpayers claiming the tech-neutral clean electricity production or investment tax credits. The five-step approach is as follows:

Step 1: Identify. Identify the types of manufactured products (MPs) and manufactured product components (MPCs) included in the qualified facility or EST.

Step 2: Track. For each identified type of MP and MPC, track the relevant characteristics of each MP and MPC incorporated into the qualified facility or EST.

> ***De Minimis Assignment:*** The Notice provides that taxpayers may group certain MPs or MPCs together under a de minimis assignment rule when total assigned Direct Costs < 10% of Total Direct Costs per facility, as long as the assignment is applied consistently with the purposes of the rules establishing the MACR. This is discussed in greater detail below.

Sub-1 MW EST averaging: For ESTs with a maximum net output of less than 1 MW measured in alternating current, the Notice provides a significant tracking simplification. If a taxpayer places in service multiple of such ESTs of the same type during the same "specified period" (a taxable year period or shorter, at the taxpayer's election), the taxpayer may use average costs and average PFE Production Percentages across all such ESTs rather than tracking costs for each EST individually. This averaging rule is discussed in greater detail below.

Step 3: Determine Direct Costs. Calculate the taxpayer's direct costs attributable to the identified MPs, including their MPCs ("Direct Costs").

Step 4: Determine PFE Direct Costs. Of those Direct Costs, determine which are attributable to MPs and MPCs that were mined, manufactured, or produced by a PFE ("PFE Direct Costs").

Special apportionment rule for acquired MPs: If a taxpayer acquires an MP that is PFE produced, but some or all of the MPCs included in the MP are not PFE produced, then the taxpayer excludes from PFE Direct Costs the portion of the MP's acquisition costs that are attributable to the non-PFE MPCs. Similarly, a taxpayer includes in PFE Direct Costs the portion of a non-PFE MP's acquisition costs that are attributable to PFE produced MPCs. Supplier documentation should assist a taxpayer to determine which of the MPCs in a particular MP are from PFE and non-PFE sources.

Step 5: Calculate the Ratio. Subtract PFE Total Direct Costs from Total Direct Costs, then divide by Total Direct Costs.

Key rule

Calculate a separate Clean Electricity MACR for each qualified facility or EST for the tax year in which the 45Y or 48E credit is being determined.

Eligible component MACR (section 45X)

The Eligible Component MACR applies to taxpayers claiming the advanced manufacturing production credit for the production and sale of statutorily prescribed "eligible components" (e.g., solar cells, PV wafers, wind blades, battery cells, inverters, etc.). The five-step approach is:

Step 1: Identify. Identify the constituent elements, materials, or subcomponents ("Constituent Materials") incorporated into or consumed in the production of the eligible component, the costs of which are direct material costs under § 1.263A-1(e)(2)(i)(A).

Step 2: Track. Track the relevant characteristics of each Constituent Material used to produce the eligible component.

Averaging and tracking by specified periods for all eligible components: Unlike the Clean Electricity MACR (where averaging is limited to sub-1 MW ESTs), the Eligible Component MACR permits averaging across ***all*** eligible components of the same type. Under section 3.02(3)(b) of the Notice, a taxpayer may determine the average percentage of Constituent Materials that are PFE Sourced across all eligible components of the same type that are sold during the same "specified period" (taxable year period or shorter, at the taxpayer's election). This means that there is flexibility in the computation, so long as such tracking is consistent with the purposes of the rules establishing the MACR.

Step 3: Determine Direct Material Costs. Calculate the taxpayer's direct material costs for each Constituent Material ("Direct Material Costs").

Step 4: Determine PFE Direct Material Costs. Of those Direct Material Costs, identify which are attributable to Constituent Materials mined, produced, or manufactured by a PFE ("PFE Sourced").

Step 5: Calculate the Ratio. Subtract PFE Total Direct Material Costs from Total Direct Material Costs, then divide by Total Direct Material Costs.

Key rule

Calculate a separate Eligible Component MACR for each eligible component produced during the tax year. Multiple eligible components may have the same Eligible Component MACR if such components share Constituent Materials that are mined, produced, or manufactured by the same entity or that are included in the same average percentage calculation as described in section 3.02(3)(b).

Safe harbors

Notice 2026-15 provides three safe harbors that can simplify different steps of the MACR calculation. Understanding which safe harbors are available—and when they can be used—is critical for compliance planning.

Identification safe harbor (as provided in Step 1 above)

For the Clean Electricity MACR: The Identification Safe Harbor allows taxpayers to rely on pre-defined lists of MPs and MPCs published in the 2023–2025 Safe Harbor Tables (originally from Notice 2023-38 and Notice 2024-41, as updated by Notice 2025-08) instead of independently identifying every MP and MPC in a facility. The tables currently cover six technologies: Solar PV (Ground-Mount), Solar PV (Rooftop), Land-Based Wind, Battery Energy Storage Systems, Offshore Wind, and Hydropower/Pumped Hydropower Storage. Technologies not covered—such as thermal energy storage, geothermal, or nuclear—cannot use this safe harbor and must identify their MPs and MPCs under the general rules of Notice 2023-38, and at a level of detail "substantially similar" to the 2023–2025 Safe Harbor Tables.

For the Eligible Component MACR: The Identification Safe Harbor is also available for a small subset of eligible components under section 45X, which the Notice calls "Listed eligible components." The universe of Listed eligible components is narrow and is limited to the following eligible components: **inverters** (central, commercial, distributed wind, micro, residential, and utility inverters), **PV modules** (solar modules), and **battery packs/modules** (battery modules using battery cells). For these Listed eligible components, a taxpayer may use the Safe Harbor Tables to identify the Constituent Materials (mapped to Listed MPCs) instead of conducting its own identification under the general rules. All other eligible components must identify their Constituent Materials under the general rules of section 3.02(2)(a), meaning that for these eligible components, taxpayers must identify Constituent Materials incorporated into or consumed in the production of the eligible component, the costs of which are direct material costs under § 1.263A-1(e)(2)(i)(A).

Limitation for qualified interconnection property: The Identification Safe Harbor cannot be used for qualified interconnection property that may be considered part of a qualified facility under section 48E because the Safe Harbor Tables list MPs and MPCs only for qualified facilities as defined in § 48E(b)(3), and qualified interconnection property is not part of a qualified facility under that definition.

Cost percentage safe harbor (as provided in Step 3 above)

The Cost Percentage Safe Harbor allows taxpayers to use pre-assigned cost percentages from the Safe Harbor Tables rather than determining actual Direct Costs for each MP and MPC. The assigned percentages represent the typical share of total project cost attributable to each component type.

When you can use it: Only if the taxpayer first uses the Identification Safe Harbor. If a facility cannot use the Identification Safe Harbor, the Cost Percentage Safe Harbor is not available. Additionally, the Cost Percentage Safe Harbor is ***not available*** for facilities that qualify under the Incremental Production Rule (§ 45Y(b)(1)(C)). The Notice states that using the 2023–2025 Safe Harbor Tables for facilities, which by virtue of the Incremental Production Rule, may consist of only a small fraction of the components that are included in an entire new qualified facility, can generate results inconsistent with the purpose of the rules establishing the MACR.

KPMG observation

The Cost Percentage Safe Harbor may produce a more favorable MACR when the PFE-produced MP's or MPC's actual cost share exceeds its assigned percentage. Conversely, if actual PFE costs are lower than the assigned percentage, the taxpayer may obtain a better result by using actual costs and the Certification Safe Harbor. Accordingly, taxpayers should model both approaches for each facility when the Cost Percentage Safe Harbor does not clearly satisfy the applicable threshold percentage before committing to a safe harbor election, as the election must be applied consistently across all MPs/MPCs in the facility.

Certification safe harbor (as provided in steps 2 through 3 above)

The Certification Safe Harbor simplifies the PFE tracking requirement by allowing a taxpayer to rely on certifications from its direct suppliers rather than independently verifying the PFE status of every entity in the supply chain.

What a supplier can certify: A direct supplier may certify either (1) the dollar amount of direct costs (or direct material costs) attributable to MPs, MPCs, or Constituent Materials that were not PFE Produced or PFE Sourced, or (2) that the product was not PFE Produced or PFE Sourced and that the supplier does not know or have reason to know that any prior supplier in the chain of production is a PFE.

Supplier penalty considerations: Suppliers should be aware that providing a formal statutory certification under § 7701(a)(52)(D)(iii)(II)(bb) exposes them to the new § 6695B penalty for incorrect certifications (the greater of 10% of the resulting underpayment or $5,000) if the certification is knowingly or recklessly inaccurate, though a reasonable cause defense is available. A supplier that instead provides PFE status information through other means—such as contractual representations or compliance letters not signed under penalties of perjury—would fall outside the scope of § 6695B, but the taxpayer would lose the protection of the Certification Safe Harbor and bear the full risk of an incorrect PFE determination, including exposure to accuracy-related penalties.

When you can use it: Available for both the Clean Electricity MACR and the Eligible Component MACR. Importantly, even taxpayers using the Identification and Cost Percentage Safe Harbors still need to determine the PFE status of their MPs, MPCs, or Constituent Materials—the first two safe harbors only simplify identification and cost allocation, not PFE tracking.

KPMG observation

The 'know or have reason to know' certification appears to operate at the level of each individual MP or MPC being certified under the safe harbor. Similarly, the same supplier can certify non-PFE status for one product model while being unable to certify another. This is different, however, from a general PFE attestation as provided to the taxpayer by a supplier that may be used as documentation for the taxpayer's MACR analysis.

Safe harbor availability summary

Safe Harbor	MACR Step	Available For	Key Limitation
Identification	Step 1 (Identify)	Clean Electricity MACR (Listed technologies) and Eligible Component MACR (Listed eligible components: inverters, PV modules, battery packs/modules only)	Not available for interconnection property, thermal energy storage, geothermal, nuclear, or other unlisted technologies/components
Cost Percentage	Steps 3–4 (Costs)	Clean Electricity MACR (Listed technologies) and Eligible Component MACR (Listed eligible components: inverters, PV modules, battery packs/modules only); requires use of Identification Safe Harbor first	Not available for most eligible components, Incremental Production Rule facilities, or unlisted technologies
Certification	Steps 2–3 (Tracking)	Both Clean Electricity MACR and Eligible Component MACR	Requires certification from direct supplier; reseller may certify that direct suppliers (i.e., manufacturers) are not PFEs

Key concepts

Special rule: Sub-1 MW energy storage technologies

The Notice provides tracking simplification for smaller energy storage technologies claiming tech-neutral clean electricity credits under sections 45Y and 48E. Under the general rules, a taxpayer must track the Direct Costs and PFE status of every individual MP and MPC in each qualified facility or EST. For large-scale deployments of smaller EST units, this tracking burden could be enormous.

The sub-1 MW rule: Under section 3.01(3)(c) of the Notice, if a taxpayer places in service multiple ESTs of the same type during the same "specified period" (calendar year or tax year, at the taxpayer's election), and each individual EST has a nameplate capacity of less than 1 megawatt (or, for thermal energy storage, a nameplate capacity equivalent of less than 1 MW), the taxpayer may use **average costs and average PFE Production Percentages** across all ESTs of the same type placed in service during that period.

This means that instead of calculating a unique MACR for each individual sub-1 MW EST, the taxpayer can determine a single average Direct Cost per type of MP and MPC across all units, and a single average PFE Production Percentage. The resulting MACR is then applied uniformly to all ESTs of that type for the specified period.

> Example from Notice 2026-15 (§ 3.01(6)): Taxpayer B places in service 50 thermal energy storage EST Units during 2026, each with a nameplate capacity of less than 1 MW. Each unit includes 3 heat exchangers (a type of MP) plus additional MPs and MPCs. Because all 50 units are the same type of EST with sub-1 MW capacity and are placed in service during the same specified period, Taxpayer B may use average costs and average PFE Production Percentages across all 50 units to compute a single Clean Electricity MACR.

This averaging rule can dramatically reduce the compliance burden for developers of sub-1 MW EST systems, however, such burden remains for other technologies.

80/20 rule for repowered facilities

A qualified facility or EST may qualify as "originally placed in service" even if it contains some used components, provided the fair market value of the used components does not exceed 20% of the total value of the facility (the "80/20 Rule").

Notice 2026-15 clarifies that for MACR purposes, only the Direct Costs of new MPs and MPCs are considered. All used property is disregarded entirely—both from the numerator and the denominator of the MACR calculation. This means a taxpayer cannot use used components to dilute (or inflate) the ratio.

Special rules for safe harbors: When applying the Identification Safe Harbor, if the facility includes a mix of new and used property of the same type, the taxpayer may not disregard the new property. For example, if a solar facility replaces some (but not all) used PV modules with new ones, the new PV modules must still be identified as a Listed MP. When applying the Cost Percentage Safe Harbor, the taxpayer must use the full Assigned Cost Percentages without adjustment for partial replacement.

Incremental production rule

Under § 45Y(b)(1)(C) or § 48E(b)(3)(B)(i), a "qualified facility" can include new capacity or new units added to an existing zero-emission facility that was placed in service before 2025, but only to the extent of the increased electricity production. The Notice clarifies that the Cost Percentage Safe Harbor may not be used for facilities qualifying under this rule, because the Safe Harbor Tables assume an entirely new facility and applying pre-set percentages to a partial addition could produce inconsistent results. The Identification Safe Harbor remains available if the technology is a Listed type.

Contract manufacturing under section 45X

For eligible components produced under a contract manufacturing arrangement, the Notice clarifies which party's costs are measured: Direct Material Costs are the costs paid or incurred by the party that performs the actual production activities that bring about substantial transformation resulting in the eligible component. If such party did not bear any or all direct material costs, the Direct Material Costs also include the direct material costs to the taxpayer claiming the credit. This ensures the MACR captures the full direct material cost picture regardless of how the manufacturing relationship is structured.

PFE tracking and supplier verification

Even when using the Identification and Cost Percentage Safe Harbors, taxpayers still need supplier confirmation that their products are non-PFE. The safe harbors simplify what you track (Step 1) and how you calculate costs (Step 3), but they do not relieve you of the obligation to determine whether each MP, MPC, or Constituent Material was mined, manufactured, or produced by a PFE (Step 2).

Resellers: If the direct supplier is merely a reseller, the taxpayer must look through to the entity that actually mined, produced, or manufactured the item and apply the PFE definition to that entity.

Timing of PFE determination: Whether an MP or MPC is PFE Produced is based on the taxable year of the entity that mined, produced, or manufactured it. If that entity does not use a taxable year under § 7701(a)(23), the determination is based on the entity's PFE status for the calendar year in which the taxpayer paid or incurred the cost (or, for accrual-method taxpayers, when the entity provided the product).

Additional notable provisions

Licensing rule for effective control

The Notice provides one of the few concrete applications of the effective control rules. Under § 7701(a)(51)(D)(ii)(III)(aa)(GG), if a taxpayer makes a payment to a specified foreign entity under a licensing agreement for intellectual property related to a qualified facility, and that agreement was entered into or modified on or after July 4, 2025, the specified foreign entity is exercising effective control and the taxpayer is a foreign-influenced entity (and therefore a PFE). Effective control is determined independently under each provision of § 7701(a)(51)(D)(ii)(III)(aa)(AA) through (GG), so a single licensing arrangement can trigger PFE status.

Anti-evasion rules

Separate from the "know or have reason to know" standard applicable to supplier certifications under the Certification Safe Harbor mentioned above, the rules provide that if a taxpayer knows or has reason to know that a MP or Constituent Material was produced or manufactured by a PFE, the taxpayer may not rely on a contrary certification. In that case, the taxpayer must treat all direct costs of the MP, or all direct material costs of the Constituent Material, as attributable to a PFE. This rule functions as an anti-evasion safeguard.

The Notice states that Treasury and the IRS intend to propose regulations to prevent entities from evading, circumventing, or abusing the PFE restrictions, including through transfers or alterations of rights or property that result in temporary lapses of restricted foreign ownership or control. This signals that Treasury is concerned about restructuring transactions designed to temporarily cleanse PFE status and will likely look through to substance over form.

Calculating clean electricity MACR with multiple owners of shared equipment

If ownership of an MP (including its MPCs) is shared by multiple qualified facilities or ESTs, each owner is treated as having an undivided ownership interest and must track its share of Direct Costs and PFE Production status accordingly.

Reliance and effective dates

Clean Electricity MACR: Taxpayers may rely on the guidance for any qualified facilities or ESTs the construction of which begins after December 31, 2025, and on or before the date that is 60 days after the publication of forthcoming proposed regulations in the Federal Register.

Eligible Component MACR: Taxpayers may rely on the guidance for eligible components sold in taxable years beginning after July 4, 2025, and on or before the date that is 60 days after the publication of forthcoming proposed regulations.

Conclusion

Notice 2026-15 is an important first step, but significant questions remain. The Notice is narrowly focused on the MACR calculation mechanics and does not address the broader PFE definitional issues, including the debt rules, the full scope of effective control, or the interplay with existing ownership attribution rules. Treasury has stated that more comprehensive proposed regulations are forthcoming.

Comments are due by March 30, 2026, and Treasury has specifically requested input on PFE and material assistance issues, as well as responses to a series of specific questions related to the MACR. Stakeholders should closely review the request for comments and consider whether to submit responses, particularly on issues where the Notice is silent or ambiguous.

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