



Update: Policies at Cross-Purposes: U.S. Trade Policy Creates Cloudy Picture for Rapid Deployment of Solar Energy

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Currently, virtually all solar cells (the key components of solar modules) and most solar modules (also commonly referred to as panels) installed in the United States are imported. The United States currently does not produce any meaningful quantities of cells, and U.S. module capacity is sufficient to supply only about a third of U.S. demand. Although the administration and Congress have been considering ways to incentivize U.S. solar cell and module manufacturing, for at least the immediate future, the broader solar industry will be heavily reliant on imports to meet demand and to meet the administration's clean energy goals.

Several kinds of tariffs potentially apply to imports of solar cells and modules, and importers of these products must also be cognizant of and comply with statutory and regulatory provisions prohibiting the importation of merchandise made in whole or in part with forced labor. In this post, we provide an overview of the trade regulatory landscape affecting imports of solar cells and modules, summarizing the main tariffs on solar cells and modules as well as trade issues regarding forced labor concerns in China affecting imports of these products.

I. Tariff Environment for Solar Cells and Modules

The normal duty rate, or taxes imposed upon importation, for solar cells and modules is zero for imports from nearly all countries. However, a number of special tariffs apply to imports of certain solar cells and modules. This is especially true for imports from China, which is the largest global producer of solar cells and modules. Chinese products are subject to a number

of overlapping and cumulative special tariffs. We summarize the special tariffs applicable to solar cells and modules below.

A. Antidumping and Countervailing Duty Orders on CSPV Cells and Modules

There currently are three sets of antidumping (AD) and countervailing duty (CVD) orders on crystalline silicon photovoltaic (CSPV) products. CSPV products are the predominant type of solar cells and modules globally. Application of these duties depend on where the CSPV products are produced. The CSPV AD and CVD orders do not apply to thin-film products.

i. CSPV Cells, Whether or Not Assembled into Modules, from China (Solar I)

The U.S. Department of Commerce (“Commerce”), the agency responsible for calculating the level of AD and CVD tariffs imposed, issued AD and CVD orders on CSPV cells, whether or not assembled into modules, from China in 2012.¹ These orders are often referred to as the “Solar I” orders, as they were the first set of AD and CVD orders. These orders apply to CSPV products if the cell was produced in China. This means that solar modules produced in a third country with a Chinese-origin cell are subject to the orders.

The Solar I AD and CVD rates (or tariffs) vary by supplier. Current AD rates range from zero to nearly 240 percent, while current CVD rates range from roughly three percent to more than 525 percent. AD and CVD rates are cumulative, meaning that importers must pay the applicable AD rate plus the applicable CVD rate. Commerce conducts annual administrative reviews of AD and CVD orders upon the request of an interested party. Annual administrative reviews cover only those companies for whom a review was requested, and the results of the review revise the rates for only the companies covered by the reviews. Because of the administrative review process, company-specific rates frequently change. The variable nature of the rates, and the potential for extremely high AD and CVD rates, has resulted in China supplying a very small percentage of the U.S. market since these tariffs were imposed in 2012.

In February 2022, Auxin Solar Inc., a U.S. module producer, alleged that producers in Malaysia, Thailand, Vietnam and Cambodia are circumventing the Solar I orders by using Chinese inputs to produce CSPV cells and modules in those countries. Auxin is seeking to have the China Solar I AD and CVD duties applied to imports of CSPV cells and modules produced in these four Southeast Asian countries. While only a small percentage of U.S. imports of solar cells and modules currently come from China, roughly 80 percent of U.S. imports comes from these four countries (but mainly Malaysia, Thailand and Vietnam). Thus, the circumvention

allegation covers a substantial majority of solar cell and module imports and could have an extremely significant impact on the market.

Auxin's circumvention ruling request follows a similar, unsuccessful request filed in August 2021 by a group of anonymous companies who sought to expand the Solar I AD and CVD orders to imports from Malaysia, Thailand and Vietnam. Commerce denied the request in November 2021 following vocal opposition from the broader U.S. solar industry, finding that the failure of the requesting companies to publicly identify themselves hampered the ability of other interested parties to comment on issues that may be relevant to the circumvention ruling request. The broader U.S. solar energy industry also opposes Auxin's request to expand the Solar I orders.

Notwithstanding the opposition, Commerce published its notice of initiation in the *Federal Register* on April 1, 2022.² Other interested parties have submitted information to rebut the allegations, and Commerce is soliciting information from producers in the investigated countries. A preliminary ruling by Commerce is due no later than August 29, 2022.³ Under Commerce's regulations regarding circumvention inquiries, if the preliminary circumvention determination is affirmative, Commerce would instruct U.S. Customs and Border Protection (CBP) to apply the Solar I AD and CVD orders to entries of the merchandise from Malaysia, Thailand, Vietnam and/or Cambodia produced using Chinese inputs that is preliminarily found to be circumventing the orders, dating back to the publication date of the initiation notice (i.e., April 1, 2022), or possibly even earlier.⁴ Based on the current case schedule, a final ruling would be due by January 26, 2023, but may be extended until April 3, 2023.⁵

Because of the possibility for the retroactive application of duties and the high duty rates under the Solar I AD and CVD orders, initiation of the circumvention inquiries on Malaysia, Thailand, Vietnam and Cambodia nearly froze imports of solar cells and modules, destabilizing the entire solar industry. Following intense pressure from the industry, unions, members of Congress, governors, trade associations and environmental groups, President Biden issued a Proclamation authorizing a two-year moratorium on AD/CVD duties on imports of CSPV cells and modules from the four Southeast Asian countries.⁶ Relying on Section 318(a) of the Tariff Act of 1930, the President proclaimed an emergency "with respect to the threats to the availability of sufficient electricity generation capacity to meet expected customer demand." The Proclamation describes a reliable electric power system as a "basic human necessity" and "critical to national security and national defense" and cites the

“catastrophic health and economic consequences” of electricity supply interruptions related to Russia’s invasion of Ukraine and climate change. The Proclamation explains that imports of CSPV cells and modules are needed to meet electricity generation needs. The negative impact of the circumvention inquiries and the issuance of the Proclamation highlights the tension between the administration’s green energy policies and U.S. trade policy.

In order to implement the President’s Proclamation, Commerce must issue regulations, which are expected by the end of June. If issued as an interim final rule, the regulations will have immediate effect but may be revised following public comment. In the meantime, the circumvention inquiries will continue. If Commerce makes affirmative determinations, no AD/CVD duties will be collected or owed for CSPV cells and modules from the four Southeast Asian countries imported before the moratorium is lifted.

ii. CSPV Products from China (Solar II)

A little more than two years after issuing the Solar I AD and CVD orders, Commerce imposed AD and CVD orders on CSPV modules, laminates and/or panels from China in 2015.⁷ These orders are often referred to as the “Solar II” orders. The Solar II orders apply to modules, laminates and panels produced in China from CSPV cells that originate in third countries. Like the Solar I orders, the AD and CVD rates vary by company and change periodically by reason of the administrative review process. Currently, the Solar II AD rates range from roughly 10 percent to 165 percent, while CVD rates range from roughly 14 percent to 95 percent.

iii. CSPV Products from Taiwan

At the same time that Commerce issued the Solar II orders, Commerce imposed an AD order on certain CSPV products from Taiwan.⁸ The order covers CSPV cells produced in Taiwan, regardless of whether they are assembled into a module and regardless of where any module assembly takes place. Similar to the Solar I and Solar II orders on China, the rates under the Taiwan AD order are company-specific and periodically change. They currently range from roughly 1.5 percent to 22 percent. There currently is no corresponding CVD order with respect to these products from Taiwan.

B. Safeguard Measures on Crystalline Silicon Photovoltaic Cells and Modules

Following a shift in sourcing patterns to other countries after the imposition of the various AD and CVD orders, certain U.S. CSPV producers petitioned in 2017 for global safeguard measures that would impose additional tariffs or other import restrictions on CSPV cells and

modules, regardless of their source. President Trump imposed global measures, which took effect in February 2018.⁹ The measures were set to expire on February 6, 2022, but, following an investigation by the U.S. International Trade Commission (“Commission”), President Biden extended the measures for four additional years—through February 6, 2026.¹⁰ Like the CSPV AD and CVD orders, the safeguard measures against CSPV products do not cover thin-film products.

Under the extended safeguard measures, CSPV **cells** are subject to a tariff-rate quota (TRQ), which allows a certain volume of CSPV cells to be imported each year before tariffs are triggered. During the original safeguard period, 2.5 gigawatts of CSPV cells could enter the United States each year free of the safeguard duties.¹¹ That annual limit was increased to 5.0 gigawatts for the extended safeguard period, i.e., February 7, 2022, through February 6, 2026.¹² Any imports in excess of the 5.0 gigawatt quota are subject to an additional duty at a rate of 14.75 percent, to be phased down by 0.25 percentage points each year.¹³

All CSPV **modules** covered by the extended safeguard measures are currently subject to an additional duty of 14.75 percent, with the same tariff rate stepdown as applicable to cells.¹⁴ CSPV modules do not benefit from a TRQ that allows a particular volume of merchandise to enter free of safeguard duties. However, bifacial CSPV panels, which are used in utility-scale and large commercial solar projects, are **excluded** from the scope of the extended safeguard measures and thus are not subject to safeguard duties.

The safeguard duties are also cumulative, meaning they are applied in addition to any AD and CVD duties that apply to the merchandise under the Solar I and Solar II AD and CVD orders on CSPV products from China and the AD order on CSPV products from Taiwan.

C. Section 301 Tariffs

In 2018, the Trump administration imposed an additional tariff of 25 percent on imports from China with an annual trade value of \$50 billion following an investigation under Section 301 of the Trade Act of 1974 regarding China’s laws, policies, practices and actions related to intellectual property, innovation and technology. The products covered by the Section 301 tariffs were contained in two lists that were published by the U.S. Trade Representative, commonly referred to as “List 1” and “List 2.” The Trump administration subsequently expanded the Section 301 tariffs to additional products imported from China, although some products on those later lists are subject to a lower tariff rate. The Biden administration has

kept the Section 301 tariffs in place. Solar cells and modules from China are on List 2 and subject to an additional 25 percent duty.¹⁵ Again, these duties are imposed in addition to any safeguard duties and any AD or CVD duties that apply to the merchandise, meaning that CSPV products from China could be subject to AD duties, CVD duties, safeguard duties and Section 301 duties.

II. Forced Labor Issues

Various sources estimate that roughly 45 percent of the world's supply of solar-grade polysilicon comes from the Xinjiang region in China. The U.S. government has determined that the government of China has carried out a program of repression within the Xinjiang region, which includes the use of forced labor, against the Uyghur population and other ethnic and religious minority groups.¹⁶ Given that a large percentage of the world's supply of polysilicon comes from the Xinjiang region, there are concerns that solar supply chains may be tainted by the use of forced labor. These concerns affect not just solar cells and panels produced in and exported from China, but cells and modules produced in other countries that incorporate Chinese inputs.

U.S. law prohibits imports of products made with forced labor. In particular, Section 307 of the Tariff Act of 1930 provides that “{a}ll goods, wares, articles, and merchandise mined, produced, or manufactured wholly or in part in any foreign country by . . . forced labor . . . shall not be entitled to entry at any of the ports of the United States, and the importation thereof is hereby prohibited”¹⁷

Pursuant to Section 307 of the Tariff Act, CBP issued a Withhold Release Order (WRO) in June 2021 against Hoshine Silicon Industry Co. Ltd., a company located in China's Xinjiang Uyghur Autonomous Region (XUAR). The WRO directed all U.S. ports to detain shipments containing silica-based products made by Hoshine and its subsidiaries as well as materials and goods (such as polysilicon) derived from or produced using those silica-based products.¹⁸ Because polysilicon is used in the production of solar cells and modules, the WRO affected solar supply chains. CBP aggressively enforced this WRO, and importers of solar cells and modules have faced significant difficulties proving to CBP's satisfaction that their merchandise does not contain silica-based products made by Hoshine or its subsidiaries. Detentions under the WRO were not limited to shipments directly from China, but have also impacted shipments of cells and modules produced in Southeast Asian countries that are suspected of incorporating silica-based products made by Hoshine and its subsidiaries. Imports of CSPV

products into the United States have been hindered by the WRO, though CBP has worked with producers and importers to verify that supply chains are free of forced labor.

In December 2021, President Biden signed the Uyghur Forced Labor Prevention Act (UFLPA) into law, which “stops the importation of any goods made with forced labor, including those goods mined, produced or manufactured wholly or in part in the Xinjiang Uyghur Autonomous Region.” The UFLPA supplements pre-existing law, described above, that prohibits importation of goods made in whole or in part with forced labor. According to Section 1 of the UFLPA, other objectives of the law include “lead[ing] the international community in ending forced labor practices . . . through all means available,” “work[ing] to prevent, publicly denounce, and end human trafficking including with respect to forced labor” and “prevent[ing] ... atrocities as it is in the national interest of the United States.” The UFLPA expressly lists polysilicon, the primary raw material for CSPV cell and module production, as a “high-priority” sector for enforcement.

Section 3 of the UFLPA creates a “rebuttable presumption” that CBP “shall apply” that any “goods, wares, articles, and merchandise mined, produced, or manufactured wholly or in part” in the Xinjiang region are prohibited from importation into the United States as merchandise mined, produced, or manufactured in whole or in part by forced labor and are not entitled to entry. The UFLPA also establishes the Forced Labor Enforcement Task Force (FLETF), which was tasked, in part, with establishing an “Entity List” identifying specific entities in the XUAR that allegedly use forced labor in their production of goods, wares, articles and merchandise. Under the UFLPA, CBP must detain any shipment either originating (in whole or part) from the XUAR or an entity on the FLETF Entity List.¹⁹ CBP must detain the shipment and apply the presumption unless it determines that (i) the importer of record has fully complied with supply chain guidance issued by the FLETF and any accompanying regulations, (ii) the importer completely and substantively responded to inquiries for information by CBP, and (iii) CBP determines “by clear and convincing evidence, that the good, ware, article, or merchandise was not mined, produced, or manufactured wholly or in part by forced labor.” CBP must also publish a report to Congress of any shipment that meets the “clear and convincing” evidence standard. Otherwise, the shipment or shipments will be barred from entering the United States. CBP has also clarified that shipments detained under the UFLPA that did not originate in whole or part from the XUAR or an entity on the FLETF Entity List will be subject to a lower evidentiary burden.

The UFLPA's rebuttal presumption went into effect on June 21, 2022. The rebuttable presumption supersedes existing WROs addressing forced labor in the XUAR, including the Hoshine WRO. Accordingly, products that CBP suspects were produced using forced labor that would have otherwise been subject to the Hoshine WRO will be subject to the higher evidentiary standard required under the UFLPA.

The Department of Homeland Security (DHS) has accepted public comments from stakeholders to assess how CBP should apply this rebuttable presumption and what evidence it will accept to show that goods were not manufactured using forced labor in the Xinjiang region.²⁰ On June 17, 2022, the FLETF issued a report describing the government's enforcement strategy and providing guidance to importers regarding the UFLPA.²¹ The report also contained the initial Entity List. CBP will apply the UFLPA rebuttable presumption to any goods mined, produced or manufactured by these entities. The Entity List includes certain polysilicon manufacturers in the XUAR, including Hoshine, which was formerly subject to the WRO.

In light of the UFLPA and the forced labor concerns affecting a key upstream input into solar cells and modules, solar suppliers worldwide are adjusting their supply chains and ensuring that they can trace the sources of the products' material inputs. In particular, given the forced labor concerns associated with the XUAR, many companies are working to ensure that no inputs, like polysilicon, originate from that region.

III. Conclusion

Upon taking office, President Biden warned, "we've already waited too long to deal with this climate crisis and we can't wait any longer."²² One of his first actions was to enact an executive order "to supercharge our . . . ambitious plan to confront the existential threat of climate change,"²³ a plan that experts agree requires rapid decarbonization of the entire U.S. electrical grid.²⁴ The Biden administration is trying to set the United States on track to net-zero emissions by 2050, which could have "estimated long-term benefits from climate change mitigation and avoided public health costs . . . on the order of trillions of dollars."²⁵

Solar deployment plays a key role in reaching the administration's clean energy goals. Yet, because the U.S. solar industry is reliant on foreign suppliers for cells and modules, import restrictions are a potential impediment to solar's continued growth. As seen by the reaction to initiation of the AD/CVD circumvention inquiries earlier this year, the threat of market

prohibitive duties chilled the market and caused numerous solar projects to be delayed or canceled. With the President's recent moratorium on AD/CVD duties on imports from Cambodia, Malaysia, Thailand and Vietnam, projects are expected to resume, but some measure of uncertainty remains as CBP rolls out enforcement of the UFLPA. Continued monitoring and compliance with the numerous trade actions will be required going forward.

¹ *Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From the People's Republic of China: Amended Final Determination of Sales at Less Than Fair Value, and Antidumping Duty Order*, 77 Fed. Reg. 73,018 (Dec. 7, 2012); *Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From the People's Republic of China: Countervailing Duty Order*, 77 Fed. Reg. 73,017 (Dec. 7, 2012).

² *Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From the People's Republic of China: Initiation of Circumvention Inquiry on the Antidumping Duty and Countervailing Duty Orders*, 87 Fed. Reg. 19,071 (Apr. 1, 2022).

³ 19 C.F.R. § 351.226(e)(1).

⁴ 19 C.F.R. § 351.226(l)(2).

⁵ 19 C.F.R. § 351.226(e)(2).

⁶ Proclamation 10414 of June 6, 2022; *Declaration of Emergency and Authorization for Temporary Extensions of Time and Duty-Free Importation of Solar Cells and Modules From Southeast Asia*, 87 Fed. Reg. 35,067 (June 9, 2022).

⁷ *Certain Crystalline Silicon Photovoltaic Products From the People's Republic of China: Antidumping Duty Order; and Amended Final Affirmative Countervailing Duty Determination and Countervailing Duty Order*, 80 Fed. Reg. 8592 (Feb. 18, 2015).

⁸ *Certain Crystalline Silicon Photovoltaic Products From Taiwan: Antidumping Duty Order*, 80 Fed. Reg. 8596 (Feb. 18, 2015).

⁹ Proclamation 9693 of January 23, 2018, *To Facilitate Positive Adjustment to Competition From Imports of Certain Crystalline Silicon Photovoltaic Cells (Whether or Not Partially or*

Fully Assembled Into Other Products) and for Other Purposes, 83 Fed. Reg. 3541 (Jan. 25, 2018).

¹⁰ Proclamation 10339 of February 4, 2022, *To Continue Facilitating Positive Adjustment to Competition From Imports of Certain Crystalline Silicon Photovoltaic Cells (Whether or Not Partially or Fully Assembled Into Other Products)*, 87 Fed. Reg. 7357 (Feb. 9, 2022).

¹¹ Proclamation 9693 of January 23, 2018, *To Facilitate Positive Adjustment to Competition From Imports of Certain Crystalline Silicon Photovoltaic Cells (Whether or Not Partially or Fully Assembled Into Other Products) and for Other Purposes*, 83 Fed. Reg. 3541 (Jan. 25, 2018).

¹² Proclamation 10339 of February 4, 2022, *To Continue Facilitating Positive Adjustment to Competition From Imports of Certain Crystalline Silicon Photovoltaic Cells (Whether or Not Partially or Fully Assembled Into Other Products)*, 87 Fed. Reg. 7357 (Feb. 9, 2022).

¹³ *Id.* The reduction in the safeguard duty rate takes effect on February 7 of each year.

¹⁴ *Id.*

¹⁵ Notice of Action Pursuant to Section 301: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 83 Fed. Reg. 40,823 (Aug. 16, 2018).

¹⁶ See, e.g., U.S. State Department Fact Sheet, *Forced Labor in China's Xinjiang Region*, <https://www.state.gov/forced-labor-in-chinas-xinjiang-region/>.

¹⁷ 19 U.S.C. § 1307.

¹⁸ U.S. Customs and Border Protection Media Release, *The Department of Homeland Security Issues Withhold Release Order on Silica-Based Products Made by Forced Labor in Xinjiang*, <https://www.cbp.gov/newsroom/national-media-release/department-homeland-security-issues-withhold-release-order-silica>.

¹⁹ UFLPA Entity List, DHS.gov (last updated June 17, 2022), <https://www.dhs.gov/uflpa-entity-list>.

²⁰ See Notice Seeking Public Comments on Methods To Prevent the Importation of Goods Mined, Produced, or Manufactured with Forced Labor in the People’s Republic of China, Especially in the Xinjiang Uyghur Autonomous Region, Into the United States, 87 Fed. Reg. 3567 (Jan. 24, 2022).

²¹ Department of Homeland Security Office of Strategy, Policy, and Plans, *Strategy to Prevent the Importation of Goods Mined, Produced, or Manufactured with Forced Labor in the People’s Republic of China* (June 17, 2022), https://www.dhs.gov/sites/default/files/2022-06/22_0617_fletf_uflpa-strategy.pdf.

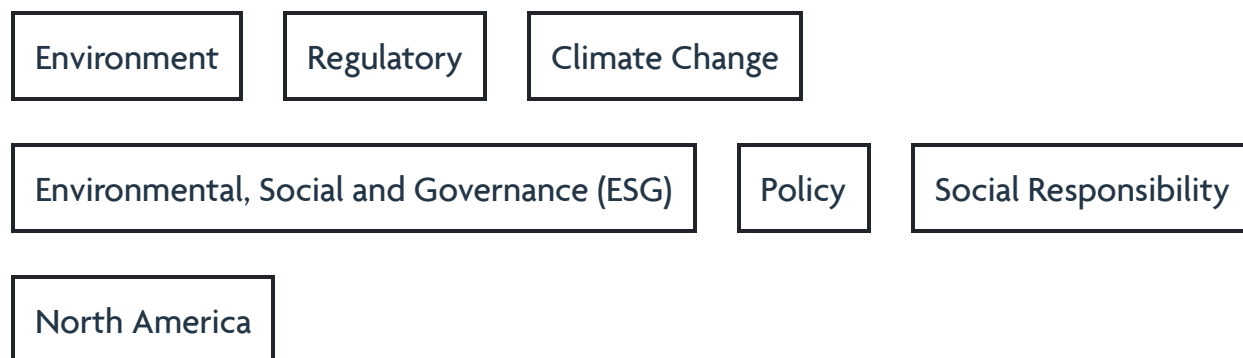
²² Remarks by President Biden before Signing Executive Action on Tackling Climate Change, Creating Jobs, and Restoring Scientific Integrity (Jan. 27, 2021).

²³ *Id.*

²⁴ U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, *Solar Futures Study* (Sept. 2021) at 1.

²⁵ *Id.* at 1-2.

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