



July 15, 2024

SUBMITTED ELECTRONICALLY

The Honorable Janet L. Yellen
U.S. Secretary of the Treasury
U.S. Department of the Treasury
1500 Pennsylvania Ave., NW
Washington, D.C. 20220

The Honorable Daniel Werfel
Commissioner of Internal Revenue
Internal Revenue Service
1111 Constitution Ave., NW
Washington, D.C. 20224

RE: SEMA Coalition Comments on Docket No. IRS-2024-0023 – Domestic Content Bonus Credit Amounts under the Inflation Reduction Act of 2022. IRS Notice 2024-41 (May 16, 2024; rev. May 24, 2024)

Dear Secretary Yellen and Commissioner Werfel:

The Solar Energy Manufacturers for America (SEMA) Coalition commends the Department of the Treasury (Treasury) and Internal Revenue Service (IRS) for providing the opportunity to comment on the May 16, 2024, [additional guidance](#) on the Inflation Reduction Act's (IRA) domestic content bonus. The proposed guidance aims to provide taxpayers the needed clarity and certainty to facilitate uptake of the bonus provision and unlock investments in American-made clean energy; however, the guidance needs to do more – and needs to be updated as quickly as possible – to advance the interest of the establishment of an end-to-end solar manufacturing supply chain in the United States.

The [SEMA Coalition](#) is a diverse group of solar manufacturers united to rebuild the domestic solar supply chain. SEMA represents the interests of the major non-Chinese solar manufacturers who are building or looking to build strategic solar components across the value chain in the U.S. Our coalition works to implement a suite of policies to rebuild a secure, competitive, and sustainable U.S. solar supply chain to meet current and future solar deployment needs while creating good-paying manufacturing jobs.

We respectfully submit the enclosed comments in response to Docket No. IRS-2024-0023 and would welcome the opportunity for continued engagement with Treasury, IRS, and Department of Energy (DOE) officials on these important matters.

Sincerely,

Mike Carr
Executive Director
SEMA Coalition



Executive Summary

SEMA is encouraged by the Biden-Harris Administration's acknowledgment of the importance of incentivizing solar wafer production in the domestic content bonus to drive U.S. clean energy manufacturing and support the efforts to reshore the solar supply chain.¹ However, we are concerned that the effectiveness, durability, and ultimate success of the domestic content bonus in reshoring U.S. manufacturing remains threatened by the May 16 notice (Notice 2024-41) issued by Treasury and IRS (from here on out referred to collectively as "Treasury").² The fact of the matter is that Chinese-headquartered or controlled companies' ability to benefit from this bonus, while continuing to take advantage of their captive (and excess) wafer production overseas, to the detriment of U.S. manufacturers, is counter to the intent of the IRA, both in letter and spirit.³

Congress intended the domestic content bonus to directly drive consumption of domestically manufactured clean energy products and, in particular, to serve as a demand driver of clean energy components whose production was incentivized by the Section 45X Advanced Manufacturing Production Tax Credit.⁴ Recognizing the fundamental purpose of the domestic content bonus credit is to drive U.S. clean energy manufacturing and support reshoring efforts, SEMA strongly recommends Treasury revise its proposed table of percentage values for Manufactured Product Components (MPCs) by properly recognizing the individual value added by the production of core component listed, including:

- Adding certain core MPCs notably omitted from the table (e.g. wafer);
- Removing non-strategic MPCs from the table;
- Standardizing the value for MPCs into a single column/table to create a generalized, predictable approach that can be easily implemented across all project types and that can be relied upon for making significant investment decisions in manufacturing; and
- Ensuring costs are representative of U.S. manufacturing for capital and operating expenses to achieve the intended purpose of the statute.

Each of the core value-adding manufacturing steps have their own capital investment, operation, and labor costs, with the upstream component production of solar grade polysilicon and wafer facing the highest capital investment risk and equivalent return on invested capital hurdle rate. For the reshoring effort to succeed, it is imperative that their relative contribution to the value of the finished product be

¹ White House. [Fact Sheet: Biden-Harris Administration Takes Action to Strengthen American Solar Manufacturing and Protect Manufacturers and Workers from China's Unfair Trade Practices](#). May 16, 2024.

² Internal Revenue Service. [Domestic Content Bonus Credit Amounts under the Inflation Reduction Act of 2022: Expansion of Applicable Projects for Safe Harbor in Notice 2023-38 and New Elective Safe Harbor to Determine Cost Percentages for Adjusted Percentage Rule](#). May 16, 2024.

³ Sen. Jon Ossoff (D-GA). [U.S. Senate Domestic Content Letter](#). February 28, 2024.

⁴ Public Law 117-169. [Inflation Reduction Act: Section 13502. Advanced Manufacturing Production Credit](#). 26 USC 45X. August 16, 2022. Page 136 STAT 1971.



appropriately recognized when implementing the domestic content bonus credit. Treasury could address this by standardizing the Assigned Cost Percentages across different solar project types since the manufacturing value of core components is almost identical regardless of the end-use application of the module in utility, commercial, or residential projects.

However, the proposed approach grants disproportionate value to products that are widely available and/or require little capital investment to manufacture. For example, the current guidance gives equal, or sometimes more, weight to products from factories that cost millions to tens of millions to build (or, with “fasteners” commodity products widely available and not necessarily core to the solar supply chain at all), as it does to multibillion-dollar factories – or in the case of wafers and polysilicon, no weight at all. This is simply not what the statutory text dictates and is contrary to congressional intent, resulting in market perversions where solar projects are looking to claim the domestic content bonus without using a single U.S.-made PV module.

It is critical that Treasury quickly reviews comments and issues updated regulatory guidance to send a market signal to the industry as significant investment decisions are being made now and risk being put on hold pending clarification. Our proposal outlined below will help inform all relevant forthcoming IRA rulemaking and other regulatory action implementing domestic content provisions of the statute.

Overview

As has been made clear by authors of the domestic content bonus, the intent of Congress in establishing a domestic production bonus credit is “to serve as a direct complement to the manufacturing incentives provided in Section 45X, create a clear demand signal in the market for U.S.-made products, and spur new capital investments in clean energy manufacturing.”⁵ Together, these provisions are intended to counteract past and current aggressive actions by Chinese-headquartered or controlled companies to monopolize key clean energy technology manufacturing supply chains, including the solar supply chain, with an objective to ultimately level the playing field for domestic solar and other clean energy manufacturers.

We commend the Administration for publishing a fact sheet in tandem with Treasury and the IRS’ proposed guidance, announcing several actions to strengthen domestic solar manufacturing and protect American businesses and workers from foreign adversaries’ unfair trade actions. Regarding domestic content, the Administration highlights the importance of incentivizing domestic wafer

⁵ [U.S. Senate Domestic Content Letter](#). Signatories: Senators Jon Ossoff (D-GA), Patty Murray (D-WA), Ron Wyden (D-OR), Joe Manchin (D-WV), Debbie Stabenow (D-MI), Maria Cantwell (D-WA), Sherrod Brown (D-OH), Bob Casey (D-PA), Jeff Merkley (D-OR), Tammy Baldwin (D-WI), Gary Peters (D-MI), and Reverend Raphael Warnock (D-GA); [U.S. House Of Representatives Domestic Content Letter](#). Signatories: Representatives Dan Kildee (MI-8) Danny Davis (IL-07), Debbie Dingell (MI-06), John Garamendi (CA-08), Marcy Kaptur (OH-09), Frank Mrvan (IN-01), Linda Sánchez (CA-38), Hillary Scholten (MI-03), Elissa Slotkin (MI-07) and Haley Stevens (MI-11). February 26, 2024.



production, stating that “*in particular, Treasury and IRS, with DOE and other agencies, continue to evaluate potential options to further the IRA’s goal of incentivizing U.S. solar manufacturing, including solar wafer production.*”⁶ We agree with the Administration’s interpretation that a key piece of the IRA goal to reshore the solar supply chain is to drive investments in U.S. wafer production and incentivize purchasing domestic wafers through the domestic content bonus credit. SEMA believes future rulemaking or other regulatory actions related to domestic content can help achieve this outcome.

Unfortunately, the additional May 16, 2024 guidance, while an improvement on Treasury’s initial May 12, 2023 guidance (Notice 2023-38),⁷ still falls short of effectively and successfully implementing the domestic content bonus. Crucially, the additional guidance continues to subvert congressional intent by allowing purchasers to achieve the bonus threshold while using imported strategic components, such as polysilicon and wafers. Furthermore, in certain instances, taxpayers could secure the domestic content bonus without using a single U.S.-produced solar panel. This is most evident in the column for MLPE rooftop PV solar projects, where the weight given to strategic and fundamental components of a solar project (the solar module) is distorted by what appears to be robust incentives for domestic inverters and racking that are out of proportion to the manufacturing investments required.

If factories costing tens of millions of dollars to build can gain a larger share of the required bonus incentive than critical components produced by factories costing billions of dollars, the purpose of the bonus is seriously compromised. This is a clear example of what needs to be immediately rectified, as the residential market not only drives higher efficiency modules and cells but also has the shortest lead time from order to installation.

The current proposal undercuts a nascent U.S. solar manufacturing industry critical to our nation’s long-term energy security and is already facing headwinds from predatory pricing due to heavily subsidized competition and a manufacturing capacity surplus abroad. It even jeopardizes cell manufacturing investments by greatly increasing the uncertainty of investment payback since the value is dependent on a variable (end use in a residential vs. utility project) that is entirely beyond the manufacturer's control.

These comments lay out the background and current implementation challenges of the proposed domestic content bonus guidance, as well as arguments in support of an immediate review of the guidance and an alternative methodology for what constitutes a “manufactured product component.” Recognizing the fundamental purpose of the domestic content bonus is to drive demand for the output of U.S. clean energy manufacturing investments and reshoring efforts, SEMA strongly recommends that Treasury amend its list of core MPCs in the proposed elective safe harbor table, and reprioritize the

⁶ White House. [Fact Sheet: Biden-Harris Administration Takes Action to Strengthen American Solar Manufacturing and Protect Manufacturers and Workers from China’s Unfair Trade Practices](#). May 16, 2024.

⁷ Internal Revenue Service. [Domestic Content Bonus Credit Guidance under Sections 45, 45Y, 48, and 48E](#). May 12, 2023.



individual value added by the production of each listed component to align with the congressional intent to incentivize the critical pieces of U.S. solar manufacturing as reflected in Section 45X (as well as the Administration’s intent reflected in the fact sheet), most notably solar wafer production. This revised list would allow both manufacturers and their customers to better determine the domestic content bonus adjusted percentage in an easily administrable, transparent, fair, and predictable methodology. This approach will help advance U.S. solar supply chain resilience, strengthen our nation’s energy security and independence, and provide the **entire** U.S. solar manufacturing industry the demand certainty needed to invest, as intended by the IRA.

Our comments also provide further feedback to ensure that any forthcoming domestic content rules and additional guidance – whether an update to this notice or a promulgation or additional rulemaking implementing other portions of the IRA – support an American solar manufacturing renaissance and help the U.S. meet its solar deployment goals with good paying jobs resulting in energy components made in America.

While we understand we are providing comment on Notice 2024-41, we hope the perspectives outlined below help inform all relevant forthcoming IRA rulemaking and other regulatory action implementing domestic content provisions of the statute, especially as they relate to the “technology neutral” 45Y and 48E credits.

In addition to outlining our recommended changes to the new elective safe harbor table to better align with congressional intent to incentivize domestic manufacturing, our proposal answers the following questions outlined in Treasury’s request for comment in a narrative format:

1. Are there any other technologies, or technology subsets, that should be addressed by Table 1 of this notice, and what criteria should be used for new additions? How often should these tables be updated?
2. Are there instances in which the nameplate capacity allocation approach in section 4.03 of this notice for calculating domestic content for a mix of foreign and domestic Manufactured Product Components should be clarified, either for current technologies or technologies that may be addressed in the future? In those instances, how should the Assigned Cost Percentages be allocated to Applicable Project Components with a mix of foreign and domestic Manufactured Product Components?



Proposal

To appropriately align implementation of the domestic content bonus with congressional intent, the SEMA Coalition strongly recommends that Treasury:

1. **List wafer as a MPC for the purposes of calculating the domestic content of PV modules.** A PV wafer is the core component of a silicon PV module. It is an energy and capital-intensive process to build a factory that produces wafers from molten polysilicon, and is a process that is globally dominated by Chinese-headquartered or controlled manufacturers. A failure to reshore wafer manufacturing not only jeopardizes the viability of domestic polysilicon production over the long-term, but it also maintains a critical dependency on imported products, fundamentally undermining sustained domestic production of polysilicon, cells and modules. Like semiconductor wafer manufacturing, solar wafer manufacturing (both deriving from a similar polysilicon refinement) requires economies of scale. The U.S. will need significant wafer production to maintain a competitive and secure solar manufacturing industry, with manufacturing ecosystems (i.e. polysilicon and cell) emerging around this production.

In sum, the reshoring effort for solar manufacturing, including the opportunity to improve technologies and produce the next generation of solar in the U.S. (for example, tandem solar technology), will ultimately fail if there is not a viable domestic wafer manufacturing industry. Excluding wafers from the calculations in the existing guidance thwarts congressional intent to deliver a self-sustaining, globally competitive domestic solar manufacturing industry. Treasury has the legal authority to add wafer based on the clear direction of Congress in the IRA and what is considered a “component.”

2. **Retain frame/backrail, front glass, and backsheet/backglass as MPCs in a revised table and remove ancillary parts from the PV module domestic content calculation.** Ancillary parts from a PV module assembly bill of materials in Treasury’s proposal [*encapsulant, junction boxes, edge seals, pottants, adhesives, bus ribbons, bypass diodes*] are generally available from multiple sources in the U.S. and present no potential supply chain bottlenecks or other impediments to reshoring. Inclusion of such parts in the domestic content calculation dilutes the value of critical components listed in Section 45X (photovoltaic cells, photovoltaic wafers, solar grade polysilicon, solar modules, polymeric backsheets). By contrast, specialized glass/backsheet and frames are differentiated manufactured products that are a necessary part of a sustainable domestic supply chain and are therefore strategic components and should remain a part of the domestic content calculation. Notably, Treasury itself acknowledged the strategic importance and value of solar glass (along with polysilicon and wafer) in Notice 2023-44 in implementing the Qualifying Advanced Energy Project Credit (48C) program.⁸ It’s vital that a revised table

⁸ Internal Revenue Service. [Additional Guidance for the Qualifying Advanced Energy Project Credit Allocation Program under Section 48C\(e\)](#). May 31, 2023. The Round 1 priority areas for the 48C program includes solar



incentivizes the key, functional components for solar, similar to how Treasury limited the components in the Battery Energy Storage System (BESS) Table.

- 3. Remove the “Production” line item from all Manufactured Products (MP) and distribute this Applicable Cost Percentage back to the MPCs. In addition, require U.S. final assembly of MPs for eligibility for the domestic content bonus.** The objective of the IRA, and especially the domestic content provision, is to create demand for high-value solar supply chain products and components and thus incentivize high CapEx factories to produce them. The assigned Applicable Cost Percentage and the relative value of what is effectively a parts or bill of materials list, along with the requirement to incorporate all of the listed MPCs for a MP to receive the “Production” bonus, mutes the price signal for higher value components. The ancillary parts should not have such high value assigned to them, if any at all, and have that value be compounded by the “Production” line. Furthermore, the inclusion of a “Production” line is not included in the IRA’s domestic content provision, and Congress did not indicate support for its inclusion in implementing the bonus credit. However, Congress did indicate support for accounting for “components” when calculating the domestic content bonus.

For forthcoming rules and guidance, to the extent the “Production” bonus is useful as an incentive for final assembly of the modules and other MPs in the U.S., this would be better achieved by explicitly requiring U.S. final assembly to receive value for any Applicable Cost Percentage for any of the MPCs. We support a standard that final module assembly (and any other Applicable Project Component/MP assembly) must occur within the U.S. as a fundamental requirement to qualify said Applicable Project Component for the purposes of obtaining the domestic content bonus credit. This would help drive key manufacturing investments and serve as an important demand signal.

- 4. Standardize the Assigned Cost Percentages across solar project types.** The inherent production value of MPCs is almost identical regardless of the end-use application of a PV module. This value should not and does not change regardless of their use in utility, commercial, or residential scale projects. In any forthcoming regulatory action, Treasury should prioritize revisions and a simplification of the proposed elective safe harbor table by normalizing the percentages towards the biggest market that creates incentives for the manufacturers: utility-scale projects (which account for two-thirds of solar capacity deployed in the U.S.). It will be no harder for rooftop developers to meet the standard than it is for utility-scale developers and standardization across project types maintains the incentive to buy American-made modules with domestically manufactured components.

energy, which lists: polysilicon, wafer production facilities, ingot and wafer production tools, and solar glass production facilities.



5. **Clarify hybrid systems (BESS + Solar) should independently qualify by technology against the domestic content threshold.** The purpose of the domestic content provision is to encourage developers to pay a premium for domestically manufactured products and their critical components. The relative cost of the project components is irrelevant to that incentive and will mean the less technologically advanced (and thus, more expensive due to high capital demands) Applicable Project Components will drive the equation, at the expense of the more advanced Applicable Project Components and, in particular, their MPCs. The proposed ratios in the guidance do not address this issue and are better used to modify the percentage of the project that may receive the bonus.

For example, if the solar portion of the project, (e.g., modules + tracker + inverter) clears the 40 percent threshold, but the BESS part does not, the 10 percent bonus should be allocated proportionally to the technology that qualifies.

This is consistent with the recently released Notice of Proposed Rulemaking on the “technology neutral” tax credits (Section 48E and 45Y),⁹ which treats technologies separately for purposes of achieving the domestic content bonus threshold.¹⁰ We agree with this approach starting upon implementation of forthcoming rules that would apply a separate calculation (and impliedly a pro-rata allocation of the bonus) for the domestic content bonus for the storage and PV portions of a combined deployment.

6. **Identify torque tube as structural steel, not a MPC.** Designating the torque tube as a manufactured product allows importation of a substantially complete product (steel tube) that can be machined in the U.S. Designating the torque tube as a MPC appears to directly contradict the intended purpose of the bonus provision in the IRA, which is to incentivize the high CapEx investment in U.S. steel fabrication and supply, rather than contract manufacturing to produce the torque tube. Additionally, we agree with the United Steelworkers and the major U.S. steel industry associations that torque tubes are structural in nature, in that they bear the load of the solar panels, to which they are attached via rails and purlins.¹¹ Designating the torque tube as a structural component rather than a MPC will both be a more accurate definition of the product as well as incentivize domestic manufacturing of the steel in the product – resulting in good paying American jobs – without compromising incentives for other critical components.

⁹ Federal Register. Internal Revenue Service. [Section 45Y Clean Electricity Production Credit and Section 48E Clean Electricity Investment Credit](#). Notice of Proposed Rulemaking. June 3, 2024.

¹⁰ Public Law 117-159. [Inflation Reduction Act: Sections 13701 and 13702](#). 26 USC 45Y & 26 USC 48E. August 16, 2022. Page 136 STAT 1892.

¹¹ The Coalition for a Prosperous America. [Guidance Correction Letter re Steel and Iron Final](#). July 25, 2023; American Iron and Steel Institute. [Steel Associations Letter to Treasury IRS on IRA Domestic Content Credits](#). July 27, 2023.



- 7. Remove fasteners and rails from the MPC column.** This is an area of wildly variable cost and little strategic value for the solar supply chain. Numerous racking providers exist in the U.S. and their pricing far exceeds their relative value cost or contribution. Similarly, “fasteners” comprises a number of largely commoditized fittings with little relevant specialized manufacturing. Adding these products to the table provides pathways for achieving the domestic content bonus without using critical supply chain components. Including these products as MPCs would likewise disincentivize the domestic production of the critical (and far more capital intensive) materials (another area where Chinese manufacturing is currently dominant and under scrutiny for unfair trade practices) that would result in good paying American jobs across the country.

Current table values also run counter to innovation and cost savings in rooftop solar projects. For example, some PV rooftop systems do not use rails, but instead rely on engineered module frames for stiffness. Under the current Treasury proposal, those systems would be disincentivized because they do not use “rails” and would not receive the equivalent 8.6 percent towards the Domestic Cost Percentage calculation. Just as Treasury has excluded parts of installations such as cabling, switches, and breaker box, Treasury should similarly ignore these parts for purposes of the Domestic Cost Percentage calculation.

This purpose would also be served by eliminating the tables for rooftop systems and using a single table (as previously noted) with normalized values to provide consistent demand incentives to component manufacturers, regardless of their end use. In utility-scale projects (which remain the majority share of solar deployments), the structural components are simply required to be domestic steel, so these support structures do not impact the manufactured product tables. It is not at all clear that the rails and fasteners in a rooftop installation are any more “manufactured” than their equivalents at the utility scale. They are structural components and should not have the effect of diluting the need for core solar components to achieve the domestic content bonus.

- 8. Maintain consistency and stability for the MPCs and Assigned Cost Percentages for tables.** Treasury should make the recommended amendments outlined above to the proposed table, which will simplify and standardize the final MPCs and Assigned Cost Percentages. This will provide a consistent price signal to manufacturers so they can build factories and scale production rapidly. Further, we recommend Treasury limit updates to the table – and certainly not annually, or even every few years – as this introduces significant uncertainty for both solar manufacturers and developers when forecasting their business models, creating unnecessary market tension. Frequent updates to the table, and especially the Assigned Cost Percentages, would not provide the necessary certainty to invest against for manufacturers, as building and ramping factories can take up to two to three years given current equipment lead times, and project development lead times can be just as long. Having the Assigned Cost Percentages



frequently change is counterproductive to the stated goals of the IRA and the domestic content bonus. In general, Treasury should maintain a high hurdle for revising the tables because for manufacturers and taxpayers, the planning period is several years and the possibility that they change frequently will impede investment.

9. **Do not penalize manufacturers or taxpayers for innovating or identifying efficiencies in their process.** If a manufacturer invents itself out of a particular MPC by incorporating the function into another existing MPC within the table, the manufacturer should not be penalized and should be able to retain the domestic content value for the component being replaced. While it makes sense to insert zero percent for the Domestic Content Percentage calculations when using a foreign-produced MPC, if the MPC's function is incorporated into another domestically produced MPC, manufacturers and developers should not be penalized and should be able to gain the credit. This approach will ensure more manufacturing innovation and efficiencies in clean energy technologies. For example, if a taxpayer's inverter does not have separate electrical parts as defined in the existing notice because it is part of the PCBA manufacturing process, then the taxpayer should be able to claim the Applicable Cost Percentage for electrical parts as part of its American-made inverter.

10. **Adjust the BESS nameplate capacity units to megawatts (MW) instead of megawatt-hours (MWh).** Regarding the Domestic Cost Percentage calculation, Treasury defines nameplate capacity of solar to be "*the nameplate capacity of the solar PV portion of the Applicable Project, measured in kilowatts of direct current,*" and defines the nameplate capacity of BESS to be "*the nameplate capacity of the BESS portion of the Applicable Project, measured in kilowatt-hours of stored energy.*" For congruency in the domestic cost calculation, the units of measure for both solar PV and BESS nameplate capacity should be in terms of power produced (MW), not energy produced (MWh). The calculation as it stands provides a disproportionate value of battery capacity compared to solar capacity and could allow for gaming where a taxpayer would not need to rely on critical domestic Applicable Project Components to achieve the domestic content bonus. Given that the MWh are dictated by market requirements, Treasury does not need to use the domestic content bonus to incentivize higher capacity battery deployment at the expense of delivering the intended demand incentive to utilize MPCs.

11. **Acknowledge Table 2 from the 2023 guidance is exclusive.** We agree with other taxpayers that this lack of clarity is impeding deployment and Treasury should clarify and affirm that the Table 2 - Categorization of Applicable Project Components in Section 3.04 of Notice 2023-38¹² is exclusive and exhaustive, so any taxpayer, sponsor, and solar manufacturer, reliant on that table, has the necessary certainty to finance projects. As noted below, Treasury identifies that

¹² Internal Revenue Service. Domestic Content Bonus Credit Guidance under Sections 45, 45Y, 48, and 48E. May 12, 2023. Page 14.



applicable project components listed in Table 2 are not exhaustive¹³ and this should be remedied.

*"The Treasury Department and the IRS identified certain Applicable Project Components that **may** be found in utility-scale photovoltaic systems, land-based wind facilities, offshore wind facilities, and battery energy storage technologies...The Applicable Project Components described in Table 2 of this notice **may not be an exhaustive set** of all Applicable Project Components for those types of Applicable Projects..."*

Revised Table

Treasury's proposed elective safe harbor "Solar PV" table must be modified to directly drive demand for the critical and strategic components of the solar supply chain in order to justify investment in domestic production, as this was Congress' intent for the domestic content bonus provision. Primarily, the above recommendations seek to close off pathways that would allow achieving the domestic content bonus threshold without using critical components in the PV supply chain such as cells. Indeed, under the current guidance, there are pathways to achieve the domestic content bonus using imported panels, obviously frustrating Congressional intent.

To help further crystalize our recommended changes, we respectfully propose a new table (Table 1 below) outlining our modifications to the MPCs and associated Applicable Cost Percentages for solar PV. We use the ground-mount tracking proposed percentages as the singular base case given utility-scale PV accounts for the majority of solar installations in the U.S.¹⁴

Although we believe that Treasury has the discretion to use "value add" or a modeled price such as the Minimum Sustainable Price published regularly by NREL,¹⁵ the example values below use the same market prices used in the existing table with the value of the recommended excluded parts re-allocated on a relative basis to the core components, including wafer, to align with the Administration's stated intention to incentivize U.S. wafer production.

¹³ Internal Revenue Service. [Domestic Content Bonus Credit Guidance under Sections 45, 45Y, 48, and 48E](#). May 12, 2023. Pages 12-13.

¹⁴ National Renewable Energy Laboratory. [Solar Industry Update](#). May 14, 2024. Page 35.

¹⁵ National Renewable Energy Laboratory. [U.S. Solar Photovoltaic System and Energy Storage Cost Benchmarks, With Minimum Sustainable Price Analysis: Q1 2023](#). September 2023.



Table 1. Revised Domestic Content PV Solar MPC Assigned Cost Percentages

Applicable Product (Manufactured Product)	Manufactured Product Component (MPC)	Ground-Mount (Tracking)	SEMA Coalition Counter Proposal
PV Module	Wafer	--	27.6
	Cells	36.9	29.2
	Frame/Backrail	5.3	9.8
	Front Glass	3.7	6.9
	Encapsulant	2.2	0
	Backsheet/ Backglass	3.7	6.9
	Junction Box	1.6	0
	Edge Seals	0.2	0
	Pottants	0.2	0
	Adhesives	0.2	0
	Bus Ribbons	0.4	0
	Bypass Diodes	0.4	0
	Production	11.5	0
PV Module Total		66.3	80.4
Inverter	Printed Circuit Board Assemblies	3	4.9
	Electrical Parts	1	1.6
	Climate Control	0.7	1.1
	Enclosure	1	1.6
	Production	3.3	0
Inverter Total		9	9.2
PV Tracker or Non-Steel Roof Racking	Torque Tube	9.7	0
	Fasteners	0.4	0
	Slew Drive	2	3.2
	Dampers	0.4	0.7



	Motor	3.1	5
	Controller	0.9	1.5
	Rails	2	0
	Production	6.2	0
Tracker & Racking Total		24.7	10.4
Total		100	100

While we fundamentally disagree with the “component” and “subcomponent” distinction as it exists without statutory basis, we understand that given the long lead times for construction of production facilities for polysilicon, Treasury and the Administration do not view inclusion in the current guidance as viable, based on this notice and the related White House fact sheet.¹⁶ As a result, we have not included polysilicon as a MPC in our proposal, and instead have incorporated its value proportionally to the rest of the listed components. However, as the SEMA Coalition has previously recommended, we support Treasury using a phased-in approach (i.e. adding MPCs over a set and certain period of time) to account for factory lead times in the U.S. and we continue to believe this approach would most closely hew to congressional intent. If Treasury were to consider a phased-in approach, it’s critical that solar grade polysilicon be included as a MPC.

Legal Justification

In the IRA’s domestic content provisions, Congress prescribed a specific test for steel and iron products by linking to the Federal Transit Authority’s (FTA) Buy America requirements (49 C.F.R. 661.5) that require all “structural steel” to be of domestic origin. However, in the requirements for “manufactured products,” Congress specifically and intentionally omitted that reference to avoid treatment of manufactured products as designated under the regulation to give Treasury discretion to make its own determination for the many types of manufactured products that might be subject to the domestic content bonus credit:¹⁷

(i) In general. -- The requirement described in this clause is satisfied with respect to any qualified facility if the taxpayer certifies to the Secretary (at such time, and in such form and manner, as the Secretary may prescribe) that any steel, iron, or manufactured product which is a component of such facility (upon completion of construction) was

¹⁶ White House. Fact Sheet: Biden-Harris Administration Takes Action to Strengthen American Solar Manufacturing and Protect Manufacturers and Workers from China’s Unfair Trade Practices. May 16, 2024.

¹⁷ Public Law 117-159. Inflation Reduction Act: Section 13101. Domestic Content Bonus Credit Amount. 26 USC 45. August 16, 2022. Page 136 STAT 1910.



produced in the United States (as determined under section 661 of title 49, Code of Federal Regulations).

*(ii) <<NOTE: **Applicability.**>> Steel and iron. -- In the case of steel or iron, clause (i) shall be applied in a manner consistent with section 661.5 of title 49, Code of Federal Regulations.*

*(iii) Manufactured product. -- For purposes of clause (i), the manufactured products which are components of a qualified facility upon completion of construction shall be deemed to have been produced in the United States if not less than the adjusted percentage (as determined under subparagraph (C)) of the total costs of all such manufactured products of such facility are attributable to manufactured products **(including components)** which are mined, produced, or manufactured in the United States.*

Unfortunately, Treasury's initial 2023 guidance and recent 2024 additional guidance wrongly interprets the statute by stating the FTA rules apply to both iron/steel and manufactured products. Congress clearly established a special and more specific rule for the purposes of implementing the IRA's domestic content bonus to manufactured products and indicated that implementing regulations can and should differ from the FTA Buy America implementing rules and related regulatory provisions because it is a fundamentally dissimilar product. The misinterpretation and subsequent misapplication of the FTA Buy America requirements creates an arbitrary hierarchy within a manufactured product of components (which must be domestically produced to count for the bonus) and "subcomponents," whose country of origin is specifically ignored. This is despite the facts that:

1. The word "subcomponent" does not appear in the statute;
2. Congress omitted the reference to the regulatory provision that included the "subcomponent" distinction in the manufactured product section while specifically adding the language "including components"; and
3. Section 45X is specifically aimed at listed "components" of the solar supply chain, including wafer.

This misapplication of 49 C.F.R. 661.5 to the definition of a manufactured product (without accounting for clear indications of congressional intent to ensure at least that the "components" in Section 45X are valued) not only misinterprets the IRA, but also subverts the specific purpose of the statute's domestic content provision by allowing the acquisition cost of foreign manufactured "subcomponents" (a label Treasury arbitrarily placed on components such as polysilicon and/or solar wafers) to count toward the value of "domestic" components (such as solar cells). The perverse result is a product that undergoes transformation in the U.S. with imported (and heavily subsidized) components from competitor jurisdictions (namely China and China by proxy via Southeast Asia) that contribute significantly to the



value of the “manufactured product” benefits from the domestic content bonus, while U.S. producers of these components, and their critical materials, are not only significantly disadvantaged but unable to compete and invest.

While Treasury was accorded some discretion, Congress provided a clear roadmap on what constitutes a component for key clean energy technologies in Section 45X.¹⁸ 26 U.S.C. § 45X provides clear indication from Congress that the eligible components listed there should be treated as components for all purposes under the IRA, including implementing the domestic content bonus credit. However, Treasury omitted most of these strategic components in its initial 2023 domestic content guidance, as well as the 2024 additional guidance, most egregiously excluding photovoltaic wafer and solar grade polysilicon as MPCs eligible for the purposes of the domestic content bonus for solar projects. Instead, Treasury listed ancillary, non-strategic parts, not directly referenced in the IRA, in its table to calculate domestic content (i.e. junction box, edge seals, pottants, etc., all which contribute limited value – even as calculated by Treasury – in the production of solar modules). Importantly, these parts are neither what would be a necessary “component” (i.e. pottants or edge seals are not mandatory to the making of a module) and are often available from multiple vendors, are not necessarily specific to the solar supply chain, and pose little strategic value or risk to reshoring efforts. Treasury then compounds this mistake by requiring these parts be of domestic origin to receive the “production” bonus for final assembly, significantly skewing their value.

Conclusion

To reiterate, we are encouraged by the Administration’s acknowledgment of the importance of incentivizing solar wafer production to spur the U.S. solar manufacturing and increase our global competitiveness in a monopolized industry. Nevertheless, we are concerned that the effectiveness, durability, and ultimate success of the domestic content bonus in reshoring U.S. manufacturing is threatened by the May 16 notice. The fact of the matter is that Chinese-headquartered or controlled companies’ ability to benefit from this bonus, while continuing to take advantage of their captive (and excess) wafer production overseas, to the detriment of U.S. manufacturers, is counter to the letter and intent of the IRA. By simplifying how the domestic content bonus credit is administered, our proposal resolves major challenges:

- (1) It creates an incentive to reshore a variety of core components, including sufficient certainty of value to justify investment, without diluting the value contribution of critical components Congress intended to focus reshoring efforts on.
- (2) It provides developers clarity needed to make informed purchases.

¹⁸ Public Law 117-169. Inflation Reduction Act: Section 13502. Advanced Manufacturing Production Credit. 26 USC 45X. August 16, 2022. Page 136 STAT 1971.



- (3) It removes the burden placed on manufacturers to share proprietary and commercially sensitive information, while providing supply chain transparency that gives certainty to project developers and financiers.

Most importantly, our proposal will help further drive and sustain domestic manufacturing of key components of clean energy supply chains by providing the necessary demand certainty for solar component manufacturers, especially as 45X is set to expire in the coming years.

We hope Treasury and DOE will continue to work with our industry to develop this proposal and advance the reshoring goals of the IRA.