



January 13, 2023

SUBMITTED ELECTRONICALLY

The Honorable Katharine Tai  
United States Trade Representative  
600 17th Street NW  
Washington, D.C. 20508

Ms. Greta Peisch  
General Counsel, Office of the U.S. Trade Representative  
600 17th Street NW  
Washington, D.C. 20508

**Re: Request for Comments in Four-Year Review of Actions Taken in the Section 301 Investigation: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation**

Dear Ambassador Tai and General Counsel Peisch:

Thank you for providing the Solar Energy Manufacturers for America (SEMA) Coalition<sup>1</sup> the opportunity to provide comment pursuant to the request regarding the four-year review of the July 6, 2018 and August 23, 2018 actions, as modified, in the Section 301 investigation of China's Acts, Policies and Practices Related to Technology Transfer, Intellectual Property, and Innovation.

Our members are a diverse group of solar manufacturers – those who make panels and related components – throughout the entire solar supply chain. SEMA Coalition members either have a significant manufacturing presence in the United States, or are starting to shift significant portions of their manufacturing operations to the U.S. as a result of the policies contained in the Inflation Reduction Act (IRA) and additional pro solar manufacturing policy signals from Congress and the Biden-Harris Administration. The Biden-Harris Administration's Section 301 review is also critically important as the final decision will have a significant, material impact on the ability of our members to make the necessary investments to onshore the solar supply chain and take steps to achieve the envisioned manufacturing goals of the IRA, in particular, the Section 45X advanced manufacturing production tax credit and the domestic content bonus credit for Section 48 or Section 45.

As solar is poised to be the world's leading source of energy by 2040, we must ensure the U.S. government is taking the necessary steps to reduce the country's reliance on overseas supply

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<sup>1</sup> <https://semacoalition.org/about>

chains to meet our future clean energy needs – and using a whole-of-government approach with all the tools at its disposal to do so. Right now, our members are focused on leveraging the IRA, as well as other policies such as federal procurement, the Defense Production Act, the CHIPS & Science Act, and more, to make significant investments in domestic solar manufacturing.

The Office of the United States Trade Representative (USTR) has a critical role to play in supporting these efforts by ensuring that Section 301 actions complement and reinforce incentives provided by these other policies. The SEMA Coalition requests USTR to expeditiously remove Section 301 actions for production equipment and non-core inputs (including subcomponents such as but not limited to crucible, diamond wire, silver paste, junction box) necessary to manufacture the products for which the tax incentives are available under Section 45X . Such core components include solar ingots and wafers, solar cells, solar modules, backsheet, and more.

If Section 301 actions remain in place on the production and manufacturing equipment necessary to support the large U.S. solar manufacturing investments as well as on the required non-core inputs and subcomponents, that would add millions of dollars in avoidable capex and opex costs and risks reducing the scale of facilities that are being planned. One coalition member estimates that just at the factory stage, Section 301 tariffs could add at least \$15-\$20 million per gigawatt to the cost of equipping a solar manufacturing facility. Another manufacturer estimates up to an additional \$55 million in annual, avoidable costs, on non-core inputs. This can significantly impact the size and scale of investments in domestic solar manufacturing. As a result, USTR must also make Section 301 decisions for equipment, non-core inputs, and subcomponents as quickly as possible because investors and manufacturers will need to have certainty as they make decisions on what size factories they can afford to construct and equip.

A decision to lift Section 301 actions for manufacturing equipment, non-core inputs, and subcomponents, would greatly help U.S. solar manufacturers quickly reestablish the solar supply chain and expand domestic production capabilities substantially, at the scale necessary to lead innovation for the next generation of solar components – as well as the manufacturing equipment and non-core inputs. USTR should also ensure that in any reconfigured Section 301 proposal, manufacturers have the necessary certainty and clarity that there will be no action on solar manufacturing equipment and non-core inputs and do not have to go through any future exclusion process.

The Biden-Harris Administration can use this Section 301 review to ensure a comprehensive and coherent approach by the U.S. government that supports the onshoring of the critical components in the solar supply chain – including ingot, wafer, cell, module, backsheet, and more – to meet our current and future deployment needs in the U.S. and globally while creating good-paying manufacturing jobs. As you know, solar manufacturing is a critical technology and

diversifying the supply chain will be significant for U.S. national defense and energy security, as well as our ability to meet our climate targets.

With an approach that appropriately considers the important role current and future domestic solar manufacturers will play in building out the U.S. solar energy sector, we believe that we can have a secure, sustainable, and resilient U.S.-based solar manufacturing supply chain in the very near future. Eliminating any Section 301 actions on solar manufacturing equipment and non-core inputs will have an important role to play in sustaining the burgeoning U.S. solar manufacturing renaissance.

Keeping this perspective in mind, we have responded to questions in the request for comment that will have the greatest impact on SEMA Coalition members and the future of the U.S. solar manufacturing industry.

Sincerely,

Mike Carr  
Executive Director  
Solar Energy Manufacturers for America Coalition

## Request for Comments: Four-Year Review of Actions in Sec. 301 Inv. of China

OMB Control Number: 0350-0015 Expiration Date: January 31, 2023

Organization Name **(Public)**: Solar Energy Manufacturers for America Coalition

Commenter First Name\* **(Public)** Mike

Commenter Last Name\* **(Public)** Carr

Commenter Email Address\* **(BCI)** yogin@semacoalition.org

Commenter Phone Number **(BCI)**

Are you a third party, such as a law firm, trade association, customs broker, worker, or union representative submitting on behalf of an organization or industry? **(Public)**

Yes

Does your business meet the size standards for a U.S. small business as established by the Small Business Administration?\* **(Public)**

N/A

Please report the number of employees your business employs in the United States. **(Public)**

## Sector-Specific Comments

Do you have views regarding a specific sector or industry? **(Public)**

Yes

Please describe the sector or industry of the U.S. economy upon which you wish to comment. Additional sectors or industries can be entered at the end of this section.\* **(Public)**

*The following comments are on the behalf of the Solar Energy Manufacturing for America (SEMA) Coalition. The SEMA Coalition represents innovative and industry leading U.S. solar manufacturers that span the value chain and include producers of polysilicon, solar ingots/wafers, solar cells, and solar modules.*

If you are aware of the primary North American Industry Classification System (NAICS) code associated with the sector you wish to comment on, please provide below. Please provide a 3- to 6-digit code. If unknown, indicate unknown. For more information on NAICS codes, see <https://www.census.gov/naics/>. **(Public)**

334413, 333242, & 327992

For the specific sector or industry identified, please address:

Whether the actions – as applicable to goods within the sector or industry – are effective in obtaining the elimination of or in counteracting China’s acts, policies, and practices related to technology transfer, intellectual property, and innovation? **(Public)**

Imposing tariffs on solar manufacturing equipment, non-core inputs, and subcomponents would not effectively counteract China’s acts, policies, and practices when it comes to monopolizing the solar supply chain. As you know, China dominates key elements of the solar supply chain, including a near global monopoly on the solar ingot and wafer manufacturing segment, along with a corresponding dominance of cell manufacturing. The lack of domestic manufacturing of solar ingots, wafers, and cells also means China dominates the production of crucial solar manufacturing equipment, non-core inputs, and subcomponents, for different solar components such as (but not limited to):

Ingot Equipment and Inputs: H/Z (Graphite), H/Z (CCM), Crucible, Seed, Cropping Wire, Squaring Wire, Wheel, Cropper, Minor Cropper, GR/Polisher, Squarer;

Wafer Equipment and Inputs: Diamond Wire/Saws, Beam, Glue, Quartz Holders, Wafer Quality Inspection Machine, 1st Cleaner, 2nd Cleaner, and manufacturing equipment classified in HTS 8486.10.00;

Cell Inputs: AI Paste, Laser Contact OPen, Laser Diffusion Selective Emitter, and manufacturing equipment classified in HTS 8486.20.00;

Module Inputs: Junction Box, Auto Taping, Tabber, Lay-Up, Auto Soldering.

As domestic solar manufacturers look to make significant investments in the U.S. solar value chain due to the IRA and other policies promoted by the Biden-Harris Administration and Congress, along with other demand signals, the U.S. government should not maintain duties on the manufacturing equipment, non-core inputs, and subcomponents needed to manufacture key components of the solar supply chain incentivized by the IRA.

Domestic solar manufacturers need access to this manufacturing equipment, non-core inputs, and subcomponents, to support already announced and upcoming investments throughout the solar value chain – especially when it comes to manufacturing solar ingots/wafers, cells, and modules in the U.S. Section 301 actions on solar manufacturing equipment, non-core inputs, and subcomponents, could materially, and negatively, impact the scale and size of investments domestic solar manufacturers are making due to the additional upfront costs and the likelihood of being unable to make solar products that are cost competitive as a result. In a perverse way, this would undermine the U.S. government’s whole-of-government approach to reduce reliance on Chinese solar components and panels and establish a durable, domestic, solar manufacturing supply chain.

This is also why these decisions need to be expedited as manufacturers and their investors are working to make decisions right now on the size of future domestic manufacturing facilities. Time is of the essence. As one coalition member noted, the Section 301 actions could add \$15-20 million per GW to the cost of equipping a solar manufacturing facility. Another manufacturer has determined there could be up to an additional \$55 million in avoidable costs for non-core components per year if they execute on planned investments at a large scale.

Though there have been some shifts in the solar supply chain to other countries, the reality is that China and Chinese companies remain the dominant supplier of several components, equipment, and non-core inputs that are of the highest quality and cutting-edge technology compared to non-Chinese suppliers. For the U.S. to reshore the solar supply chain, the federal government must do all it can to make it easier and cost-effective for U.S. manufacturers to set up large solar facilities throughout the country as the domestic industry establishes in the near term. That will result in the technology leadership and innovation necessary for the production of these manufacturing equipment, non-core inputs, and subcomponents, in the U.S. or other allied countries to follow.

The effects of the actions, or other actions that could be taken under Section 301, on the industry or sector, including effects on consumers of goods within the industry or sector. Your response to this question may consist of, or be supplemented by, the more specific questions below. **(Public)**

The Biden-Harris Administration has prioritized revitalizing U.S. manufacturing – and more specifically, clean energy manufacturing. When it comes to the solar manufacturing industry, we need to take a focused, whole-of-government approach to ensure that various policy decisions stack and support the goal of establishing a robust domestic solar manufacturing supply chain. Actions that could be taken under Section 301 on solar manufacturing equipment, non-core inputs, and subcomponents, could undermine the goal of reshoring the solar supply chain. Solar technology was invented in the U.S. and the only way to bring it back and ensure U.S. technological dominance moving forward is to make it easier to invest in large-scale solar manufacturing facilities right now – as the IRA and its advanced manufacturing incentives go into effect. This will help secure supply chains by protecting them from geopolitical risks, create good-paying jobs, and reduce costs for new solar projects coming online over the next decade.

The effects of the actions or other actions that could be taken on domestic manufacturing within the sector or industry, including in terms of capital investments, capacity and production levels, industry concentration, and profits? To the extent possible, please quantify any changes. **(Public)**

Imposing Section 301 actions on solar manufacturing equipment, non-core inputs, and certain subcomponents could hinder domestic solar manufacturers from making large scale investments and establishing a domestic solar supply chain. As previously noted, China dominates the manufacturing of solar components. However, with the IRA's enactment and implementation, domestic solar manufacturers are making large investments in manufacturing solar components within the U.S. Unfortunately, China will still, almost exclusively, produce certain solar manufacturing equipment, non-core inputs, and certain subcomponents, needed by domestic solar manufacturers to establish a domestic solar supply chain (in the near term). Taking Section 301 actions on solar manufacturing equipment, non-core inputs, and subcomponents, will undermine domestic solar manufacturers from creating a U.S. solar manufacturing renaissance throughout the value chain.

The effect of the actions or other actions that could be taken on U.S. workers within the sector or industry, including with respect to the level of employment and wages? To the extent possible, please quantify any impacts. **(Public)**

Section 301 actions on solar manufacturing equipment, non-core inputs, and subcomponents, would result in increased capex and opex costs for domestic solar manufacturers. This would result in less capital available to allocate to employing American workers and creating good-paying manufacturing jobs throughout the country.

The effect of the actions or other actions that could be taken in terms of shifting supply chains for the sector or industry away from China? **(Public)**

Section 301 actions on solar manufacturing equipment, non-core inputs, and certain subcomponents, would make it more difficult to shift the solar manufacturing supply chains away from China. The solar manufacturing industry strongly believes that by making it easier and less costly to invest in large-scale solar manufacturing facilities in the U.S., it would not only support efforts to reshore the solar manufacturing value chain, but also lead to U.S. technological leadership in the sector, including, in the long-term shifting supply chains for solar manufacturing equipment, away from China. This is a phenomenon that has been witnessed over time throughout the global solar supply chain. For example, when Germany was a solar manufacturing leader, much of the solar manufacturing equipment and related inputs were built in Germany. As the core supply chain shifted to China, much of the manufacturing of equipment and non-core inputs, and subcomponents also transitioned to China as they became standardized and refined (How Solar Energy Became Cheap: A Model for Low-Carbon Innovation by Gregory F. Nemet). History demonstrates that in order to bring solar manufacturing equipment production, along with the non-core inputs and subcomponents, to the U.S., we must do everything we can to first reestablish the entire core solar value chain domestically. If we successfully do that, we will be able to transition the supply chains for the equipment, non-core inputs, and subcomponents necessary to manufacture the core solar components and panels.

The effects of the actions or other possible actions on U.S. supply chain resilience or the goals of U.S. critical supply chains outlined in [Executive Order 14017](#) and in subsequent reports and findings? **(Public)**

Section 301 actions on solar manufacturing equipment, non-core inputs, and subcomponents, undermine the federal government's efforts to ensure U.S. supply chain resilience for the entire solar value chain. Our coalition [filed comments](#) ( uploaded separately) on the critical supply chain reviews resulting from Executive Order 14017 outlining the needed whole-of-government approach to support the onshoring of the entire solar value chain. With the enactment of the IRA, U.S. manufacturers now need to access low-cost solar manufacturing equipment and non-core inputs, which currently is almost exclusively available in China due to their dominance of the solar manufacturing supply chain. That is why it is essential to eliminate any Section 301 actions on the necessary

equipment, non-core inputs, and subcomponents, for the solar manufacturing industry. This will be critical to our efforts to rapidly and competitively build and operate large-scale U.S. solar manufacturing facilities.

## Upload Attachments

Attachments may supplement the responses you have submitted in the boxes provided for each question, but should not replace those responses.

**Upload:**

[https://static1.squarespace.com/static/620460b5a16553242f92f19f/t/620698aa094c7f78bb43f344/1644599511189/SEMA+Coalition+Comment\\_+DOE+RFI+Energy+Sector+Supply+Chain+Review\\_Final.pdf](https://static1.squarespace.com/static/620460b5a16553242f92f19f/t/620698aa094c7f78bb43f344/1644599511189/SEMA+Coalition+Comment_+DOE+RFI+Energy+Sector+Supply+Chain+Review_Final.pdf)