

Overview

The One Big Beautiful Bill Act (OB3) enacted a tough new set of rules that limit the use of China's supply chains and technology by taxpayers seeking to qualify for Internal Revenue Code (IRC) Section 45Y/48E/45X solar credits. The new rules are broadly characterized as the "Prohibited Foreign Entity" (PFE) provisions with three categories of restrictions that make a taxpayer ineligible for the 45Y/48E/45X solar credits: entity-level restriction, payment restrictions, and "Material Assistance" rules that limit supply chain purchases from a PFE.

This document, informed by tax opinions, legal counsel who advise the SEMA Coalition's members, as well as public documents, seeks to highlight important considerations for taxpayers in the solar supply chain and their customers as they navigate these rules. As further discussed, some of these rules are ambiguous, while others are clear but challenging to comply with in practice.

Consequently, the solar industry is awash in attestations conferring "non-PFE" status, including from third-party counsel, that lack full documentation or transparency about the level of analysis performed. While industry players have focused on ownership percentages to determine PFE status, there are *at least 32 different triggers* in OB3 (found in 26 USC 7701(a)(51)) that could make an entity a PFE and thus ineligible for tax credits. The majority of the attestations the SEMA Coalition has seen thus far 1) do not cover all PFE triggers, 2) are not intended for customer use, and/or 3) are not compliant with the IRS Circular 230 standards on legal tax opinions.

While awaiting Treasury action on PFE definitional clarifications, the simplest form of risk management for taxpayers seeking to claim this credit is to buy solar components from U.S. and allied-owned and controlled supply chains.

PFE Considerations for Taxpayers

PFE rules fall into three broad categories:

- 1. Entity-level Restrictions:** These disallow several solar energy tax credits if the taxpayer is a PFE — either a specified foreign entity ("SFE") or a foreign influenced entity ("FIE").
- 2. Payments Restrictions:** Taxpayers can lose eligibility for the 45Y, 48E, or 45X tax credits (and can face major penalties/repayment via "claw back" of previously claimed credits) if they make payments that are deemed to confer "effective control" to an SFE.
- 3. Material Assistance:** These component-level rules require taxpayers to determine how much of the manufactured products comprising their facilities (for 45Y and 48E), or inputs into the components they produce (for 45X), are made by a PFE.

Taxpayers can find the critical effective date timelines below:

Tax Credit	SFE Rules	FIE Rules	Payments Rule	Material Assistance
45Y/48E	Tax years after enactment [2026]	Tax years after enactment [2026]	Tax years after enactment [2026]	Facilities BOC after 2025 [2026]
45X	Tax years after enactment [2026]	Tax years after enactment [2026]	Tax years after enactment [2026]	Tax years after enactment [2026]

Section 1: Entity-Level Restrictions

Under these rules, taxpayers must determine whether any specific designations and forms of ownership or control make an entity an SFE, and whether certain business contracts and arrangements make an entity an FIE – both subcategories of PFE. The tests below must also be applied to certain counterparties or suppliers to avoid payment restrictions and to apply the Material Assistance provision discussed in later sections.

SFE Triggers

An SFE includes entities sanctioned, convicted, or designated under U.S. law, as well as certain named companies described below. One subset of an SFE is a Foreign Controlled Entity (FCE). An entity is deemed an SFE generally on the last day of the taxable year, with some exceptions.¹ The following can act as a checklist for taxpayers doing due diligence to determine whether their supplier is an SFE:

Designation & Sanctions

- Has the entity been designated as a foreign terrorist organization (INA §219)?
- Is the entity on the [OFAC Specially Designated Nationals \(SDN\)](#) list?

Criminal Convictions

- Has the entity been convicted under any of the following?
 - Espionage Act;
 - 18 U.S.C. §§951 or 1030;
 - Economic Espionage Act of 1996;
 - Arms Export Control Act;
 - Atomic Energy Act §§225-227, 236;
 - Export Control Reform Act of 2018;
 - International Emergency Economic Powers Act

¹For the initial taxable year, the determination as to whether an entity is a SFE described in clauses (i) through (iv) of Section 7701(a)(51) subparagraph (B) shall be made as of the first day of such taxable year.

National Security & Foreign Policy

- Has the entity been found by the Secretary of Commerce, in consultation with the Secretary of Defense and the Director of National Intelligence, to be engaged in conduct detrimental to U.S. national security or foreign policy under 15 USC 4651?²

Chinese Military & UFLPA

- Is the entity identified as a Chinese military company under [FY2021 NDAA §1260H](#)?³
- Is the entity included in a [list](#) required by clauses (i), (ii), (iv), or (v) of the Uyghur Forced Labor Prevention Act §2(d)(2)(B)?

Named Companies

- Is the entity (or a successor entity) one of the following?⁴
- CATL
 - BYD Company
 - Envision Energy
 - EVE Energy Company
 - Gotion Hightech Company
 - Hithium Energy Storage Technology company

FCE Status

An entity is an FCE if it is itself a covered nation entity, or if it is majority-controlled by one.

- Is the entity a government (including sub-national governments) of a covered nation, as defined in 10 U.S.C. § 4872(f)(2) – that is, the Democratic People’s Republic of Korea (North Korea), the People’s Republic of China, the Russian Federation, or the Islamic Republic of Iran?
- Is the entity an agency or instrumentality of such a government?
- Is the entity **owned** more than 50% by the Chinese, Russian, North Korean, or Iranian government, or by a citizen or national of one of those four countries?
- a. If yes, is that person a U.S. citizen, a U.S. national, or a green card holder? These persons are excluded.
- Is the entity an entity incorporated or headquartered in a covered nation?
- Is the entity (including subsidiaries) **controlled** by an entity or person described above?

²This is associated with a chapter of the [National Defense Authorization Act](#) that has to do with funding for semiconductors – no public list is available.

³This is a non-static list, regularly updated by the Department of Defense. On February 13, 2026, DoD issued an updated 1260H list that included Trina Solar Co., Ltd., and JA Solar Technology Co., Ltd (JA Solar), before withdrawing it from the Federal Register. We expect this list to be republished in the near future.

⁴These entities are referenced in Public Law 118–31 (section 154(b) of the National Defense Authorization Act for Fiscal Year 2024).

⁵Definitions:

- Covered Nation: China, Iran, North Korea, Russia (10 U.S.C. § 4872(f)(2)).
- Controlled: Ownership of >50% of stock (corporation), profits/capital (partnership), or beneficial interests (other entity).
- Ownership: consistent with rules similar to [IRC Sec. 318\(a\)\(2\)](#).

Publicly Traded FCE Status

For publicly traded companies on certain stock exchanges, the rules for FCE are generally as follows:

- Is the entity **controlled**⁷ by either:
- one or more SFEs listed on various national security lists, or
 - one or more governments of, citizens/nationals of, or entities organized in a covered nation, who are required to report their beneficial ownership?

Publicly traded companies have a lower threshold and only need to test shareholders who report beneficial ownership (i.e. >5%) under rule 13d-3 of the Securities and Exchange Act of 1934.

Analysis: "Control" means an entity owning greater than 50% voting rights or value, greater than 50% profit or capital interests, or greater than 50% of the beneficial ownership. When determining indirect ownership, only IRC section 318(a)(2) (upward attribution) applies. This means that the ownership analysis is limited to testing entities/individuals that sit above the U.S. taxpayer in the chain of ownership, including partners and shareholders. Notably, U.S. taxpayers do not need to examine the familial relationships of their owners/shareholders or whether related subsidiaries are FCEs.

FIE Triggers

An entity is an FIE if it is owned, financed, or contractually influenced by SFEs as described below.

Governance & Ownership

- Does any SFE have direct authority to appoint a covered officer⁸ of your company?
- Does a single SFE own at least 25% of your company?
- Do one or more SFEs in the aggregate own at least 40% of your company?

Debt & Financing

- Has at least 15% of your company's debt been issued to one or more SFEs?

Analysis: This could be a major problem for financial firms with Chinese debt holdings. It is unclear how Treasury guidance will define this language, but the analysis may require looking only at the first issuance. Like the SFE test, the key FIE analysis for many taxpayers will also involve tracing the chain of ownership to determine whether any governments of covered nations, citizens of covered nations, or entities organized in covered nations own the taxpayer directly or indirectly through another entity.

⁷Controlled: Ownership of >50% of stock (corporation), profits/capital (partnership), or beneficial interests (other entity).

⁸Covered Officer Definition:

- Member of the board of directors, board of supervisors, or equivalent governing body;
- Executive-level officer (President, CEO, COO, CFO, General Counsel, SVP); or
- Any individual with similar responsibilities.

Publicly Traded Entities - FIE Rules

Publicly traded entities (same definition as above) do not have to comply with the Governance & Ownership or Debt & Financing terms above. Instead, publicly traded entities and their 80% owned subsidiaries will be treated as an FIE if:

- An SFE has the authority to appoint a covered officer.
- A single SFE that reports its beneficial ownership of the entity under 13d-3 of the Securities and Exchange Act of 1934 owns at least 25%.
- One or more SFEs that report beneficial ownership of the entity under 13d-3 own, in the aggregate, at least 40%, or
- The publicly traded entity or its 80% subsidiary has issued debt in excess of 15% of its publicly traded debt to one or more SFEs.

Analysis: The scope of “covered officers” is not clear, nor is it clear if indirect authority to appoint a covered officer applies. Publicly traded companies are provided significant relief, but some could run afoul of the rules if a significant amount of debt has been issued to entities that may be SFEs. These publicly traded entities also have to comply with the more complex rules below, and could therefore remain a risk for taxpayers claiming the various credits. Major financial institutions have [made clear](#) that they are concerned about the lack of clarity in these rules.

Effective Control

“Effective control” generally means one or more agreements or arrangements that provide a counterparty with authority over key aspects of the production of eligible components, energy generation in a qualified facility, or energy storage technologies (EST), even without direct ownership or debt control. This general framework applies to the conditions listed below. An exception is provided from the “Effective Control Test” for bona fide purchases of intellectual property, so long as such intellectual property does not revert to the counterparty after a period of time.

Authority over Production & Output

- Does any contractual counterparty have authority to determine the quantity or timing of production of eligible components?
- Does any contractual counterparty have authority to determine the amount or timing of electricity production at a qualified facility or energy storage activity at an EST?
- Does any contractual counterparty determine who may purchase or use the output of your production unit for eligible components?
- Does any contractual counterparty determine who may purchase or use the output of a qualified facility?
- Does any contractual counterparty have authority to restrict access* (data, facilities, or sites) to production or storage operations at a qualified facility or EST?
- Does any contractual counterparty have exclusive rights to maintain, repair, or operate any plant or equipment necessary to production or electricity generation?

Licensing, IP & Contractual Rights

The following are only applicable if a “contractual right” is retained by the counterparty:

- Does any licensing or IP agreement allow a counterparty to specify or direct sources of components, subcomponents, or critical minerals?
- Does any counterparty have authority to direct the operation of a qualified facility, EST, or production unit?
- Does any counterparty have authority to limit your use of intellectual property* related to component production or facility operation?
- Does any counterparty receive royalties or payments beyond the 10th year of a license agreement (including modifications/extensions)?
- Does any counterparty require your company to enter into a services agreement longer than 2 years?

The following apply more broadly to a “contract, agreement, or other arrangement”:

- Does any agreement not provide the licensee with technical data, information, or know-how* necessary for your company to produce eligible components without further involvement from the counterparty?
- Was any such licensing agreement with a prohibited foreign entity entered into or modified on or after July 4, 2025 (the enactment of OB3)? Anything signed on or after July 4, 2025 could automatically trigger effective control. Taxpayers should ensure that they are not procuring solar components from entities that may have modified agreements after OB3 was signed into law.

Analysis: Determining whether or not a counterparty is an SFE is challenging in practice. The counterparty will likely not want to share its ownership structure or other key measures of control. Importantly, the statute does not provide any specific path to obtaining certification from counterparties, nor does it appear to provide a “knowingly” standard, meaning taxpayers may violate the rule regardless of knowledge or reasonable efforts.

Contracts existing before the OB3’s enactment can confer effective control and are subject to the FIE rules beginning in taxable year 2026. Payments made in the prior year pursuant to those contracts are subject to these effective control payment rules.

Determining how Treasury will interpret what language in a contract can be deemed a “contractual right” remains challenging. Triggers above include undefined terms that Treasury has not defined in prior rules. Specifically, it is unclear what encompasses a counterparty not providing, in any “contract, agreement or other arrangement,” “intellectual property,” “technical data,” or “know-how.” These terms could provide Treasury with wide latitude to strike down arrangements with Chinese companies that they may not want to exist.

**Not defined – Interpret broadly*

“Operate” can also be an ambiguous term when running a manufacturing facility. How Treasury interprets this could impact a taxpayer’s eligibility for 45X incentives. A fair reading of the exemption provided in the statute is that a bona fide purchase of intellectual property means the counterparty retains full rights.

Section 2: Payment Restrictions

A single payment to an SFE during the previous tax year can make a taxpayer an FIE for the current year. This payment must confer “effective control” to an SFE or a person “related” to an SFE under IRC Sections 267(b) or 707(b). Taxpayers claiming credits under sections 45Y, 48E, and 45X will be subject to the FIE rules beginning in taxable years 2026 for the 45Y, 48E, and 45X credits. Even if a project commenced construction in 2026, payments made to an SFE in the previous taxable year (2025 in calendar-year terms) would trigger FIE compliance challenges if those payments resulted in the SFE exercising effective control.

- Did your company make payments to an SFE under an agreement that entitles the SFE to exercise effective control, as defined in the above section, over:
- A qualified facility or EST; or
 - Extraction, processing, or recycling of a critical material; or
 - Production of an eligible component (other than a critical mineral)

Analysis: In practice, IRC Sections 267(b) or 707(b) rules defining related parties are very broad, and this analysis could require a great deal of legal work alone. Additionally, it is unclear whether payments related to one qualified facility of the taxpayer for which a 48E/45Y credit is being claimed can taint otherwise unrelated qualified facilities. For example, if a taxpayer places a storage facility and a solar facility into service separately and claims separate 48E credits, it is unclear whether payments related to one facility could taint the other. *The statute does not provide a knowledge standard (“should have known”) regarding effective control payments.* Starting in 2028, taxpayers claiming tax credits under section 48E must monitor effective control payments (including potentially those for other facilities owned by the taxpayer) for a 10-year period beginning in the year prior to claiming the credit or risk having the credit recaptured.

Section 3: Material Assistance

These restrictions deny 45Y and 48E credits if the construction of a solar facility receives “material assistance” from a PFE. They also restrict 45X credits for eligible components produced and sold with “material assistance.” This effectively means that if a taxpayer uses too few non-PFE components, as defined by the “material assistance cost ratio” threshold, the resulting facility or eligible component is denied the credit. The cost ratio is the total cost of non-PFE components* divided by the total cost of all components* incorporated into the facility or eligible component.

**including constituent materials, if applicable*

The Material Assistance Cost Ratio (MACR) percentages increase as follows:

		Beginning of Construction				
Facility	2026	2027	2028	2029	2030	
Qualified Solar Facilities	40%	45%	50%	55%	60%	

		Year Component is Sold				
45X Components	2026	2027	2028	2029	2030	
Solar Components	50%	60%	70%	80%	85%	

The material assistance rules are complex but are outlined in the February 12, 2026, Department of Treasury and IRS [notice](#); there is likely to be additional regulatory action, expected later in 2026.

Section 48E/45Y MACR

Taxpayers can calculate MACR using “Direct Costs” or the provided safe harbors (e.g., existing domestic content tables or the certification method), where applicable. The safe harbors allow taxpayers to trace at the Manufactured Product (MP) and Manufactured Product Component (MPC) levels listed in the domestic content safe harbor tables, with additional averaging rules to account for the business realities of procurement and tracing. The tables can be considered “exclusive and exhaustive” for safe harbor purposes. Costs upstream of the MPC (e.g., solar-grade polysilicon, raw materials) are not directly reflected in the MACR.

Section 45X MACR

The notice generally provides greater clarity on how manufacturers should count costs for MACR purposes. Similar to calculating MACR for 48E/45Y, manufacturers can calculate their MACR using a direct costs method or the provided safe harbors, where applicable.

For 45X eligible components, manufacturers must track the “Direct Material Costs” of “constituent elements, materials, or subcomponents” (Constituent Materials) used to produce the eligible component or consumed in production of the eligible component – effectively one level upstream of the eligible component.

Per the February 12 guidance, taxpayers can rely on an Identification Safe Harbor to identify certain MPs, MPCs, or Constituent Materials of “Listed eligible components,” and use the Cost Percentage Safe Harbor to determine the cost calculations. Taxpayers may alternatively rely on a Certification Safe Harbor to determine costs and whether MPs, MPCs, or Constituent Materials are attributable to a PFE.

Notably, a valid certification for the Certification Safe Harbor must include:

- Supplier EIN or similar identification number
- Signed under penalties of perjury
- Retained by the supplier and the taxpayer for 6 years
- Be from the supplier from which the taxpayer purchased any MP, eligible component, or Constituent Materials, and state:
 - that such property was not produced or manufactured by a PFE and that the supplier does not know (or have reason to know) that any prior supplier in the chain of production of that property is a PFE,
 - for purposes of 45X, the total direct material costs for each component, constituent element, material, or subcomponent that were not produced or manufactured by a PFE, or
 - For purposes of 48E/45Y, the total direct costs attributable to all MPs that were not produced or manufactured by a PFE.

Congress used the term “reason to know” in connection with this provision, which it has used, and the IRS has [implemented](#), in many other contexts for tax law. Based on prior uses of the term, Congress intended “reason to know” to take into account the expertise of the buyer and encompass all the facts about solar supply chains, that a reasonable person in the role of a manufacturer would know when entering into a significant supply contract.

Use of existing domestic content safe harbor tables for the Cost Percentage Safe Harbor is allowed until Treasury’s issues updated safe harbor tables and detailed rules, which are expected by December 31, 2026.

Analysis: The certification can include any of the three pathways above. Though not directly stated, it appears that if a supplier claims zero PFE exposure, they would likely have to rely on the first bullet above. However, it may be helpful for Treasury and the IRS to provide more clarity on this point in future rulemaking. The guidance allows manufacturers to mix PFE and non-PFE components to meet a targeted MACR, but strict due diligence may be required to enforce this provision. In addition, Treasury did not provide additional clarity on the “reason to know” standard for material assistance under 48E/45Y. Until further clarification is provided, this may pose a compliance risk to project developers.

Existing Contracts Exemption

An exemption from the material assistance rules applies to eligible components acquired by or manufactured for the taxpayer pursuant to a binding written contract entered into before June 16, 2025. For sections 48E and 45Y, the solar facility to which the materials are incorporated must begin construction before August 1, 2025, and be placed in service before 2028.

Additional Resources

The NYU Tax Policy Center: [Navigating OBBBA: phaseouts, prohibited foreign entity rules, and other new rules](#)

Bloomberg: [JPMorgan, Morgan Stanley Are Pausing on Some US Renewable Deals](#)

Norton Rose Fulbright: [New IRS Guidance on FEOC and 45Z Tax Credits](#)

Crux: [2025 Market Analysis: Compliance with Foreign Entity of Concern Rules](#)

American Bar Association Tax Section: [Prohibited Foreign Entity comment letter](#)

Acknowledgements

This report and analysis was prepared by the SEMA Coalition staff. We would like to thank all contributors and reviewers whose insights, expertise, and thoughtful feedback helped shape and strengthen this work.

For questions, please contact info@semacoalition.org or visit www.supportussolar.org.

