

Federal Tax Credits: Material Assistance Rules for Mere Mortals

April 6, 2026

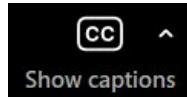
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Federal Tax Credits: Material Assistance Rules for Mere Mortals



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Notice 2026-15 & other PFE rules

Overview for PTC/ITC (45Y/48E) technologies



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Agenda

- **Reminders on important dates**
 - Beginning of construction, ground-source heat pumps, and domestic content
- **“Taxable year”**
- **Notice 2026-15 - Material Assistance**
 - Using safe harbor tables
 - Certification Safe Harbor
 - Tracking exceptions
- **Review of PFE ownership rules**
- **Questions & resources**

Important Dates

- 1. Solar and wind credit eligibility.** Wind & solar projects must begin construction (BOC) by 7/4/26 or be placed in service by end of 2027.
 - *PHYSICAL WORK TEST is only way to establish BOC for this purpose (Notice 2025-42)*
- 2. PFE Material Assistance rules.** Projects that began construction before 2026 are exempt from the material assistance requirements.
 - *PHYSICAL WORK TEST OR 5% COST SAFE HARBOR can be used to establish BOC for this purpose (Notice 2013-29 & Notice 2018-59)*
- 3. PFE ownership & payment rules.** Apply regardless of BOC date to taxable years beginning after OB3 enactment

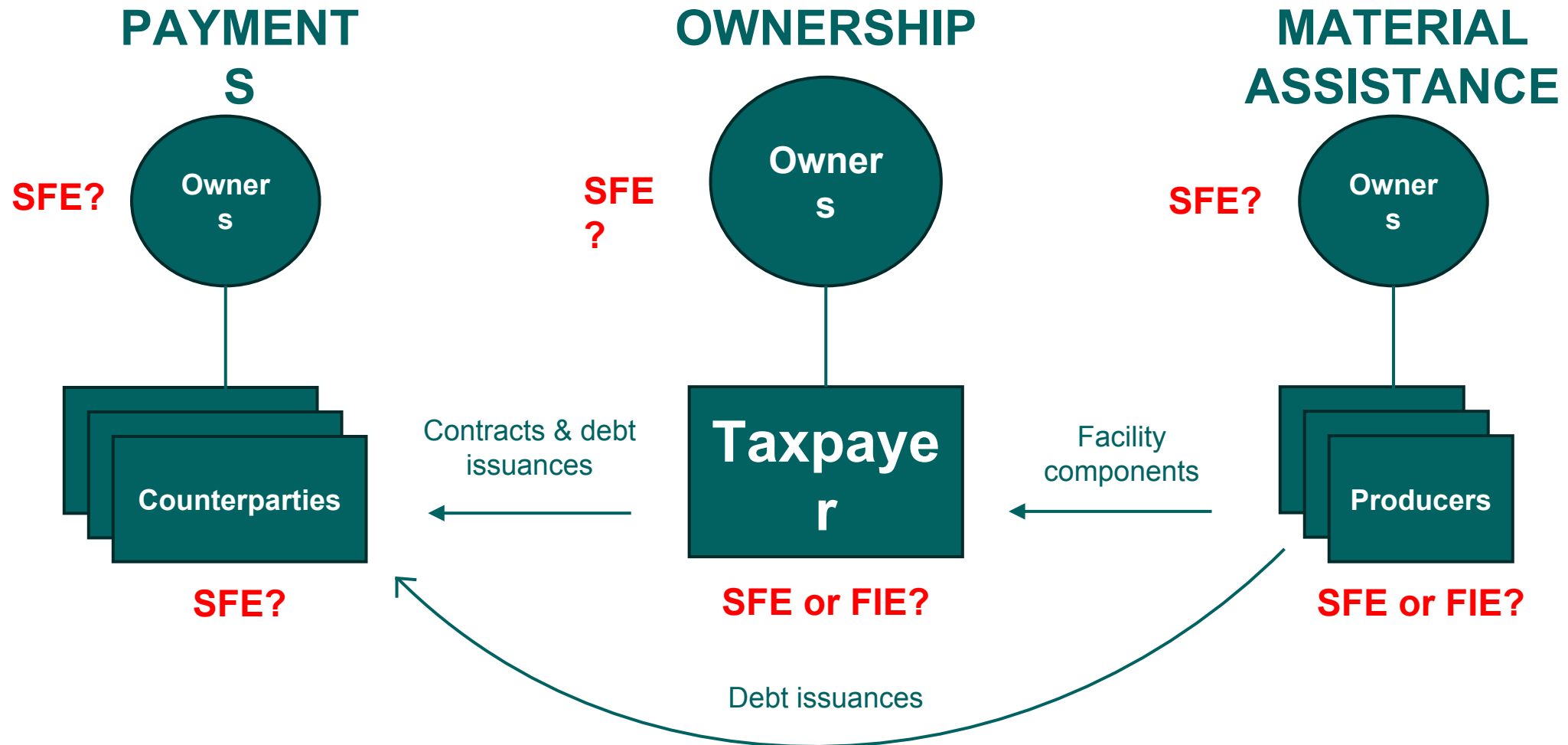
Important Dates (cont.)

4. **Domestic content.** Government & tax-exempt entities must satisfy domestic content rules for projects ≥ 1 MW that **begin construction after 2025**.
 - Notice 2024-84 facilitates claiming statutory exceptions (Increased Cost & Non-Availability) and is still in effect
5. **Ground-source heat pumps.** ITC for ground-source heat pumps is available for projects **beginning construction before 2035**.
 - Ground-source heat pumps are **NOT** subject to PFE rules.

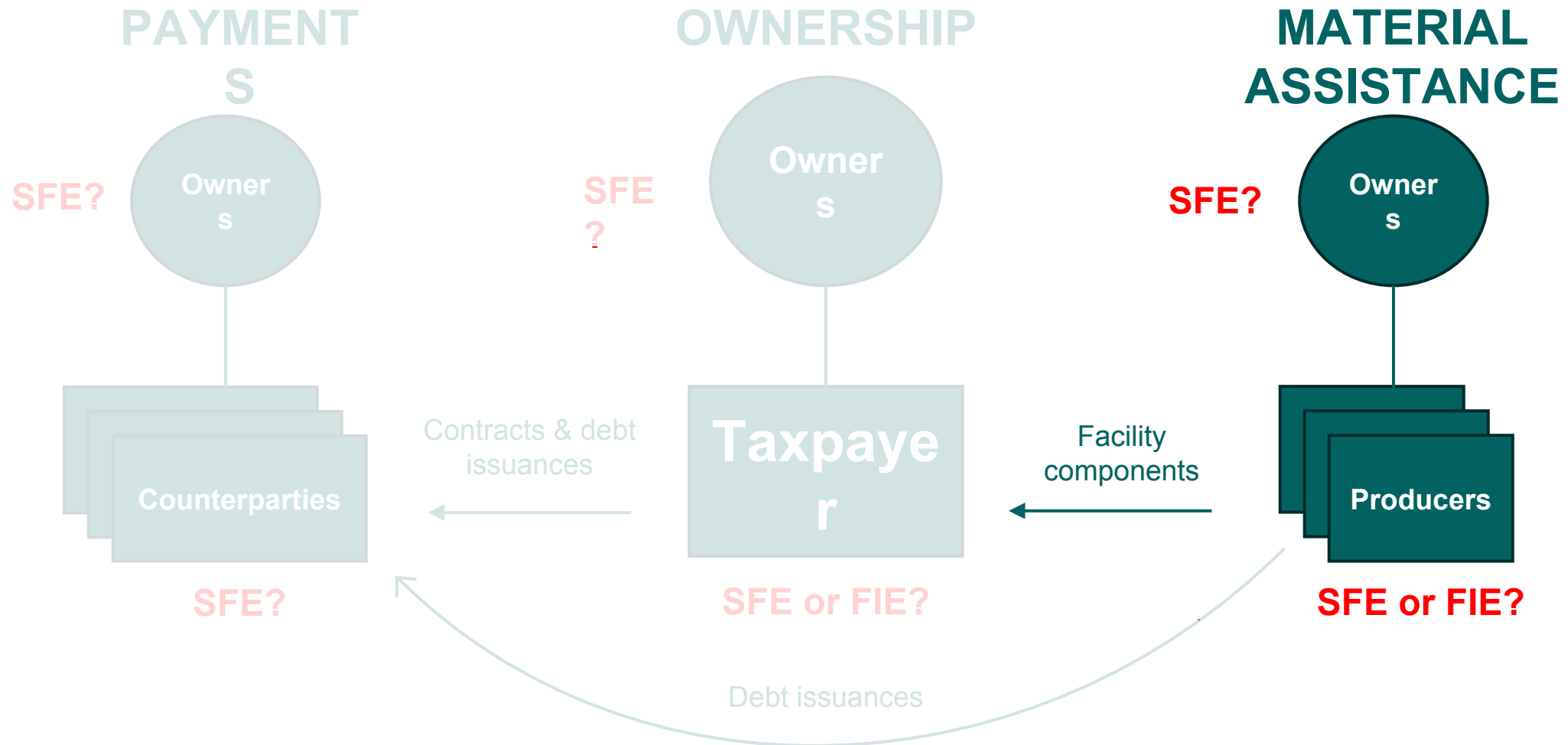
“Taxable year”

- **Tax-exempt entities filing annual return:**
 - Taxable year = calendar or fiscal year as reflected on Form 990
- **Government & other tax-exempts not filing annual return:**
 - Taxable year = calendar year or fiscal year as elected on first Form 990-T filed
- **Other taxpayers (e.g., corps, partnerships, other for-profits)**
 - Calendar year or fiscal year as is used on US tax return
- **The PFE rules** may require taxpayers to know the taxable year of their **owners, counterparties, or suppliers**, because the taxable year determines the timing of when those entities are tested for PFE status.

PFE Universe



PFE Universe



Notice 2026-15

Using the safe harbor tables, certifications, and tracking exceptions



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Material assistance

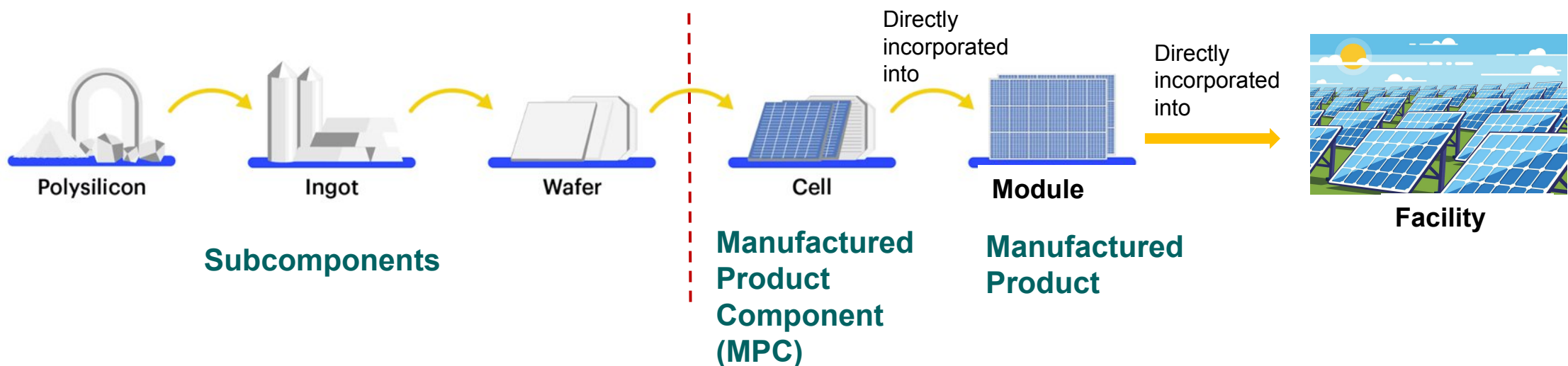
- Material assistance rules apply to facilities and energy storage beginning construction after 2025.
- Essentially, facilities and energy storage must have a sufficient percentage of *non*-PFE-produced equipment, according to a formula called the **Material Assistance Cost Ratio (MACR)**.
- The percentage thresholds depend on the year the project begins construction:

Facility	BOC 2026	2027	2028	2029	2030 and after
Qualified facilities	40%	45%	50%	55%	60%
EST	55%	60%	65%	70%	75%

Key takeaways of Notice 2026-15

1. Clarifies which inputs' costs factor into the MACR:

- 45Y/48E taxpayers must look two levels deep in the supply chain and determine whether PFEs produced **Manufactured Products (MPs)** and **Manufactured Product Components (MPCs)**.
- Subcomponents are not relevant. Structural steel/iron also not relevant.



Key takeaways of Notice 2026-15

2. Provides three optional safe harbors.

1. **“ID Safe Harbor”** tells you what inputs into your type of facility are considered MPs and MPCs
 - *Available for: Solar (ground-mount and rooftop), wind (land-based and offshore), battery storage, hydropower and pumped hydropower storage*
2. **“Cost Percentage Safe Harbor”** provides default cost percentages for each MP and MPC in your type of facility, used in lieu of actual costs
 - *Available for: Solar (ground-mount & rooftop), wind (land-based only), battery storage*
3. **“Certification Safe Harbor”** can be relied upon in determining if an MP or MPC is PFE-produced or not
 - *Available to all taxpayers*

Using the ID & Cost Percentage Safe Harbors to determine your MACR



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Relevant tables from domestic content guidance

- **Solar PV Ground-Mount** ([§ 5.05](#), Notice 2025-08) (for ID and Cost Safe Harbors)
- **Solar PV Rooftop** ([§ 5.06](#), Notice 2025-08) (for ID and Cost Safe Harbors)
- **Land-based wind** ([§ 6.02](#), Notice 2025-08) (for ID and Cost Safe Harbors)
- **Battery energy storage systems** ([§ 7.02](#), Notice 2025-08) (for ID and Cost Safe Harbors)
- **Hydropower & pumped hydropower** ([§ 3.02](#), Notice 2024-41) (**ID Safe Harbor only**)
- **Offshore wind** ([§ 3.04](#), Notice 2023-38) (**ID Safe Harbor only**)

Identification Safe Harbor

.02 Updated Table for Land-Based Wind. (From § 6.02, Notice 2025-08)

	APC	MPC	Value
MPs	Wind Turbine	Blades	31.2
		Rotor Hub	9.9
		Nacelle	47.5
		Power Converter	8.9
		Production	0.9¹¹
Wind Tower Flanges	Preform ¹²	0.8	
	Production	0.8¹¹	
Steel / iron	Tower	-	Steel/Iron Product
	Steel or iron reinforcing products in foundation	-	Steel/Iron Product
	Total	-	100

.02 Updated Table for Battery Energy Storage System (BESS) (From § 7.02, Notice 2025-08)

	APC	MPC	Grid-scale BESS	Distributed BESS
MPs	Battery Pack/ Module	Cells	52.0	26.9
		Packaging	5.6	13.4
		Production	8.0¹³	2.9¹³
	Inverter/ Converter	Printed Circuit Board Assemblies	1.4	5.4
		Thermal Management System for Inverter	0.4	-
		Electrical Parts	0.5	-
		Enclosure & Skids	0.4	1.0
		Production	1.9¹³	4.3¹³
	Battery Container/ Housing	Enclosure	14.8	22.8
		Battery Management System	7.4	10.1
Thermal Management System for Battery Container/Housing		5.6	10.1	
Production		2.0¹³	3.1¹³	
Steel / iron	Steel or iron reinforcing products in foundation	-	Steel/Iron Product	-
	Total	-	100	100

Material Assistance Cost Ratio (MACR) using Cost Percentage Safe Harbor

$$\text{MACR} = \frac{\text{Total Percentage} - \text{Total PFE}}{\text{Percentage}}$$

Total Percentage

- **Total Percentage:** the sum of the default cost values for all MPs/MPCs in the table for the type of project (generally 100%)
- **Total PFE Percentage:** the sum of the default cost values of the PFE-produced MPs and MPCs in the table

Cost Percentage Safe Harbor

.02 Updated Table for Land-Based Wind.

APC	MPC	Value
Wind Turbine	Blades	31.2
	Rotor Hub	9.9
	Nacelle	47.5
	Power Converter	8.9
	Production	0.9¹¹
Wind Tower Flanges	Preform ¹²	0.8
	Production	0.8¹¹
Tower	-	Steel/Iron Product
Steel or iron reinforcing products in foundation	-	Steel/Iron Product
Total	-	100

Table from [§ 6.02](#), Land-Based Wind Notice 2025-08

Key Rules


- **In general.** When purchasing or producing MPs, taxpayers must determine whether the MP and the MPCs within are produced by a PFE.
- **MPC values.** MPC values are treated as PFE direct cost if produced by PFE and non-PFE direct cost if not.
- **MP production.**
 - If an MP is produced by a non-PFE, production cost is treated as non-PFE in the MACR numerator (even if some of the MPCs are produced by a PFE).
 - If an APC is produced by a PFE, production costs are included in PFE direct cost in the MACR numerator.

Example: Determining Clean Electricity MACR using Cost % Safe Harbor

.02 Updated Table for Land-Based Wind.

APC	MPC	Value
Wind Turbine (PFE)	Blades	31.2 (PFE)
	Rotor Hub	9.9
	Nacelle	47.5
	Power Converter	8.9
	Production	0.9¹¹ (PFE)
Wind Tower Flanges	Preform ¹²	0.8
	Production	0.8¹¹
Tower	-	Steel/Iron Product
Steel or iron reinforcing products in foundation	-	Steel/Iron Product
Total	-	100

Table from [§ 6.02](#), Land-Based Wind Notice 2025-08

1. BOC Year: 2026
2. Statutory MACR Threshold %: 40%
3. Clean electricity MACR = $(31.2 + 9.9 + 47.5 + 8.9 + 0.9 + 0.8 + 0.8) - (31.2 + 0.9)$
 $(31.2 + 9.9 + 47.5 + 8.9 + 0.9 + 0.8 + 0.8)$
Clean electricity MACR = 67.9% 
4. Result: 67.9% > 40%

Timing of PFE determination

- What matters for the MACR is the PFE status of the **producer**, not the direct supplier (if different)
- Producer's PFE status is determined **on the last day of the producer's taxable year** in the taxable year in which the taxpayer "paid or incurred" the direct cost for the MP or MPC
- Therefore, taxpayers need to figure out three things:
 - 1. On what date did you pay or incur the cost for the MP or MPC?**
 - *For accrual method taxpayers, direct costs are incurred when the taxpayer is provided the MP or MPC*
 - 2. Determine during which taxable year of the producer that date falls into.**
 - 3. Determine whether the producer was a PFE as of the last day of its taxable year.**
 - *For foreign suppliers with no taxable year, use calendar year*
 - *Certification Safe Harbor can help determine producer's PFE status*

Example - Timing of PFE Determination

Facts: Taxpayer, an accrual method taxpayer, is developing a solar facility and determining its MACR.

- Taxpayer purchases and receives modules in **September 2026** from Producer, who is also a US taxpayer.
- Producer's taxable year **ends in June** as reflected on its tax return.

Result: Taxpayer must determine whether Producer is a PFE as of **June 30, 2027** in calculating its MACR.

Notice 2026-15: Other Rules

- **Retrofitted facilities (“80/20 rule”):** Only new MPs and MPCs incorporated into a facility that qualifies for the PTC/ITC by virtue of the 80/20 rule are included in the PFE analysis. Used property is disregarded.
 - Identification and Cost Percentage Safe Harbors can be used for 80/20 projects
- **Qualified Interconnection property:** Separate MACR and no safe harbor tables.
- **Differences between tables and actual projects:** For taxpayers using the ID or Cost Percentage Safe Harbors, any MP or MPC that is in the table but not actually in the project is disregarded. Also, any MP or MPC that is in the project but not in the tables is disregarded.

Using the Certification Safe Harbor



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Certification Safe Harbor

- Any taxpayer claiming the § 45Y or 48E credits can opt to use the certification safe harbor.
 - Optional: Can also do due diligence, maintain books & records
- The Notice provides that a direct supplier of an MPs or MPC may certify either:
 - (1) that such MP or MPC was not PFE Produced, **or**
 - (2) the total direct costs to the taxpayer of such MP or MPC that was not PFE produced.

Notice 2026-15 § 4.03(2)(b)

Certification Safe Harbor

- Certifications must:
 - be attached to the tax return claiming the § 45Y or 48E credit
 - include the supplier's EIN (or foreign equivalent),
 - be signed under penalties of perjury,
 - be retained by the supplier and taxpayer for at least six years, and
 - come from the *direct supplier* from which the taxpayer purchased the MP or MPC

Per the statute, they must state either:

- “such property was not produced or manufactured by a PFE and 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,” or
- “the total direct costs attributable to all MPs that were not produced or manufactured by a PFE.”

Notice 2026-15, example 4:

- A solar developer is using the Certification Safe Harbor. It must determine whether the **inverters** and **PV trackers** in its facility were PFE-produced. Both items are MPs.
- The suppliers of the inverters and PV trackers each certify that:
“such MPs were not produced or manufactured by a PFE and that the supplier does not know (or have reason to know) that a prior supplier of any MPC in the chain of production is a PFE.”
- The developer treats the inverters and PV trackers as entirely non-PFE produced.
- This example suggests MP suppliers do not need to certify as to the entire supply chain.

Notice 2026-15, section 4.04(4), example 4 (emphasis added).

Example of certification if not using Cost Safe Percentage Safe Harbor

County Gov is determining the MACR of a solar rooftop system to be placed in service in 2026. Using table 5.06 in Notice 2025-08, County Gov identifies 3 MPs (and related MPCs) with total acquisition costs as follows: a **PV Module (\$280K)**, an **Inverter (\$120K)**, and **Non-steel Roof Racking (\$100K)**.

County Gov obtains certifications from the **direct suppliers** of the **PV Module** and **Inverter**, stating that

1. “the total direct cost of the Inverter that is not produced by a PFE is \$120,000” and
2. “the total direct cost of the Non-steel Roof Racking that is not produced by a PFE is \$100,000.”

MACR is therefore at least 44%, calculated as follows: $(\$120 + \$100) / \$500$

Certification open questions

- How can a taxpayer rely on a certification obtained at the time the transaction occurs given that producer's PFE status is determined at the end of its taxable year?
 - Can the certification only be provided from the "direct supplier"? Who is the direct supplier? Can the taxpayer rely on a certification from the producer itself?
- *Commenters have asked for further guidance on both these issues.*

Tracking exceptions



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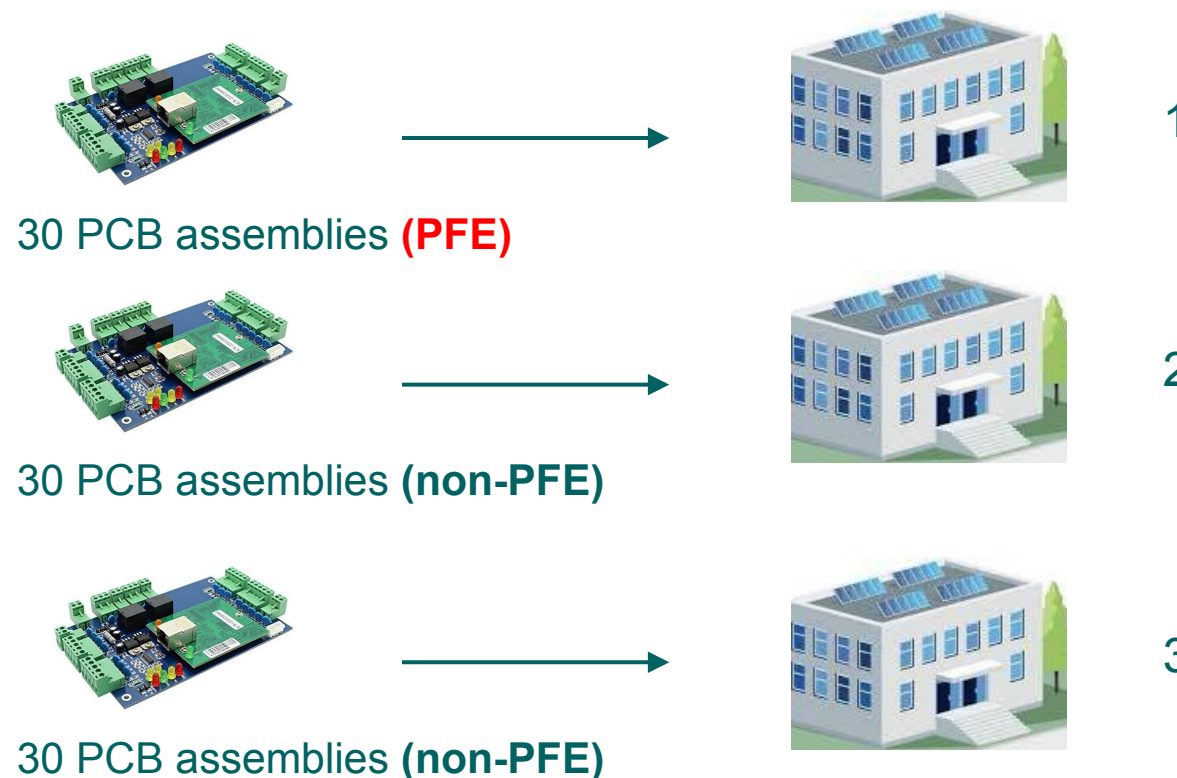


Tracking MPs and MPCs

- The general rule is that the characteristics (i.e. whether or not an item is PFE produced) of MPs or MPCs must be tracked and assigned individually to each facility the MP or MPC is incorporated into.
- Two exceptions:
 - *De minimis* assignment exception
 - < 1MW EST average cost exception

Example - *De minimis* assignment

- Taxpayer acquires 90 identical Printed Circuit Board Assemblies and incorporates them into 3 identical rooftop solar facilities placed in service in 2026. **30 of the 90 assemblies acquired are produced by PFEs.**
- In table 5.06 of Notice 2025-08, Printed Circuit Board Assemblies (an MPC of the Inverter) represent **7.9% (<10%)** of the total rooftop solar facility cost.
- Taxpayer can therefore **freely assign** the assemblies to the 3 facilities.



Example – EST < 1MW Exception

Facts:

- Taxpayer places into service 20 identical < 1 MW ESTs between January 1 and March 31 (S1), and then 40 identical < 1MW ESTs between April 1 and December 31 (S2).
- **30%** of the battery cells that taxpayer acquired and used in the ESTs in S1 were produced by a PFE and **55%** in S2.
- **No other MPs or MPCs were produced by PFEs.** In table 7.02 in Notice 2025-08, the cells have a value of 26.9.

Jan. 1 – Mar.
31

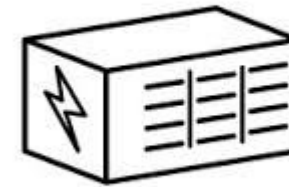


20 ESTs
(< 1MW)

$$\text{MACR} = \frac{100 - (30\% \times 26.9)}{100}$$

MACR = 92%

Apr. 1 – Dec.
31



40 ESTs
(< 1 MW)

$$\text{MACR} = \frac{100 - (55\% \times 26.9)}{100}$$

MACR = 85.2%

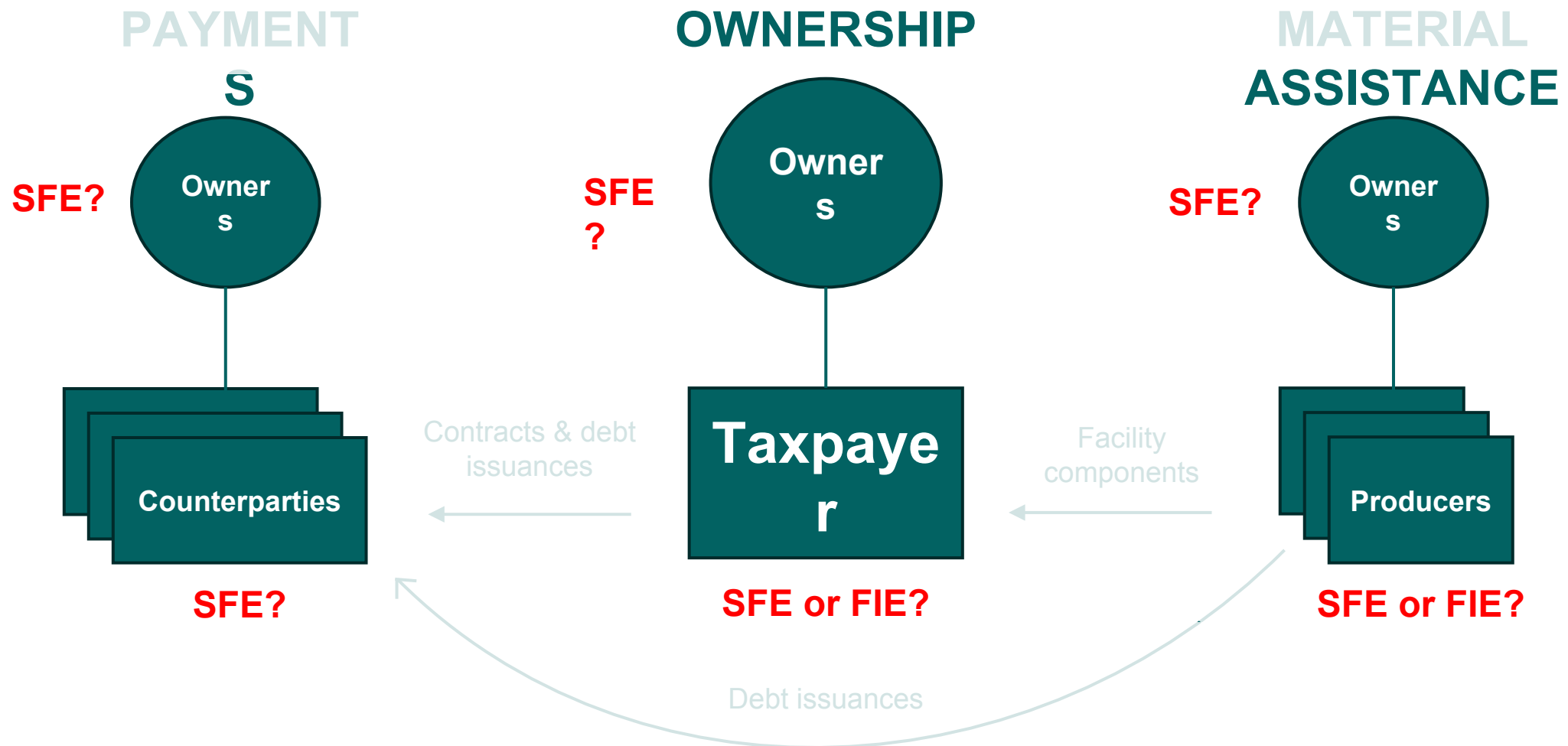
PFE Ownership Rules



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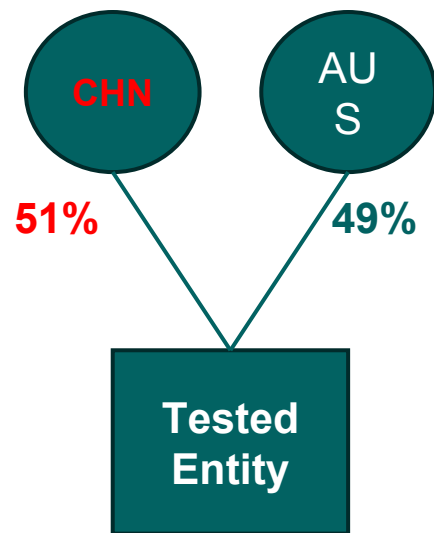


Ownership testing under the PFE rules

- | | | |
|---|---|--|
| 1) If a single <u>CHN entity</u> * owns an entity <u>directly or constructively</u> > 50% | → | Specified foreign entity (SFE) |
| 2) If a single <u>SFE</u> owns an entity <u>directly or constructively</u> ≥ 25% | → | Foreign-influenced entity (FIE) |
| 3) If 1 or more <u>SFEs</u> (in the aggregate) own an entity <u>directly or constructively</u> ≥ 40% | → | FIE |

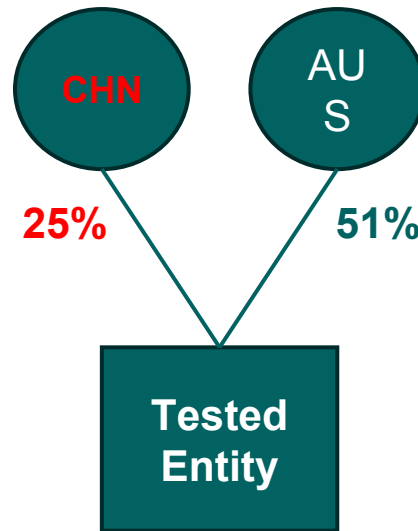
**Also includes entities/individuals/governments of Iran, Russia, North Korea*

Simple SFE & FIE Direct Ownership



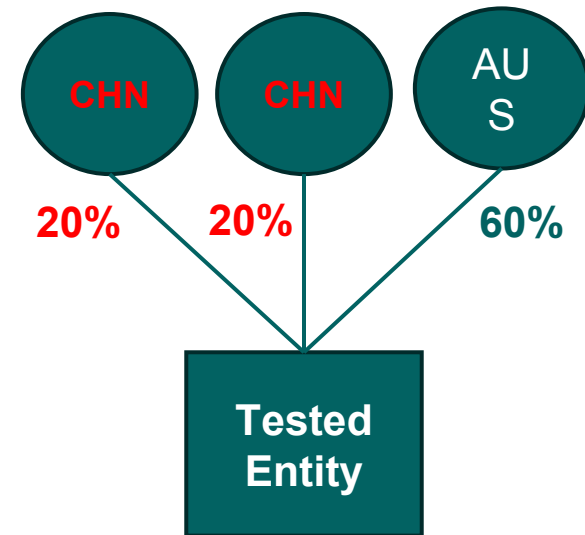
SFE

1



FIE

2



FIE

3

How do the ownership “attribution” rules work when attributing to **partners**?

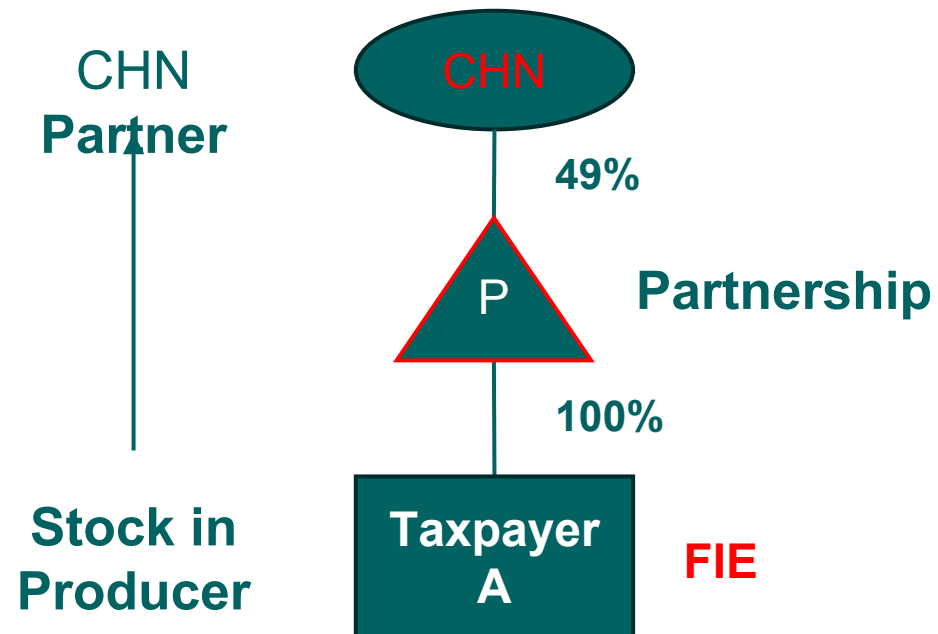
Rule under § 318(a)(2)(A):
Partners are treated as proportionally owning whatever the partnership owns.

CHN is therefore treated as constructively owning **49%** of Taxpayer.

Proportional calculation:

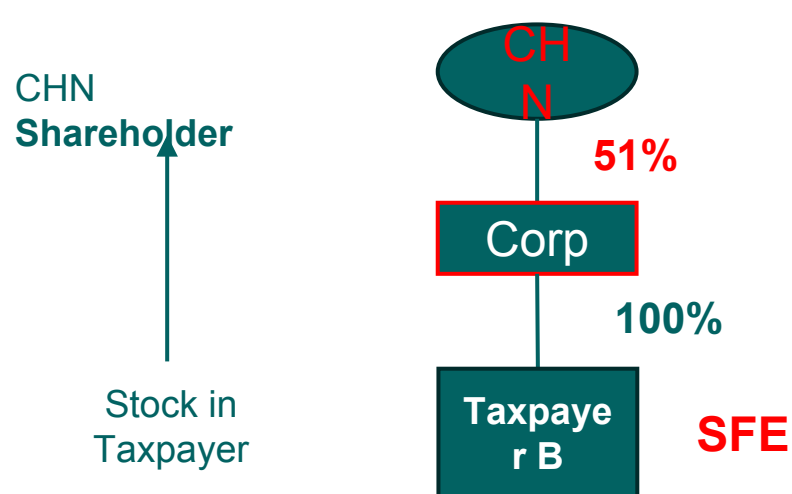
$100\% \times 49\% = 49\%$

49% > 25%, so FIE



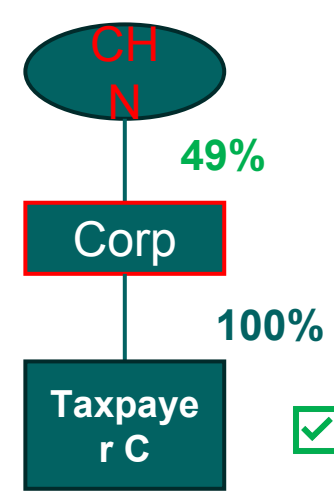
How do the ownership “attribution” rules work when attributing to **shareholders**?

Rule under § 318(a)(2)(C):
Shareholders of a corporation are treated as proportionally owning whatever the corporation owns, but only if they own ≥ 50% in value of the stock of the corporation.



CHN is treated as owning **51%** of Taxpayer B

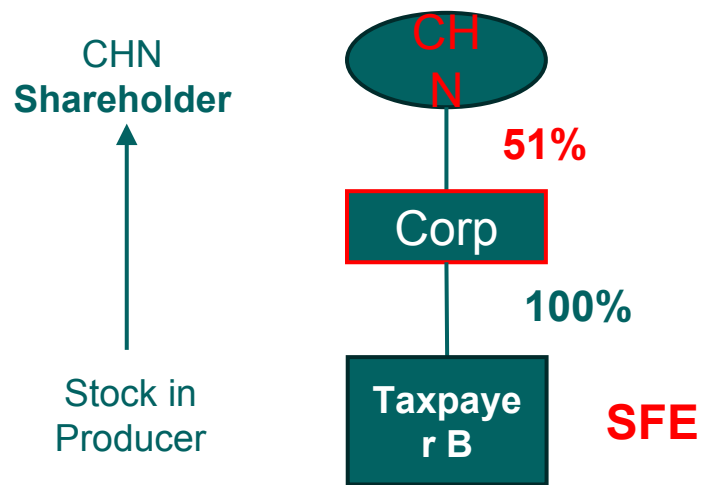
Proportional calculation: $100\% \times 50\% = 50\%$



CHN is treated as owning **0%** of Taxpayer C

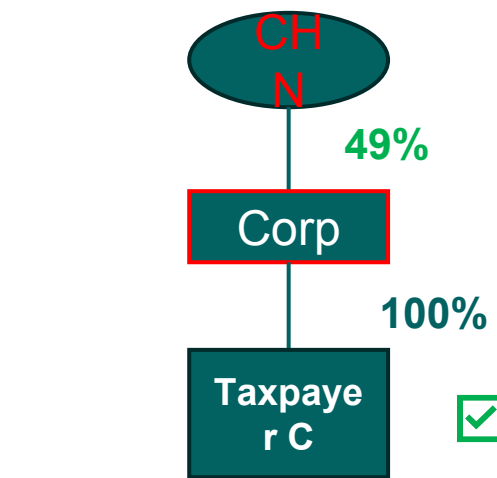
Proportional calculation: **NONE**

Comparison



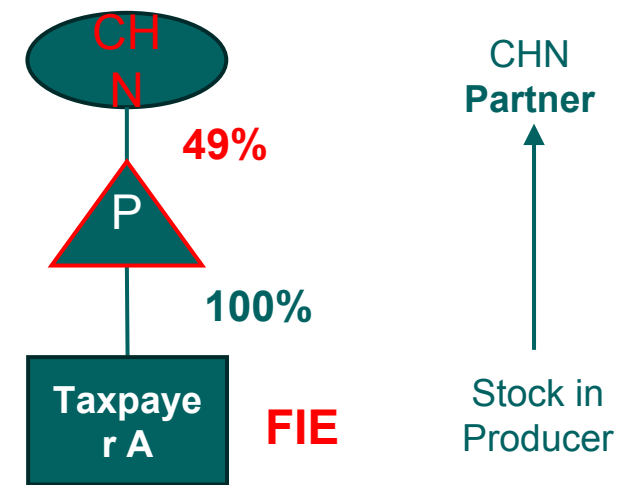
CHN is treated as owning **51%** of Producer B

Proportional calculation: $100\% \times 50\% = 50\%$



CHN is treated as owning **0%** of Producer C

Proportional calculation: **NONE**



CHN is treated as owning **49%** of Producer B

Proportional calculation: $100\% \times 49\% = 49\%$

Questions & resources



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Resources

- [Navigating OBBBA: phaseouts, prohibited foreign entity rules, and other new rules](#)
 - General explainer covering the new PFE provisions + slides w/ numerous ownership examples
- [Treasury releases first round of prohibited foreign entity guidance](#)
 - Explainer on Notice 2026-15 and the material assistance rules + slides for taxpayers w/ and w/o tables
- [L4GG's Elective Pay Sprint Hub](#)
 - Resource for elective pay entities, providing help navigating the credits and PFE rules
- [Other L4GG Elective Pay Guidance Briefs & Resources](#)
 - Guidance briefs and fact sheets on BOC and PFE rules, plus other webinars, trainings, and useful resources on the tax credits

Appendix



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Example - “Direct Cost” of Produced MPs

Hydropower Facility (using ID Safe Harbor only)

- Taxpayer produces the Transformer (an MP) itself and acquires the MPCs directly incorporated into the Transformer.
- Taxpayer also acquires the Turbine and Generator, both MPs.
- The direct cost of the Transformer equals the acquisition cost of the MPCs plus the cost of direct labor to produce the transformer.
- The direct cost of the Turbine and Generator is the acquisition cost of those items.

MP	MPC	Acquisition cost	Direct Cost
Transformer		\$0	\$100
	Tank	\$25	\$25
	Cooling system		\$35
\$35	Load tap changer	\$20	\$20
	Insulators (PFE)		\$10
\$10	Direct Labor	-	\$10
	Turbine (PFE)	\$300	\$300
	Generator	\$200	\$200
	Total Direct Cost	\$100	\$600
	Non-PFE Direct Cost	-	\$290
	PFE Direct Cost	-	\$310

Example - “Direct Cost” of Acquired MPs

Solar PV Ground-Mount (using ID Safe Harbor Only)

MP	MPC	Acquisition cost	Direct Cost
PV Modules (PFE)		\$65	\$65
Inverter (non-PFE)		\$5	\$5
PV Trackers (non-PFE)			\$30
\$30			
Total Direct Cost		\$100	\$100

PFE Direct Cost for MACR = \$65
 (assuming all MPCs of PV modules also PFE produced)

Example - “Direct Cost” of Acquired MPs

Solar PV Ground-Mount (using ID Safe Harbor Only)

MP	MPC	Acquisition cost	Direct Cost
PV Modules (non-PFE)			\$65
\$65			
Inverter (non-PFE)		\$5	\$5
PV Trackers (non-PFE)			\$30
\$30			
		Torque tube (PFE)	?
	?	Other MPCs (Non-PFE)	?
	?		
Total Direct Cost		\$100	\$100

PFE Direct Cost for MACR = ?

“2023-2025 Safe Harbor Tables”



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Notice 2025-08, § 5.05 “Updated Table for Solar PV Ground-Mount”

<u>APC</u>	<u>MPC</u>	Ground-mount (Tracking)	Ground-mount (Tracking) with Domestic c-Si PV Cells & Domestic Wafers	Ground-mount (Fixed)	Ground-mount (Fixed) with Domestic c-Si PV Cells & Domestic Wafers
PV module	Cells	38.0	51.6	53.2	66.6
	Frame/Backrail	6.0	4.7	8.5	6.1
	Front Glass	6.0	4.7	8.4	6.1
	Encapsulant	3.8	3.0	5.4	3.8
	Backsheet/Backglass	3.8	3.0	5.4	3.8
	Junction Box	1.0	0.8	1.4	1.0
	Edge Seals	0.3	0.2	0.4	0.3
	Pottants	0.3	0.2	0.4	0.3
	Bus Ribbons	1.5	1.2	2.1	1.5
	Bypass Diodes	0.4	0.3	0.6	0.4
	Production⁶	4.7⁷	3.7⁷	6.7⁷	4.8⁷
Inverter	Printed Circuit Board Assemblies	2.4	1.7	3.1	2.2
	Electrical Parts	0.8	0.6	1.1	0.8
	Thermal Management System	0.5	0.4	0.7	0.5
	Enclosure & Skids	0.6	0.5	0.9	0.6
	Production	1.2⁷	0.9⁷	1.7⁷	1.2⁷
PV Tracker	Torque tube	11.0	8.6	-	-
	Structural Fasteners	0.4	0.3	-	-
	Drive System	1.9	1.5	-	-
	Dampers	0.5	0.4	-	-
	Actuator	2.8	2.2	-	-
	Controller	0.7	0.6	-	-
	Rails	2.0	1.6	-	-
	Production	9.4⁷	7.3⁷	-	-
Total	-	100	100	100	100

Notice 2025-08, § 5.06 “Updated Table for Solar PV Rooftop”

<u>APC</u>	<u>MPC</u>	<u>Rooftop (MLPE)</u>	<u>Rooftop (MLPE) with Domestic c-Si PV cells & Domestic Wafers</u>	<u>Rooftop (String)</u>	<u>Rooftop (String) with Domestic c-Si PV cells & Domestic Wafers</u>
PV module	Cells	31.1	43.9	38.5	52.1
	Frame/Backrail	4.9	4.0	6.1	4.8
	Front Glass	4.9	4.0	6.1	4.7
	Encapsulant	3.1	2.5	3.9	3.0
	Backsheet/Backglass	3.1	2.5	3.9	3.0
	Junction Box	0.8	0.6	1.0	0.8
	Edge Seals	0.2	0.2	0.3	0.2
	Pottants	0.2	0.2	0.3	0.2
	Bus Ribbons	1.2	1.0	1.5	1.2
	Bypass Diodes	0.3	0.3	0.4	0.3
	Production	5.8⁸	4.7⁸	7.2⁸	5.6⁸
Inverter⁹	Printed Circuit Board Assemblies (DC-DC) ¹⁰	7.8	6.4	1.6	1.3
	Printed Circuit Board Assemblies (DC-AC) ¹⁰	11.8	9.5	2.4	1.9
	Thermal Management System	-	-	0.5	0.4
	Enclosure	4.3	3.5	1.3	1.0
	Production	0.9⁸	0.7⁸	0.5⁸	0.4⁸
Non-Steel Roof Racking	Structural Fasteners	3.5	2.9	4.4	3.4
	Rails	15.0	12.2	18.7	14.6
	Production	1.1⁸	0.9⁸	1.4⁸	1.1⁸
Total	-	100	100	100	100

Notice 2025-08, § 6.02 “Updated Table for **Land- Based Wind**”

APC	MPC	Value
Wind Turbine	Blades	31.2
	Rotor Hub	9.9
	Nacelle	47.5
	Power Converter	8.9
	Production	0.9¹¹
Wind Tower Flanges	Preform ¹²	0.8
	Production	0.8¹¹
Tower	-	Steel/Iron Product
Steel or iron reinforcing products in foundation	-	Steel/Iron Product
Total	-	100

Note: Steel/iron is not considered for material assistance purposes.

Notice 2025-08, § 7.02 “Updated Table for Battery Energy Storage System (BESS)”

Note: Steel/iron is not considered for material assistance purposes.

APC	MPC	Grid-scale BESS	Distributed BESS
Battery Pack/ Module	Cells	52.0	26.9
	Packaging	5.6	13.4
	Production	8.0¹³	2.9¹³
Inverter/ Converter	Printed Circuit Board Assemblies	1.4	5.4
	Thermal Management System for Inverter	0.4	-
	Electrical Parts	0.5	-
	Enclosure & Skids	0.4	1.0
	Production	1.9¹³	4.3¹³
Battery Container/ Housing	Enclosure	14.8	22.8
	Battery Management System	7.4	10.1
	Thermal Management System for Battery Container/Housing	5.6	10.1
	Production	2.0¹³	3.1¹³
Steel or iron reinforcing products in foundation	-	Steel/Iron Product	-
Total	-	100	100