Barcode:4209817-01 C-570-980 CIRC - Anti Circumvention Inquiry - Request New Segment

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February 8, 2022

VIA ELECTRONIC FILING

The Honorable Gina M. Raimondo
Secretary of Commerce
Attention: Enforcement and Compliance
APO/Dockets Unit, Room 18022
U.S. Department of Commerce
14th Street & Constitution Ave, NW
Washington, DC 20230

Case No.: A-570-979, C-570-980
(Anti-Circumvention Inquiry
Concerning Malaysia, Thailand,
Vietnam, and Cambodia)
Total No. of Pages: 942
AD/CVD Operations, Office IV

PUBLIC VERSION
Business Proprietary Information
Removed from Brackets on Pages 6,
26, 33-37, 42, 44-46, 49, 51-52, 56,
59-60, 68-71 and Exhibits 9, 16, 19,
and 27 of the Request.

Re: Crystalline Silicon Photovoltaic Cells, Whether Or Not Assembled Into Modules From The People's Republic Of China: Auxin Solar's Request For An Anti-Circumvention Ruling Pursuant To Section 781(b) Of The Tariff Act Of 1930, As Amended

Dear Secretary Raimondo:

On behalf of Auxin Solar Inc. ("Auxin Solar"), a minority- and woman-owned, U.S.-headquartered, and U.S.-operated manufacturer of CSPV modules, we hereby submit to the U.S. Department of Commerce's ("Commerce") the enclosed petition requesting country-wide circumvention inquiries pursuant to Section 781(b) of the Tariff Act of 1930, as amended, concerning crystalline silicon photovoltaic cells ("CSPV") that are assembled in Malaysia, Thailand, Vietnam, and Cambodia using parts and components from China. Auxin Solar has standing to file this petition as a producer of domestic like product, pursuant to Section 771(9)(C) of the Tariff Act of 1930, as amended.

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PUBLIC VERSION

Pursuant to 19 CFR 351.304, Auxin Solar requests business proprietary treatment be granted for the confidential business information designated as such by brackets ("[ ]") in the enclosed petition. This bracketed information constitutes the type of information normally treated as business confidential pursuant to 19 CFR 351.105(11) because it is from sources that are not available to the public and would cause substantial harm to the competitive position of Auxin Solar if it were released to the public.

Auxin Solar is also filing a public version of this petition today under separate cover. The information for which Auxin Solar is requesting confidential treatment cannot be adequately summarized in a public version because it is so specific that any attempt to provide a nonconfidential summary of the information would effectively result in its disclosure to the public, as contemplated by 19 CFR 351.304(c).

- The information contained in brackets on page 26 and Exhibit 9 cannot be disclosed because it identifies the subscription service from which the data is sourced.
- The information contained in brackets on pages 33, 34, 35, 44, 45, 68 and Exhibit 16 cannot be disclosed because it quotes from, and identifies, the subscription industry publication from which the information is sourced.
- The information contained in brackets on pages 34, 45, 46, 49, 51, 52, 56, 69, 70, 71 and Exhibit 19 cannot be disclosed because it quotes from and identifies the subscription industry publication from which the information is sourced.
- The information contained in brackets on page 36, 44, 59, 60 and Exhibit 27 cannot be disclosed because it quotes from and identifies the subscription industry publication from which the information is sourced.

Attached to this cover letter are counsel certifications regarding the completeness and accuracy of the information contained in the petition, as required by 19 CFR 351.303.

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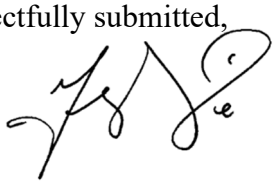
Please contact the undersigned if you have any questions about this request.

Respectfully submitted,



Thomas M. Beline
Jack A. Levy
Myles S. Getlan
Sarah E. Shulman
Chase J. Dunn
Carl P. Moyer, *Director of Economic Analysis*
Gillian Rice, *International Trade Specialist*
Carly Shiever, *International Trade Specialist*
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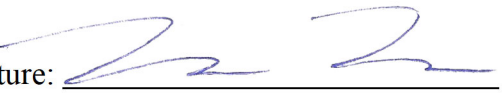
900 19th Street, N.W., Suite 400
Washington, DC 20006
(202) 567-2300

Counsel to Auxin Solar

COMPANY CERTIFICATION

I, Mamun Rashid, Chief Executive Officer, currently employed by Auxin Solar, certify that I prepared or otherwise supervised the preparation of the attached submission of "Auxin Solar's Request for an Anti-Circumvention Ruling Pursuant To Section 781(b) Of The Tariff Act Of 1930, As Amended," filed on February 8, 2022, pursuant to the antidumping and countervailing duty orders on crystalline silicon photovoltaic cells, whether or not assembled into modules from the People's Republic of China ((A-570-979, C-570-980) (Anti-Circumvention Inquiry Concerning Malaysia, Thailand, Vietnam, and Cambodia)). I certify that the public information and any business proprietary information of Auxin contained in this submission is accurate and complete to the best of my knowledge. I am aware that the information contained in this submission may be subject to verification or corroboration (as appropriate) by the U.S. Department of Commerce. I am also aware that U.S. law (including, but not limited to, 18 U.S.C. 1001) imposes criminal sanctions on individuals who knowingly and willfully make material false statements to the U.S. Government. In addition, I am aware that, even if this submission may be withdrawn from the record of the AD/CVD proceeding, the U.S. Department of Commerce may preserve this submission, including a business proprietary submission, for purposes of determining the accuracy of this certification. I certify that a copy of this signed certification will be filed with this submission to the U.S. Department of Commerce.

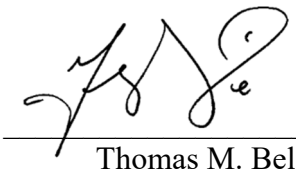
Signature: 

Mamun Rashid

Date: February 8, 2022

REPRESENTATIVE CERTIFICATION

I, Thomas M. Beline, with Cassidy Levy Kent (USA) LLP, counsel to Auxin Solar, certify that I have read the attached submission of "Auxin Solar's Request for an Anti-Circumvention Ruling Pursuant To Section 781(b) Of The Tariff Act Of 1930, As Amended," filed on February 8, 2022, pursuant to the antidumping and countervailing duty orders on crystalline silicon photovoltaic cells, whether or not assembled into modules from the People's Republic of China ((A-570-979, C-570-980) (Anti-Circumvention Inquiry Concerning Malaysia, Thailand, Vietnam, and Cambodia)). I certify that the information contained in this submission is accurate and complete to the best of my knowledge. I am aware that U.S. law (including, but not limited to, 18 U.S.C. 1001) imposes criminal sanctions on individuals who knowingly and willfully make material false statements to the U.S. Government. In addition, I am aware that, even if this submission may be withdrawn from the record of the AD/CVD proceeding, the U.S. Department of Commerce may preserve this submission, including a business proprietary submission, for purposes of determining the accuracy of this certification. I certify that a copy of this signed certification will be filed with this submission to the U.S. Department of Commerce.

Signature: 

Thomas M. Beline

Date: February 8, 2022

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U.S. DEPARTMENT OF COMMERCE
PUBLIC CERTIFICATE OF SERVICE

I hereby certify that in accordance with 19 CFR 351.226(n) and 351.303(f), service is being made on all persons on the annual inquiry service list for the antidumping (A-570-979) and countervailing (C-570-980) duty orders covering crystalline photovoltaic cells, whether or not assembled into modules, from the People's Republic of China, via first-class mail, on the following parties:

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International Trade Specialist
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BEFORE THE
INTERNATIONAL TRADE ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

Case Nos: A-570-979, C-570-980
(Anti-Circumvention Inquiry Concerning Malaysia, Thailand, Vietnam, and Cambodia)

Proprietary Information Removed from Brackets on Pages 6, 26, 33-37, 42, 44-46, 49, 51-52, 56, 59-60, 68-71 and Exhibits 9, 16, 19, and 27

PUBLIC VERSION

CRYSTALLINE SILICON PHOTOVOLTAIC CELLS, WHETHER OR NOT ASSEMBLED INTO MODULES FROM THE PEOPLE'S REPUBLIC OF CHINA

AUXIN SOLAR'S REQUEST FOR AN ANTI-CIRCUMVENTION RULING PURSUANT TO SECTION 781(B) OF THE TARIFF ACT OF 1930, AS AMENDED

Thomas M. Beline
Jack A. Levy
Myles S. Getlan
Sarah E. Shulman
Chase J. Dunn
Carl P. Moyer, *Director of Economic Analysis*
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February 8, 2022

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I. Introduction

Ten years ago, the U.S. Department of Commerce ("Commerce") and the U.S. International Trade Commission ("USITC" or "Commission") found that dumped and subsidized imports of Chinese crystalline silicon photovoltaic ("CSPV") cells and modules caused material injury to the U.S. CSPV industry. Antidumping ("AD") and countervailing duty ("CVD") Orders were imposed to remedy these unfair trade practices.[1] But instead of fairly pricing their CSPV cells and modules for export to the United States, Chinese CSPV producers continued their assault on domestic producers — this time from third country export platforms. Their relentless predatory pricing has been fueled by China's non-market subsidization of the upstream solar supply chain, intellectual property theft conducted by China's People's Liberation Army ("PLA"), and inhumane forced labor practices. China's "Going Out Policy" and "Belt and Road Initiative" greased the skids for Chinese companies to easily complete production in Malaysia, Vietnam, Thailand, and Cambodia to circumvent the existing AD and CVD Orders on Chinese CSPV cells and modules.

Auxin Solar is a minority- and woman-owned, U.S.-headquartered, and U.S.-operated manufacturer of CSPV modules and therefore has standing as a producer of the domestic like product pursuant to Section 771(9)(C) of the Tariff Act of 1930, as amended ("the Act") to petition Commerce to conduct country-wide anti-circumvention inquiries — pursuant to Section 781(b) of the Act and 19 C.F.R. § 351.226 — concerning assemblers of CSPV cells and modules

[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) ("AD Order"); *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) ("CVD Order") (together, "Orders").

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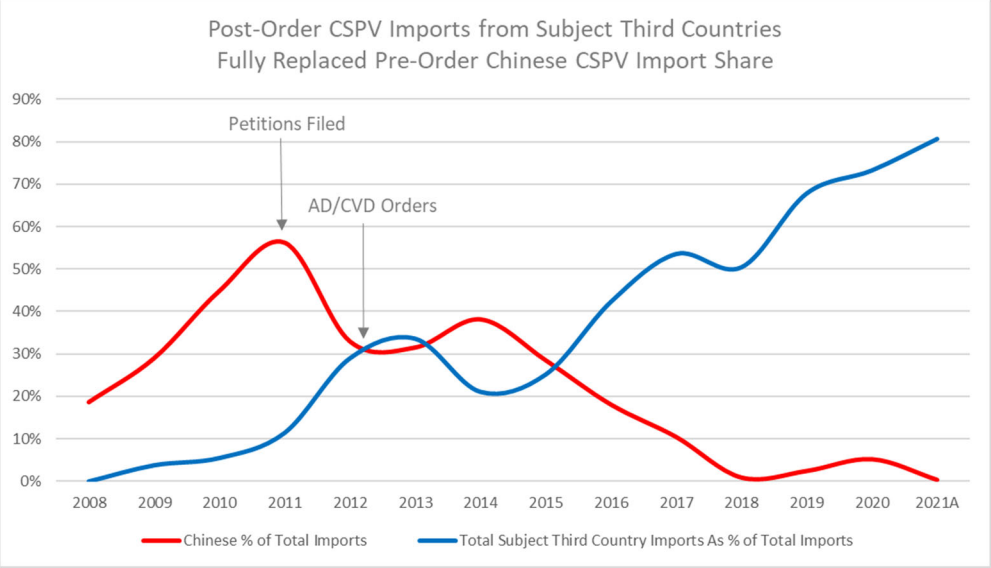
in Malaysia, Thailand, Vietnam, and Cambodia that use affiliated Chinese input suppliers and a fully integrated Chinese supply chain to circumvent the existing Orders. A circumvention finding is needed to restore the integrity of the remedy that Commerce and the ITC determined was necessary to protect the domestic industry a decade ago. The circumventing activity alleged herein is precisely the type of diversionary activity that Congress sought to address in amending the statute and empowering Commerce to find circumvention and apply antidumping and countervailing duties to these circumventing imports.[2]

Since the imposition of the Orders, U.S. imports of CSPV cells and modules from China have declined dramatically and have recently been replaced **completely** by imports from the subject third countries, which now outpace China's pre-order share of imports:



[2] *See Wheatland Tube Co. v. United States*, 161 F.3d 1365, 1370 (Fed. Cir. 1998) ("Congress has provided that Commerce's consideration of certain types of articles within the scope of an {antidumping duty} order will be a proper clarification or interpretation of the order instead of an improper expansion or change even where these products do not fall within the order's literal scope."); *see also* S. Rep. No. 71, 100th Cong. 1st Sess. (1987) at 99 ("This section allows the Commerce Department to include within the scope of an order merchandise imported into the United States that is assembled or completed in a third country if {certain criteria are satisfied}.").

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The value of **Chinese imports decreased by 86 percent** — from $2.8 billion in 2011 to $394 million in 2020.[3] The dramatic decline has continued in 2021, with less than $20 million of imports from China from January through November of 2021.[4] During the same period, the value of **imports from the subject third countries increased by 868 percent** — from $578 million in 2011 to $5.6 billion in 2020.[5] In just the most recent five years when Thailand, Vietnam, and Cambodia joined Malaysia as significant export platforms, Chinese imports have been replaced entirely by these imports that now account for almost all imports of CSPV cells and modules.

[3] Official Import Statistics (**Exhibit 1**). Merchandise subject to the Orders is provided for in HTS subheading 8541.40.60. Within subheading 8541.40.60, subject merchandise was included in statistical reporting numbers 8541.40.6020 ("solar cells, assembled into modules or made up into panels") and 8541.40.6030 ("solar cells, other") through June 30, 2018. As of July 1, 2018, a superior text for CSPV cells (described in statistical note 11 to chapter 85) applies to two subordinate reporting categories, 8541.40.6015 ("assembled into modules or made up into panels") and 8541.40.6025 ("other"). Exhibit 1 includes official U.S. import data for HTS numbers 8541.40.6020 and 8541.40.6030 for the period from 2001 through June 30, 2018, and data for HTS numbers 8541.40.6015 and 8541.40.6025 for the period from July 1, 2018, to date.

[4] Official Import Statistics (Exhibit 1).

[5] Official Import Statistics (Exhibit 1). Exhibit 1 includes 2021 import data through November, 2021, which on an annualized basis confirms the continued trend (*i.e.*, subject country imports increasing 812% from pre-Orders levels). Import data from December 2021 were not available at the time of this filing.

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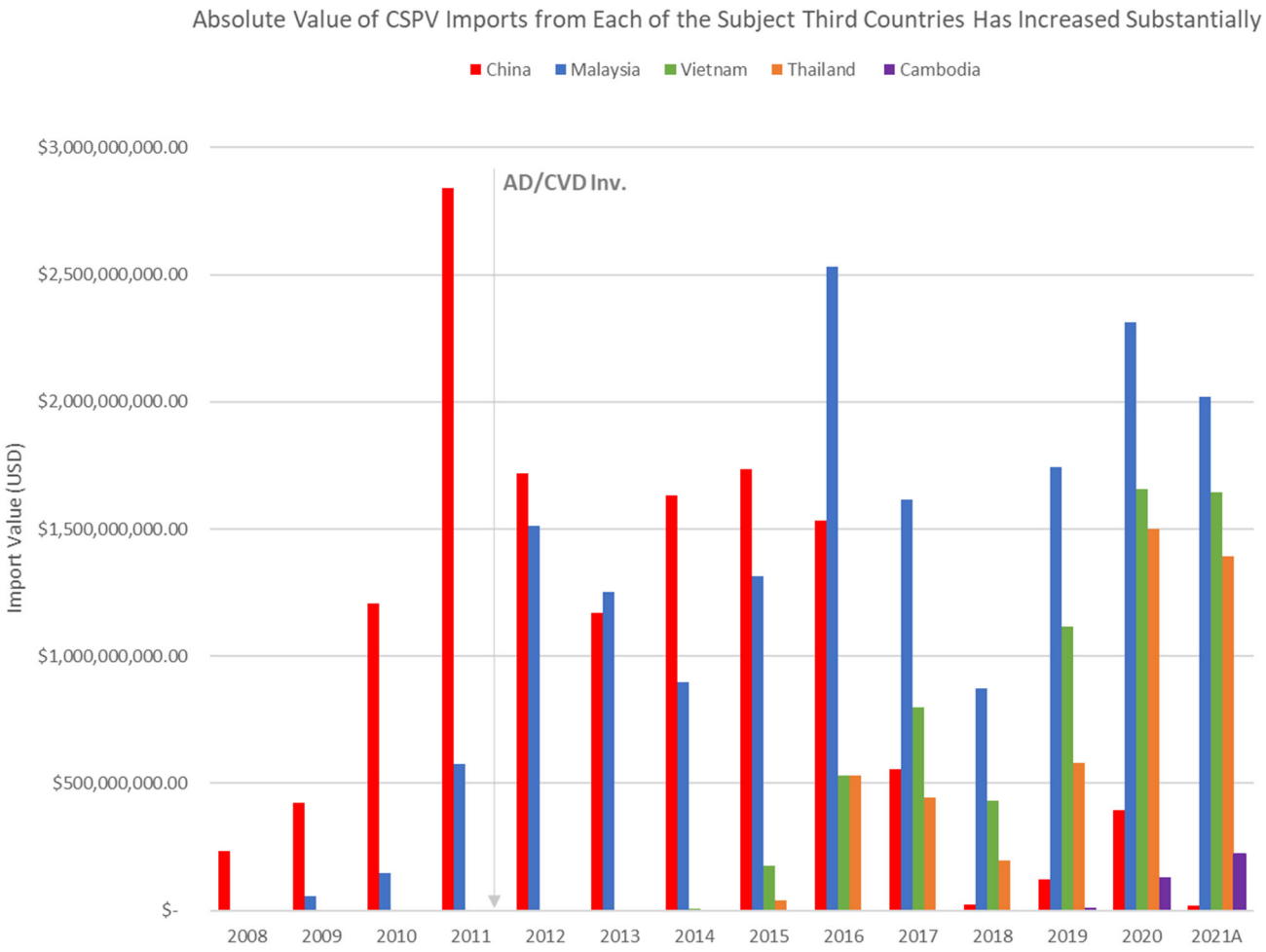
U.S. imports of CSPV cells and modules from producers in Malaysia, Thailand, Vietnam, and Cambodia have surged[6] in terms of absolute import value as shown in the figure below:



In 2011, the United States imported $576 million of CSPV cells and modules from Malaysia. Since then, Malaysian imports have increased to more than $2 billion in 2020 and remained the largest source of imported CSPV cells and modules in 2021. In just ten years, the share of Malaysian imports of CSPV cells and modules compared to total U.S. imports of CSPV

[6] Official Import Statistics (Exhibit 1). A comprehensive list of producers and U.S. importers alleged to be circumventing the Orders is included in **Exhibit 2**. Those identified in narrative are illustrative examples where publicly available evidence indicates a pattern of circumventing activity through Chinese supply of upstream inputs from affiliates.

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cells and modules by value surged from 5.5 percent in 2010 to nearly 31 percent in 2021. Publicly available information demonstrates that companies including LONGI Malaysia, Jinko Solar, and JA Solar are major Malaysian exporters that are fully integrated with upstream affiliates in China, use Chinese inputs in Malaysian assembly operations, and have their corporate headquarters in China.

In 2011, the United States imported only $336,806 of CSPV cells and modules from Thailand. Since then, imports from Thailand have significantly increased to over $1.5 billion in 2021. Ten years ago, Thai imports accounted for 0.1% of total imports; now, Thai imports make up 1/5 of total imports (20%). Publicly available information demonstrates that, at least, Trina Solar, Canadian Solar, Talesun, and Light & Hope are major exporters of CSPV products from Thailand and each of these companies maintains its integrated Chinese supply chain to supply its minor cell and module assembly operations in Thailand.

In 2011, the United States imported only $1.3 million of CSPV cells and modules from Vietnam. The value of Vietnamese shipments of CPSV cells and modules exceeded $1.6 billion in 2021 and now account for one-quarter of the value of all imported CSPV cells and modules. Publicly available information demonstrates that, at least, LONGi Vietnam, Jinko Solar, Trina Solar, Canadian Solar, GCL, Boviet Solar, Green Wing Solar, and HT Solar are major exporters of CSPV products from Vietnam and that each of these companies leverages its Chinese supply chain to supply its minor assembly operations in Vietnam.

For many years after the imposition of the Orders, Cambodia did not ship any CSPV cells or modules to the United States. Only after the imposition of a global safeguard that excluded Cambodia as a developing country did Chinese producers look to Cambodia as an export platform to circumvent U.S. trade remedies, including the AD and CVD Orders. Cambodia

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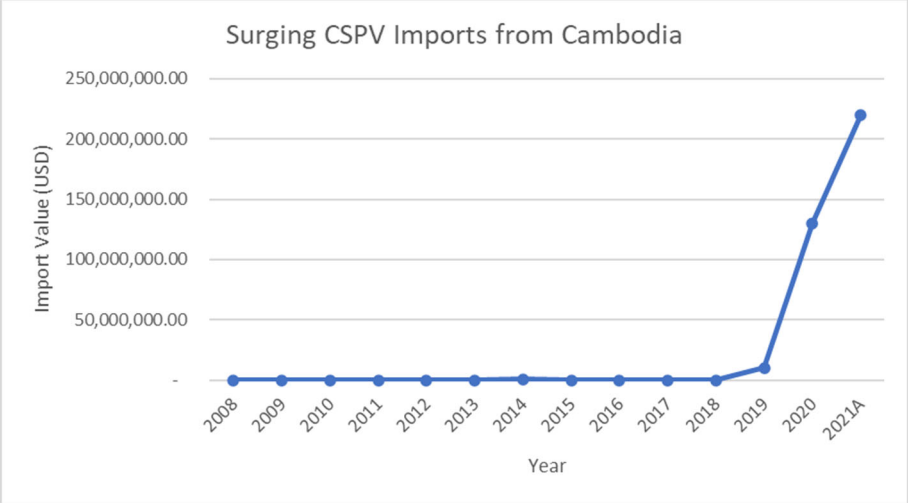
started shipping in late 2018 and now Cambodian imports account for over $200 million in CSPV cell and module imports into the United States, which is greater than 3% of all imports of CSPV cells and modules into the United States.



Publicly available information demonstrates that New East Solar, Enalex, Shenglong PV-Tech, Jintek, and other Cambodian companies use their dedicated upstream Chinese supply of inputs and Chinese headquarters for their minor assembly of CSPV cells and modules in Cambodia.

To be clear, each of these examples of assembly in Malaysia, Thailand, Vietnam, and Cambodia involve exporters that do not produce polysilicon ingots or wafers — the key upstream inputs in CSPV cells and modules — in those countries,[7] but instead sourced these and other necessary materials and inputs from China using related party supply chains. As discussed below, reasonably available evidence discussed in this petition establishes that imports of CSPV cells and modules from Malaysia, Thailand, Vietnam, and Cambodia are circumventing the

[7] [ ], no producers in these subject third countries have the capability or capacity to produce polysilicon or wafers for use in production of CSPV cells and modules in these countries.

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Orders and should therefore be included within the scope of the Orders pursuant to Section 781(b) of the Act.[8]

II. Executive Summary

Publicly available evidence that is reasonably available to Auxin Solar establishes that CSPV cell and module assemblers in Malaysia, Thailand, Vietnam, and Cambodia are circumventing the AD and CVD Orders on CSPV cells and modules from China. Pursuant to 19 C.F.R. § 351.226, this petition sets forth the required regulatory information to establish that circumvention is occurring and for Commerce to initiate these inquiries within 30 days after the filing of the request.

Section III provides a detailed background concerning the history of the Orders, the product's classification, and the basis for concluding that CSPV cells and modules are being assembled and completed in the subject third countries and shipped to the United States. (19 C.F.R. §§ 351.226(c)(2)(i)(B), (C), and (F))

Section IV follows with a description of the product that is subject to this anticircumvention inquiry and its manufacturing process. (19 C.F.R. §§ 351.226(c)(2)(i)(A), (D), (E), and (F)).

[8] On November 10, 2021, Commerce rejected a request for anti-circumvention findings concerning CSPV cells and modules imported from Malaysia, Thailand, and Vietnam for two specific reasons, namely: (1) the proprietary designation of the names of the members of the coalition that filed the petition "may prevent Commerce from obtaining and considering information relevant to the decision of whether to initiate the requested circumvention inquiries," and (2) that the coalition "has not requested that Commerce conduct country-wide circumvention proceedings, but rather, it has indicated a preference for initiating the requested circumvention inquiries on a company-specific basis." *See* Letter to American Solar Manufacturers Against Chinese Circumvention (Nov. 10, 2021) (ACCESS Barcode 4181178-01). Auxin Solar's instant request for circumvention inquiries does not contain any of these noted defects.

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Section V sets forth the legal framework that Commerce applies when it considers whether circumvention of an antidumping and/or countervailing duty order is occurring.

Section VI sets forth the factual basis that supports each prong of the statutory test of whether circumvention is occurring. This section establishes that (1) the imported merchandise is the same class or kind as that subject to the Orders (Section VI.A), (2) CSPV cells and modules are being completed or assembled in the subject countries (Section VI.B), (3) the completion of CSPV cells and modules in these subject countries requires processing that is minor or insignificant (Section VI.C), (4) the value of the merchandise produced in China constitutes a significant proportion of the total value of the subject merchandise exported to the United States (Section VI.D), and (5) the pattern of trade, affiliations, and use of Chinese-origin components all establish that circumvention is occurring (Section VI.E). (Sections 781(b) of the Act and 19 C.F.R. §§ 351.226(c)(2)(iii), (iv), and (vi)).

Section VII provides the names and addresses of producers and U.S. importers where reasonably available information establishes they are engaged in circumvention.

Section VIII requests that Commerce conduct a country-wide investigation pursuant to its authority under the statute, its regulations, and recent circumvention rulings. (19 C.F.R. § 351.226(c)(2)(v)).

Section IX concludes by refuting arguments that have been raised previously that Commerce should not conduct a circumvention inquiry concerning the Orders on CSPV cells and modules from China.

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III. Background

A. History of the Orders

The AD and CVD investigations on imports of CSPV cells, whether or not assembled into modules, from China, were initiated on November 8, 2011.[9] On October 17, 2012, Commerce published its final determination that subject merchandise was being sold, or was likely to be sold, in the United States at less than fair value ("LTFV").[10] On the same day, Commerce issued a final determination that countervailable subsidies were being provided to producers and exporters of subject merchandise.[11] Following the USITC's determination that the domestic industry was materially injured by reason of imports of subject merchandise,[12] Commerce imposed the AD and CVD orders on December 7, 2012.[13] On March 20, 2019, after the completion of the first sunset review of the Orders by Commerce and the Commission, Commerce published the continuation of both the AD and CVD orders.[14]

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[9] *Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From the People's Republic of China: Initiation of Antidumping Duty Investigations*, 76 Fed. Reg. 70,960 (Nov. 16, 2011); *Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From the People's Republic of China: Initiation of Countervailing Duty Investigation*, 76 Fed. Reg. 70,966 (Nov. 16, 2011).

[10] *Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules, from the People's Republic of China: Final Determination of Sales at Less Than Fair Value, and Affirmative Final Determination of Critical Circumstances, in Part*, 77 Fed. Reg. 63,791 (Oct. 17, 2012) ("AD Final Determination").

[11] *Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From the People's Republic of China: Final Affirmative Countervailing duty Determination and Final Affirmative Critical Circumstances Determination*, 77 Fed. Reg. 63,788 (Oct. 17, 2012).

[12] *Crystalline Silicon Photovoltaic Cells and Modules From China*, 77 Fed. Reg. 72,884 (U.S. International Trade Commission Dec. 6, 2012).

[13] *See* AD Order, 77 Fed. Reg. 73,018; CVD Order, 77 Fed. Reg. 73,017.

[14] *Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From the People's Republic of China: Continuation of Antidumping Duty Order*, 84 Fed. Reg. 10,300 (Mar. 20, 2019); *Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into*

(footnote continued on next page)

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B. The Scope of the Orders

The scope of the Orders provides that:

The merchandise covered by this order is crystalline silicon photovoltaic cells, and modules, laminates, and panels, consisting of crystalline silicon photovoltaic cells, whether or not partially or fully assembled into other products, including, but not limited to, modules, laminates, panels and building integrated materials.

This order cover{s} crystalline silicon photovoltaic cells of thickness equal to or greater than 20 micrometers, having a p/n junction formed by any means, whether or not the cell has undergone other processing, including but not limited to, cleaning, etching, coating, and/or addition of materials (including, but not limited to, metallization and conductor patterns) to collect and forward the electricity that is generated by the cell.

Merchandise under consideration may be described at the time of importation as parts for final finished products that are assembled after importation, including, but not limited to, modules, laminates, panels, building-integrated modules, building-integrated panels, or other finished goods kits. Such parts that otherwise meet the definition of merchandise under consideration are included in the scope of this order.

Excluded from the scope of this order are thin film photovoltaic products produced from amorphous silicon (a-Si), cadmium telluride (CdTe), or copper indium gallium selenide (CIGS).

Also excluded from the scope of this order are crystalline silicon photovoltaic cells, not exceeding 10,000 mm^2 in surface area, that are permanently integrated into a consumer good whose function is other than power generation and that consumes the electricity generated by the integrated crystalline silicon photovoltaic cell. Where more than one cell is permanently integrated into a consumer good, the surface area for purposes of this exclusion shall be the total combined surface area of all cells that are integrated into the consumer good.

Additionally, excluded from the scope of this order are panels with surface area from 3,450 mm^2 to 33,782 mm^2 with one black wire and one red wire (each of type 22 AWG or 24 AWG not more than 206 mm in length when measured from panel extrusion), and not exceeding 2.9 volts, 1.1 amps, and 3.19 watts. For the purposes of this exclusion, no panel shall contain an internal battery or external computer peripheral ports.

Modules, From the People's Republic of China: Continuation of Countervailing Duty Order, 84 Fed. Reg. 10,299 (Mar. 20, 2019).

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Also excluded from the scope of this order are:
Off grid CSPV panels in rigid form with a glass cover, with the following characteristics:
a total power output of 100 watts or less per panel;
a maximum surface area of 8,000 cm^2 per panel;
do not include a built-in inverter;
must include a permanently connected wire that terminates in either an 8mm male barrel connector, or a two-part rectangular connector with two pins in square housings of different colors;
must include visible parallel grid collector metallic wire lines every 1-4 millimeters across each solar cell; and
must be in individual retail packaging (for purposes of this provision, retail packaging typically includes graphics, the product name, its description and/or features, and foam for transport); and

Off grid CSPV panels without a glass cover, with the following characteristics:
a total power output of 100 watts or less per panel;
a maximum surface area of 8,000 cm^2 per panel;
do not include a built-in inverter;
must include visible parallel grid collector metallic wire lines every 1-4 millimeters across each solar cell; and
each panel is permanently integrated into a consumer good;
encased in a laminated material without stitching, or has all of the following characteristics: (i) the panel is encased in sewn fabric with visible stitching, (ii) includes a mesh zippered storage pocket, and (iii) includes a permanently attached wire that terminates in a female USB-A connector.

Modules, laminates, and panels produced in a third-country from cells produced in China are covered by this order; however, modules, laminates, and panels produced in China from cells produced in a third-country are not covered by this order.

Merchandise covered by this order is currently classified in the Harmonized Tariff System (HTS) of the United States under subheadings 8501.61.0010, 8507.20.80, 8541.40.6015, 8541.40.6025, and 8501.31.8010. These HTSUS subheadings are provided for convenience and customs purposes; the written description of the scope of this order is dispositive.[15]

[15] *See e.g.*, *Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From the People's Republic of China: Preliminary Results of Antidumping Duty Administrative Review, Partial Rescission of Antidumping Administrative Review, and Preliminary Determination of No Shipments; 2018-2019*, 86 Fed. Reg. 21,277 (Apr. 22, 2021), PDM at 3-5.

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Commerce has consistently found that cells manufactured in China, modules manufactured in China from Chinese cells, and modules manufactured in third countries from Chinese cells are all subject to the Orders.[16]

C. Tariff Classification of CSPV Products Subject to the Orders

The merchandise covered by the scope of the Orders is classified in the Harmonized Tariff System of the United States ("HTSUS") under subheadings 8541.40.6015 and 8541.40.6025. As described in the scope of the Orders, merchandise covered by the scope may also be classified under HTSUS subheadings 8501.61.0000, 8507.20.80, 8541.40.6020, 8541.40.6030, 8501.31.8000, 8451.40.6035, and 8541.40.6045.[17]

IV. Description of the Product and the Manufacturing Process

A. Product Description

CSPV cells use crystalline silicon to convert sunlight to electricity, and have a positive layer, a negative layer, and a positive-negative junction (p/n junction).[18] Electricity is generated when sunlight strikes the CSPV cell, knocking electrons loose that flow onto thin metal "fingers" that run across the CSPV cell and conduct electricity to the busbars.[19] CSPV cells are a primary

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[16] *See* AD Final Determination, IDM at Comment 1 ("the Department has determined that modules assembled in third countries using solar cells produced in the PRC are also PRC products covered by the scope").

[17] *Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From the People's Republic of China: Continuation of Antidumping Duty Order*, 84 Fed. Reg. 10,300 (Mar. 20, 2019); *Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From the People's Republic of China: Continuation of Countervailing Duty Order*, 84 Fed. Reg. 10,299 (Mar. 20, 2019).

[18] *Crystalline Silicon Photovoltaic Cells, Whether or Not Partially or Fully Assembled Into Other Products*, Inv. Nos. TA-201-75 (Extension), USITC Pub. 5266 (Dec. 2021) ("USITC Pub. 5266") at 13, excerpts attached at **Exhibit 3**.

[19] Exhibit 3 (USITC Pub. 5266) at I-58.

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component of CSPV modules (also called panels), which in turn are the main components of CSPV systems.[20] CSPV laminates consist of CSPV cells that are connected, encapsulated in an ethyl vinyl acetate ("EVA") film, and covered with a glass front sheet and a back sheet.[21] The back sheet is most commonly a plastic film composite, but glass is also used on the back of the module in some applications, like bifacial modules, to improve efficiency.[22]

CSPV modules typically are comprised of the laminate that is framed in aluminum and attached to a junction box.[23] CSPV modules can be used in both ground-mounted and rooftop-mounted systems.[24] In addition, CSPV modules can be used in both the off-grid market segment and the three on-grid market segments – residential, nonresidential, and utility.[25] The junction box of CSPV modules can be connected to other modules, an inverter (which converts the direct current generated by the system to alternating current), or, in the case of off-grid modules, a battery and a charge controller (which controls battery charging).[26] In addition to standard size modules, CSPV cells can be used in building-integrated PV.[27] Solar CSPV systems convert sunlight into electricity for on-site use or for distribution through the electric grid.[28] The two main types of CSPV cells and modules are monocrystalline silicon and multicrystalline (or

[20] Exhibit 3 (USITC Pub. 5266) at I-59.
[21] Exhibit 3 (USITC Pub. 5266) at I-61.
[22] Exhibit 3 (USITC Pub. 5266) at I-61.
[23] Exhibit 3 (USITC Pub. 5266) at I-62.
[24] Exhibit 3 (USITC Pub. 5266) at I-62.
[25] Exhibit 3 (USITC Pub. 5266) at I-62.
[26] Exhibit 3 (USITC Pub. 5266) at I-62.
[27] Exhibit 3 (USITC Pub. 5266) at I-64.
[28] Exhibit 3 (USITC Pub. 5266) at I-57.

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polycrystalline) silicon, with various products within these two categories.[29] Within these two categories, there are a number of cell and module technologies.[30]

B. The Manufacturing Process

There are five main stages in the manufacturing process for CSPV products.[31] Polysilicon is refined, then it is formed into ingots, which are sliced into wafers, doped and converted into CSPV cells, and then assembled into modules.[32] These are discrete production steps that may occur in different plants or locations, and producers may source products at each stage of the value chain or produce the products in-house.[33] CSPV cells and modules are tested and inspected at various points during the production process.[34]

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[29] Exhibit 3 (USITC Pub. 5266) at I-60.

[30] Exhibit 3 (USITC Pub. 5266) at I-60.

[31] Exhibit 3 (USITC Pub. 5266) at I-77.

[32] Exhibit 3 (USITC Pub. 5266) at I-77.

[33] *Solar PV Trade and Manufacturing: A Deep Dive*, Bloomberg NEF (Feb. 2021) ("Bloomberg NEF Report") at 3, attached at **Exhibit 4** (report publicly available and accessed through the Center for Strategic & International Studies (*available at* https://www.csis.org/analysis/industrial-policy-trade-and-clean-energy-supply-chains) (last accessed January 3, 2022)).

[34] Exhibit 3 (USITC Pub. 5266) at I-78, I-81, I-83, and I-84.

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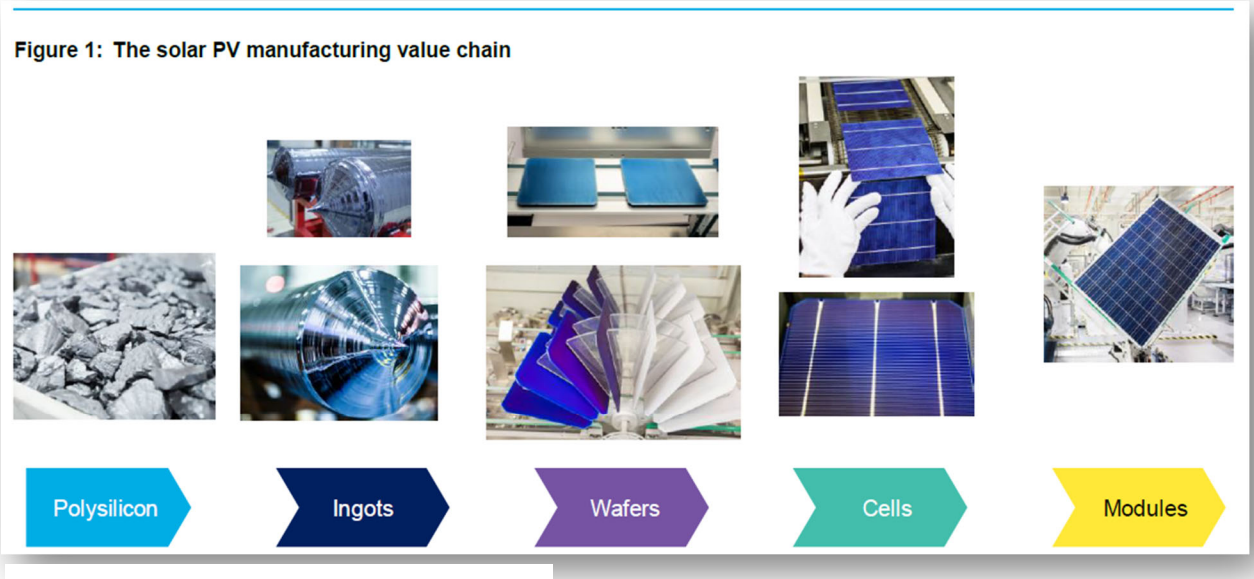

Source: Bloomberg NEF Report (Exhibit 4)

The **first stage** in the manufacturing process is refining polysilicon. It is well known that this is an extremely important step, requiring very high levels of investment. Polysilicon and wafers have higher technical hurdles and factories are larger, more expensive and time-consuming to build compared to the downstream production stages.[35] According to factfinding by the USITC, the Siemens method of polysilicon refining accounts for "95 percent of global production in 2020" while the fluidized bed reactor ("FBR") technology accounted for most of the remaining market.[36] As such, and as portrayed in graphical representation below, the production process discussion focuses on the Siemens method.

[35] *See* Exhibit 4 (Bloomberg NEF Report) at 4.

[36] Exhibit 3 (USITC Pub. 5266) at I-78.

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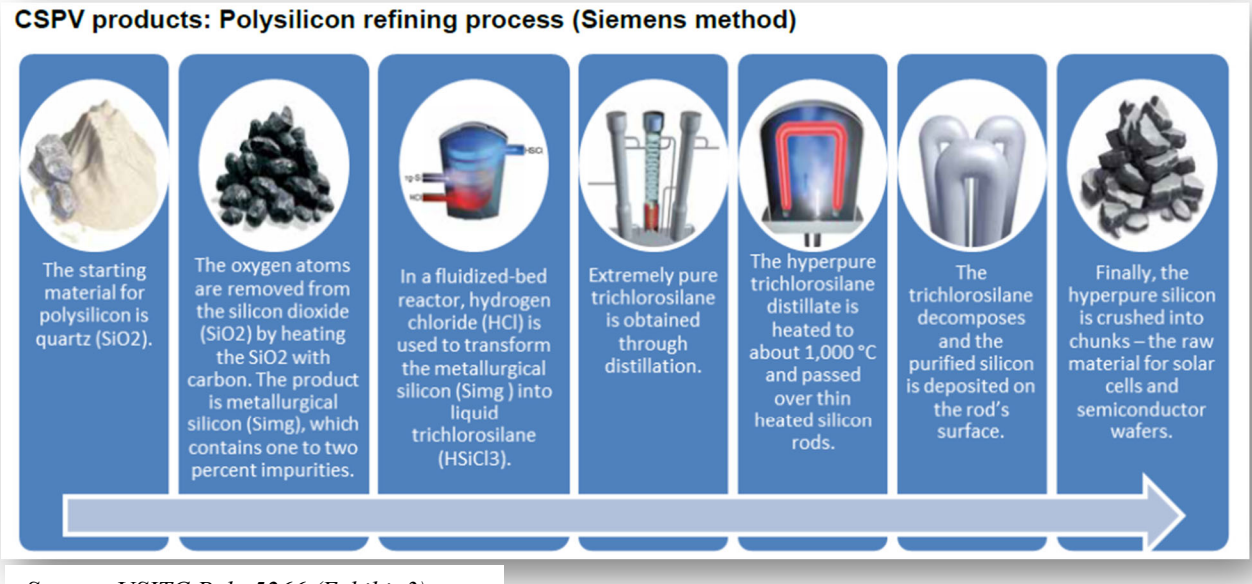

Source: USITC Pub. 5266 (Exhibit 3)

The USITC described the Siemens and fluidized bed reactor processes in narrative as follows:

> In the first step in the Siemens process, quartz (silicon dioxide) and carbon are heated to around 1,800 degrees Celsius. The carbon reacts with the oxygen, resulting in carbon dioxide and silicon with a purity of around 98 to 99 percent. The silicon is then combined with hydrogen chloride gas at 300 to 350 degrees Celsius, with the reaction resulting in the liquid trichlorosilane. Next, heated silicon rods are inserted into a Siemens reactor, where they are further heated to 1,000 degrees Celsius or more. Hydrogen and trichlorosilane gas are fed into the reactor. The silicon from the trichlorosilane is deposited onto the rods, which steadily increase in size until they are removed from the reactor about a week later. The resulting products are high purity polysilicon chunks or rocks.
>
> Instead of inserting rods, "FBR uses seed granules of purified silicon. The seed granules are fed into a chamber that has heated silane gas entering from below and exiting above. The flow of gas 'fluidizes' the silicon granules, causing them to flow like a liquid, as the silane gas breaks down and deposits silicon layers on them. The granules grow larger and heavier and exit when they are sufficiently large. As they do so, new seed granules and gas are introduced into the chamber and the process continues." The FBR process, which is newer than the Siemens process, uses 80 to 90 percent less energy, requires a smaller footprint, is a continuous process, takes up less space in shipping, and can increase downstream production efficiency. However, the process is difficult to scale and achieve high purity

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production at low cost.[37]

The **second stage** involves forming the refined polysilicon into ingots. The ingot production process is different for monocrystalline and multicrystalline cells, as explained below:

> In the Czochralski ("Cz") process for producing crystals used in monocrystalline ingots, polysilicon chunks are first placed into a quartz crucible along with a dopant (boron or gallium), which is used to provide a positive electric orientation. The polysilicon often includes both virgin polysilicon and waste polysilicon generated at later stages of the production process. The crucible is then loaded into a Cz furnace and heated to about 2,500 degrees Fahrenheit. Once the polysilicon is melted, a seed crystal is lowered into the material and rotated, with the crucible rotated in the opposite direction. The melt starts to solidify on the seed and the seed is slowly raised out of the melt—creating a single long crystal. The crystal is then cooled before it is moved onto the next step.
>
> …
>
> For multicrystalline ingots, the first step is loading polysilicon (including virgin and recovered waste) into a quartz crucible in a Directional Silicon Solidification ("DSS") furnace for melting. Argon is fed into the furnace to "remove impurities and inhibit oxidation." The "molten silicon is cast into a block and crystallized, forming a multicrystalline structure as the molten silicon and crucible cool." For cast mono (also referred to as quasi-mono or moonlike ingots), which has higher conversion efficiencies, seed ingots are used in the furnace to produce an ingot with a more mono type crystal structure.[38]

The Cz process is reflected in the graphic below:

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[37] *Crystalline Silicon Photovoltaic Cells and Modules from China*, Inv. Nos. 701-TA-481 and 731-TA-1190 (Review), USITC Pub. 4874 (Mar. 2019) at I-44 – I-45, excerpts attached at **Exhibit 5** (internal citations omitted).

[38] Exhibit 3 (USITC Pub. 5266) at I-79 – I-80.

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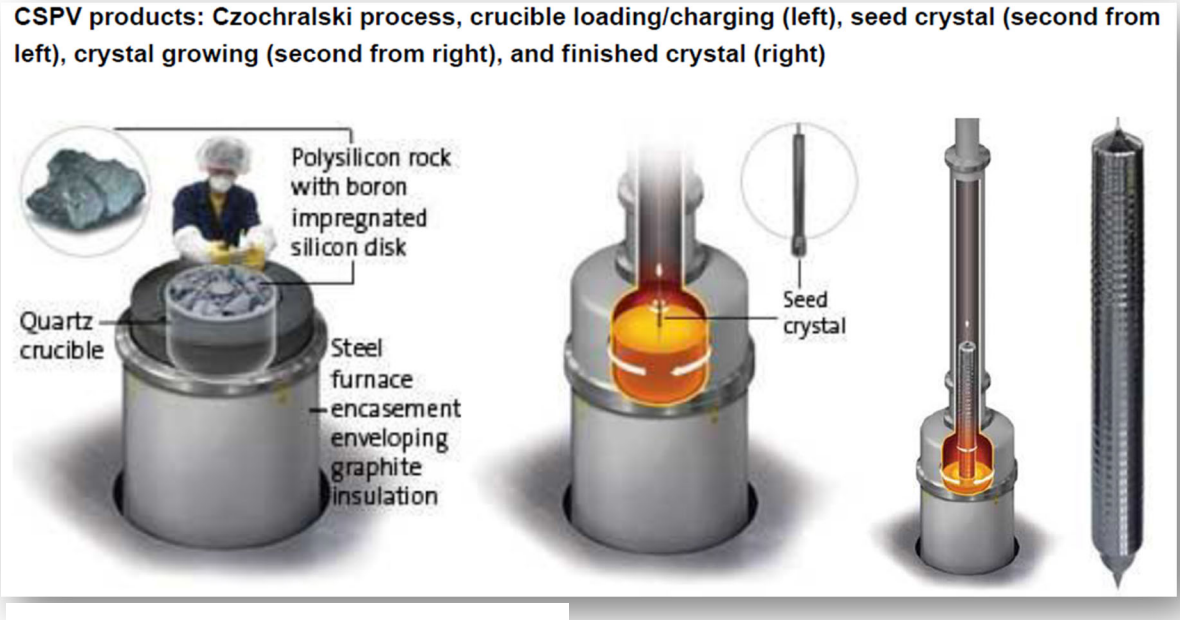

Source: USITC Pub. 5266 at I-80 (Exhibit 3)

In the **third stage** of the supply chain, the ingot is cooled and it is processed into wafers. Just as with ingot production, the wafer production process is different for monocrystalline and multicrystalline cells. As the ITC explained:

> For monocrystalline ingots: (1) the top and tail (each end of the cylindrical crystal) are cut off, (2) the remaining portion of the crystal (or ingot) is cut into equal length pieces, (3) the ingot is squared, (4) edges are ground, and (5) a wire saw then slices the ingots into wafers.
>
> For multicrystalline ingots (1) the ingot is squared, (2) the squared ingot is cut into blocks, (3) the blocks are tested and any parts of the block that do not pass these tests are cropped off, and (4) the blocks are sliced into wafers using a wire saw.
>
> Finally, the wafers are cleaned, dried, and inspected.[39]

The graphic below demonstrates the ingot and wafer-making production stages:

[39] Exhibit 3 (USITC Pub. 5266) at I-81.

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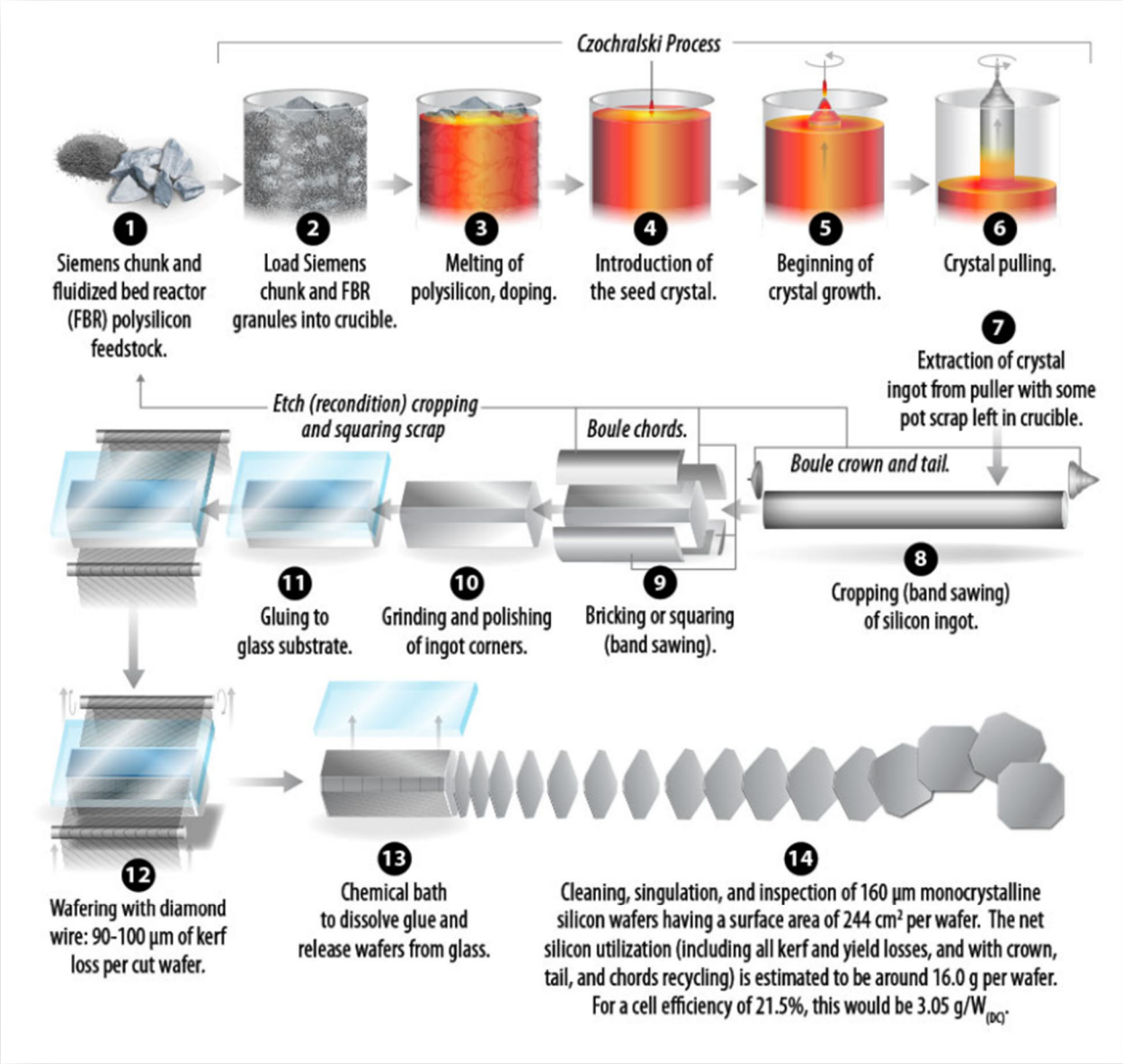

Source: National Renewable Energy Laboratory, "Crystalline Silicon Photovoltaic Module Manufacturing Costs and Sustainable Pricing: 1H 2018 Benchmark and Cost Reduction Road Map (Rev. Feb. 2020) ("NREL Report") (Exhibit 97)

The **fourth stage** involves processing the wafers into CSPV cells. The cell manufacturing process varies by company and technology.[40] In addition, some firms use a

[40] Exhibit 3 (USITC Pub. 5266) at I-82.

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highly automated manufacturing process, while others mix automation and manual labor in their production processes.[41] The main steps in the process are as follows:

- **Cleaning and texturing:** First, the wafers are cleaned, then the surface of the wafer undergoes a chemical treatment that reduces the reflection of sunlight and increases light absorption.
- **Diffusion:** In the next step, "phosphorus is diffused into a thin layer of the wafer surface. The molecular-level impregnation occurs as the wafer surface is exposed to phosphorus gas at a high heat, a step that gives the surface a negative potential electrical orientation. The combination of that layer and the boron-doped layer below creates a positive-negative, or p/n, junction – a critical partition in the functioning of a PV cell."[42]
- **Edge isolation:** A thin layer of silicon is then removed from the edge of the CSPV cell to separate the positive and negative layers.
- **Coating:** Next, a silicon nitride antireflective coating is added to the PV cells to increase the absorption of sunlight.
- **Printing:** Metals, including silver paste, are then printed on the solar CSPV cell to collect the electricity. On the front of the CSPV, these metals are printed in thin metal strips called fingers, which are connected to the rest of the module via busbars. A metal layer, typically aluminum, is also printed on the back of the CSPV cell.
- **Co-firing:** The CSPV cells then enter a furnace, where the "high temperature causes the silver paste to become imbedded in the surface of the silicon layer, forming a reliable electrical contact."
- **Testing and sorting:** The final step in the process is the testing and sorting of the CSPV cells based on their characteristics and efficiency.[43]

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[41] Exhibit 5 (USITC Pub. 4874) at I-47.

[42] Based on Commerce's scope rulings, by this point in the process (creation of the P/N junction), the wafer is now considered a solar cell and therefore merchandise subject to the scope of these investigations. *See* Memorandum from Lauren Caserta through Melissa G. Skinner to James Maeder, re: Preliminary Scope Ruling on the Antidumping and Countervailing Duty Orders on Crystalline Silicon Photovoltaic Cells from the People's Republic of China: ET Solar Inc. (Mar. 30, 2021) (PUBLIC VERSION) ("ET Solar Scope Ruling"), attached at **Exhibit 6**; Memorandum from Peter Shaw through Melissa G. Skinner to James Maeder, re: Antidumping and Countervailing Duty Orders on Crystalline Silicon Photovoltaic Cells from the People's Republic of China, and Certain Crystalline Silicon Photovoltaic Products from Taiwan: The Solaria Corporation Scope Ruling (Apr. 8, 2021) ("The Solaria Corporation Scope Ruling"), attached at **Exhibit 7**.

[43] Exhibit 3 (USITC Pub. 5266) at I-82 – I-83.

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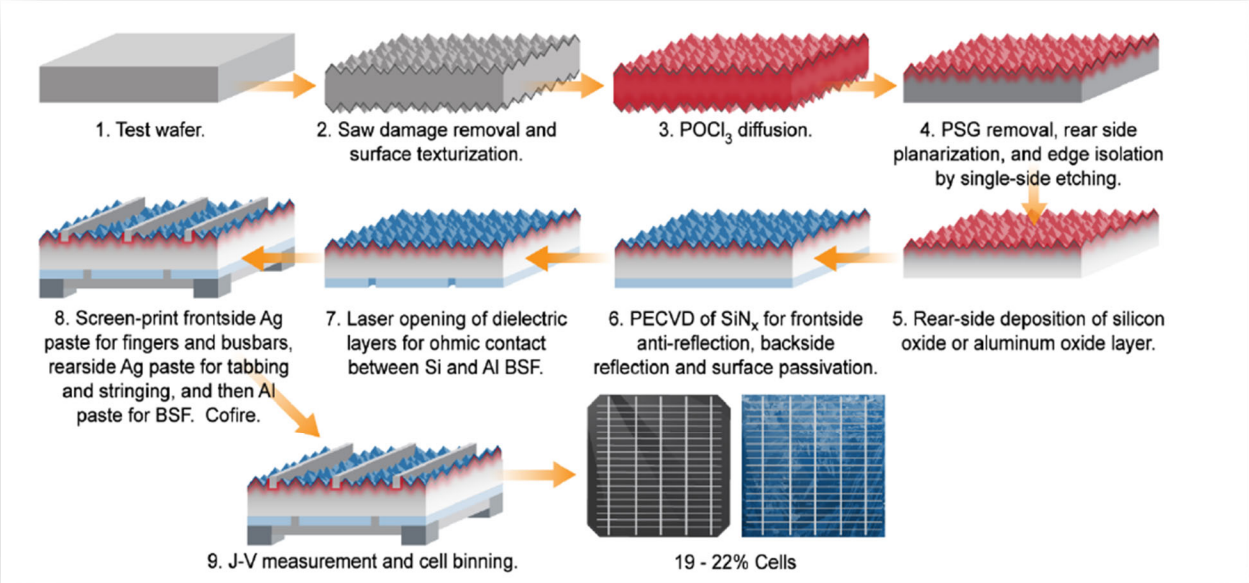
The cell manufacturing process is demonstrated in the graphic below:



Source: NREL Report at 25 (Exhibit 97)

The **fifth and last stage** involves assembling the CSPV cells into modules. The extent of automation and manual labor involved in module assembly varies depending on the producer.[44] Generally during the assembly process:

> If half-cut cells are used, the CSPV cells are first cut in half using a laser. Next, a piece of glass is placed on the production line, on top of which is added a piece of ethyl vinyl acetate ("EVA") or another encapsulant. Then a group of CSPV cells is placed in a line and soldered together, creating a string. The strings are then placed on top of the encapsulant, and the string interconnections are soldered together. After this, another layer of EVA and a backsheet are added, then the product is laminated and cured (creating what is referred to as a "laminate"). Excess material is then trimmed, usually a frame is added, and a junction box is attached to the back. CSPV modules are then tested, sorted, and packaged.[45]

The module manufacturing process is demonstrated in the below representation.

[44] Exhibit 5 (USITC Pub. 4874) at I-49.

[45] Exhibit 3 (USITC Pub. 5266) at I-83 – I-84.

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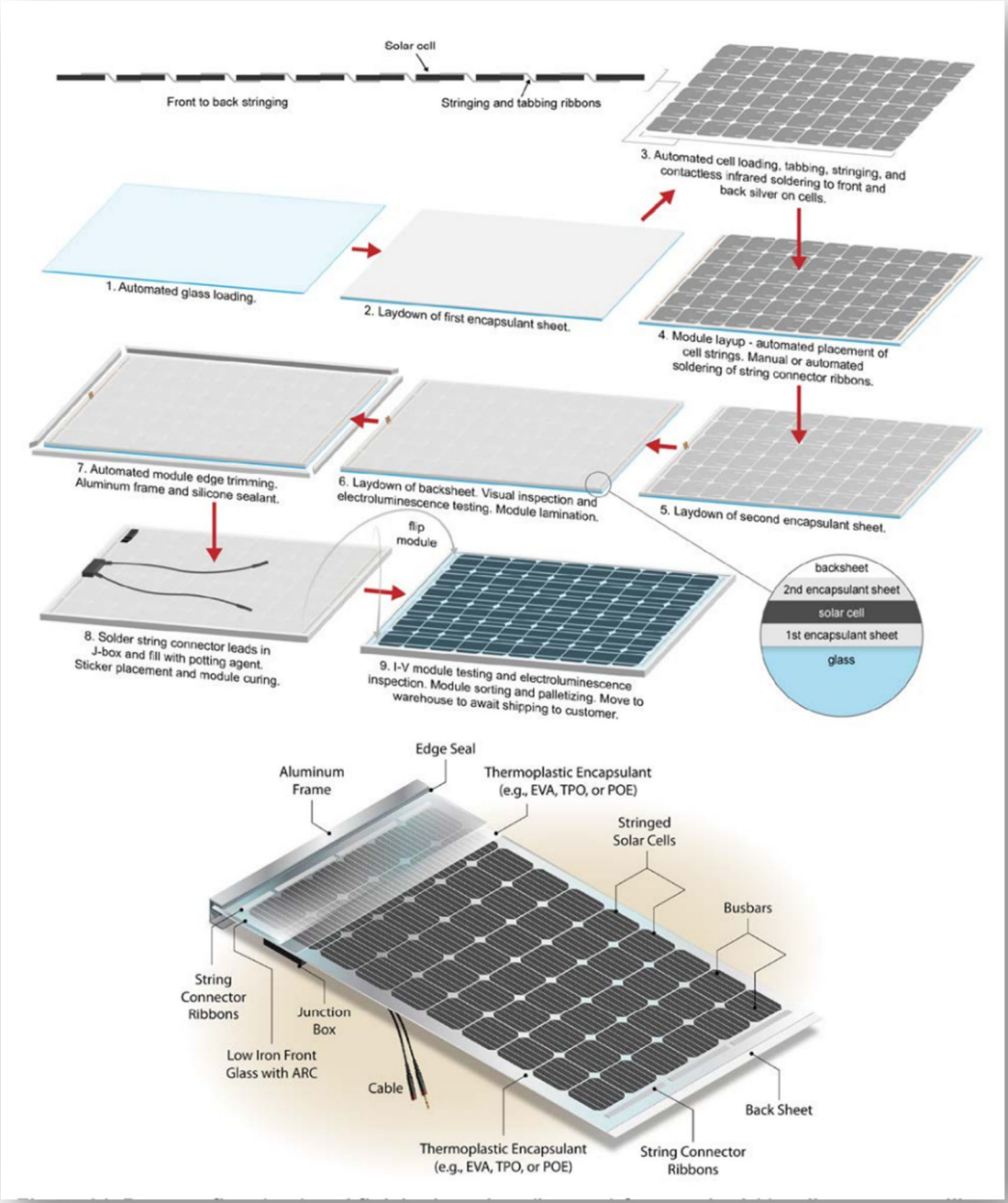

Source: NREL Report at 32 (Exhibit 97)

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V. Legal Framework for Finding Circumvention Pursuant to Section 781(b) of the Tariff Act

Congress has provided Commerce with the necessary tools to combat circumvention of antidumping and countervailing duties.[46] To combat circumvention, the statute expressly contemplates that "Commerce may determine that certain types of articles are within the scope of a duty order, even when the articles do not fall within the order's literal scope."[47] Specifically, Section 781(b) of the Act provides that Commerce may include within the scope of an AD/CVD order merchandise that has been completed or assembled in another foreign country before being imported into the United States if certain statutory criteria are met. Congress has expressed its belief that Commerce's "aggressive implementation" of Section 781 is necessary to prevent circumventing activity.[48]

Pursuant to Section 781(b)(1) of the Act, Commerce may include merchandise assembled or completed in a third country within the scope of an order if:

A. The merchandise imported into the United States is of the same class or kind as merchandise produced in the foreign country that is subject to the existing order;

B. Before importation into the United States, such merchandise is completed or assembled in another foreign country from merchandise which is (i) subject to such order, or (ii) produced in the foreign country with respect to which such order applies;

C. The process of assembly or completion in the third country is minor or insignificant;[49]

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[46] *See Deacero S.A. de C.V. v. United States*, 817 F.3d 1332, 1337-1338 (Fed. Cir. 2016).

[47] *Id.* at 1337.

[48] S. Rep. No. 71, 100th Cong. 1st Sess. (1987) at 101.

[49] In determining whether the process of assembly or completion in the third country is minor or insignificant, Commerce must take into account: (1) the level of investment in the foreign country; (2) the level of research and development in the foreign country; (3) the nature of the

(footnote continued on next page)

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D. The value of the merchandise produced in the foreign country to which the order applies is a significant portion of the total value of the merchandise exported to the United States; and

E. Commerce determines that action is appropriate to prevent evasion of such order, the agency may include such imported merchandise within the scope of the existing order, after taking into account any advice provided by the Commission pursuant to Section 781(e) of the Act.[50]

Although Commerce must consider all five factors in its analysis, no single factor is dispositive, and the agency's practice is to evaluate each of these five factors as they exist in the third country, depending on the totality of the circumstances of the particular inquiry.[51]

In addition, Section 781(b)(3) of the Act directs Commerce to consider other factors in determining whether to include merchandise assembled or completed in a foreign country under the order at issue, such as:

- The pattern of trade, including sourcing patterns;
- Whether the manufacturer or exporter of the merchandise that is subject to the order at issue or produced in the country with respect to which such order applies is affiliated with the person who uses that merchandise to assemble or complete in the foreign country the merchandise that is subsequently imported into the United States; and
- Whether imports into the third country of the merchandise that is subject to the order at issue or produced in the country with respect to which such order applies have increased after initiation of the underlying investigation which resulted in the issuance of the order at issue.

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production process in the foreign country; (4) the extent of production facilities in the foreign country; and (5) whether the value of the processing performed in the foreign country represents a small proportion of the value of the merchandise imported into the United States. *See* Section 781(b)(2) of the Act.

[50] Section 781(b)(1) of the Act.

[51] *See U.K. Carbon and Graphite Co. v. United States*, 931 F. Supp. 2d 1322, 1335 (Ct. Int'l Trade 2013) ("None of the five factors {in 19 U.S.C. § 1677j(b)(2)(A)-(E)} is dispositive…{each} are to be separately taken into consideration, as appropriate, and their totality weighed.").

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As discussed below, an assessment of these statutory factors — based on evidence reasonably available to Auxin Solar[52] — demonstrates that the CSPV cells and/or modules completed in Malaysia, Thailand, Vietnam, and Cambodia using Chinese-origin components are circumventing the AD/CVD Orders on CSPV cells and modules from China, and therefore should be included within the scope of the Orders.

VI. Imports of CSPV Cells and Modules Completed in Malaysia, Thailand, Vietnam, and Cambodia Are Circumventing the Orders

A. The Imported Merchandise Is of the Same Class or Kind as the Merchandise Produced in China that Is Subject to the Orders

The merchandise imported into the United States are CSPV cells and/or modules that are identical to the CSPV cells and modules from China that are subject to the Orders, except that they were completed in Malaysia, Thailand, Vietnam, and Cambodia by CSPV cell and module assemblers/processors in those third countries. Evidence demonstrates that Chinese-origin components are being shipped to Malaysia, Thailand, Vietnam, and Cambodia to be completed into CSPV cells and modules for the purpose of avoiding AD/CVD duties.[53] But for the desire to circumvent the Orders, the final production stages for the CSPV cells and modules would take

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[52] Commerce has interpreted the legislative history of the Uruguay Round Agreements Act "to mean that the general evidentiary requirements for initiating petitions (*e.g.*, allege the elements necessary for relief, accompanied by information reasonably available to support those allegations) apply to anticircumvention requests." *Initiation of Anticircumvention Inquiry on Antidumping and Countervailing Duty Orders on Hot-Rolled Lead and Bismuth Carbon Steel Products from the United Kingdom and Germany*, 62 Fed. Reg. 34,213, 34,216 (June 25, 1997); *see also* 19 C.F.R. § 351.226(c)(2) (noting a circumvention request must include the listed information "to the extent reasonably available to the requestor").

[53] Global Trade Atlas Export Data, attached at **Exhibit 8** (showing massive increases in Chinese exports to Malaysia, Thailand, Vietnam, and Cambodia of essential components of aluminum framing, junction boxes, solar glass, and inverters, which are used to complete assembly of CSPV cells and modules).

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place in China, as they did prior to the imposition of the Orders. [ ] data establish that specific companies in Malaysia, Thailand, Vietnam, and Cambodia exported merchandise described in [ ] as solar cells, solar modules and bifacial solar modules to the United States, which meet the description of merchandise subject to the Orders.[54]

B. CSPV Cells and Modules Are Completed or Assembled in Malaysia, Thailand, Vietnam and/or Cambodia

Evidence reasonably available demonstrates that, before importation into the United States, Chinese-origin components are being completed into CSPV cells and/or modules in Malaysia, Thailand, Vietnam, and/or Cambodia.

1. *Each Country Source and Third-Country Facility May Use a Different Type of Assembly Operation*

As detailed above, the production process for CSPV products generally includes the following main five stages: (1) polysilicon is refined, (2) the polysilicon is formed into ingots, (3) the ingots are sliced into wafers, (4) the wafers are converted to CSPV cells, and (5) the CSPV cells are assembled into modules. Auxin Solar has uncovered evidence that certain companies are completing the production of CSPV cells and/or modules in Malaysia, Thailand, Vietnam, and/or Cambodia using partially assembled Chinese-origin components. Each of these companies for which information is available demonstrates the unmistakable goal of evading enforcement of the AD/CVD Orders.

For CSPV cells and modules subject to this anti-circumvention inquiry, all of the manufacturing process up through the production of wafers takes place in China. To the extent that the wafers are also undergoing some of the cell conversion steps in China short of being

[54] [ ] Data, attached at **Exhibit 9**.

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doped and containing a p/n junction, anything beyond this stage in China would make them subject merchandise upon export from China and subject to the Orders regardless of third country processing.[55] Reasonably available evidence establishes that certain companies may complete the production process through polysilicon refinement, ingot formation and the production of the wafers in China, after which the wafers are converted to CSPV cells in the third country using additional and substantial Chinese-origin components. At this point, the companies may export the completed CSPV cells to the United States or assemble the cells into modules using additional and substantial Chinese-origin components before exporting the completed modules to the United States. In addition, certain companies may be taking some of the preliminary steps for converting wafers to cells within China, after which only the remaining cell production steps and in some cases module assembly take place in the third country, again using additional and substantial Chinese-origin components, before the companies export the completed CSPV cells and/or modules to the United States.

Based on available evidence, the vast majority of the materials and equipment for the process of converting the Chinese wafers to CSPV cells are being sourced from China, including but not limited to: silane, phosphorus oxychloride (POCI3), aluminum and/or silver paste. Similarly, the vast majority of the materials and equipment for the process of converting the CSPV cells to modules are also being sourced from China, including but not limited to: solar glass, EVA, backsheet, aluminum frames, and junction boxes.

[55] *See* Exhibit 6 (ET Solar Scope Decision) and Exhibit 7 (The Solaria Corporation Scope Ruling).

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2. *China's Industrial Policies and Dominance in the Solar Supply Chain Pave the Way for Third-Country Circumvention*

China's "Going Out" policies and "Belt & Road Initiative" facilitate the propping up of companies in Malaysia, Thailand, Vietnam, and Cambodia whose mission is to evade the AD/CVD Orders.[56] Given China's dominance in the CSPV supply chain, the "Going Out" and BRI initiatives dictate that these companies in the subject third countries will be reliant on Chinese components to supply their minor assembly and completion operations.

China's production of polysilicon accounted for 68 percent of global production in 2019 and 76 percent of global production in 2020.[57] Most of this polysilicon is produced by facilities located within the Xinjiang region, which is a well-established source of forced labor and rampant human rights violations.[58] Outside of China, only Germany, Korea, and the United States can be said to be significant producers of polysilicon, though their total production capabilities pale in comparison to China.[59]

China also dominates the world in its production of ingots and wafers, with six companies — LONGi, Zhonghuan, Jinko, JA Solar, Shangli, and JYT — accounting for 88

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[56] *See* "An Emerging China-Centric Order: China's Vision for a New World Order in Practice," NBR Special Report #87 (Aug. 2020) at 2, attached at **Exhibit 10** ("China's growing presence in Cambodia effectively surrounds Vietnam with Chinese military assets or friends and affects the strategic calculus for Thailand, Singapore, Malaysia, and Indonesia, potentially giving Beijing greater sway over ASEAN."); "China's Belt and Road Initiative (BRI) and Southeast Asia," CARI (Oct. 2018) at 4-5, excerpts attached at **Exhibit 11** ("Singapore, Vietnam, Thailand, Malaysia, Cambodia, and Myanmar are all ranked amongst the top ten most connected to China via trade, and China continues to deepen trading relations with partner economies in Southeast Asia…For particularly lost-cost economies, outsourcing from China has been fundamental.").

[57] Exhibit 3 (USITC Pub. 5266) at I-13 – I-14.

[58] Exhibit 3 (USITC Pub. 5266) at I-14.

[59] Exhibit 3 (USITC Pub. 5266) at I-14.

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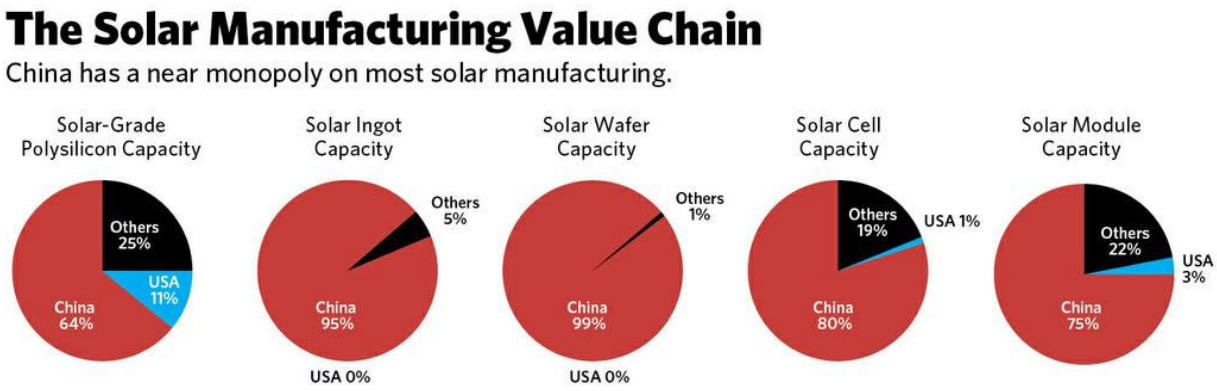
percent of *global* production capacity.[60] According to an industry publication, Bloomberg NEF, the top ten polysilicon producers in the world supplied 83 percent of the global market in 2019,[61] and almost all were Chinese.[62] Bloomberg NEF also reports that the top ten wafer producers supplied 95 percent of the market in 2019, with all of the companies being based in China, except for Canadian Solar (which is a Chinese company headquartered in Canada but with the vast majority of its production facilities in China).[63]

China's dominance of the solar supply chain has only increased. For instance, the following graphic demonstrates that China has a near monopoly on most solar manufacturing, with estimates based on capacity:[64]



Source: Exhibit 13

[60] Exhibit 3 (USITC Pub. 5266) at I-16.

[61] Exhibit 4 (Bloomberg NEF Report) at 1.

[62] Exhibit 4 (Bloomberg NEF Report) at 9.

[63] Exhibit 4 (Bloomberg NEF Report) at 12; *see also* Canadian Solar Inc., *United States Securities and Exchange Commission – Form 20-F (2020)* at 51-53, excerpts attached at **Exhibit 12**.

[64] Joan Fitzgerald, *The Case for Taking Back Solar*, THE AMERICAN PROSPECT (Mar. 24, 2021), attached at **Exhibit 13**.

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In addition, the vast the majority — if not all — of the other materials used to convert the Chinese wafers to cells and then assemble the cells into modules in Malaysia, Thailand, Vietnam, and Cambodia are obtained from China. China dominates the world's supply of photovoltaic glass, accounting for 86 percent of global supply and with two Chinese firms — Xinyi Solar and Flat Glass — accounting for a clear majority of that production.[65] Additional inputs for which China is a dominant supplier for module assembly operations in Southeast Asia include, but are not limited to, silane, phosphorus oxychloride (POCI3), aluminum and/or silver paste for converting the wafers to cells, and solar glass, EVA, backsheet, aluminum frames, and junction boxes for assembling the cells into modules. Bloomberg NEF confirms this, noting that "China is also home to the largest manufacturers of key materials such as PV glass and aluminum frames"[66] and the world's largest solar silver paste suppliers have their factories in China.[67] As discussed below, producers of modules in the subject third countries are affiliated with producers of aluminum frames, junction boxes, and EVA in China.[68]

Exhibit 8 provides Chinese export data from Global Trade Atlas ("GTA") for the period 2011 through 2021. These data demonstrate import trends that corroborate entirely the above narrative concerning the use of Chinese supply of wafers and major components of the bill of materials for assembling CSPV cells and/or modules in the third countries subject to this inquiry. Specifically, and as shown in the table below, GTA data demonstrate that Chinese exports of wafers, frames, glass, silver paste, sealant, wire, inverters, and junction boxes to Malaysia,

[65] Exhibit 3 (USITC Pub. 5266) at I-16.

[66] Exhibit 4 (Bloomberg NEF Report) at 20.

[67] Exhibit 4 (Bloomberg NEF Report) at 14.

[68] Exhibit 4 (Bloomberg NEF Report) at 18.

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Thailand, Vietnam, and Cambodia have all increased significantly since the imposition of the AD/CVD Orders at the same time that imports into the United States of finished cells and modules also increased from these third countries.[69]

Chinese Exports to Subject Third Countries					
Parts/Inputs	**HTS**	**Unit**	**2011**	**2021**	**% Change**
Wafers	381800	KG	815,483	37,138,841	4,454%
Module Frames	854190	KG	2,451,697	103,267,752	4,112%
Solar Glass	700719	KG	49,645,273	780,620,928	1,472%
Silver Paste	711590	GM	23,404,483	102,482,632	339%
Sealant	321410	KG	4,677,214	23,723,000	407%
Copper Wire	740819	KG	68,620	17,471,749	25,362%
Module Wire	740931	KG	1,217,812	2,031,146	67%
Inverters	850440	KG	150,176,470	713,067,000	375%
Junction Boxes	854190, 854442	KG	17,591,336	183,911,325	946%

On a country-by-country basis, there were virtually **no** Chinese exports of wafers to Thailand, Vietnam and Cambodia prior to the issuance of the Orders, and trivial volumes exported from China to Malaysia.[70] All other major inputs used to complete CSPV cells and modules also increased significantly across the country sources following the imposition of the Orders.[71]

[69] GTA export data report volume and value at the six-digit level of the HTS. Wafers and cells are commingled at the six-digit level. It is reasonable to believe a significant portion of these exports include wafers because (a) Chinese exports of cells to third countries that are subsequently shipped to the United States would still be subject to Orders (*see supra* at n. 42) and (b) reasonably available evidence establishes that there is limited to no wafer production in the subject third countries (*see infra*).

[70] *See* Exhibit 8 (GTA Data).

[71] *See* Exhibit 8 (GTA Data) (the singular exception is Chinese aluminum wire exports to Thailand, which were flat or slightly down in 2021 from 2011 levels).

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3. *Publicly Available Information for Specific Companies Confirms the Macro-Level Trends: Affiliated Chinese Upstream Supply Fuels Circumventing Downstream Assembly Operations in Malaysia, Thailand, Vietnam and Cambodia*

Although the exact input sourcing patterns for the companies within each country that is subject to this anticircumvention inquiry are not reasonably available, the available evidence indicates that several companies within each subject country are sourcing the vast majority of their materials from China for completing CSPV cells and modules in these third countries. And importantly, for CSPV cells and modules subject to this anti-circumvention inquiry, **all of the manufacturing process up through the production of wafers takes place in China**. As discussed below, since the imposition of the Orders, several major Chinese companies have set up minor assembly operations in Southeast Asia — using their existing dedicated supply base in China for almost the entirety of the bill of materials — to circumvent the Orders and continue their assault on the U.S. market.

i. *Chinese-Affiliated Producers with Operations in Malaysia*

In 2011, the United States imported $576 million of CSPV cells and modules from Malaysia, which accounted for 5.5 percent of total U.S. imports of CSPV cells and modules.[72] Since then, Malaysian imports have dramatically increased to more than $2 billion in 2021 and now account for 31 percent of total imports of CSPV products.[73] Publicly available information demonstrates that companies including, but not limited to, Jinko Solar, JA Solar, and LONGI Malaysia, are major Malaysian exporters that are fully integrated in China with affiliates and have their corporate headquarters in China.

[72] *See* Exhibit 1 (Official Import Statistics).

[73] *See* Exhibit 1 (Official Import Statistics).

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Jinko Solar Group is a producer of solar products, including silicon ingots, wafers, solar cells, and modules, with its production predominantly based in China.[74] After imposition of the orders, in 2015, Jinko Solar built a solar cell and module processing facility in Penang, Malaysia.[75] Jinko Solar produces silicon ingots and wafers in a number of facilities in China.[76] The company has publicly stated that it has built a "vertically integrated solar power product value chain, manufacturing from silicon wafers to solar modules."[77] Jinko Solar also has stated that it "leverage{s} {its} vertically integrated platform and cost-efficient manufacturing capabilities in China to produce high quality products at competitive costs," and that its "solar cell and silicon wafer operations support {its} solar module production."[78]

Jinko Solar does not produce polysilicon, ingots, or wafers in Malaysia.[79] [

]80 Jinko Solar has purchased solar glass from Chinese manufacturer Flat Glass.[81] In December 2020, for instance, it was announced that Flat Glass will supply CNY14.2 billion ($2.2 billion) worth of products, or 338

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74 *See* Jinko Solar, *United States Securities and Exchange Commission – Form 20-F (2020)* at 67, excerpts attached at **Exhibit 14**.

75 *See Jinko Solar Plans to Build a Cell & Module Manufacturing Facility in Penang, Malaysia*, Jinko Solar Holding Co., Ltd. (Mar. 19, 2015), excerpts attached at **Exhibit 15**.

76 *See* Exhibit 14 (Jinko Solar Form 20-F (2020)) at 7.

77 *See* Exhibit 14 (Jinko Solar Form 20-F (2020)) at 88.

78 *See* Exhibit 14 (Jinko Solar Form 20-F (2020)) at 63.

79 *See* Exhibit 14 (Jinko Solar Form 20-F (2020)) at 67.

80 [

], excerpts attached at **Exhibit 16**.

81 Vincent Shaw & Max Hall, *Chinese PV Industry Brief: More Manufacturing Capacity from Trina, GCL Integration and Eging PV*, PV MAGAZINE (Jan. 5, 2021), attached at **Exhibit 17**.

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million square meters of PV glass to Jinko Solar and its production facilities.[82] It is estimated that this will be used to make 59 GW of PV modules.[83]

JA Solar launched a solar cell processing facility in Penang, Malaysia in 2015. JA Solar produces ingots and wafers in its Chinese facilities.[84] When the company first started exporting solar cells from Malaysia, the company stated that "raw materials such as silicon wafers were being imported from China . . . ."[85] JA Solar obtains high-purity polysilicon from Chinese suppliers.[86] According to [

].[87] It is reasonable to infer that for a substantial portion of the cells completed in Malaysia, JA Solar continues to use wafers that it produces in China. Furthermore, the Chinese producer has touted its vertically integrated production. This suggests that JA Solar Malaysia obtains the upstream components used to complete the production of at least some of its CSPV cells from its Chinese affiliates.

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[82] Tang Shihua, *China's Flat Glass Hits Limit Up on USD2.2 Billion PV Glass Deal With Jinko Solar*, YICAI GLOBAL (Dec. 31, 2020), attached at **Exhibit 18**.

[83] *See* Exhibit 18 (*China's Flat Glass Hits Limit Up on USD2.2 Billion PV Glass Deal With Jinko Solar*).

[84] JA Solar also assembles or completes a limited volume of wafers in Vietnam. JA Solar's year end wafer production capacity was [ ] in 2020 in Vietnam, while it was [ ] in China. *See* [ ], excerpts attached at **Exhibit 19**.

[85] Sangeetha Amarthalingam, *JA Solar to Begin Exporting Solar Cells from Malaysia Next Month*, THE EDGE MARKETS (Oct. 21, 2015), attached at **Exhibit 20**.

[86] Liam Stoker, *Daqo New Energy and JA Solar Pen Long-Term High-Purity Polysilicon Supply Deal*, PV Tech (May 12, 2021), attached at **Exhibit 21**; Tang Shihua, *China's JA Solar Inks Third Major Polysilicon Purchase Deal in a Month*, YICAI GLOBAL (May 13, 2021), attached at **Exhibit 22**.

[87] Exhibit 16 [ ].

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LONGi owns and operates a wholly owned facility in Malaysia. Li Zhenguo, President of Longi Green Tech, touted LONGi's Malaysia factory as **"mainly targeting the U.S. market,"** recognizing that **"Chinese solar products are imposed by about 150% import tariffs by the U.S. {so} {i}t's almost impossible for China-made products to be sold there."**[88] LONGi Malaysia's 2019 financial statements indicate that the Malaysian facility purchases consumable items from its immediate Chinese holding company and related parties.[89] While "consumable items" are not otherwise defined in the document, it is reasonable to infer that the phrase references the materials needed to complete assembly of CSPV cells and modules.

LONGi appears to manufacture ingots and/or wafers at eight different locations in China.[90] While LONGi does not refine polysilicon itself,[91] LONGi's suppliers of silicon material include a large number of Chinese suppliers.[92] According to [

].[93] LONGi Group's 2020 annual report also indicates that the group purchases glass and aluminum frames from Chinese

[88] *China's Longi plans to set up more manufacturing plants overseas*, REUTERS (Nov. 11, 2021) (emphasis added), attached at **Exhibit 23**.

[89] *See* LONGi Malaysia 2019 Financial Statements at 34-35, excerpts attached at **Exhibit 24**.

[90] LONGi Green Energy Technology Co. Ltd., LONGi 2020 Annual Report, at 32-33, excerpts attached at **Exhibit 25**.

[91] *See* Exhibit 25 (LONGI 2020 Annual Report) at 13.

[92] *See* Exhibit 25 (LONGI 2020 Annual Report) at 49-51, 68-69. The LONGi companies also appear to purchase silicon material from non-Chinese suppliers to supplement its supply from Chinese suppliers. *See* Mark Osborne, *LONGi Secures Major Polysilicon Supply Deal from OCI Malaysia and 46GW of Solar Glass from Flat Glass*, PV TECH (Feb. 10, 2021), attached at **Exhibit 26**.

[93] Exhibit 16 [ ].

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suppliers.[94] [

].[95] Industry articles also indicate that LONGi's Malaysian facilities sourced, in addition to glass and aluminum frames, EVA solar film, backsheets, packaging materials and chemicals from China, in addition to other countries.[96] Given its affiliations upstream in China and dedicated Chinese supply for key inputs, including wafers, it is likely LONGi Malaysia relies on such Chinese supply for key components to assemble CSPV cells and modules in Malaysia.

As shown in Exhibit 2, there are other Malaysian producers that assemble or complete CSPV cells and modules that may also be circumventing, but reasonably available information does not exist concerning their upstream supply chain.

ii. *Chinese-Affiliated Producers' Operations in Thailand*

In 2011, the United States imported minimal CSPV cells and modules from Thailand, totaling only $336,806.[97] Since then, imports from Thailand have significantly increased to over $1.5 billion in 2021.[98] Ten years ago, Thai imports accounted for 0.1% of total imports; now,

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[94] *See* Exhibit 25 (LONGI 2020 Annual Report) at 69-70.

[95] [

], excerpts attached at **Exhibit 27**.

[96] Anand Gupta, *China-based LONGi to Invest RM100mil More in Malaysia*, EQ MAG PRO (November 25, 2017), attached at **Exhibit 28** ("The raw materials, like glass panels, aluminium frames, EVA solar film (a key material for solar panel lamination), backsheets, packaging materials and chemicals, were sourced from China….").

[97] Exhibit 1 (Official Import Statistics).

[98] Exhibit 1 (Official Import Statistics).

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Thai imports make up 1/5 of total imports (20%).[99] Publicly available information demonstrates that, at least, Trina Solar, Canadian Solar, Talesun, and Light & Hope are major exporters of CSPV products from Thailand and each of these companies maintains its Chinese supply chain to supply the cell and module assembly operations in Thailand.

Trina Solar has cell and module facilities in Thailand.[100] Trina Solar does not produce polysilicon, ingots, or wafers in Thailand.[101] According to an industry publication, Trina Solar produces wafers in China, in addition to cells and modules.[102] Trina Solar's 2020 auditor's report also identifies Chinese company Lijiang Longji Silicon Material Co., Ltd as an "important associate" of the company whose nature of business is the manufacturing and sales of silicon rod.[103] Trina Solar recently entered into a three-year polysilicon supply agreement with China's Daqo New Energy Corp for the supply of between 30,000 tonnes and 37,600 tonnes of high-purity mono-grade polysilicon for the period November 2020-December 2023.[104] The company also shored up its short-term wafer supply line with the purchase of 1.2 billion wafers over a

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[99] Exhibit 1 (Official Import Statistics).

[100] Exhibit 19 ([ ]).

[101] Exhibit 19 ([ ]); *see also* Ivan Shumkov, *Trina Solar's New Factory in Vietnam Produces First Cells, Modules*, RENEWABLES NOW (May 24, 2021), attached at **Exhibit 29**; Anu Bhambhani, *Trina Solar's New 800 MW Facility Touted as Largest PV Cell and Module Factory in Vietnam*, TAIYANG NEWS (Jan. 10, 2017), attached at **Exhibit 30**.

[102] Exhibit 19 ([ ]).

[103] Trina Solar, Trina Solar 2020 Auditor's Report ("Trina Solar 2020 Auditor's Report") at 136, excerpts attached at **Exhibit 31**.

[104] *Daqo Seals 3-Year Polysilicon Supply Deal with Trina Solar*, RENEWABLES NOW (Nov. 30, 2020), attached at **Exhibit 32**.

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procurement period between January 2021 and December 2021 from Chinese manufacturer Zhonguan for $990 million.[105]

Trina Solar has indicated that its Thai facility is an export platform targeting the U.S. market. For instance, a company representative previously stated that Trina Solar supplies U.S. orders from Thailand (as opposed to from China).[106] Additionally, **the Chairman and CEO of Trina Solar stated that Trina Solar's projects in the pan-Asia region align the company with the Chinese government's "One Belt, One Road" initiative.**[107] Notably, Trina Solar recently signed three joint venture agreements with another Chinese manufacturer, Tongwei Co., to gain "bigger advantages than simple vertical integrations within themselves."[108] Together the two Chinese companies entered into a long term procurement cooperation framework agreement investing in a "a high-purity crystalline silicon project with an annual output of 40,000 tons, an ingot project of an annual output of 15GW, a wafer cutting project of an annual output of 15GW, and a high-efficiency crystalline silicon cell project with an annual output of 15GW."[109] The three projects have operational starts from September 2021 through September 2022.[110] The

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[105] Carrie Xiao, *Trina Solar Seals 1.2 Billion Wafer Supply Deal with Zhonghuan Semiconductor*, PV TECH (Nov. 23, 2020), attached at **Exhibit 33**.

[106] Christian Roselund, *The Long View: An Interview With Steven Zhu Of Trina Solar*, PV MAGAZINE (Oct. 2, 2019), attached at **Exhibit 34**.

[107] *Trina Solar Launches Operations at Thailand Manufacturing Facility and Signs a US$143 Million Syndicated Financing Facilities Agreement,* TRINA SOLAR (Mar. 28, 2016), attached at **Exhibit 35**.

[108] *Annual Production Capacity 15GW! Trina Solar and Tongwei Co., Ltd. Join Forces to Further Upgrade the 210 Integrated Industrial Chain*, TRINA SOLAR (Nov. 16, 2020), attached at **Exhibit 36**.

[109] Exhibit 36 (*Annual Production Capacity 15GW! Trina Solar and Tongwei Co., Ltd. Join Forces to Further Upgrade the 210 Integrated Industrial Chain*).

[110] Carrie Xiao, *Trina, Tongwei Unveil Major, Multi-Billion-Dollar Solar Silicon, Wafer and Cell Alliance*, PV TECH (Nov. 18, 2020), attached at **Exhibit 37**.

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total investment was about $2.3 billion and Trina Solar holds 35% of the shares in each joint venture.[111] Tongwei claimed that Trina Solar or its affiliates would enjoy prioritized supply of high purity c-Si, silicon rods and cells produced by all project companies.[112] In addition, Trina Solar "and its 8 subsidiaries" signed a procurement contract worth around $324 million for 85 million square meters of photovoltaic glass from the Chinese manufacturer Changzhou Almaden Co., Ltd. to be provided between November 2020 and December 2022.[113] The evidence thus indicates that Trina Solar sources key components from China for use in assembly of cells and/or modules in Thailand.

Canadian Solar's cell and module processing facilities in Thailand commenced operations in 2016-2017 and 2019.[114] Canadian Solar does not produce polysilicon, ingots, or wafers in Thailand (or Vietnam, also subject to this request for a circumvention inquiry).[115] But a number of Canadian Solar's subsidiaries in China produce ingots and wafers, in addition to cells and modules.[116] Canadian Solar states that it is "one of the world's largest solar power companies and a leading vertically-integrated provider of solar power products,"[117] and also that it "intend{s} to use substantially all of the silicon wafers that {it} manufacture{s} to supply {its}

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[111] *See* Exhibit 36 (*Annual Production Capacity 15GW! Trina Solar and Tongwei Co., Ltd. Join Forces to Further Upgrade the 210 Integrated Industrial Chain*).

[112] *See* Exhibit 37 (*Trina, Tongwei Unveil Major, Multi-Billion-Dollar Solar Silicon, Wafer and Cell Alliance*).

[113] *Trina Solar Will Purchase 85 Million Square Meters of Photovoltaic Glass from Almaden*, TRINA SOLAR (Nov. 17, 2020), attached at **Exhibit 38**. While the specific subsidiaries are not named, this may include Trina Solar Vietnam.

[114] *See* Exhibit 12 (Canadian Solar Form 20-F (2020)) at 53.

[115] *See* Exhibit 12 (Canadian Solar Form 20-F (2020)) at 53.

[116] *See* Exhibit 12 (Canadian Solar Form 20-F (2020)) at 53.

[117] *See* Exhibit 12 (Canadian Solar Form 20-F (2020)) at 34.

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own solar cell plants and to use substantially all of the solar cells that {it} manufacture{s} to produce {its} own solar module products."[118] Canadian Solar also reports that the company purchases silicon raw materials, silicon wafers, and solar cells from a limited number of third-party material suppliers in China.[119] The company's major silicon wafer suppliers in 2020 included Chinese companies Longi and Zhenjiang Rende New Energy Science Technology Co., Ltd.[120] Canadian Solar also has Chinese subsidiaries that produce junction boxes and EVA,[121] in addition to aluminum frames.[122] Given the above, it is reasonable to conclude that Canadian Solar purchases polysilicon from Chinese suppliers for wafer production in China and that it uses its upstream supply chain to feed additional raw materials to its processing facility in Thailand.

Suzhou Talesun Solar Technology Co., Ltd, also known as Talesun Solar, is a Chinese company founded in 2010 and is a wholly owned subsidiary of Jiangsu Zhongli Group (a.k.a. as "the Zhongli group") established in 1988.[123] The Zhongli Group is "a global Chinese group whose production of high tech products is the core business," dealing in both the solar industry and the optical fiber cable industry.[124] Talesun's Thailand facility began production in 2015 with a starting production capacity of 500MW.[125] Talesun is "one of the top ten manufacturers of the

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[118] *See* Exhibit 12 (Canadian Solar Form 20-F (2020)) at 35.

[119] *See* Exhibit 12 (Canadian Solar Form 20-F (2020)) at 20.

[120] *See* Exhibit 12 (Canadian Solar Form 20-F (2020)) at 20.

[121] *See* Exhibit 12 (Canadian Solar Form 20-F (2020)) at F-73.

[122] *See* Exhibit 4 (Bloomberg NEF Report) at 18.

[123] *See* Talesun Global Website – About, excerpt attached at **Exhibit 39**.

[124] Talesun Global Website – Story and Key Figures, excerpt attached at **Exhibit 40**.

[125] Mark Osborne, *Zhongli Talesun starts production at 500MW PERC production plant in Thailand,* PV TECH (November 12, 2015), attached at **Exhibit 41**.

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world in both PV cell and module, {and} now is the largest local manufacturer of solar cell and PV module in Thailand."[126]

Talesun Solar has recently "greatly improved the total supplement capacity of its module products to the global market" by carrying out "capacity expansions at its two main production bases located in Shandong, China, and Rayong, Thailand."[127] Its new facility in Shandong province, established in March 2020, was backed by an investment of roughly 2 billion RMB, or USD $316 million.[128] Company press releases reveal that by the end of 2019 Talesun's Thailand factory was upgraded to reach 2GW annual capacity, specifically in response to increasing U.S. demand.[129] By January 2021, the Shandong factory reached a production capacity of 5GW.[130] Talesun directly cites tariffs as the reason for its Thai facility's existence by stating that it "seized the chance to break through the U.S. market through Thai production capacity."[131] Talesun's company website markets its ability to circumvent the orders on CSPV cells and modules from China: "with our factories in China and Thailand, **we offer a solution adapted to markets affected by anti-dumping laws such as the United States** or Europe."[132]

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[126] *Talesun Thailand Expands Dual Glass Bifacial Module Production at Rayong Plant*, TALESUN (Apr. 10, 2019), attached at **Exhibit 42**.

[127] Aleina, *Talesun Solar Further Expands Capacity in 2021*, PV TIME (Feb. 7, 2021), attached at **Exhibit 43**.

[128] *See* Exhibit 43 (*Talesun Solar Further Expands Capacity in 2021*).

[129] Talesun Solar, *US Order Demand Soaring, Talesun's Capacity in Thailand Accelerated to 2 GW,* PV MAGAZINE (Dec. 9, 2019), attached at **Exhibit 44**.

[130] Exhibit 43 (*Talesun Solar Further Expands Capacity in 2021*).

[131] Exhibit 44 (*US Order Demand Soaring, Talesun's Capacity in Thailand Accelerated to 2 GW*).

[132] Talesun Solar – Production Capacities, attached at **Exhibit 45**.

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Talesun's Thailand plant does not produce wafers, ingots, or any other such "materials" of solar equipment.[133] Accordingly, reasonably available evidence indicates that Talesun uses inputs produced in China, either by its parent company or other Chinese suppliers, that are shipped to Thailand for final assembly into CSPV cells and modules that are exported to the United States. Talesun confirms this in a company presentation from May 2020, stating that "Talesun has long-term strategic partnerships with domestic first-tier suppliers such as Huawei, ZHONGHUAN, TONGWEI, Far East, etc."[134]

Light & Hope Energy Co., Ltd. ("Light & Hope") was registered in Thailand on November 15, 2019, and only produces CSPV modules and cells.[135] Light & Hope is a subsidiary of Chinese company Jiangsu Wright and Electric Power Technology Co., Ltd. (a.k.a. Jiangsu Lightthe Power Technology Co., Ltd.) ("Jiangsu Power").[136] Jiangsu Power is based in Wuxi, China,[137] and describes its subsidiary Light & Hope as the "Overseas Base"[138] of Jiangsu Power. Given Light & Hope's status as a subsidiary of Jiangsu Power, reasonably available evidence suggests that imports of solar cells and modules by Light & Hope likely include inputs produced in China.

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[133] *See* Exhibit 19 ([ ]); *see also* Talesun Thailand, Talesun Thailand's 2019 Financial Statements, attached at **Exhibit 46**.

[134] Talesun Solar – Company Presentation (May 2020), excerpts attached at **Exhibit 47**.

[135] *See* **Exhibit 48**.

[136] *See* Light & Hope Website – About Us, attached **Exhibit 49**.

[137] *See* Exhibit 49 (Light & Hope Website – About Us).

[138] Exhibit 49 (Light & Hope Website – About Us).

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As shown in Exhibit 2, there are other Thai producers that assemble or complete CSPV cells and modules that may also be circumventing, but reasonably available information does not exist concerning their upstream supply chain.

iii. *Chinese-Affiliated Producers' Operations in Vietnam*

In 2011, the United States imported a paltry $1.3 million of CSPV cells and modules from Vietnam. Vietnamese shipments of CPSV cells and modules have since surged, surpassing $1.6 billion in 11 months of 2021 and now account for one-quarter of the value of all imported CSPV cells and modules. Publicly available information demonstrates that, at least, LONGi Vietnam, Jinko Solar, Trina Solar, Canadian Solar, GCL, Boviet Solar, Green Wing Solar, and HT Solar are major exporters of CSPV products from Vietnam and that each of these companies leverages their Chinese supply chain to supply their operations in Vietnam.

LONGi owns and operates a processing facility in Vietnam that it obtained when it acquired Vina Solar as a wholly-owned subsidiary. Li Zhenguo, President of Longi Green Tech, touted **LONGi's Vietnam factory as "mainly targeting the U.S. market," recognizing that shipments from China cannot compete based on existing tariffs**.[139] According to industry articles, "LONGi management said that the Vina Solar acquisition provided the fastest route to key large markets, notably the US as its only current overseas manufacturing operations were in Malaysia with limited capacity and limited capacity to expand."[140] When LONGi acquired Vina

[139] Exhibit 23 (*China's Longi plans to set up more manufacturing plants overseas*).

[140] Mark Osborne, *LONGi Details Plans for Vina Solar After Recent Acquisition Deal*, PV TECH (Mar. 4, 2020), attached at **Exhibit 50**.

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Solar, it was reported to have "ambitions for a central manufacturing hub to target significant expansion of non-tariff module shipments to the US and India."[141]

LONGi appears to manufacture ingots and/or wafers at eight different locations in China.[142] Before LONGi acquired Vina Solar, LONGi in China contracted to supply Vina Solar with 1 billion wafers for $540 million.[143] While LONGi does not refine polysilicon itself,[144] LONGi's suppliers of silicon material include a large number of Chinese suppliers.[145] According to [

].[146] LONGi Group's 2020 annual report also indicates that the group purchases glass and aluminum frames from Chinese suppliers.[147] [

].[148] Given its affiliations upstream in China and dedicated Chinese supply for key inputs, including wafers, it is likely LONGi/Vina Solar relies on such Chinese supply for key components to assemble CSPV cells and modules in Vietnam.

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[141] Exhibit 50 (*LONGi Details Plans for Vina Solar After Recent Acquisition Deal*).

[142] *See* Exhibit 25 (LONGI 2020 Annual Report) at 32-33.

[143] *LONGi Lands Order for 1.31 Billion Mono-Si Wafers*, ENERGYTREND (July 19, 2019), attached at **Exhibit 51**.

[144] *See* Exhibit 25 (LONGI 2020 Annual Report) at 13.

[145] *See* Exhibit 25 (LONGI 2020 Annual Report) at 49-51, 68-69. The LONGi companies also appear to purchase silicon material from non-Chinese suppliers to supplement its supply from Chinese suppliers. *See* Exhibit 26.

[146] Exhibit 16 [ ].

[147] *See* Exhibit 25 (LONGI 2020 Annual Report) at 69-70.

[148] *See* Exhibit 27 [ ] at 16.

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Jinko Solar Group is a producer of solar products – including silicon ingots, wafers, solar cells, and modules, with its production predominantly based in China.[149] After imposition of the orders, Jinko Solar incorporated a subsidiary in Vietnam in September 2019.[150] Jinko Solar produces silicon ingots and wafers in a number of facilities in China.[151] The company has publicly stated that it has built a "vertically integrated solar power product value chain, manufacturing from silicon wafers to solar modules."[152] Jinko Solar also has stated that it "leverage{s} {its} vertically integrated platform and cost-efficient manufacturing capabilities in China to produce high quality products at competitive costs," and that its "solar cell and silicon wafer operations support {its} solar module production."[153]

There is evidence that Jinko Solar does not produce polysilicon, ingots, or wafers in Vietnam.[154] Rather, it has announced the planned production of a wafer-making facility in Vietnam that is not supposed to begin any production until 2022 at the earliest.[155] [

].[156] Jinko Solar has purchased solar glass from Chinese manufacturer Flat Glass.[157] In December 2020, for instance,

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[149] *See* Exhibit 14 (Jinko Solar Form 20-F (2020)) at 67.

[150] *See* Exhibit 14 (Jinko Solar Form 20-F (2020)) at 66-67, 86.

[151] *See* Exhibit 14 (Jinko Solar Form 20-F (2020)) at 66-67, 86.

[152] *See* Exhibit 14 (Jinko Solar Form 20-F (2020)) at 66-67, 86.

[153] *See* Exhibit 14 (Jinko Solar Form 20-F (2020)) at 63.

[154] *See* Exhibit 19 ([ ]).

[155] Jinko Solar, *JinkoSolar Announces Third Quarter 2021 Financial Results* (Nov. 30, 2021), attached at **Exhibit 52**.

[156] *See* Exhibit 16 [ ].

[157] *See* Exhibit 17 (*Chinese PV Industry Brief: More Manufacturing Capacity from Trina, GCL Integration and Eging PV*).

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it was announced that Flat Glass will supply CNY14.2 billion ($2.2 billion) worth of products, or 338 million square meters of PV glass to Jinko Solar and its production facilities.[158] It is estimated that this will be used to make 59 GW of PV modules.[159]

Trina Solar has a cell and module facility in Vietnam,[160] but does not produce polysilicon, ingots, or wafers in Vietnam.[161] According to an industry publication, Trina Solar produces wafers in China, in addition to cells and modules.[162] Trina Solar's 2020 auditor's report also identifies Chinese company Lijiang Longji silicon material Co., Ltd as an "important associate" of the company whose nature of business is the manufacturing and sales of silicon rod.[163] Trina Solar recently entered into a three-year polysilicon supply agreement with China's Daqo New Energy Corp for the supply of between 30,000 tonnes and 37,600 tonnes of high-purity mono-grade polysilicon for the period November 2020-December 2023.[164] The company also shored up its short-term wafer supply line with the purchase of 1.2 billion wafers over a

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[158] *See* Exhibit 18 (*China's Flat Glass Hits Limit Up on USD2.2 Billion PV Glass Deal With Jinko Solar*).

[159] *See* Exhibit 18 (*China's Flat Glass Hits Limit Up on USD2.2 Billion PV Glass Deal With Jinko Solar*).

[160] *See Trina Solar Invests In Vietnam's Largest Solar PV Cell Plant*, SILICON SEMICONDUCTOR (Feb. 9, 2017), attached at **Exhibit 53**; *see also* David Wagman, Trina Solar Begins Production of 550 W Modules at Vietnam Facility, PV MAGAZINE (May 25, 2021), attached at **Exhibit 54**.

[161] *See* Exhibit 19 ([ ]); *see also* Ivan Shumkov, *Trina Solar's New Factory in Vietnam Produces First Cells, Modules*, Renewables Now (May 24, 2021), attached at **Exhibit 29**; Anu Bhambhani, *Trina Solar's New 800 MW Facility Touted as Largest PV Cell and Module Factory in Vietnam*, Taiyang News (Jan. 10, 2017), attached at **Exhibit 30**.

[162] *See* Exhibit 19 ([ ]).

[163] Exhibit 31 (Trina Solar 2020 Auditor's Report) at 136.

[164] *See* Exhibit 32 (*Daqo Seals 3-Year Polysilicon Supply Deal with Trina Solar*).

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procurement period between January 2021 and December 2021 from Chinese manufacturer Zhonguan for $990 million.[165]

Trina Solar has indicated that its Vietnamese facility is used as an export platform targeting the U.S. market. For instance, a company representative previously stated that Trina Solar supplies U.S. orders from Vietnam (as opposed to from China).[166] Like its Thai facility, **Trina Solar admits that its Vietnamese facility aligns the company with the Chinese government's "One Belt, One Road" initiative**.[167] Trina Solar recently signed three joint venture agreements with another Chinese manufacturer, Tongwei Co., to gain "bigger advantages than simple vertical integrations within themselves."[168] Together the two Chinese companies entered into a long term procurement cooperation framework agreement investing in a "a high-purity crystalline silicon project with an annual output of 40,000 tons, a ingot project of an annual output of 15GW, a wafer cutting project of an annual output of 15GW, and a high-efficiency crystalline silicon cell project with an annual output of 15GW."[169] The three projects have operational starts ranging between September 2021 through September 2022.[170] The total investment was about $2.3 billion and Trina Solar holds 35% of the shares in each joint

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[165] *See* Exhibit 33 (*Trina Solar Seals 1.2 Billion Wafer Supply Deal with Zhonghuan Semiconductor*).

[166] *See* Exhibit 34 (*The Long View: An Interview With Steven Zhu Of Trina Solar*).

[167] *See* Exhibit 35 (*Trina Solar Launches Operations at Thailand Manufacturing Facility and Signs a US$143 Million Syndicated Financing Facilities Agreement*).

[168] Exhibit 36 (*Annual Production Capacity 15GW! Trina Solar and Tongwei Co., Ltd. Join Forces to Further Upgrade the 210 Integrated Industrial Chain*).

[169] Exhibit 36 (*Annual Production Capacity 15GW! Trina Solar and Tongwei Co., Ltd. Join Forces to Further Upgrade the 210 Integrated Industrial Chain*).

[170] Exhibit 37 (*Trina, Tongwei Unveil Major, Multi-Billion-Dollar Solar Silicon, Wafer and Cell Alliance*).

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venture.[171] Tongwei claimed that Trina Solar or its affiliates would enjoy prioritized supply of high purity c-Si, silicon rods and cells produced by all project companies.[172] In addition, Trina Solar "and its 8 subsidiaries" signed a procurement contract worth around $324 million for 85 million square meters of photovoltaic glass from the Chinese manufacturer Changzhou Almaden Co., Ltd. to be provided between November 2020 and December 2022.[173] The evidence thus indicates that Trina Solar sources key components from China for use in assembly of cells and/or modules in Vietnam

Canadian Solar's cell and module processing facility in Vietnam commenced operations in 2016.[174] Canadian Solar does not produce polysilicon, ingots, or wafers in Vietnam.[175] But a number of Canadian Solar's subsidiaries in China produce ingots and wafers, in addition to cells and modules.[176] Canadian Solar states that it is "one of the world's largest solar power companies and a leading vertically-integrated provider of solar power products,"[177] and also that it "intend{s} to use substantially all of the silicon wafers that {it} manufacture{s} to supply {its} own solar cell plants and to use substantially all of the solar cells that {it} manufacture{s} to produce {its} own solar module products."[178] Canadian Solar also reports that the company

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[171] Exhibit 36 (*Annual Production Capacity 15GW! Trina Solar and Tongwei Co., Ltd. Join Forces to Further Upgrade the 210 Integrated Industrial Chain*).

[172] Exhibit 37 (*Trina, Tongwei Unveil Major, Multi-Billion-Dollar Solar Silicon, Wafer and Cell Alliance*).

[173] Exhibit 38. While the specific subsidiaries are not named, this may include Trina Solar Vietnam.

[174] *See* Exhibit 12 (Canadian Solar Form 20-F (2020)) at 68.

[175] *See* Exhibit 12 (Canadian Solar Form 20-F (2020)) at 68.

[176] *See* Exhibit 12 (Canadian Solar Form 20-F (2020)) at 68.

[177] Exhibit 12 (Canadian Solar Form 20-F (2020)) at 34.

[178] Exhibit 12 (Canadian Solar Form 20-F (2020)) at 35.

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purchases silicon raw materials, silicon wafers, and solar cells from a limited number of third-party material suppliers in China.[179] The company's major silicon wafer suppliers in 2020 included Chinese companies Longi and Zhenjiang Rende New Energy Science Technology Co., Ltd.[180] Canadian Solar also has Chinese subsidiaries that produce junction boxes and EVA,[181] in addition to aluminum frames.[182] Given the above, it is reasonable to conclude that Canadian Solar purchases polysilicon from Chinese suppliers for wafer production in China and that it uses its upstream supply chain to feed additional raw materials to its processing facility in Vietnam.

GCL-Si has one solar cell facility in Vietnam[183] and is a subsidiary of the Chinese energy conglomerate GCL. GCL-Si does not produce polysilicon, ingots, or wafers in Vietnam,[184] yet **GCL China has close ties to the Chinese government** and "owns a completely integrated PV industrial chain."[185] One of the other companies under the GCL umbrella, GCL-Poly, is a "globally leading developer and manufacturer of high-efficiency PV materials,"[186] and manufactures polysilicon, ingots and wafers across several factories in China.[187] The company also claims to "ha{ve} a firm hold on the direction of development of these materials, consistently maintaining its position as a trailblazer in the areas of polysilicon and silicon wafer

[179] *See* Exhibit 12 (Canadian Solar Form 20-F (2020)) at 20.

[180] *See* Exhibit 12 (Canadian Solar Form 20-F (2020)) at 20.

[181] *See* Exhibit 12 (Canadian Solar Form 20-F (2020)) at F-73.

[182] *See* Exhibit 4 (Bloomberg NEF Report) at 18.

[183] Exhibit 19 ([ ]).

[184] Exhibit 19 ([ ]).

[185] GCL Website Excerpts, attached at **Exhibit 55**.

[186] GCL-Poly Website Excerpts, attached at **Exhibit 56**.

[187] GCL-Poly Annual Report (2019) at 3, excerpts attached at **Exhibit 57**.

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technology."[188] GCL-Poly "began operations with the technology-intensive material of polysilicon and gradually expanded to the downstream aspects of silicon ingots and wafers to complete its product structure."[189] Clearly a leader in field of polysilicon, ingot, and wafer design and manufacturing, GCL-Poly touts its use of "GCL Group's massive-scale," and "industry-leading polysilicon production technique" and celebrates its many patents including a China Patent Award –the highest patent award in China.[190] Furthermore, the company directly links "{t}he Group's polysilicon and wafer production costs" to "its ability to control raw material costs, lower energy consumption, achieve economies of scale in its operations and streamline production processes."[191] The evidence indicates, therefore, that GCL-Si Vietnam sources the additional components for its cell and module production operations in Vietnam from its industry-leading materials manufacturing sister-company in China, especially given China's dominance in the CSPV supply chain. Additionally, GCL-Si is itself investing $2.5 billion in the construction of a solar manufacturing megacomplex in Hefei, China to manufacture "wafer, cell, module and all component manufacturing such as junction box, backsheets, glass, EVA and aluminium frames."[192]

Boviet Solar, a solar cell and module company in Bac Giang, Vietnam, is a subsidiary of the Chinese company Boway – a "scientific and international company integrating new

[188] Exhibit 56 (GCL-Poly Website Excerpts).

[189] Exhibit 56 (GCL-Poly Website Excerpts).

[190] Exhibit 56 (GCL-Poly Website Excerpts).

[191] Exhibit 57 at 26 (GCL-Poly Annual Report (2019)).

[192] Jules Scully, *GCL-SI to Start Production at First Phase of 60GW Module Factory in September*, PV TECH (June 2, 2021), attached at **Exhibit 58**.

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materials, new energy and other industries."[193] Boviet Solar in Vietnam does not manufacture polysilicon, ingots or wafers,[194] and must source wafers (produced from polysilicon ingots) elsewhere. Boway, as a fully integrated materials and energy parent company based in China, is the likely source of these materials. Boway operates in various segments, one of which "is involved the research, development, manufacture and sales of solar cells and components. The main products include polysilicon, monocrystalline silicon cells and components."[195] Given Boway's expertise in this space and vertically integrated operation, it is reasonable to conclude that ingots are among the components produced by their own facilities or sourced from other Chinese suppliers along with wafers and glass. For instance, Boviet Solar's U.S. distribution center boldly claims on the company website that "Boviet Solar USA sources the world for top quality solar components. Just as scale is no barrier, neither is geography. {. . .} wafer and glass from China; manufacturing in Vietnam."[196] The company also specifies that its "high-quality silicon wafers come from one of the largest photovoltaic material manufacturers."[197] Boviet Solar states that it gets "wafer…from China."[198] Taken together, Boviet Solar admits that its solar cells and modules completed in Vietnam use wafers from one photovoltaic material manufacturer in China. In a blog post entitled "Why Solar Panel Manufacturing Location Matters: A Look Into Boviet's Facility in Vietnam," the company helpfully explains why it has

[193] Boway Group Website, excerpts attached at **Exhibit 59**.

[194] Exhibit 19 ([ ]).

[195] REUTERS, *Ningbo Boway Alloy Material Co., Ltd. – Profile*, attached at **Exhibit 60**.

[196] Boviet Solar USA Website, excerpts attached at **Exhibit 61**.

[197] Exhibit 61 (Boviet Solar USA Website).

[198] Exhibit 61 (Boviet Solar USA Website).

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"strategically headquartered its solar panel manufacturing operations in Vietnam."[199] **According to the company's blog, one reason why Boviet's assembly is based out of Vietnam is because "Vietnam is not a U.S. listed Anti-dumping and Countervailing region. No tariffs influence Boviet's U.S. business, and those cost-savings ultimately trickle down to the buyer."**[200] Boviet Solar also openly advertises that it sources glass for its solar modules from China.[201]

Green Wing Solar Technology Co., Ltd. ("Green Wing Solar") is a Vietnamese producer of mono-crystalline and poly-crystalline modules and is affiliated with Vietnam Green Energy Solar.[202] Green Wing Solar assembles modules and employs 600 people across its factories in China and Vietnam.[203] The Vietnamese factory was built in 2015 and occupies a space of 30,000 square meters.[204] Green Wing Solar does not produce polysilicon, ingots, wafers, or cells in Vietnam.[205]

Reasonably available evidence indicates that Green Wing Solar is affiliated with Chinese solar producer Yangzhou Zhongming Technology Co., Ltd. ("YZ Technology"). YZ Technology is headquartered in Yangzhou, China, and produces "polysilicon and single-layer solar panels," has a "1000MW fully automatic solar panel production plant in Vietnam," and

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[199] *Why Solar Panel Manufacturing Location Matters: A look into Boviet's Facility in Vietnam*, Boviet Solar USA (Aug. 28, 2017), attached at **Exhibit 62**.

[200] Exhibit 62 (*Why Solar Panel Manufacturing Location Matters: A look into Boviet's Facility in Vietnam*).

[201] *See* Exhibit 61 (Boviet Solar USA Website).

[202] *See* Green Energy Solar, attached at **Exhibit 63** at Green Energy Solar Website – About Us.

[203] *See* Exhibit 63.

[204] *See* Exhibit 63 at HQ Paint "Green Wing Solar Technology Co., Ltd. Works."

[205] Exhibit 19 ([ ]).

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employs 212 employees.[206] The Chief Marketing Officer for Green Wing Solar is also the CEO of YZ Technology.[207] Additionally, in the "Honors" section of their website, YZ Technology displays certificates of compliance for Green Wing Solar.[208] Accordingly, it is reasonable to infer that Green Wing Solar is affiliated with YZ Technology and that Green Wing Solar is the "production plant in Vietnam" described on YZ Technology's website. Moreover, **YZ Technology explains on its website that "Solar panel plants in Vietnam are best suited for the North American market,"** indicating that it uses the Vietnam plant to assemble CSPV modules using Chinese-produced inputs to evade duties.[209]

HT Solar Vietnam Limited Company ("HT Solar Vietnam") was established in 2016 in Hai Phong City, Vietnam, with an initial investment of 68 million RMB, or approximately $10 million USD.[210] HT Solar Vietnam is a subsidiary of Tangshan Haitai New Energy Technology Co., Ltd. ("Haitai New Energy"), which is headquartered in Hebei Province, China.[211] Haitai New Energy is a branch of Chinese conglomerate Haitai Solar, founded in 2006, which is a "high-tech enterprise focused on green energy with five Business Divisions: Photovoltaic modules, Utility Scale Power Plant, Photovoltaic Brackets, Energy Storage, and Hydrogen Energy."[212] Haitai Solar is recognized as a tier 1 module manufacturer and "is mainly engaged in the manufacturing and sells of Ingot, Wafter, Cells, Modules, and also focus on the

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[206] Exhibit 63 at Yangzhou Zhongming Technology Co., Ltd, Website.

[207] Exhibit 63 at Linkedin Website.

[208] Exhibit 63 at Green Wing Certificates.

[209] Exhibit 63 at Website Excerpt.

[210] *See* HT Solar, attached at **Exhibit 64** at Website – About Us.

[211] *See* Exhibit 64 at Website – Company Profile.

[212] Exhibit 64 at Website – Company Profile.

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development of solar power plants."[213] Haitai Solar's production bases are located in Tangshan, Tianjin, Shuozhou and Nantong," and the "{o}verseas production base is located in Vietnam."[214]

HT Solar Vietnam produces polycrystal-cell modules, double-glass polycrystalline and monocrystalline cells and modules.[215] HT Solar Vietnam's factory is 40,000 square meters, employs 520 people, and has the capability of producing 1GW for solar modules and 300MW for solar cells.[216] HT Solar Vietnam does not mention the sale or production of polysilicon, ingots, wafers, or any of the CSPV component bill of materials. Given its affiliation with Haitai New Energy and Haitai Solar, which produce CSPV inputs (such as polysilicon ingots and wafers), it is reasonable to infer that HT Solar Vietnam sources its CSPV inputs from its affiliates in China.

As shown in Exhibit 2, there are other Vietnamese producers that complete or assemble CSPV cells and modules that may also be circumventing, but reasonably available information does not exist concerning their upstream supply chain.

iv. *Chinese-Affiliated Producers' Operations in Cambodia*

Chinese production of CSPV cells and modules in Cambodia is State-sponsored. According to Cambodian Minister of Mines and Energy Suy Sem, "China has played a major role in the development of Cambodia's energy sector through investing in energy generation and distribution grid as well as providing capacity building."[217] In just 10 years since the China-Cambodia Comprehensive Strategic Partnership, China has become Cambodia's "largest

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[213] Exhibit 64 at Website – Company Profile.

[214] Exhibit 64 at Website – About Us.

[215] Exhibit 64 at Website – About Us.

[216] Exhibit 64 at Website – Company Profile.

[217] Mao Pengfei, Nguon Sovan, *Interview: China Plays Key Role in Cambodia's Energy Development, Says Minister*, XINHUA (June 27, 2018), attached at **Exhibit 65**.

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economic influencer, being the largest foreign investor, largest bilateral donor, largest trading partner, largest buyer of Cambodian rice, and the largest source of foreign tourists in the country."[218] Cambodian Commerce Minister Sorasek recently remarked that "the {China's Belt & Road} is vital for Cambodia's economy which relies on the inflows of foreign direct investments that are conditional to the capability of sufficient physical infrastructures."[219] According to the Council for the Development of Cambodia, China has been Cambodia's top investor since 2013.[220] In exchange, Cambodia has allowed for extensive Chinese development, including that of Cambodia's infrastructure and special economic zones ("SEZs"), which provide unfettered Chinese access to Cambodia's economy. Though ostensibly located in Cambodia, these SEZs are filled with Chinese laborers, Chinese capital equipment, CCP direction, and Chinese raw materials. The U.S. embassy in Cambodia has asked the Cambodian government to halt circumvention schemes using the SEZs.[221]

Several Chinese solar firms have taken advantage of Cambodia's captive relationship to China. New East Solar Cambodia (NE Solar) is a "Cambodian solar cell and solar module manufacturer" "headquartered in Phnom Penh, Cambodia, with manufacturing in Cambodia and China."[222] EnAlex was founded in 2018 that operates in the Phnom Penh SEZ which, as noted

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[218] S. Kha, *The Belt and Road in Cambodia: Successes and Challenges*, THE DIPLOMAT (Apr. 30, 2019), attached at **Exhibit 66**.

[219] XINHUA, *Cambodia-China FTA to boost bilateral trade, investment ties: Cambodian Minister* (Aug. 8, 2020), attached at **Exhibit 67**.

[220] Mark Grimsditch, *Chinese Energy Investment in Cambodia: Fuelling Industrialisation or Undermining Development Goals?* THE PEOPLE'S PULSE (May 6, 2021), attached at **Exhibit 68**.

[221] SOUTH CHINA MORNING POST, *US urges Cambodia to help stop firms using special economic zone to evade China tariffs* (June 2019), attached at **Exhibit 69**.

[222] NE Solar Webpage, attached at **Exhibit 70**.

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above, is dominated by Chinese investment, labor, and affiliated companies.[223] Shenglong PV-Tech (Cambodia) Co., Ltd. shares a name with Suzhou Shenglong PV-Tech Co., Ltd, a fully integrated Chinese photovoltaic module manufacturer.[224] Chinese solar cell manufacturer ET Solar has reported that it was transferring 300 MW of cell capacity from China to be assembled in Cambodia, where it will also assemble modules to target the U.S. market.[225] And Jintek Photovoltaic Technology Co., Ltd. ("Jintek") is a solar panel manufacturer that the Council for the Development of Cambodia lavished with subsidies including "import and export tax exemption policy, including equipment, materials."[226] Jintek's ties to China remain strong with its founder and CEO, Tuo Li, maintaining control of the Cambodian facility from Dalian, Liaoning, China.[227] Importantly, Cambodia has no polysilicon, ingot, or wafer production capacity of its own;[228] rather, it relies entirely on China.

Given the one-way dynamic of the Chinese-Cambodian economic relationship — including Cambodia's policies of duty-free entry and exit of raw materials and finished goods from SEZs that are dominated by Chinese firms — it is reasonable to conclude that Chinese module assemblers in Cambodia rely extensively on upstream Chinese supply for raw materials and inputs. As shown in Exhibit 2, there are other Cambodian producers that complete or

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[223] EnAlex Cambodia Webpage, attached at **Exhibit 71**.

[224] Exhibit 19 ([ ]); *see also* Company Profile – Suzhou Shenglong PV Tech Co., Ltd., Made-in-China, attached at **Exhibit 72**.

[225] *ET Solar: Switching Directions With New Manufacturing Strategy*, PV MAGAZINE (July 30, 2019), attached at **Exhibit 73**.

[226] Jintek Photovoltaic Technology Co., attached at **Exhibit 74** at Website.

[227] Jintek Photovoltaic Technology Co., attached at **Exhibit 74** at CEO LinkedIn Page.

[228] Exhibit 19 ([ ])

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assemble CSPV cells and modules that may also be circumventing, but reasonably available information does not exist concerning their upstream supply chain.

* * *

Evidence available to Auxin Solar thus establishes that in Malaysia, Thailand, Vietnam, and Cambodia, CSPV cells and/or modules are completed or assembled using Chinese inputs and raw materials, including Chinese-produced polysilicon and ingots and wafers, and typically from affiliated suppliers.

C. The Completion of CSPV Cells and Modules in Malaysia, Thailand, Vietnam, and Cambodia Is Minor or Insignificant

In the underlying AD investigation, Commerce evaluated the production process of solar cells and modules and "concluded that the module assembly stage of production is principally an assembly process, which consists of stringing together solar cells, laminating them, and fitting them in a glass-covered aluminum frame for protection."[229] In other words, Commerce has already determined that "the module assembly stage of production is a comparatively less sophisticated process than cell conversion or the production stages that precede it."[230] Consistent with Commerce's prior determination, the process of completing or assembling solar cells and modules in Vietnam, Thailand, Malaysia and Cambodia using inputs from China is "minor or insignificant" within the meaning of Section 781(b)(2).

1. *The Level of Investment in the Subject Third Countries Is Minimal*

In determining the relative level of total investment, Commerce compares the level of investment in the subject third countries for a facility to complete the production of CSPV cells

[229] AD Final Determination, IDM at Comment 1.

[230] *Id.*

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or complete the production of the cells and assemble them into modules to the investment required to produce CSPV cells/modules using a fully integrated production process in the country subject to the AD and CVD Orders.[231] The resources and investment needed to produce CSPV cells/modules using a fully integrated process are substantial. According to Jinko Solar's 2020 Form 20-F filed with the Securities and Exchange Commission, its cost of revenues consists of raw materials (polysilicon), consumables (raw materials including wafers, ingots, cells, aluminum, glass), direct labor costs, overhead costs, depreciation, and operating expenses amounting to US$4.44 billion.[232]

China possesses a fully integrated supply chain. China's share of global capital expenditures for ingots, wafers, CSPV cells, and modules has continued to grow in recent years and dwarfs the rest of the world. According to the USITC, "China accounted for most of the

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[231] *See, e.g.*, *Certain Cold-Rolled Steel Flat Products from the Republic of Korea: Affirmative Final Determinations of Circumvention of the Antidumping Duty and Countervailing Duty Orders*, 84 Fed. Reg. 70,934 (Dec. 26, 2019) ("*CRS From Korea*"), IDM at 62-65 ("The statute does not instruct Commerce to use a particular analysis when evaluating the level of investment in the foreign country for purposes of section 781(b)(2)(A) of the Act. Given the statute's silence on the issue, Commerce may determine an appropriate analysis to apply.").

Commerce has explained that its "past practice has been to compare the total investment required (as well as, separately, the research and development, production process, and facilities) from the beginning of the production process in the country subject to an {AD or CVD} order to the investment required (as well as, separately, the research and development, production process, and facilities) to finish the final product in a third country, rather than to compare the investments (as well as, separately, the research and development, production process, and facilities) required to perform the same finishing steps in each country." In doing so, Commerce has emphasized that this reflects the agency's concerns with circumvention being achieved by shifting one or more of the last few minor or insignificant steps of the production process to a third country. *See id.* at 64.

Commerce's comparative methodology has been affirmed as lawful by the U.S. Court of International Trade. *See Al Ghurair Iron & Steel LLC v. United States*, Slip Op. 2021-129 at *21 (Ct. Int'l Trade 2021) (pending appeal at CAFC Ct. No. 22-1199).

[232] *See* Exhibit 14 (Jinko Solar, Form 20-F (2020)) at 93.

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approximately $9 billion in global CSPV capital expenditures (including ingots, wafers, cells, and modules) in 2018."[233] "Examining cells specifically, China's share of global capital expenditures increased from less than 60 percent in 2015 to more than 80 percent in 2018."[234] Although the USITC noted that "Chinese firms have also substantially increased their production of cells and modules outside of China, including in Southeast Asia,"[235] the vast majority of investments and expenditures remain in China. According to industry experts, "the majority of goods the U.S. imports arrive from Southeast Asia post assembly," but "**70% of the actual value of that equipment accrues to China where key, pre-assembly steps in the making of the equipment take place, including production of solar-grade silicon, ingots, wafers and cells**."[236] For this reason, generally, "Southeast Asian nations account for just 27% of the value of a typical PV module exported to the U.S., despite those nations being most likely to be the last port of call before final, assembled equipment arrives in the U.S."[237]

Industry publications confirm that the investment required for the upstream production processes through the wafer stage is much more significant than the investment required for the final cell and module finishing stages. "[

]…."[238] In fact, "[

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[233] *Crystalline Silicon Photovoltaic Cells, Whether or Not Partially or Fully Assembled Into Other Products*, Inv. Nos. TA-201-75 (Monitoring), USITC Pub. 5021 (Feb. 2020) ("USITC Pub. 5021") at I-24, excerpts attached at **Exhibit 75**.

[234] Exhibit 75 (USITC Pub. 5021) at F-26.

[235] Exhibit 75 (USITC Pub. 5021) at F-31.

[236] Exhibit 4 (Bloomberg NEF Report) at 22.

[237] Exhibit 4 (Bloomberg NEF Report) at 22.

[238] Exhibit 27 [ ].

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]"[239] Indeed, [

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A polysilicon production facility requires substantial investment. Daqo New Energy recently announced a $1.6 billion capital injection to advance polysilicon production in Inner Mongolia.[241] Tongwei recently signed an agreement with the government of Leshan City and the Wuhua district for a new polysilicon manufacturing site with a capacity of 200,000 metric tons and the total investment around RMB14 billion ($2.1 billion).[242] In March 2021, Xinte Energy Co Ltd announced a new project to build a 100,000-tonne per year high-purity polysilicon production plant in Inner Mongolia, northern China, with the total investment estimated to be around CNY 8.799 billion ($1.36 billion).[243] GCL-Poly invested $826 million in constructing a 60,000 tonne polysilicon plant in China in 2017.[244] In Tennessee, Dow/Hemlock invested $1.2 billion to build a polysilicon production facility, with a $3 billion expansion originally planned.[245] Such polysilicon plant investments are so substantial that the Chinese

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[239] Exhibit 27 [ ].

[240] Exhibit 27 [ ].

[241] *See* Carrie Xiao, *Daqo pushes US$1.6bn capital injection to accelerate Inner Mongolia polysilicon project*, PVTECH (Jan. 4, 2022), attached at **Exhibit 76**.

[242] Vincent Shaw & Max Hall, *Chinese PV Industry Brief: Tongwei Plans 200,000 MT Polysilicon Factory*, PV MAGAZINE (July 2, 2021), attached at **Exhibit 77**.

[243] Sladjana Djunisic, *Xinte Energy Proposes to Build 100,000-Tonne-Per Year Polysilicon Production Plant*, RENEWABLES NOW (Mar. 2, 2021), attached at **Exhibit 78**.

[244] Ian Clover, *GCL-Poly Investing $826m in Construction of 60,000 MT Polysilicon Plant in China*, PV MAGAZINE (Apr. 6, 2017), attached at **Exhibit 79**.

[245] *Hemlock Semiconductor Corporation*, WIKIPEDIA (last accessed January 31, 2021), attached at **Exhibit 80**.

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government's State-sponsored industrial policies are necessary to get them off the ground. GCL-Poly has close ties to the China People's Liberation Army and the Chinese government.[246] TBEA Co., Ltd, the parent company of Xinte Energy,[247] another Chinese polysilicon producer, states on its website that it "actively practices the national strategy of 'the Belt and Road initiative' and is devoted to sharing the advanced electricity construction experience of China with the world."[248] Polysilicon plants require billions of dollars and those existing in China are bank-rolled by the Chinese government for use by Chinese companies whether in China or Malaysia, Thailand, Vietnam, and/or Cambodia.

Similarly, ingot and wafer production require significant levels of investment. LONGi Group announced in 2019 plans for a new 15 GW ingot and wafer production facility, which is expected to cost around $643 million.[249] JA Solar announced in 2020 plans for a new 20 GW ingot/wafer expansion in China, with the capital expenditure expected to be around RMB5.8 billion ($857 million).[250] In 2018, another Chinese producer, GCL-Poly, announced plans to build a 20 GW mono-Si ingot facility in Yunnan Province at a capital cost of $1.43 billion.[251]

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[246] Steven Mufson, *China's Growing Share of Solar Market Comes at a Price*, WASHINGTON POST (Dec. 16, 2011), attached at **Exhibit 81**.

[247] *TBEA Announces Plan of Domestic Listing of Its Subsidiary Xinte Energy*, PVTIME (Jan. 15, 2021), attached at **Exhibit 82**.

[248] TBEA Website Excerpts, attached at **Exhibit 83**.

[249] Mark Osborne, *LONGi Investing US$875 Million in 2020 Production Capacity Expansion Plans*, PV TECH (Apr. 17, 2019), attached at **Exhibit 84**.

[250] Mark Osborne, *JA Solar's Capacity Expansion Announcements in 2020 Top 104GW Across Wafter, Cell and Modules*, PV TECH (Sept. 24, 2020), attached at **Exhibit 85**.

[251] Ivan Shumkov, *GCL-Poly Energy Plans 20 GR Ingot Factory in China*" RENEWABLES NOW (Apr. 11, 2018), attached at **Exhibit 86**.

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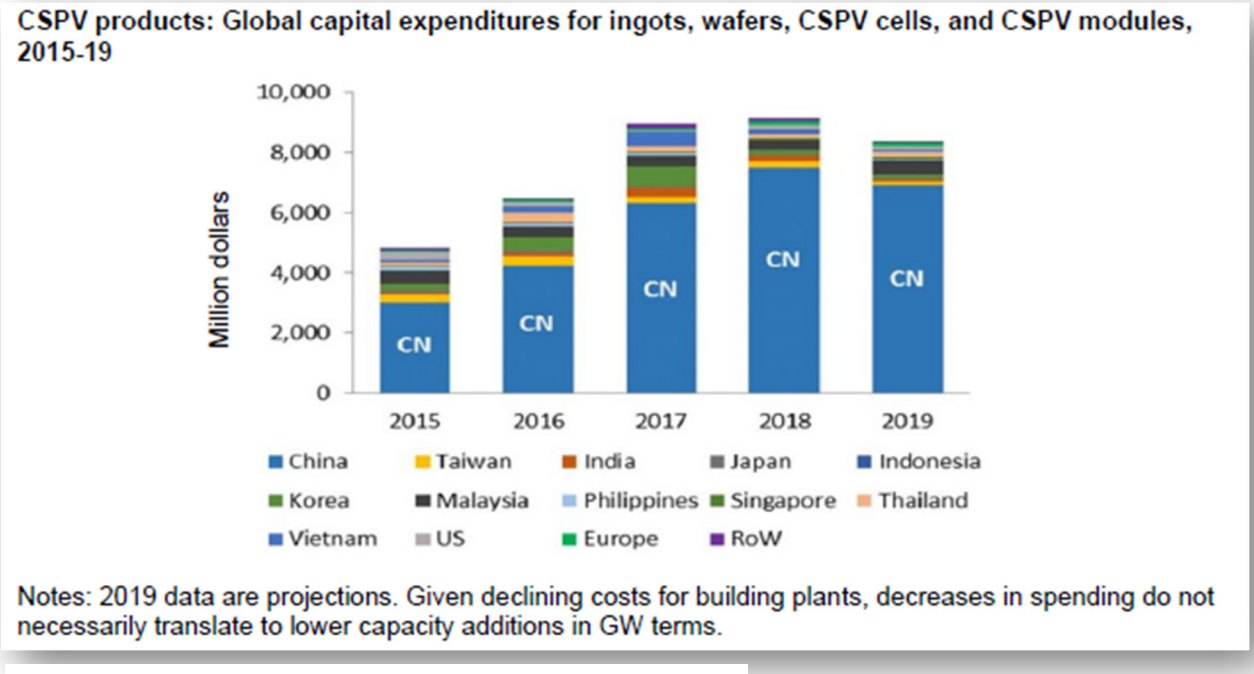
These large-scale ingot/wafer production facilities require investments greater than half of a billion dollars.

An assessment of global capital expenditures for ingots, wafers, CSPV cells, and modules as a whole, excluding polysilicon capital expenditures, is telling and demonstrates the level of investment in China that dwarfs the rest of the world, including Malaysia, Thailand, Vietnam, and Cambodia.



Source: USITC Pub. 5021 at F-27, Figure F-10 (Exhibit 4)

In contrast to the level of investment in China, the level of investment in the subject third countries is minimal. In Malaysia, Jinko Solar invested approximately $100 million when it first built its 500MW cell and 450MW module manufacturing facility in Penang, Malaysia.[252] Similarly, LONGi invested approximately RMB840 million ($125.5 million) when it built its new 1 GW monocrystalline solar cell manufacturing plant in Kuching, Malaysia in 2019, to add

[252] *See* Exhibit 15 (Jinko Solar Press Release – 2015).

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to its 500 MW mono solar cell and 500 MW module assembly production.[253] JA Solar invested RM300 million ($70 million) when it first launched its Malaysian manufacturing facility, initially a 400 MW solar cell factory.[254] In Thailand, Trina Solar invested $160 million when it first established its facility in Thailand with 500 MW of module and 700 MW of cell capacity.[255] Talesun reported investing RMB450 million (US$70 million) when it first built its 500 MW solar cell and module assembly plant in Thailand.[256] Canadian Solar reported that as of February 28, 2021, $96.4 million of its credit facility had been used to finance the construction of its solar cell and module facilities in Thailand.[257] In Vietnam, Trina Solar built a 800 MW cell and module facility in Vietnam for a total investment of $100 million.[258] In 2016, Canadian Solar secured investments of $70 million to finance the development of its module production facility in Vietnam.[259] Jintek's Cambodia investment in its module assembly operations in Cambodia is a

[253] Mark Osborne, *LONGi to Build New 1GW Mono Solar Cell Plant in Malaysia*, PV TECH (Feb. 25, 2019), attached at **Exhibit 87**.

[254] Exhibit 79 (JA Solar Completes $70m Malaysian Fab).

[255] *Trina Solar Announces Establishment of New Manufacturing Base in Thailand to Add 500 MW Module and 700 MW Cell Capacity*, Trina Solar (May 6, 2015), attached at **Exhibit 88**.

[256] Exhibit 41 (Zhongli Talesun starts production at 500MW PERC production plant in Thailand); *Zhongli Talesun Solar Financial Due Diligence Report*, CLEAN ENERGY ASSOCIATES (Sept. 15, 2015) at 26, excerpts attached at **Exhibit 89**. *See* Exhibit 103 (Exchange Rates) (RMB450 million is approximately US$70 million based on historic exchange rates of 1 RMB = 0.157 USD in 2015).

[257] Exhibit 12 (Canadian Solar Form 20-F (2020)) at 68.

[258] Exhibit 30 (Trina Solar's New 800 MW Facility Touted As Largest PV Cell And Module Factory' In Vietnam).

[259] Joshua Hill, *Canadian Solar Secures $70 Million Investment In Vietnam Production Facility*, CLEANTECHNICA (Jan. 30, 2016), attached at **Exhibit 90**.

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thimble-sized $7.7 million.[260] These investments by Chinese-owned and integrated companies are a small fraction of the level of investment in mainland China.

Given the available evidence, the level of investment in the third countries pales in comparison to the level of investment in integrated supply chain in China.[261] Upstream production of polysilicon, ingots, and wafers requires investments in the **billions** of dollars, while cell and module assembly/completion operations require a small fraction of that amount to set up shop. Indeed, the above discussion does not even include the level of investment required to support the Chinese production of materials and equipment used to convert CSPV cells to modules in the subject third countries, including but not limited to: solar glass, EVA, backsheet, aluminum frames, and junction boxes. Therefore, the above presentation is a conservative assessment based upon reasonably available information.

2. *The Level of Research and Development in the Subject Third Countries Is Minimal*

The level of research and development in the subject third countries to complete the production of CSPV cells and assemble cells into modules with Chinese-origin components is minimal, and for good reason. No such research and development is needed for polysilicon, ingot, and wafer production given that there is virtually no production of these key CSPV cell and module inputs in Malaysia, Thailand, Vietnam and Cambodia. And the companies operating in these countries typically are affiliates of the Chinese companies that have already engaged in

[260] Thou Vireak, *CDC okays 15 more projects this month*, PHNOM PENH POST (Apr. 13, 2020), attached at **Exhibit 91**.

[261] The differences in relative investment are similar to those evaluated by Commerce in previous anticircumvention inquires. *See, e.g., CRS from Korea*, IDM at 63-64 (comparing Hyundai's investment of $5 billion for an integrated steel production facility to Vietnamese cold-rolling facilities established for $70 million).

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research and development relating to cell and module assembly when those companies were producing cells and modules in China (and in some cases still do). Thus, these companies are predominantly importing technology from China, which is largely stolen technology from U.S. manufacturers.[262] Given that the companies in the third countries at issue here are predominantly subsidiaries of large vertically integrated CSPV producers, the third country companies undoubtedly relied on the parent companies' R&D in building their production facilities and implementing their production processes.

In contrast to the minimal or nonexistent research and development activities in the third countries subject to this petition, the research and development expenditures within China of Chinese integrated producers of CSPV cells/modules that engage in the upstream production processes are extensive. For example, by the end of the reporting period for its 2020 annual report, LONGi Group had obtained a total of 1,001 issued patents and invested RMB2.592 billion (US$407 million)[263] in R&D. LONGi Group did not list R&D in its description of the "principal business" for Vina Cell or Vina Solar.[264] Like LONGi, the GCL group invests heavily in R&D primarily through its subsidiary GCL-Poly in China. GCL-Poly has filed more than 1,100 invention and utility patents and has five provincial R&D centers focusing on various stages of polysilicon and wafer production throughout China.[265] GCL-Poly also has a National

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[262] Christian Roselund, *SolarWorld testifies on Chinese IP theft*, PV MAGAZINE (Oct. 10, 2017), attached at **Exhibit 92**; United States Trade Representative, Findings of the Investigation Into China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation Under Section 301 of the Trade Act of 1974 (Mar. 22, 2018) at 157-60, attached at **Exhibit 93**.

[263] Exhibit 25 (LONGi Group 2020 Annual Report at 17). *See* Exhibit 103 (Exchange Rates).

[264] *See id.* at 33.

[265] Exhibit 56 (GCL-Poly Website).

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and Local Joint Engineering Research Center for Advanced Silicon Material Preparation Technology, a National Postdoctoral Research Station, a Provincial Key Laboratory of Silicon-based Electronic Materials and a Provincial Academician Workstation, and a certified GCL Testing Technology Center – all presumably in China.[266]

By contrast, no comparable level of R&D exists in the third countries. Canadian Solar's subsidiaries in Thailand and Vietnam are not listed as having a principal activity of R&D in the parent company's financial statements, unlike some of Canadian Solar's subsidiaries in China.[267] In total, R&D expenses for Canadian Solar's consolidated operations amounted to approximately $45.2 million in 2020.[268] Similarly, the nature of Trina Solar Vietnam's business does not include R&D in the parent company's financial statements, unlike some of the Chinese operations.[269] Trina Solar reported R&D expenses of over RMB363 million (US$57 million) for is consolidated operations for 2020.[270] Trina Solar Thailand's 2019 financial statements similarly do not separately list R&D expenses.[271] None of the Cambodia companies indicate that any R&D expenditures are made in Cambodia.

3. *The Production Process in the Subject Third Countries Involves Minimal Additional Processing*

Again, in evaluating the production process in the subject third countries, Commerce should follow its established practice and compare the production operations of an integrated

[266] Exhibit 56 (GCL-Poly Website).

[267] Exhibit 12 (Canadian Solar Form 20-F (2020)) at F-73.

[268] Exhibit 12 (Canadian Solar Form 20-F (2020)) at 64.

[269] Exhibit 31 (Trina Solar 2020 Auditor's Report) at 131-133.

[270] Exhibit 31 (Trina Solar 2020 Auditor's Report) at 7. *See* Exhibit 103 (Exchange Rates).

[271] *See* Trina Solar Thailand 2019 Financial Statements, attached at **Exhibit 94**.

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Chinese CSPV producer to the operations in subject third countries for a facility to complete the production of CSPV cells or complete the production of the cells and assemble them into modules using Chinese-origin wafers and/or cells, which was recently affirmed as lawful by the U.S. Court of International Trade.[272]

As detailed above, there are five main stages in the production process for CSPV products.[273] For CSPV cells and modules subject to this anti-circumvention inquiry, all of the manufacturing process up through the production of wafers takes place in China. To the extent that the wafers are also undergoing some of the cell conversion steps in China short of being doped and containing a p/n junction, which would make them subject merchandise upon export from China, the production process in the subject third countries is even more minimal.

As Auxin Solar detailed above through a discussion of the manufacturing process and the level of investment, the production process up through the wafers, starting from the initial raw polysilicon stage, is much more substantial than the process of converting the wafers to cells and assembling modules. That is, the process of converting wafers to CSPV cells pales in comparison to the level of processing in producing the polysilicon, ingot, and wafer. This is true

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[272] *See Al Ghurair Iron & Steel LLC v. United States*, Slip Op. 2021-129 at *21 (Ct. Int'l Trade 2021) (noting that "a determination of the third country's portion of the total sum of investment is useful to gauge the level of investment in a third country. Comparative analysis helps also to ensure that larger companies with much smaller operations in a third country – operations that appear significant in absolute terms given the size of the firm, but that comprise a small share of total operations – will not be able to elude an AD/CVD order simply on account of the firm's large overall size. Accordingly, a comparative analysis was reasonable…"); *see also id.* at *27 ("As with Commerce's comparative approach to investment, Commerce's comparative approach to determining whether the production process and facilities were significant or minor was consistent with prior Commerce practice and was reasonable.").

[273] *See* Exhibit 5 (USITC Pub. 4874 at I-43).

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in terms of production activities, investment, research and development, expenses, and technology.

Although certain companies do not appear to refine polysilicon within their fully integrated upstream Chinese supply chain and instead start with the production of ingots in their Chinese facilities, Commerce should also include the initial raw polysilicon stage of production in comparing the production processes in China and in the third country. As discussed above, reasonably available evidence (including the fact that the vast majority of all polysilicon and ingots/wafers are produced in China)[274] indicates that the Chinese companies source polysilicon exclusively from Chinese polysilicon suppliers to produce the ingots used to produce the wafers that are exported to subject third countries to then be completed into CSPV cells or modules. Reasonably available evidence indicates that these are dedicated supply contracts.[275] Regardless, even considering just the ingot and wafer production stages, the production process in Malaysia, Thailand, Vietnam, and Cambodia is minimal compared to the production of ingots and wafers in China, which requires more investment, research, expenses, production activities, and are technologically complex processes.

Furthermore, as detailed *infra*, the final steps of the production process that occur in the subject third countries accounts for a relatively small proportion of the total cost of production.

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[274] Chinese wafer producers have no commercial incentive to import polysilicon. Indeed, when Chinese wafer producers had imported polysilicon, including from the United States, the Government of China imposed draconian tariffs that shut imported polysilicon out of the market. *See China: Extension of definitive antidumping duties on solar-grade polysilicon from the United States and the Republic of Korea*, GLOBAL TRADE ALERT (July 18, 2013), attached at **Exhibit 95**.

[275] *See* Exhibit 16 [ ].

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4. *The Production Facilities in the Subject Third Countries Are Limited*

The production facilities in the subject countries are limited.[276]

Jinko Solar Group's 2020 annual report indicates that the company's plant sizes in Penang, Malaysia for solar cells and modules are 8,191 square meters and 12,679 square meters, respectively.[277] In contrast, the company has one silicon ingot and wafer facility in China with a plant size of 68,397 square meters, and another silicon ingot facility in China with a plant size of 165,333 square meters, both substantially larger than the Malaysian facilities.[278] Similarly, LONGi's production facilities in China are much larger than its facilities in Malaysia and Vietnam. For instance, in 2020, LONGi's total year end production capacity in Malaysia for cells and modules were [ ] and [ ], respectively.[279] In 2020, Vina Solar's total year end production capacity in Vietnam for modules was [ ].[280] In contrast, the total year end production capacity for LONGi's Chinese facilities for cells and modules were [ ][281] and [ ],[282] respectively. Even for wafer production, LONGi's total year end

[276] In contrast to the fully integrated Chinese supply chain, none of the four subject countries have a fully integrated supply chain. According to an industry publication, Thailand and Cambodia have no polysilicon or wafer production capacity, [ ], respectively. *See* Exhibit 19 ([ ]).

[277] Exhibit 14 (JinkoSolar Form 20-F (2020)) at 67.

[278] Exhibit 14 (JinkoSolar Form 20-F (2020)) at 67.

[279] Exhibit 19 ([ ]).

[280] Exhibit 19 ([ ]).

[281] Exhibit 19 ([ ]).

[282] Exhibit 19 ([ ]).

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capacity in Malaysia in 2020 was [ ],[283] compared to [ ] in China.[284] JA Solar's Malaysian facility is also smaller than the company's Chinese facilities. For instance, as of 2017, JA Solar reported that its Penang, Malaysia facility had a space of 19,357 square meters.[285] In contrast, the company's Chinese facilities ranged in size from 38,157 square meters to 559,973 square meters.[286] Furthermore, in 2020, JA Solar's Malaysian facility's year end cell production capacity was [ ],[287] compared to the company's cell production capacity in China, [ ].[288] JA Solar also had capacity for production of wafers and modules in China of [ ] [289] and [ ],[290] respectively, as of the end of 2020. GCL's [ ] cell facility in Vietnam pales in comparison to GCL's integrated Chinese facilities, which have [ ] of wafer-making capacity,[291] [ ] of cell capacity,[292] and [ ] of module capacity.[293]

Canadian Solar Thailand's cell manufacturing facilities are 18,100 square meters and 19,139 square meters, respectively, and its module manufacturing facilities are 15,460 square

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[283] Exhibit 19 ([ ]).

[284] Exhibit 19 ([ ]).

[285] *See* JA Solar, *United States Securities and Exchange Commission – Form 20-F (2017)* at 54, attached at **Exhibit 96**.

[286] Exhibit 96 (JA Solar Form 20-F (2017)) at 54.

[287] Exhibit 19 ([ ]).

[288] Exhibit 19 ([ ]).

[289] Exhibit 19 ([ ]).

[290] Exhibit 19 ([ ]).

[291] Exhibit 19 ([ ]).

[292] Exhibit 19 ([ ]).

[293] Exhibit 19 ([ ]).

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meters and 29,723 square meters, respectively.[294] Canadian Solar leases one manufacturing facility in Vietnam that is 15,784 square meters.[295] In contrast, Canadian Solar Manufacturing (Luoyang) Inc., another subsidiary of Canadian Solar which is based in China and is engaged in the manufacture of solar ingots, wafers, and modules, has manufacturing facilities with a total area of 75,527 square meters.[296] And Canadian Solar has at least nine subsidiaries based in China involved in the production of solar ingots, wafers, cells, and/or modules.[297] NE Solar's[298] and Jintek's[299] Cambodian facilities are much smaller than a fully integrated facility would be if these Cambodian assemblers did not exclusively rely upon Chinese-produced inputs.[300]

Insofar as the available evidence establishes that none of the countries covered by this petition produce polysilicon and/or wafers in the subject third countries, a comparison to fully integrated producers in China is valid to conclude that the facilities in the subject countries are limited in scope. Industry publications confirm that "{t}echnical hurdles are highest for plants that make polysilicon and wafers. These plants are also costly to build and take longest to construct. *Cell and module factories can be built faster and can respond quicker to technological trends and policy developments like import tariffs*,"[301] and that "{w}afer factories

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[294] Exhibit 12 (Canadian Solar Form 20-F (2020) at 53.

[295] Exhibit 12 (Canadian Solar Form 20-F (2020) at 53.

[296] Exhibit 12 (Canadian Solar Form 20-F (2020) at 52 (three-phase expansion).

[297] Exhibit 12 (Canadian Solar Form 20-F (2020) at 51.

[298] *See* Exhibit 70 (NE Solar webpage).

[299] *See* Exhibit 74 (Jintek Solar webpage).

[300] *See* Exhibit 19 ([

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[301] Exhibit 4 (Bloomberg NEF Report) at 1.

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require high upfront capital expenditure and bear many technical hurdles, which makes it difficult for new factories to be built outside of China."[302] In contrast, "{c}ell manufacturing is more versatile compared to wafers and polysilicon and has lower technical hurdles."[303] Similarly, "{b}uilding a new module factory has low technical hurdles compared to wafer and polysilicon."[304] In fact, due to the "low technical and financial barriers, it is also easier for module companies to open shop in other countries in response to tariffs or other policy developments."[305]

5. *The Value of the Processing Performed in the Subject Third Countries Represents a Small Proportion of the Value of the Merchandise Imported into the United States*

As with the factors discussed above, the Act does not instruct Commerce to use a particular analysis when evaluating whether the value of processing performed in the foreign country represents a small proportion of the value of merchandise imported into the United States.[306] In evaluating this factor, Commerce has emphasized in recent circumvention proceedings that Congress has redirected the agency's focus away from a rigid numerical calculation towards a more qualitative focus on the nature of the production process.[307] In

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[302] Exhibit 4 (Bloomberg NEF Report) at 11.

[303] Exhibit 4 (Bloomberg NEF Report) at 13.

[304] Exhibit 4 (Bloomberg NEF Report) at 19.

[305] Exhibit 4 (Bloomberg NEF Report) at 19.

[306] *See* Section 781(b)(2)(E) at the Act.

[307] *See Certain Corrosion-Resistant Steel Products From the People's Republic of China: Affirmative Preliminary Determination of Anti-Circumvention Inquiries on the antidumping Duty and Countervailing Duty Orders*, 82 Fed. Reg. 58,170 (Dec. 11, 2017) ("CORE Circumvention PDM"), PDM at 21; *see also* Preliminary Decision Memorandum accompanying *Diamond Sawblades and Parts Thereof From the People's Republic of China: Preliminary Affirmative Determination of Circumvention*, 83 Fed. Reg. 57,425 (Nov. 15, 2018) ("DSB Circumvention PDM"), PDM at 11.

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Corrosion-Resistant Steel Products from China for example, Commerce noted that a qualitative analysis, which indicated that the primary direct material inputs (*i.e.*, hot-rolled steel or cold-rolled steel) used by producers in the third country to produce the merchandise subject to the anti-circumvention inquiry (*i.e.*, corrosion-resistant steel) was manufactured and supplied by producers in the country subject to an existing AD/CVD order on corrosion-resistant steel (China), and that significant costs in addition to the direct material inputs were not incurred, would be sufficient to determine that the value of processing in the third country constitutes a small portion of the value of the merchandise exported to the United States.[308] Similarly, in *Diamond Sawblades from China*, Commerce found the laser-welding and finishing of the sawblades in the third country using Chinese cores and segments to be less complex, intensive, or multi-step than the production of the cores and segments themselves.[309]

Like those prior proceedings, here, reasonably available evidence indicates that the primary direct material inputs used to complete CSPV cells in the subject third countries, *i.e.*, wafers, silane, phosphorus oxychloride (POCI3), aluminum and/or silver paste, and the additional components used to assemble the CSPV cells into modules, *i.e.*, solar glass, EVA, backsheet, aluminum frames, and junction boxes, were sourced from China, the country subject to the Orders. Accordingly, a qualitative analysis itself would be sufficient to conclude that the

[308] *See* CORE Circumvention PDM at 22. The Department had also obtained the information necessary to evaluate the value added by the processing in the third country and concluded that the quantitative finding supported the Department's qualitative finding. *See id.*

[309] *See* DSB Circumvention PDM at 11. There was also information on the record regarding the cost of production of diamond sawblades manufactured in the third country and the value of diamond sawblades sold to the United States and the Department also calculated the value of processing performed in the third country to preliminarily find that the value of processing performed in the third country as a proportion of the value of the merchandise imported into the United States is small for the products at issue in the inquiry. *See id.* at 13.

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value of processing in Malaysia, Thailand, Vietnam, and Cambodia represents a small proportion of the value of the merchandise imported to the United States.

On a quantitative basis, Commerce's recent practice is to determine the processing costs incurred in the third country (*i.e.*, production costs incurred minus the cost of inputs sourced from the country subject to an order) and calculate a value-added ratio by dividing the further processing costs by the U.S. sales price.[310] As demonstrated below, the cost of materials sourced from China represents a significant proportion of the value of the merchandise imported into the United States. Accordingly, the processing performed in Vietnam, Malaysia, Thailand, and Cambodia represents a relatively small proportion of the total value of the merchandise.

Bloomberg NEF states that, although CSPV cells and modules arrive from Southeast Asian countries, "70% of the actual value of that equipment accrues to China where key, pre-assembly steps in the making of the equipment take place, including production of solar-grade silicon, ingots, wafers and cells."[311] Bloomberg NEF estimates that production costs in "Southeast Asian nations account for just 27% of the value of a typical PV module exported to the U.S., despite those nations being most likely to be the last port of call before final, assembled equipment arrives in the U.S.," reiterating that most of the plants assembling modules in Southeast Asia are owned by Chinese firms.[312] Bloomberg NEF further reports that generally, as of year-end 2019, "{o}ver half of the cost of making monocrystalline silicon wafers into cells

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[310] *See Al Ghurair Iron & Steel LLC v. United States*, Slip Op. 2021-129 at *31 n.4; *see also* CORE Circumvention Prelim Decision Memo at 22 ("To determine the portion of HSG's and TDA's further processing value, the Department compared each company's per-kilogram further processing costs to the actual value of each company's CORE exported to the United States (*i.e.*, each company's per-kilogram U.S. price.").

[311] Exhibit 4 (Bloomberg NEF Report) at 22.

[312] Exhibit 4 (Bloomberg NEF Report) at 22.

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comes from the purchase of materials such as silver (Ag) and aluminum (Al) pastes {}. Front silver paste alone is the single largest cost component and accounted for 33% of total cost."[313] Similarly, for the "{b}est-in-class cash cost for cell-to-module for mono c-Si modules made by large firms as of year-end 2019" the cost of the materials (aluminum frame, glass, EVA, backsheet, junction box, and other materials) constituted 83 percent of the total cost.[314] Bloomberg NEF also notes that "{w}hether a silicon-based module is assembled on U.S. soil or abroad, about half its total value is accounted for by non-silicon raw materials such as silver paste, glass and back sheets," **with the "vast majority of suppliers of these materials {being} concentrated in China."**[315] As a result, the publication notes that despite the U.S. tariffs on Chinese-made PV cells and modules, China continues to accrue the largest share of value from modules installed in the United States – regardless of where the equipment is assembled.[316] The Commission has previously found that for both CSPV cells and modules, the most substantial component of the total cost of goods sold is the total raw material cost.[317]

In sum, Auxin Solar does not have access to the confidential data of producers of CSPV cells and modules in the subject countries or their selling prices in the United States. However, as discussed above, reasonably available evidence establishes that, on a qualitative or quantitative basis, the value of processing in Malaysia, Thailand, Vietnam, and Cambodia represents a small proportion of the value of the merchandise imported into the United States.

[313] Exhibit 4 (Bloomberg NEF Report) at 14.

[314] Exhibit 4 (Bloomberg NEF Report) at 18.

[315] Exhibit 4 (Bloomberg NEF Report) at 23 (emphasis supplied).

[316] Exhibit 4 (Bloomberg NEF Report) at Figure 23.

[317] Exhibit 5 (USITC Pub. 4874 at I-11 n.45).

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D. The Value of the Merchandise Produced in China Is a Significant Portion of the Total Value of the Merchandise Exported to the United States

As demonstrated in the previous subsection, processing of Chinese raw materials in subject third countries is a small portion of the total value of the merchandise exported to the United States. This is because the overwhelming majority of the production and costs of cells and modules are accounted for by the Chinese components that are completed and assembled into modules in Malaysia, Thailand, Vietnam, and Cambodia.[318] Indeed, the USITC has previously found that for both CSPV cells and modules, the most substantial component of the total cost of goods sold is the total raw material cost.[319] For cells, while the total raw material cost reflects a combination of polysilicon, wafers, and all other raw material costs, the main underlying raw material input is wafers made from polysilicon.[320] For modules, while the total raw material cost reflects the accumulated cost of producing the cell, the module requires additional raw material costs in the form of glass, backsheet, framing, copper wire, encapsulant, and other raw materials. The Commission's understanding of the relative cost components is confirmed by Jinko Solar's financial statements, for example.[321]

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[318] Exhibit 4 (Bloomberg NEF Report) at 22 (Although CSPV cells and modules arrive from Southeast Asian countries, "70% of the actual value of that equipment accrues to China where key, pre-assembly steps in the making of the equipment take place, including production of solar-grade silicon, ingots, wafers and cells.").

[319] Exhibit 5 (USITC Pub. 4874 at I-11).

[320] Exhibit 5 (USITC Pub. 4874 at I-11).

[321] Exhibit 14 (Jinko Solar Form 20-F (2020)) at 93 ("Cost of revenues primarily consists of: (i) raw materials, which primarily consist of both virgin polysilicon and recoverable silicon materials; (ii) consumables and components, which include crucibles for the production of monocrystalline and multicrystalline silicon ingots, steel alloy saw wires, slurry, chemicals for raw material cleaning and silicon wafer cleaning, and gases such as argon and silane, as well as silicon wafers and solar cells we procure from third parties for the production of solar modules; (iii) direct labor costs, which include salaries and benefits for employees directly involved in

(footnote continued on next page)

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The USITC's analysis is also borne out in a report issued by the National Renewable Energy Laboratory (NREL) in 2018, as revised in 2020. NREL's analysis (in graphic form below) demonstrates that the cost components of cell manufacturing and module manufacturing pale in comparison to the total integrated cost of producing the CSPV cell and module from polysilicon as a total of the price of the finished module. Based on NREL's analysis that was updated in 2020, the total US$ per watt price of a solar module produced in China ranges from 0.34 ¢/watt to 0.37 ¢/watt. Of the total cost of producing a CSPV module in China, cell assembly ranges from 4.3 ¢/watt to 4.8 ¢/watt while module assembly ranges from 1.8 ¢/watt to 2.2 ¢/watt. Meanwhile all other expenses amount to a range of 23.4 ¢/watt to 25.3 ¢/watt. Therefore, insofar as polysilicon, wafers, cell metallization pastes, and other necessary elements of the bill of materials are produced in China with R&D expenses incurred in China, **on a quantitative basis, nearly 70% of the total value of the merchandise exported to the United States comes from China when these products are assembled in the subject third countries**. This comports with what is widely reported in industry publications.[322]

manufacturing activities; (iv) overhead costs, which consist of equipment maintenance costs, cost of utilities including electricity and water; (v) depreciation of property, plant, equipment and project assets; (vi) processing fees paid to third party factories relating to the outsourced production of solar cells and solar modules; and (vii) subcontractor cost and those indirect costs related to contract performance, such as indirect labor, supplies and tools.").

[322] Exhibit 4 (Bloomberg NEF Report) at 22 (Although CSPV cells and modules arrive from Southeast Asian countries, "70% of the actual value of that equipment accrues to China where key, pre-assembly steps in the making of the equipment take place, including production of solar-grade silicon, ingots, wafers and cells.").

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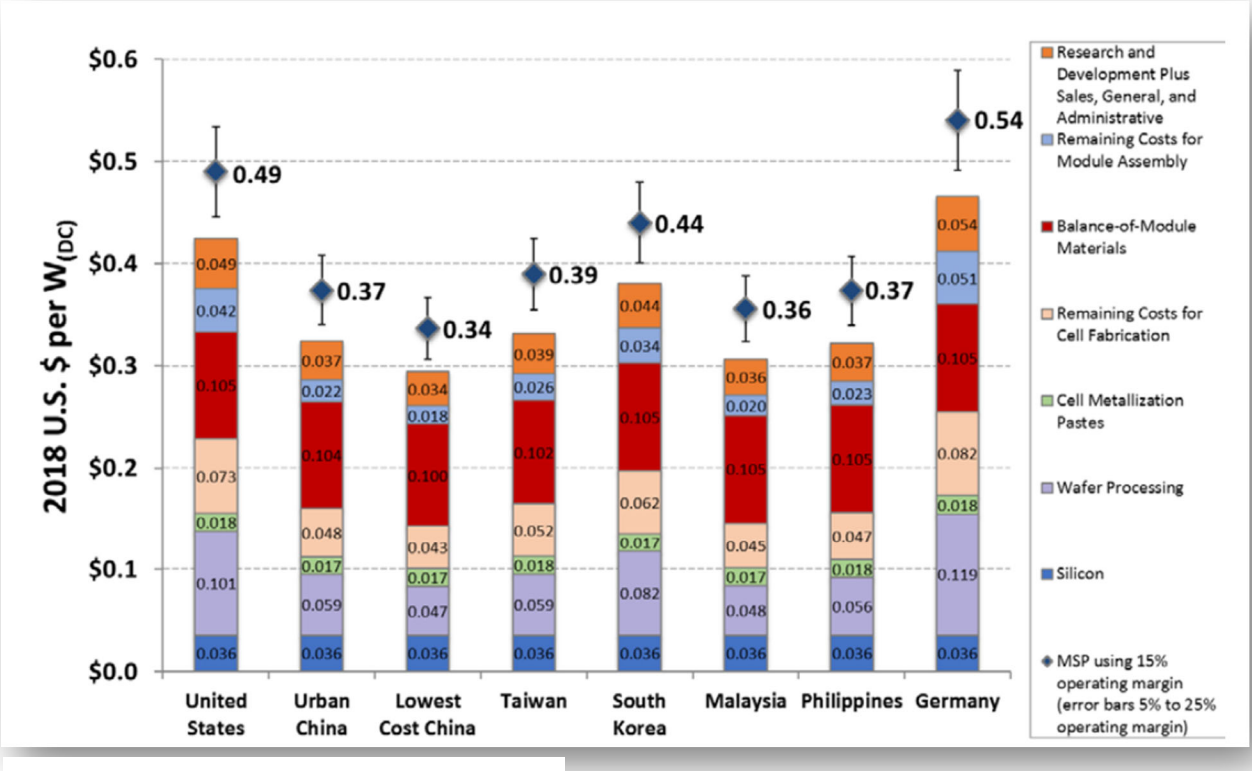

*Source: NREL Report at iv (**Exhibit 97**)*

Of course, NREL's analysis does not take into account the per-watt contribution to cost of the production equipment, which is largely Chinese-origin, or the international freight and profit to achieve a U.S. price for the finished cells and/or modules. The total cost components from China represent a significant portion of the total value of the merchandise ultimately exported to the United States.

E. Additional Statutory Factors Indicate that Circumvention Is Occurring

1. *The Pattern of Trade Demonstrates Circumvention*

In evaluating the pattern of trade, Commerce's practice is to consider whether, since the initiation of the underlying investigation and imposition of an order: (1) U.S. imports of subject merchandise from the country subject to the order have declined, (2) exports of parts and/or components used to produce subject merchandise from the country subject to the order to other

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third countries have increased, and (3) whether U.S. imports of subject merchandise from those third countries have increased.[323] As demonstrated below, all three of the trading patterns Commerce considers evince circumvention.

It is widely recognized in the industry that following the imposition of AD/CVD duties on Chinese-made solar cells, Chinese integrated producers started building cell and module assembly plants across Southeast Asia, while continuing to rely heavily on Chinese inputs.[324] Talesun Thailand has indicated that while AD/CVD duties as well as Section 201 and Section 301 tariffs limit exports of solar modules from China to the U.S. market, it is targeting the U.S. market through its Thailand facility.[325] Similarly, the CEO of Talesun stated in an interview that

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[323] *See Certain Tissue Paper Products from the People's Republic of China: Affirmative Preliminary Determination of Circumvention of the Antidumping duty Order and Extension of Final Determination*, 73 Fed. Reg. 21,580, 21,586 (Apr. 22, 2008) (unchanged in final, 73 Fed. Reg. 57,591) ("Accordingly, the data show that PRC exports have decreased significantly whereas Vietnamese exports have increased significantly since the initiation of the LTFV investigation. Therefore, based on the facts on the record, we find that the pattern of trade has changed since the initiation of the LTFV investigation and the imposition of the Order and thus, supports a finding that circumvention has occurred."); *Certain Cold-Rolled Steel Flat Products from the People's Republic of China: Affirmative Final Determination of Circumvention of the Antidumping Duty and Countervailing Duty Orders*, 83 Fed. Reg. 23,891 (May 203, 2018), IDM at Comment 7 ("Commerce compared exports of CRS in the first half of 2015 (the period prior to the initiation of the CRS investigations), to a similar period following the CRS CVD preliminary determination. We found that exports of CRS from China to the United States had decreased significantly, while exports of CRS from Vietnam to the United States increased since the initiation of the investigations. Regarding imports of HRS from China to Vietnam, Commerce…determined that imports of HRS from China to Vietnam had increased since the initiation of these investigations. {This} is consistent with the approach used in prior inquiries (*i.e.*, to compare imports of the substrate from the subject country into the third-country to imports of the completed product into the United States).").

[324] Exhibit 4 (Bloomberg NEF Report) at 19.

[325] Exhibit 44 (*US order demand Soaring, Talesun's capacity in Thailand accelerated to 2 GW*) ("{I}t is almost impossible for Made-in-China modules to be imported to the U.S. market, due to the high price with the added cost of anti-dumping, anti-countervailing, 201 tariff and 301 tariff. Confronted with the opportunity in the United States, Talesun Solar seized the chance to break through the U.S. market through Thai production capacity.").

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"{d}espite the adverse effects of the trade dispute between China and {the United States}, Talesun is planning to double {its} {U.S.} employees for more local business in next year with {its} Thailand factory capacity."[326] When it first launched its Thailand operations, the Chairman and CEO of Trina Solar similarly stated that "{t}he investment in Thailand fits our strategy of prudent capacity expansion in select overseas markets to deliver industry leading products to customers in the {U.S.} and Europe in particular as we strive to increase the profitability of the company."[327] Similarly, on announcing Canadian Solar's new manufacturing facility in Thailand, the President and CEO stated that "{t}he plant, located at Rojana Industrial Park in the eastern province of Chonburi, will facilitate exports to North America and in the region . . . ."[328] When ET Solar announced expansion from China to Vietnam and then Cambodia, it specifically targeted the U.S. market.[329]

The new investments and production in Vietnam, Malaysia, Thailand, and Cambodia discussed above were made with the specific intention of evading U.S. antidumping and countervailing duty orders. For example, Talesun's company website specifically markets its ability to circumvent the orders on CSPV cells and modules from China: "with our factories in China and Thailand, **we offer a solution adapted to markets affected by anti-dumping laws**

[326] Interview with William Sheng, President of Talesun Solar, attached at **Exhibit 98**.

[327] Exhibit 35 (*Trina Solar Launches Operations at Thailand Manufacturing Facility and Signs a US$143 million Syndicated Financing Facilities Agreement*).

[328] *Thai SCB, China Minsheng to lend $210 mln to Canadian Solar*, REUTERS (Jan. 16, 2017), attached at **Exhibit 99**.

[329] Exhibit 73 (ET Solar – Switching Directions) ("When asked about the significance of the U.S. marketplace surrounding its new Southeast Asia production, Chen said 'Starting in 2020, we will be delivering significantly more manufacturing capacity to the U.S. market.'").

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such as the United States or Europe."[330] Similarly, **Boviet Solar explains that one reason why its manufacturing is based out of Vietnam is because "Vietnam is not a U.S. listed Anti-dumping and Countervailing region.** No tariffs influence Boviet's U.S. business, and those cost-savings ultimately trickle down to the buyer."[331] Risen Energy, a private Chinese company, recently committed to investing $10.1 billion dollars in solar production in Malaysia in the coming years to "avoid 'obstacles' put in by Western countries."[332]

As discussed *supra* and presented in Exhibit 1, the import trends tell the tale of circumvention. Since the underlying investigations, U.S. imports of CSPV cells and modules from China have plummeted.[333] At the same time, U.S. imports of CSPV cells and modules from Malaysia, Thailand, and Vietnam have increased dramatically.[334] Chinese export data presented in Exhibit 8 confirms that exports of key raw materials from China to these subject countries have also increased substantially. The import trends concerning Cambodia are a more recent phenomenon of circumventing activity prompted by Cambodia's exclusion from the USITC's safeguard remedy in 2018 as a developing country. Although the trigger for the dramatic rise in production in Cambodia is not tied directly to the imposition of the Orders, the combination of the Orders and Section 201 safeguard duties on Chinese CSPV cells and modules

[330] Exhibit 40 (Talesun Solar Website).

[331] Exhibit 62 (*Why Solar Panel Manufacturing Location Matters: A Look into Boviet's Facility in Vietnam*).

[332] *Chinese Solar Power Firm to Invest $10B in Malaysian Production*, RADIO FREE ASIA (June 25, 2021), attached at **Exhibit 100**.

[333] Exhibit 1 (Official Import Statistics).

[334] Exhibit 1 (Official Import Statistics).

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caused Chinese manufacturers to set up shop in Cambodia to continue assaulting the U.S. market. The data could not be more clear; circumvention is occurring from the subject countries.

2. *Chinese Producers Subject to the AD/CVD Orders Are Affiliated with Companies that Assemble CSPV Cells and/or Modules in the Subject Third Countries*

As discussed throughout this petition, publicly available evidence establishes that numerous key CSPV cell and module exporters in the third countries are affiliated with Chinese companies and source key components from their affiliates. Specifically, LONGi, Jinko, JA Solar, Canadian Solar, Trina, Talesun, GCL, Boviet, Light & Hope, Green Wing, New East, Enalex, Shenlong, ET Solar, Jintek Solar each have operations in one or more of the subject countries and are affiliated with a Chinese upstream supply chain and have Chinese operations and corporate headquarters. Other affiliations between producers in the subject third countries and China may exist pursuant to Section 771(33) of the Act but are not presently known through reasonably available information.

3. *Imports of Chinese-Origin Components for CSPV Cells and Modules Into the Third Countries Have Increased Significantly After the Initiation of the Underlying Investigations*

Exhibit 8 establishes that Chinese-origin components of CSPV cells and modules into Malaysia, Thailand, Vietnam, and Cambodia have increased significantly after the initiation of the underlying investigations. As established *supra* in Section VI.B. publicly available information establishes that many companies operating in these third countries retain use of Chinese supply of raw materials to use to assemble or complete CSPV cells and/or modules. The increase in Chinese exports to the subject third countries as well as the existence of a dedicated Chinese affiliated input supply stream establishes that companies in Malaysia, Thailand, Vietnam, and Cambodia are sourcing components from China to circumvent the Orders.

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VII. The Names and Addresses of the Producers and Importers that Reasonably Available Information Establishes Are Circumventing the Orders

Pursuant to 19 C.F.R. § 351.226(c)(2)(iii), Auxin Solar provides a list in **Exhibit 2** of producers and/or exporters of CSPV cells and/or modules from Malaysia, Thailand, Vietnam, and Cambodia and identifiable importers for ease of use in issuing questionnaires to those parties for which reasonably available information establishes a factual basis to believe that they are circumventing the Orders by using upstream Chinese suppliers of key raw material inputs in assembly and completion operations in the subject third countries. As discussed below, Auxin Solar is requesting that Commerce conduct a country-wide anti-circumvention inquiry in each of the subject countries. If Commerce limits its examination to a reasonable number of respondents pursuant to 19 C.F.R. § 351.226(f)(3), Auxin Solar hereby requests that, at a minimum, Commerce include in its examination those companies identified throughout this submission that reasonably available information establishes have Chinese corporate ownership and/or affiliation, use Chinese inputs, have facilities in China that are subject to the Orders, and/or directly benefit from China's State-sponsored industrial policy.

VIII. Request for Commerce to Conduct Country-Wide Anti-Circumvention Inquiries

Pursuant to 19 C.F.R. § 351.226(c)(2)(v), Auxin Solar hereby requests that Commerce conduct a country-wide inquiry into the production process of CSPV cells and modules in Malaysia, Thailand, Vietnam, and Cambodia. The factual information contained herein, including but not limited to the trade flow of raw materials from China to these subject countries, establishes that the use of key Chinese inputs including polysilicon, wafers, ingots, framing, glass, wires, EVA, silver paste, backsheet, silicone sealant, junction boxes, and inverters, is widespread. In determining whether to conduct a country-wide investigation, Commerce has explained that factors including "the general nature of the allegations" related to the

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circumventing activity and the whack-a-mole problem of companies currently not relying on inputs from the country covered by AD/CVD orders being able to do so are highly relevant.[335] Commerce should apply the same factors here and find ample support in this petition for conducting country-wide investigations.

IX. There Is No Reasoned Basis Not to Initiate these Investigations

In response to a request for a circumvention inquiry filed by the American Solar Manufacturers Against Chinese Circumvention ("A-SMACC"), Commerce rejected A-SMACC's ruling request because (1) it was filed on behalf of a group whose members feared Chinese retaliation and were not publicly disclosed, and (2) it did not request a country-wide investigation notwithstanding a potential whack-a-mole problem of addressing rampant circumvention of the Orders through further assembly in Southeast Asia on a company-by-company basis. Auxin Solar's petition for an anti-circumvention inquiry forecloses these bases for not initiating an investigation.

In reviewing the public record, Auxin Solar is aware of the various arguments raised by interested parties in objecting to *any* anti-circumvention inquiry being conducted concerning CSPV cells and modules no matter how meritorious. None of these arguments have a legal basis

[335] *Certain Corrosion-Resistant Steel Products From the People's Republic of China: Affirmative Final Determination of Circumvention of the Antidumping Duty and Countervailing Duty Orders*, 83 Fed. Reg. 23,895 (May 23, 2018), IDM at 25 ("absent a country-wide finding…companies currently not relying on {Chinese steel} substrate could do so easily in the future"); *see also Certain Corrosion-Resistant Steel Products From the Republic of Korea: Affirmative Final Determinations of Anti-Circumvention Inquiries on the Antidumping Duty and Countervailing Duty Orders*, 84 Fed. Reg. 70,948 (Dec. 26, 2019), IDM at 36-37 (stating the same), *Certain Corrosion-Resistant Steel Products From Taiwan: Affirmative Final Determination of Circumvention Inquiry on the Antidumping Duty Order*, 84 Fed. Reg. 70,937 (Dec. 26, 2019), IDM at 35-36 (stating the same).

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to allow Commerce to turn a blind eye to the circumventing activity that is undermining the remedial effect of the AD/CVD Orders.

First, various parties contend that initiating a circumvention inquiry would upend prior scope determinations because doing so would expand the scope of the Orders. But this is the point of a circumvention proceeding.[336] Indeed, the Senate Finance Committee precisely identified this remedy when circumvention is found: "This bill also adds a new section 781(b)(2) to the 1930 Act to address circumvention of orders through processing operations in third countries. This section allows the Commerce Department **to include within the scope of an order** merchandise imported into the United States that is assembled or completed in a third country if {certain criteria are satisfied}."[337] Thus, Congress understood well that any circumvention finding would result in the expansion of the scope of an antidumping or countervailing duty order. Yet, Congress intended for Commerce to apply this provision broadly notwithstanding this result:

> The purpose of {the circumvention section} of the 1930 Act is to authorize the Commerce Department to apply antidumping and countervailing duty orders in such a way as to prevent circumvention and diversion of U.S. law. The Committee is concerned about the increasing instances in numerous product sectors of circumvention, diversion, and evasion of antidumping and countervailing duty orders. Under current law, parties subject to these orders have been able to evade the order by making slight changes in their method of production or shipment of merchandise destined for consumption in the United States. **As a result, the**

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[336] *See Target Corp. v. United States*, 609 F.3d 1352, 1355 (Fed. Cir. 2010) ("To combat circumvention of antidumping duty orders, 'Congress has provided that Commerce's consideration of certain types of articles within the scope of an {antidumping duty} order will be a proper clarification or interpretation of the order instead of an improper expansion or change even where these products do not fall within the order's literal scope.' *Wheatland Tube Co. v. United States*, 161 F.3d 1365, 1370 (Fed. Cir. 1998). These articles include…merchandise 'completed or assembled in another foreign country from merchandise which…is subject to {an antidumping duty} order or…is produced in the foreign country with respect to which {the} order…applies.'") (citing Section 781(b)).

[337] S. Rep. No. 71, 100th Cong. 1st Sess. (1987) at 99.

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> **existence of these "loopholes" has seriously undermined the effectiveness of the remedies provided by the antidumping and countervailing duty proceedings, and frustrated the purposes for which these laws were enacted. The Committee believes that aggressive implementation of this section by the Commerce Department can foreclose these practices.**[338]

Second, certain parties argue that any initiation would disrupt existing supply chains, deter deployment of solar, and therefore undermine the Administration's climate goals. They present a false dilemma. According to these commentators, the United States cannot afford to miss the Administration's climate goals so Commerce must ignore its duty in enforcing the U.S. trade remedy laws. The irony in this argument is that these commentators willfully ignore the fact that Chinese upstream supply is produced by coal-fired power plants and at the expense of human rights through forced labor,[339] and circumventing CSPV cells and modules use at least twice as much international freight as would be used if Chinese producers were not circumventing.[340] Strong enforcement of the nation's trade remedy laws to close circumventing loopholes is not a zero-sum game. Fair pricing will incentivize domestic production of CSPV cells and modules because such cells and modules will be able to compete with fairly traded

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[338] S. Rep. No. 71, 100th Cong. 1st Sess. (1987) at 101.

[339] *See* Muyu Xu and Gavin Maguire, *China coal surge puts supply record, power jump within reach,* REUTERS (Oct. 22, 2021), attached at **Exhibit 101** ("China is the world's top coal miner and consumer, and emitter of CO2…Coal-fired power accounts for roughly 60% of China's electricity generation."); *see also* Ana Swanson and Chris Buckley, *Chinese Solar Companies Tied to Use of Forced Labor*, NY TIMES (Jan. 8, 2021), attached at **Exhibit 102** ("According to a report by the consultancy Horizon Advisory, Xinjiang's rising solar energy technology sector is connected to a broad program of assigned labor in China, including methods that fit well-documented patterns of forced labor…Together, the solar companies named in the report supply more than a third of the world's polysilicon, which is refined from rock and turned into the solar panels that end up on rooftops and utility energy projects, including those in the United States and Europe.").

[340] Chinese upstream inputs are domestically and internationally shipped to the third country for assembly where they are domestically shipped to the facility and back to the port and then internationally shipped (again) to the United States.

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imports. Importantly however, the law and Congress's intent are clear: Commerce must address loopholes that seriously undermine the effectiveness of the CSPV AD/CVD Orders when such facts as presented herein establish that foreign producers are engage in circumvention.

Third, certain parties claim that because China controls the upstream supply chain, all producers, even domestic producers, must rely on China for, at a minimum, wafers. Therefore, according to these commentators, the allegation of circumvention sweeps too broadly. The circumvention allegations contained herein rely heavily upon the relationships between certain Chinese input suppliers and their affiliates in the targeted third countries, a factor that Commerce must consider. That fact pattern significantly narrows the alleged circumventing activity in this petition to major Chinese companies that use other countries as export platforms to continue selling cheap CSPV cells and modules to the United States.

Finally, certain parties allege that the U.S. manufacturers of CSPV products are simply too small to use the trade remedy laws and therefore no U.S. producer can request that Commerce apply the law as Congress intended. The anti-circumvention statute has no limitation on the size of the interested party that files an allegation, nor should it. In fact, such allegations are not limited to only being lodged by domestic interested parties. In any event, domestic producers like Auxin Solar would have much more capacity if they could sell CSPV modules under fair competitive conditions. At present, cheap CSPV cell and module imports from Malaysia, Thailand, Vietnam, and Cambodia that utilize inputs from affiliated Chinese suppliers continue to undercut domestic producer pricing at key accounts and limit the ability for Auxin Solar to reinvest and expand its production.

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X. Conclusion

For all of the reasons and facts addressed herein, Auxin Solar respectfully requests that Commerce promptly initiate an anti-circumvention inquiry concerning CSPV cells and modules assembled and completed in Malaysia, Thailand, Vietnam, and Cambodia using Chinese-produced inputs. Doing so will strengthen and enforce the remedy that was obtained by the domestic industry over ten years ago.

Respectfully submitted,

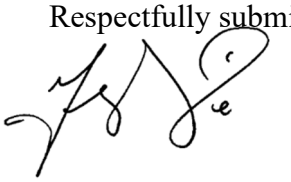

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EXHIBIT LIST		
Exhibit No.	**Description**	**Security**
1	USITC Dataweb Import Data	Public
2	List of Producers and Exporters from Subject Countries and U.S. Importers	Public
3	Crystalline Silicon Photovoltaic Cells, Whether or Not Partially or Fully Assembled Into Other Products, Inv. Nos. TA-201-75 (Extension), USITC Pub. 5266 (Dec. 2021)	Public
4	Solar PV Trade and Manufacturing: A Deep Dive, BloombergNEF (Feb. 2021)	Public
5	Crystalline Silicon Photovoltaic Cells and Modules from China, Inv. Nos. 701-TA-481 and 731-TA-1190 (Review), USITC Pub. 4874 (Mar. 2019)	Public
6	Memorandum from Lauren Caserta through Melissa G. Skinner to James Maeder, re: Preliminary Scope Ruling on the Antidumping and Countervailing Duty Orders on Crystalline Silicon Photovoltaic Cells from the People's Republic of China: ET Solar Inc. (Mar. 30, 2021)	Public
7	Memorandum from Peter Shaw through Melissa G. Skinner to James Maeder, re: Antidumping and Countervailing Duty Orders on Crystalline Silicon Photovoltaic Cells from the People's Republic of China, and Certain Crystalline Silicon Photovoltaic Products from Taiwan: The Solaria Corporation Scope Ruling (Apr. 8, 2021)	Public
8	Global Trade Atlas Export Data	Public
9	[ ] Data	BPI
10	*An Emerging China-Centric Order: China's Vision for a New World Order in Practice*, NBR Special Report #87 (Aug. 2020)	Public
11	*China's Belt and Road Initiative (BRI) and Southeast Asia*, CARI (Oct. 2018)	Public
12	Canadian Solar Inc., United States Securities and Exchange Commission, Form 20-F (FY 2020)	Public
13	Joan Fitzgerald, *The Case for Taking Back Solar*, The American Prospect (Mar. 24, 2021)	Public

EXHIBIT LIST		
Exhibit No.	**Description**	**Security**
14	JinkoSolar Holding Co., Ltd., United States Securities and Exchange Commission, Form 20-F (FY 2020)	Public
15	*Jinkosolar Plans to Build a Cell & Module Manufacturing Facility in Penang, Malaysia,* Jinko Solar Holding Co., Ltd. (Mar. 19, 2015)	Public
16	[ ]	BPI
17	Vincent Shaw & Max Hall, *Chinese PV Industry Brief: More Manufacturing Capacity from Trina, GCL Integration and Eging PV*, PV Magazine (Jan. 5, 2021)	Public
18	Tang Shihua, *China's Flat Glass Hits Limit Up on USD2.2 Billion PV Glass Deal With Jinko Solar*, Yicai Global (Dec. 31, 2020)	Public
19	[ ]	BPI
20	Sangeetha Amarthalingam, *JA Solar to Begin Exporting Solar Cells from Malaysia Next Month*, The Edge Markets (Oct. 21, 2015)	Public
21	Liam Stoker, *Daqo New Energy and JA Solar Pen Long-Term High-Purity Polysilicon Supply Deal*, PV Tech (May 12, 2021)	Public
22	Tang Shihua, *China's JA Solar Inks Third Major Polysilicon Purchase Deal in a Month*, Yicai Global (May 13, 2021)	Public
23	*China's Longi Plans to Set Up More Manufacturing Plants Overseas*, Reuters (Nov. 11, 2021)	Public
24	LONGi Malaysia 2019 Financial Statements	Public
25	LONGi Green Energy Technology Co., Ltd. 2020 Annual Report	Public
26	Mark Osborne, *LONGi Secures Major Polysilicon Supply Deal from OCI Malaysia and 46GW of Solar Glass from Flat Glass*, PV Tech (Feb. 10, 2021)	Public
27	[ ]	BPI

EXHIBIT LIST		
Exhibit No.	**Description**	**Security**
28	Anand Gupta, *China-Based LONGi to Invest RM100mil More in Malaysia,* EQ Mag Pro (Nov. 25, 2017)	Public
29	Ivan Shumkov, *Trina Solar's New Factory in Vietnam Produces First Cells, Modules*, Renewables Now (May 24, 2021)	Public
30	Anu Bhambhani, *Trina Solar's New 800 MW Facility Touted as Largest PV Cell and Module Factory in Vietnam*, Taiyang News (Jan. 10, 2017)	Public
31	Trina Solar 2020 Auditor's Report	Public
32	*Daqo Seals 3-Year Polysilicon Supply Deal with Trina Solar*, Renewables Now (Nov. 30, 2020)	Public
33	Carrie Xiao, *Trina Solar Seals 1.2 Billion Wafer Supply Deal with Zhonghuan Semiconductor*, PV Tech (Nov. 23, 2020)	Public
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