



September 25, 2023

The Honorable Katherine C. Tai
U.S. Trade Representative
Office of the U.S. Trade Representative
600 17th St. N.W.
Washington D.C., 20508

Ms. Greta Peisch
General Counsel
Office of the U.S. Trade Representative
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RE: Solar Market Conditions and Follow up Comments in Four-Year Review of Actions Taken in the Section 301 Investigation

Dear Ambassador Tai and General Counsel Peisch:

Following our letter on our January 13th comments,¹ I wanted to provide additional information regarding the evolving state of the U.S. solar manufacturing industry as you consider adjustments to the 301 tariffs in the ongoing four-year review. As you may know, in recent months, U.S. solar manufacturers have faced significant headwinds from foreign competitors, potentially undermining the potency of the incentives provided in the Inflation Reduction Act (IRA). Major heavily subsidized solar manufacturers headquartered in China, which have explicit goals to dominate the solar supply chain, have dramatically reduced prices to undercut announced U.S. manufacturing plants.²³ A continuation of current market conditions could significantly delay or terminate recently announced manufacturing operations.

Continuing to maintain the Section 301 tariffs on solar equipment and non-core inputs only available from Chinese producers would serve to hobble American manufacturing efforts and the Biden-Harris Administration's ambitious goals of reshoring the solar supply chain. Section 301 actions should be reviewed and established in alignment with the Biden-Harris Administration's whole-of-government approach of reshoring clean energy manufacturing.

¹ [SEMA Coalition Comments 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](#)

² "FACT SHEET: [Commerce Finds Dumping of Imports of Certain Crystalline Silicon Photovoltaic Products from China and Taiwan and Countervailable.](#)" *U.S. Department of Commerce*

³ LaPara, Cailley. "[Solar Power Is Poised for Crisis in US Despite Federal Subsidies.](#)" *Bloomberg Tax*, 24 July 2023, news.bloombergtax.com/daily-tax-report/solar-manufacturing-in-us-facing-bleak-future-analysts-warn#.



Solar Manufacturing is Essential to U.S. Energy Security

Solar is poised to be the world's leading source of energy by 2040. According to the Department of Energy, solar could provide 40% of the nation's electricity by 2035,⁴ while the Rhodium Group projected only slightly lower ranges in its annual report in August.⁵ This shift will be driven by market demand for cheap energy. Even before the dramatic recent reduction in prices, studies have found that in most of the country it is cheaper to install solar or wind than to use any other energy source.⁶ According to the International Energy Agency, utility-scale solar PV is the least costly option for new electricity generation in a significant majority of countries worldwide.⁷

Facing this dramatic shift in solar use, a major problem for U.S. energy security is China's current command of solar manufacturing supply chains. China's share in the key manufacturing stages of solar modules exceeds 80%, with wafer capacity in the last few years at roughly 99% when accounting for subsidiaries of companies headquartered in China.⁸ The recently announced closure of NorSun in Norway, the only existing wafer operation outside of Asia, has further cemented China's control.⁹ While the IRA has led to major manufacturing announcements across the U.S. solar supply chain, ensuring those intentions become reality and result in a stable American solar manufacturing base will require using all of the tools in our toolbox – including smart trade policy. As Ambassador Tai remarked in March 2022 before the Senate Finance Committee, “[W]e know that the PRC is targeting critical industrial and high-tech sectors.... To ensure that our industries remain competitive, we must develop new domestic tools targeted at defending our economic interests.”¹⁰

⁴ [DOE Releases Solar Futures Study Providing the Blueprint for a Zero-Carbon Grid | Department of Energy](#)

⁵ [“A Turning Point for US Climate Progress: Assessing the Climate and Clean Energy Provisions in the Inflation Reduction Act | Rhodium Group.” Rhodium Group, 18 Aug. 2022, rhg.com/research/climate-clean-energy-inflation-reduction-act.](#)

⁶ Milman, Oliver [“US renewable energy farms outstrip 99% of coal plants economically – study | US news” The Guardian, 30 Jan. 2023, www.theguardian.com/us-news/2023/jan/30/us-coal-more-expensive-than-renewable-energy-study.](#)

⁷ [“Solar - IEA” IEA, www.iea.org/energy-system/renewables/solar-pv.](#)

⁸ [“The world needs more diverse solar panel supply chains to ensure a secure transition to net zero emissions - News - IEA” IEA, www.iea.org/news/the-world-needs-more-diverse-solar-panel-supply-chains-to-ensure-a-secure-transition-to-net-zero-emissions.](#)

⁹ Jacobo, Jonathan Touriño. [“Silfab Solar to invest US\\$150 million in 1GW TOPCon solar cell plant in South Carolina” PV Tech, Sept. 2023, www.pv-tech.org/silfab-solar-to-invest-us150-million-in-1gw-topcon-solar-cell-plant-in-south-carolina.](#)

¹⁰ [Testimony of US Trade Representative Ambassador Katherine Tai Trade Policy Agenda Hearing Senate Finance Committee March 31, 2022](#)



By 2035, the U.S. cannot be in the position of relying on China to meet 40% of our electricity needs. If our clean energy manufacturing is not protected, China could attain complete monopoly power in clean energy supply chains, affording them complete price control and geopolitical leverage while potentially limiting our efforts to combat climate change and create domestic clean energy jobs. To fully meet the Biden-Harris Administration's climate and energy security goals, we must ensure the U.S. government is taking the necessary steps to reduce the country's reliance on overseas solar manufacturing.

U.S. Solar Manufacturing Market Conditions Have Significantly Worsened

A global glut in solar inputs, caused by imports far in excess of demand, has created significant uncertainty for U.S. solar manufacturers and has threatened announced projects and job creation. Since the beginning of 2023, solar manufacturing companies headquartered in China have announced investments across the supply chain at immense scale. In addition to large investments, China's solar manufacturers have dramatically cut the cost of their solar components to artificially low levels. The latest data from BNEF shows that polysilicon prices have dropped 74% and module prices have reached historic lows, dropping 34% from January 2022 to August 2023.¹¹ In one example, China's largest solar manufacturer, Longi, announced a 100 GW investment in wafer manufacturing while also dropping their price for wafers by 30%.¹² Research analysts at Bank of America recently noted that "the current downturn looks to be supply-led with oversupply rising to 98% in 2024 by our estimate."

Across the Atlantic, the situation has become so dire the European solar manufacturing industry is warning of bankruptcies and has asked the European Union to make an emergency acquisition of €100 million in European made solar panels within weeks.¹³ Within the two remaining European solar wafer manufacturers, Norwegian Crystal recently declared bankruptcy and NorSun announced layoffs, effectively ending their European production.¹⁴¹⁵ While the U.S. is

¹¹ "[China Solar Module Prices Dive to Record Low](https://www.pv-magazine.com/2023/09/08/china-solar-module-prices-dive-to-record-low)." *Pv Magazine International*, 8 Sept. 2023, www.pv-magazine.com/2023/09/08/china-solar-module-prices-dive-to-record-low.

¹² Magazine, Pv. "[Trina to build 25 GW ingot factory. Longi reduces wafer prices by 30%](https://www.pv-magazine-australia.com/2023/06/01/trina-to-build-25-gw-ingot-factory-longi-reduces-wafer-prices-by-30/)" *Pv Magazine Australia*, June 2023, www.pv-magazine-australia.com/2023/06/01/trina-to-build-25-gw-ingot-factory-longi-reduces-wafer-prices-by-30.

¹³ Jack, Victor. "[Solar sector calls for €100M EU bailout as China pushes it to the brink – POLITICO](https://www.politico.eu/article/eu-solar-sector-bailout-china-competition)" *POLITICO*, 12 Sept. 2023, www.politico.eu/article/eu-solar-sector-bailout-china-competition.

¹⁴ Bernreuter. "[Insolvency of Norwegian Crystals is a blow to PV supply in EU](https://www.bernreuter.com/newsroom/polysilicon-news/article/insolvency-of-norwegian-crystals-is-a-blow-to-pv-supply-in-eu)" 26 Aug. 2023, www.bernreuter.com/newsroom/polysilicon-news/article/insolvency-of-norwegian-crystals-is-a-blow-to-pv-supply-in-eu.

¹⁵ NorSun. "[Dramatic price collapse in Europe creates short-term challenges for NorSun Årdal](https://www.norsun.no/artikler/challenges-for-norsun)" www.norsun.no/artikler/challenges-for-norsun.



not currently facing these dire conditions, the U.S. government must take steps to avoid what's happening in Europe and ensure announced facilities take root.

This story is not new. Current market dynamics are reminiscent of past periods of oversupply and appear to demonstrate the willingness of foreign competitors to sell at a loss to secure future market share while boxing out emerging competitors. In 2011-2012, the solar industry saw a major downturn due to oversupply leading to the fall of the major U.S. manufacturing players.¹⁶ We have seen a similar playbook with steel production – a global problem that has yet to be resolved even after years of trade enforcement actions and trade negotiations. We anticipate that this current solar glut, if not properly headed off, will create similar long-term problems.

Subsidized Excess Capacity is Entering the U.S.

The Administration's moratorium on applying duties to companies in Cambodia, Vietnam, Thailand, and Malaysia that were found to be circumventing U.S. antidumping orders on cells and modules from China caused a major increase in dumped imports (Figure 1 in Appendix).¹⁷ According to BNEF, China's solar exports globally will exceed global demand in the second half of 2023. Importers have stockpiled solar modules from China to such an extent in Europe that manufacturers see no path forward, with U.S. imports trending on a similar trajectory.¹⁸

The Industry Needs 301 Tariff Relief on Equipment and Non-Core Inputs

We support the Administration's efforts to maintain a level playing field for American workers and manufacturers leading the clean energy transition and must enforce our trade laws to address predatory trade practices.

However, the U.S. solar manufacturing industry remains reliant on China's suppliers for certain solar manufacturing equipment and non-core inputs. The reality is that Chinese companies remain the dominant supplier of equipment and non-core inputs to build solar manufacturing facilities. We have also not seen sufficient near-term "friendshoring" with allied nations that may provide manufacturing equipment and non-core inputs. For the equipment and non-core inputs that can be sourced outside of China, our industry is seeing prices that are at least double that of Chinese competitors.

¹⁶ "[U.S. Solar Photovoltaic Manufacturing: Industry Trends, Global Competition, Federal Support.](#)" *Congressional Research Service*. Updated January 27, 2015

¹⁷ "Press Release: [Department of Commerce Issues Final Determination of Circumvention Inquiries of Solar Cells and Modules from China.](#)" *U.S. Department of Commerce*. Friday, August 18, 2023

¹⁸ Hui, Mary. "[Europe's latest energy security tactic: hoarding Chinese solar panels](#)." *Quartz*, 22 Aug. 2023, qz.com/europe-s-latest-energy-security-tactic-hoarding-chines-1850659750.



The 301 tariffs are major expenses for U.S. solar manufacturers and undercut the reshoring efforts in key parts of the solar manufacturing industry. 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.

Solar manufacturers will receive IRA tax credits from Treasury to support the purchase of key equipment and then send that money right back to Treasury due to potentially significant tariffs on that equipment. Given the lack of U.S. or allied equipment manufacturers currently, eliminating these tariffs on a temporary basis would better align with the goals of the IRA, reduce upfront costs, and provide needed support for the nascent industry to be a viable long-term player domestically and around the world.

Our industry strongly believes that making it easier and less costly to invest in large-scale solar manufacturing facilities in the U.S. would support efforts to reshore the upstream solar manufacturing value chain. Large manufacturing facilities will create ecosystems that advance U.S. technological leadership to shift supply chains for solar manufacturing equipment and non-core inputs away from China over the long-term.

The Solar Energy Manufacturers for America Coalition requests USTR expeditiously remove or substantially reduce Section 301 actions for production equipment and non-core inputs necessary to manufacture core solar components. Such core components include solar ingots and wafers, solar cells, solar modules, backsheet, and more. Exact component details are included in our January 13th comments.¹⁹

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 near future. Eliminating or substantially reducing Section 301 actions on solar manufacturing equipment and non-core inputs will help sustain the burgeoning U.S. solar manufacturing renaissance during difficult market conditions.

Thank you for your attention to this issue.

¹⁹ [SEMA Coalition Comments 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](#)



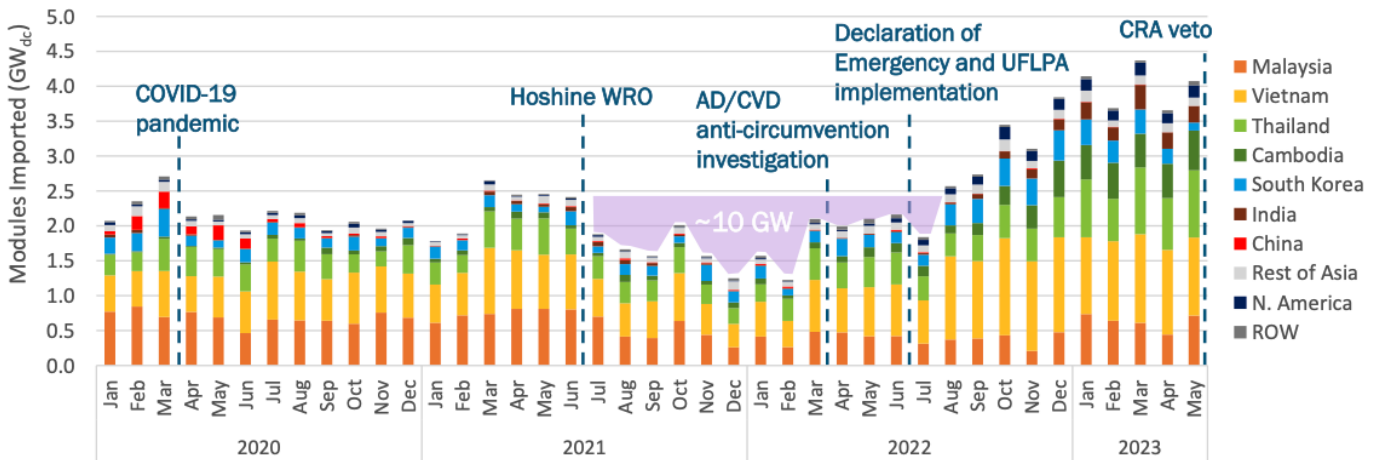
Mike Carr

Mike Carr
 Executive Director
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CC:
 John Podesta, Senior Advisor to the President for Clean Energy Innovation and Implementation
 Jennifer Granholm, U.S. Secretary of Energy
 Gina Raimondo, U.S. Secretary of Commerce

Appendix

Figure 1: US Module (c-Si + CdTe) Imports Driven by Evasion Countries U.S. Module (c-Si + CdTe) Imports By Region Jan 2020-May 2023²⁰



Sources: Imports by HTS code: 8541460015(2018-2021)/8541430010(2022-) and 8541460035(2018-2021)/8541430080(2022-), Second Quantity (watts) from the U.S. ITC [DataWeb](#) and the U.S. Census Bureau [USA Trade Online tool](#) and [corrections page](#) as of 7/25/23. Manual corrections were made to imports from India in due to suspected data entry errors. NREL | 57

²⁰ “[Summer 2023 Solar Industry Update](#)” NREL, August, 18 2023.