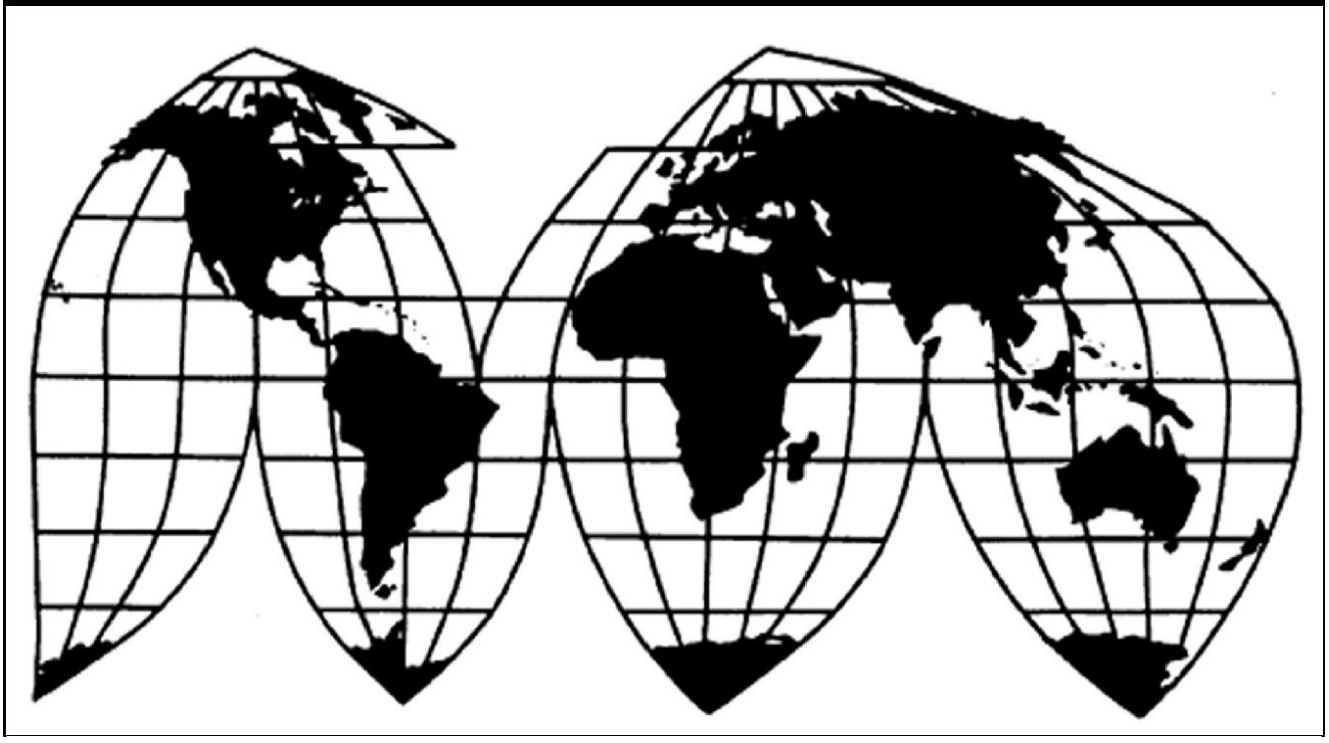
Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules from India, Indonesia, and Laos

Investigation Nos. 701-TA-772–774 and 731-TA-1756–1758 (Final)

Publication 5804 **November 2026**

U.S. International Trade Commission



Washington, DC 20436

U.S. International Trade Commission

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Address all communications to
Secretary to the Commission
United States International Trade Commission
Washington, DC 20436

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UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation Nos. 701-TA-772-774 and 731-TA-1756-1758 (Final)

Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules from India, Indonesia, and Laos

DETERMINATIONS

On the basis of the record[1] developed in the subject investigations, the United States International Trade Commission ("Commission") determines, pursuant to the Tariff Act of 1930 ("the Act"), that an industry in the United States is materially injured by reason of imports of crystalline silicon photovoltaic cells, whether or not assembled into modules, from India, Indonesia, and Laos, provided for in subheadings 8541.42.00 and 8541.43.00 of the Harmonized Tariff Schedule of the United States, that have been found by the U.S. Department of Commerce ("Commerce") to be sold in the United States at less than fair value ("LTFV"), and subsidized by the governments of India, Indonesia, and Laos.[2] [3] [4]

BACKGROUND

The Commission instituted these investigations effective July 17, 2025, following receipt of petitions filed with the Commission and Commerce by the Alliance for American Solar Manufacturing and Trade.[5] The final phase of the investigations was scheduled by the Commission following notification of preliminary determinations by Commerce that imports of crystalline silicon photovoltaic cells, whether or not assembled into modules from India, Indonesia, and Laos were subsidized within the meaning of section 703(b) of the Act (19 U.S.C. 1671b(b)) and sold at LTFV within the meaning of 733(b) of the Act (19 U.S.C. 1673b(b)). Notice

[1] The record is defined in § 207.2(f) of the Commission's Rules of Practice and Procedure (19 CFR 207.2(f)).

[2] 91 FR 58643, 91 FR 58647, 91 FR 58638, 91 FR 58658, 91 FR 58651, and 91 FR 58633 (September 16, 2026).

[3] Commissioner Samuel T. Negatu not participating.

[4] The Commission also finds that imports subject to Commerce's affirmative critical circumstances determinations are not likely to undermine seriously the remedial effect of the antidumping and countervailing duty orders on crystalline silicon photovoltaic cells, whether or not assembled into modules from India and Laos but are likely to undermine seriously the remedial effect of the antidumping and countervailing duty orders on crystalline silicon photovoltaic cells, whether or not assembled into modules from Indonesia.

[5] Members include Hanwha Q CELLS USA Inc., First Solar, and Mission Solar.

of the scheduling of the final phase of the Commission's investigations and of a public hearing to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the *Federal Register* on May 13, 2026 (91 FR 27078). The Commission conducted its hearing on September 9, 2026. All persons who requested the opportunity were permitted to participate.

Views of the Commission

Based on the record in the final phase of these investigations, we determine that an industry in the United States is materially injured by reason of imports of crystalline silicon photovoltaic ("CSPV") cells, whether or not assembled into modules, from India, Indonesia, and Laos, found by the U.S. Department of Commerce ("Commerce") to be sold in the United States at less than fair value and subsidized by the governments of India, Indonesia, and Laos. We also find that critical circumstances do not exist with respect to imports from India and Laos that are subject to Commerce's final affirmative critical circumstances determinations in its antidumping and countervailing duty ("AD/CVD") investigations and that critical circumstances exist with respect to CSPV products from Indonesia that are subject to Commerce's final affirmative critical circumstances determinations in the antidumping and countervailing duty investigations.

I. Background

The American Alliance for Solar Manufacturing and Trade (the "Alliance" or "Petitioner") filed the petitions in these investigations on July 17, 2025, with respect to imports of crystalline silicon photovoltaic cells, whether or not assembled into modules (collectively, "CSPV products").[1] The Alliance consists of Hanwha Q Cells USA, Inc. ("Hanwha") and Mission Solar Energy LLC ("Mission"), U.S. producers of CSPV products, as well as First Solar, Inc. ("First Solar"), a U.S. producer of thin-film solar products, which are expressly excluded from the scope of these investigations. Representatives of Hanwha and Mission Solar appeared at the hearing with counsel and the Alliance submitted prehearing and posthearing briefs and final comments.[2]

Several respondent parties participated in the final phase of these investigations. Mesquite Modules Corporation, a U.S. producer of CSPV products, Jeffersonville PVCells Corporation, a U.S. producer of CSPV cells, and CS Power Systems, Inc., a U.S. importer of CSPV products (collectively "Mesquite and Jeffersonville Respondents"), submitted joint prehearing

[1] Petition, EDIS Doc. 857032 (July 17, 2025).

[2] Petitioner's Prehearing Brief, EDIS Doc. 892806; Petitioner's Posthearing Brief, EDIS Doc. 894945; Petitioner's Final Comments, EDIS Doc. 897378. The president of Suniva, a U.S. producer of CSPV cells, appeared at the hearing and testified in favor of the petitions. Transcript of Hearing on September 9, 2026 ("Hearing Tr.") at 31-32 (Card). The co-founder and CEO of Talon PV, a Houston-based energy manufacturer that is currently constructing a U.S. cell manufacturing facility projected to commence production in 2030, also appeared at the hearing and testified in favor of the petitions. Hearing Tr. at 43-44 (Tesanovich).

and posthearing briefs and final comments, and counsel for Mesquite and Jeffersonville Respondents appeared at the hearing.[3] Mundra Solar Energy Limited ("MSEL") and Mundra Solar PV Limited ("MSPVL") (collectively "Mundra") submitted prehearing and posthearing briefs and final comments, and representatives of Mundra appeared at the hearing with counsel.[4] Waaree Energies, Ltd., and Waaree Solar Americas (collectively "Waaree") submitted prehearing and posthearing briefs.[5] BYD America, LLC ("BYD"), an importer of subject merchandise submitted prehearing and posthearing briefs and final comments, and counsel for BYD appeared at the Commission's hearing.[6]

Runergy USA Trading, LLC and Runergy Alabama, Inc (collectively "Runergy") submitted prehearing and posthearing briefs.[7] JA Solar Industrial and JA Solar USA Trading Company (collectively "JA Solar") submitted prehearing and posthearing briefs and final comments.[8] PT Trina Mas Agra Indonesia, PT Bintan Cellular Indonesia, PT Nusa Solar Indonesia, PT Atelier Solar Indonesia, Orsini International Trading Co., Ltd., Energon Solar LLC, and Talesun Technologies (Thailand) Co., (collectively "Trina") submitted a prehearing brief.[9] SEG

[3] *See* Mesquite and Jeffersonville Respondents' Prehearing Brief, EDIS Doc. 892790; Mesquite and Jeffersonville Respondents' Posthearing Brief, EDIS Doc. 894941; Mesquite and Jeffersonville Respondents' Final Comments, EDIS Doc. 897158. Mesquite Modules was, until recently, known as Canadian Solar U.S. Module Manufacturing Corporation, and U.S. importer CS Power Systems Inc. was until recently known as Canadian Solar (USA) Inc. Mesquite Modules and Jeffersonville Manufacturing share the same parent company, Canadian Solar Inc., and are still referred to collectively as "Canadian Solar" in the staff report because that was the entity name used in responding to the Commission's questionnaires.

[4] Mundra Prehearing Brief, EDIS Doc. 892783; Mundra Posthearing Brief, EDIS Doc. 894976; Mundra Final Comments, EDIS Doc. 897319. MSPVL and MSEL are foreign producers/exporters of subject merchandise. *See* Confidential Staff Report ("CR"), INV-XX-146 (Oct. 1, 2026); *Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, from India, Indonesia, and Laos*, Inv. Nos. 701-TA-772-774 and 731-TA-1756-1758 (Final), USITC Pub. 5804 (Nov. 2026) ("PR") (together "CR/PR") at 1.4. Premier Energies Photovoltaic Private Limited ("Premier Energies") joined Mundra Solar's posthearing brief. Premier Energies is a foreign producer of subject CSPV cells.

[5] Waaree Prehearing Brief, EDIS Doc. 892796; Waaree Posthearing Brief, EDIS Doc. 894969. Waaree Energies Ltd. is a foreign producer of subject merchandise and U.S. importer of subject merchandise. Waaree Solar Americas is a U.S. producer of CSPV products.

[6] BYD Prehearing Brief, EDIS Doc. 892797; BYD Posthearing Brief, EDIS Doc. 894942; BYD Final Comments, EDIS Doc. 897190.

[7] Runergy Prehearing Brief, EDIS Doc. 892784; Runergy Posthearing Brief, EDIS Doc. 894988. Runergy USA Trading, LLC is an importer of subject merchandise, and Runergy Alabama, Inc. is a U.S. producer of CSPV products.

[8] JA Solar Prehearing Brief, EDIS Doc. 892781; JA Solar Posthearing Brief, EDIS Doc. 894972; JA Solar Final Comments, EDIS Doc. 897077.

[9] Trina Prehearing Brief, 982932. The Trina companies are foreign producers/exporters and U.S. importers of subject merchandise. Trina Prehearing Brief at 1.

Manufacturing, Inc. ("SEG Manufacturing"), New Energy Imports, Inc. ("New Energy"), and PT SEG Solar Manufaktur Indonesia ("SEG Indonesia") (collectively "SEG"), submitted a posthearing brief and letter in lieu of final comments.[10] Finally, the Solar Energy Industries Association ("SEIA"), an industry association including importers and purchasers of subject merchandise, submitted a prehearing brief.[11]

U.S. industry data are based on the questionnaire responses of two domestic CSPV cell producers that accounted for *** U.S. production of CSPV cells in 2025, and 15 domestic CSPV module producers that accounted for the vast majority of U.S. production of CSPV modules in 2025.[12] U.S. import data are based on usable questionnaire responses from 48 importers, accounting in 2025 for *** percent of imports from India, *** percent of U.S. imports from Indonesia, *** percent of imports from Laos, and in aggregate *** percent of imports from subject sources and *** percent of U.S. imports from nonsubject sources under HTS subheadings 8541.42.00 and 8541.43.00.[13] Commission staff have supplemented these questionnaire data with Census-edited customs records.[14] The Commission received responses to its questionnaires from 13 foreign producers of subject merchandise: six producers/exporters in India, estimated to have accounted for *** percent of subject cell production and *** percent of subject module production in India in 2025; six producers/exporters in Indonesia, estimated to have accounted for *** percent of subject cell production and *** percent of subject module production in Indonesia in 2025; and one producer/exporter in Laos, estimated to have accounted for *** percent of subject cell production and *** percent of subject module production in Laos in 2025.[15]

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[10] SEG Posthearing Brief, EDIS Doc. 894967; SEG Final Comments Letter, EDIS Doc. 897167. SEG Manufacturing is a U.S. producer of CSPV products and an importer of subject merchandise, New Energy is an importer of subject merchandise, and SEG Indonesia is a foreign producer of subject merchandise.

[11] SEIA Prehearing Brief, EDIS Doc. 892834.

[12] CR/PR at 1.5, 3.1, Table 3.1; *see also* Petition, Volume I at 2. Silfab Solar and Suniva began production of CSPV cells in the United States during the period of investigation and responded to the Commission's questionnaires. *See* CR/PR at 1.5 n.8, 3.1. U.S. producer ES Foundry also commenced cell production in during the investigation period but did not respond to the Commission's U.S. producer questionnaire. CR/PR at 3.1 n.2. Publicly available information indicate that ES Foundry has 3 GW of annual cell production capacity. CR/PR at 3.1 n.2. In 2025, the two responding U.S. producers reported *** GW of cell production and *** GW of cell practical capacity. CR/PR at Table 3.6.

[13] CR/PR at 4.1.

[14] CR/PR at 1.4, 4.1. Questionnaire data supplemented by Census-edited Customs' records represents *** U.S. imports of CSPV products from India, Indonesia, and Laos, and nonsubject sources in 2025 under HTS subheadings 8541.42.00 and 8541.43.00. *Id*. at 4.1 n.2.

[15] CR/PR at 7.3, Table 7.1. Exports to the United States reported by the six responding firms in India accounted for *** percent of U.S. imports of CSPV cells and *** percent of modules from India in (Continued...)

Prior Proceedings. The current investigations are the fourth antidumping and countervailing duty investigations involving CSPV products that have come before the Commission since 2011.[16]

In the first AD/CVD investigations in November 2012, the Commission determined that an industry in the United States was materially injured by reason of imports of CSPV cells and modules from China and Commerce issued antidumping and countervailing duty orders ("*CSPV I* orders").[17] These orders covered CSPV cells produced in China, CSPV modules assembled in China from CSPV cells made in China, and CSPV modules assembled in a third country from CSPV cells made in China.

In the second set of investigations, Commission determined in February 2015 that the domestic industry was materially injured by reason of imports of CSPV products from China and Taiwan that were found by Commerce to be sold in the United States at less than fair value ("LTFV") and subsidized by the government of China, and Commerce issued antidumping and countervailing duty orders ("*CSPV II* orders").[18] The *CSPV II* orders imposed duties on imports of CSPV products from China not covered by the scope of the *CSPV I* orders, and antidumping duties on imports of CSPV products from Taiwan.[19]

2025; exports to the United States reported by the six responding firms in Indonesia accounted for *** percent of U.S. imports of CSPV cells and *** percent of CSPV modules from Indonesia in 2025; and exports to the United States reported by the one responding firm in Laos accounted for *** percent of U.S. imports of CSPV cells and *** percent of CSPV modules from Laos in 2025. CR/PR at 7.3, Table 7.1.

[16] *See* CR/PR at Table 1.2.

[17] *See Crystalline Silicon Photovoltaic Cells and Modules from China*, Inv. Nos. 701-TA-481 and 731-TA-1190 (Final), USITC Pub. 4360 (Nov. 2012) ("*CSPV I*"); *see also Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From the People's Republic of China: Countervailing Duty Order*, 77 Fed. Reg. 73017 (December 7, 2012); *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. 73018 (December 7, 2012). The *CSPV I* orders were most recently extended after the second five-year reviews in September 2024. CR/PR at Table 1.2.

[18] *Certain Crystalline Silicon Photovoltaic Products from China and Taiwan*, Inv. Nos. 701-TA-511 and 731-TA-1246-1247, USITC Pub. 4519 (Feb. 2015) ("*CSPV II*").

[19] These orders cover imports of the following: (1) CSPV modules assembled in China from CSPV cells made in Taiwan and (2) CSPV modules assembled in China from CSPV cells made in third countries. Commerce defined the subject merchandise from Taiwan to include U.S. imports of: (1) CSPV cells made in Taiwan; (2) CSPV modules assembled in Taiwan from CSPV cells made in Taiwan; and (3) CSPV modules assembled in third countries other than China from CSPV cells made in Taiwan. Therefore, the module assembly location determined the country of origin for U.S. imports of modules from China, except for modules covered by the prior *CSPV I* orders (which were considered nonsubject merchandise from China in the *CSPV II* investigations), while the cell manufacture location determined the country of origin for U.S. imports of cells and modules from Taiwan. CR/PR at Table 1.2, Note. These orders were (Continued...)

On May 17, 2017, U.S. CSPV cell producer Suniva filed a petition under section 201 of the Act alleging that CSPV products were being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or threat thereof, to the domestic industry producing an article like or directly competitive with the imported article.[20] The Commission completed its safeguard investigation and effective February 7, 2018, the President imposed safeguard measures on CSPV products. The safeguard measures were extended on February 7, 2022, and remained in effect until their recent expiration on February 6, 2026.[21]

On April 1, 2022, following the filing of a circumvention petition by a domestic producer, Commerce initiated an anticircumvention investigation to determine whether imports of certain solar products completed in Cambodia, Malaysia, Thailand, or Vietnam were circumventing the *CSPV I* orders on CSPV products from China.[22] On June 6, 2022, before Commerce made a preliminary determination in the anticircumvention proceeding, the President issued a proclamation declaring an emergency and authorizing the Secretary of Commerce to take action to permit, for a 24-month period, imports of CSPV products from Cambodia, Malaysia, Thailand, and Vietnam to be free of any antidumping or countervailing duties resulting from the anticircumvention proceeding (the "tariff moratorium").[23] In

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most recently continued in September 2024 after affirmative determinations in five-year reviews by Commerce and the Commission. *Id*.

[20] *See Crystalline Silicon Photovoltaic Cells, Whether or Not Partially or Fully Assembled Into Other Products: Evaluation of the Effectiveness of Import Relief*, Inv. No. TA-201-075 (Evaluation), USITC Pub. 5773 (Aug. 2026) ("*Safeguard Evaluation*").

[21] CR/PR at Table 1.2. The safeguard measures on CSPV products consisted of (1) a tariff rate quota on imports of CSPV cells not partially or fully assembled into other products and (2) an increase in duties on imports of CSPV modules. *Id*. The safeguard measures applied to imports from all countries, except certain developing countries that are members of the WTO, as long as such a country's share of total imports of the product, based on imports during a recent representative period, did not exceed 3 percent, provided that imports that were the product of all such countries with less than 3 percent import share collectively account for not more than 9 percent of total imports of the product. Laos was subject to the safeguard measures, as was India, which was removed from the list of beneficiary developing countries as of June 5, 2019. Indonesia, however, was on the excepted list. CR/PR at 1.6. n.11.

[22] Commerce's Federal Register notice of initiation directed U.S. Customs and Border Protection ("CBP") to apply to imports from these countries the cash deposit rate that would be applicable if they were covered by the scope of the *CSPV I* orders. *See Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules, From the People's Republic of China: Initiation of Circumvention Inquiry on the Antidumping and Countervailing Duty Orders*, 87 Fed. Reg. 19071, 19072 (April 1, 2022).

[23] *Presidential Proclamation 10414 of June 6, 2022, Declaration of Emergency and Authorization for Temporary Extensions of Time and Duty-Free Importation of Solar Cells and Modules from Southeast Asia*, 87 Fed. Reg. 35087 (June 9, 2022).

September 2022, Commerce issued final rules specifying procedures to implement this proclamation, which directed CBP to discontinue the collection of cash deposits that had begun upon initiation of the circumvention proceeding.[24] While these procedures under the Presidential Proclamation were in effect, Commerce continued its circumvention proceedings.[25]

Effective August 23, 2023, Commerce made final affirmative determinations of circumvention with respect to certain imports from Cambodia, Malaysia, Thailand, and Vietnam.[26]

In the third set of AD/CVD investigations, the Alliance filed petitions with Commerce and the Commission on April 24, 2024, concerning CSPV cells, whether or not assembled into modules, from Cambodia, Malaysia, Thailand, and Vietnam. The Commission determined on June 24, 2025, that the domestic industry was materially injured by reason of imports of CSPV products from Malaysia and Vietnam that were found by Commerce to be sold in the United States at LTFV and subsidized by the government of Malysia and Vietnam, and threatened with material injury by reason of imports of CSPV products from Cambodia and Thailand that were found by Commerce to be sold in the United States at LTFV and subsidized by the governments of Cambodia and Thailand. Subsequently, Commerce issued antidumping and countervailing

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[24] *Department of Commerce, Procedures Covering Suspension of Liquidation, Duties and Estimated Duties in Accord With Presidential Proclamation 10414*, 87 Fed. Reg. 56868 (Sept. 16, 2022).

[25] *Antidumping and Countervailing Duty Orders on Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules, From the People's Republic of China: Preliminary Affirmative Determinations of Circumvention With Respect to Cambodia, Malaysia, Thailand, and Vietnam*, 87 Fed. Reg. 75221 (Dec. 8, 2022).

[26] *Antidumping and Countervailing Duty Orders on Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules, From the People's Republic of China: Final Scope Determination and Final Affirmative Determinations of Circumvention With Respect to Cambodia, Malaysia, Thailand, and Vietnam*, 88 Fed. Reg. 57419 (Aug. 23, 2023) ("*Final Circumvention Determinations*"). In its final determinations, Commerce provided that entries subject to the circumvention proceeding would not require AD/CVD cash deposits for the duration of the emergency declared in the Presidential Proclamation, so long as those imports occurred on or before the end of the emergency (June 6, 2024) and the imports were assembled into U.S. solar energy products within 180 days thereafter. Commerce also provided a certification mechanism for exporters and importers to establish that particular merchandise qualified for this waiver of applicable AD/CVD cash deposits. The notice established "Appendix V" certificates to be use by three exporters as to which Commerce made final circumvention determinations, and for "Appendix VI" certificates to be used by other exporters to establish that specific entries were not circumventing the orders because they met certain "component content requirements." Commerce's notice also included an "Appendix II" that listed companies that had not cooperated in the anticircumvention proceeding and were ineligible to use Appendix V or VI certifications. The notice also established "Appendix IV" certifications that importers or exporters could use to certify that their merchandise consisted of "applicable entries" eligible for the tariff moratorium under the terms of the Presidential Proclamation. *Final Circumvention Determinations* at 57425-33.

duty orders ("*CSPV III* orders").[27] The imports from Cambodia, Malaysia, Thailand, and Vietnam that Commerce found to have circumvented the *CSPV I* orders, and were accordingly exempt from duties during the duration of the tariff moratorium, were nonsubject imports in the *CSPV III* investigations.[28]

In this fourth set of AD/CVD investigations, the Alliance filed the petitions with respect to India, Indonesia, and Laos less than one month after imposition of the *CSPV III* orders. It bears noting that this cycle of petitions, investigations, and trade remedies illustrates a trend that the Commission noted in 2017 in the context of the safeguard proceedings on CSPV products:

> the U.S. government's use of authorized tools, such as antidumping and countervailing duty measures on imports from China {in *CSPV I* and *CSPV II*}, would have limited effectiveness and instead lead to rapid changes in the global supply chains and manufacturing processes in order to facilitate U.S. imports of non-covered products from China and Taiwan and later U.S. imports from Chinese producers' affiliates in other countries.[29]

The Commission noted in the 2026 evaluation of the CSPV safeguard proceedings that Chinese-affiliated companies shifted production to other Southeast Asian countries to avoid existing duties on CSPV products.[30] Developments since that time suggest that the pace of so-called "country-hopping" has accelerated, with imports of CSPV products from Indonesia and Laos shooting upward even before the *CSPV III* investigations ended. We make our determinations in these investigations cognizant of the continued ability of Chinese-affiliated and other foreign producers and importers to rapidly shift their production of CSPV products or supply chains to

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[27] *See Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules from Cambodia, Malaysia, Thailand, and Vietnam*, Inv. Nos. 701-TA-722-725 and 731-TA-1690-1693 (Final), USITC Pub. 5631 (June 2025) ("*CSPV III*").

[28] See *CSPV III*, USITC Pub. 5631 at 16. In *CSPV III*, the Commission treated entries from these countries under Appendix IV certificates as nonsubject imports and we refer to circumventing entries as Appendix IV entries in portions of this opinion. *See id*.

[29] *Crystalline Silicon Photovoltaic Cells (Whether or not Partially or Fully Assembled into Other Products*, Inv. No. TA-201-75, Supplemental Report of the U.S. International Trade Commission Regarding Unforeseen Developments, USITC Pub. 4739 (Nov. 2017).

[30] *See Safeguard Evaluation*, USITC Pub. 5773 at 1-2 ("{T}hroughout the time the safeguard measures were in effect, China has remained the largest global producer of CSPV products, . . . and several responding U.S. producers indicated that Chinese CSPV producers have continued to shift production to third countries to avoid existing trade remedies or take advantage of exclusions in the safeguard measures."); *see also Crystalline Silicon Photovoltaic Cells, Whether or Not Partially of Fully Assembled Into Other Products: Monitoring Developments in the Domestic Industry*, Inv. No. TA-201-075 (Second Monitoring), USITC Pub. 5494 (Feb. 2024), at II-6.

third countries to avoid existing antidumping and countervailing duty orders, thereby maintaining a massive presence of LTFV and subsidized imports in the U.S. market.[31]

II. Domestic Like Product

In determining whether an industry in the United States is materially injured or threatened with material injury by reason of imports of subject merchandise, the Commission first defines the "domestic like product" and the "industry."[32] Section 771(4)(A) of the Tariff Act of 1930, as amended ("the Tariff Act"), defines the relevant domestic industry as the "producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product."[33] In turn, the Tariff Act defines "domestic like product" as "a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation."[34]

[31] Record evidence demonstrates that this trend continued in these investigations. For example, Chinese solar manufacturer SolarSpace opened a solar manufacturing facility in Laos, and its corporate vice president stated in a September 2024 interview that "Laos is not subject to potential AD/CVD investigations . . . We actually had production capacity in Cambodia but we built capacity in Laos about a year ago." *See* Petitioner's Prehearing Brief at 21 (citing Vikranth, *SolarSpace Promotes Its Laos-made Cells to US Module Makers At RE+ 2024,* TaiyangNews (Sept. 27, 2024) (attached to Petitioner's Postconference Brief, EDIS Doc. 859419, as Exhibit 17)).

Additionally, Reuters reported that according to an Indonesian government official "Chinese solar companies are flocking to Indonesia motivated by the tariffs on Vietnam{.}" Lewis Jackson, et. al., *Chinese solar firms go where US tariffs don't reach,* Reuters (Nov. 4, 2024) (attached to Petitioner's Postconference Brief as Exhibit 26). Also, according to Reuters, in the 18 months prior to November 2024, "at least four Chinese or China- linked projects have begun operations in Indonesia and Laos, and another two have been announced." *Id*. Moreover, Trina, which was a Thai producer of CSPV products in *CSPV III*, opened a CSPV cell and module manufacturing facility in Indonesia in June 2025. *See* Petition, Volume 1, Exhibit I-6.

Furthermore, although producers of CSPV products in India do not appear to be affiliated with Chinese producers, we note that on June 23, 2026, CBP determined that certain entries of CSPV products from 2021 to 2025 that Waaree reported as Indian-origin evaded the AD/CVD orders on CSPV products from Malaysia and Vietnam and Commerce's circumvention determinations on certain CSPV products from Vietnam. *See* Notice of Determination as to Evasion, EAPA Con. Case No. 8163 (U.S. Customs and Border Protection June 23, 2026), EDIS Doc. 896870 ("CBP Evasion Determination") at 1-2.

[32] 19 U.S.C. § 1677(4)(A).

[33] 19 U.S.C. § 1677(4)(A).

[34] 19 U.S.C. § 1677(10).

By statute, the Commission's "domestic like product" analysis begins with the "article subject to an investigation," *i.e.*, the subject merchandise as determined by Commerce.[35] Therefore, Commerce's determination as to the scope of the imported merchandise that is subsidized and/or sold at less than fair value is "necessarily the starting point of the Commission's like product analysis."[36] The Commission then defines the domestic like product in light of the imported articles Commerce has identified.[37] The decision regarding the appropriate domestic like product(s) in an investigation is a factual determination, and the Commission has applied the statutory standard of "like" or "most similar in characteristics and uses" on a case-by-case basis.[38] No single factor is dispositive, and the Commission may consider other factors it deems relevant based on the facts of a particular investigation.[39] The Commission looks for clear dividing lines among possible like products and disregards minor variations.[40]

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[35] 19 U.S.C. § 1677(10). The Commission must accept Commerce's determination as to the scope of the imported merchandise that is subsidized and/or sold at less than fair value. *See*, *e.g.*, *USEC, Inc. v. United States*, 34 Fed. App'x 725, 730 (Fed. Cir. 2002) ("The ITC may not modify the class or kind of imported merchandise examined by Commerce."); *Algoma Steel Corp. v. United States,* 688 F. Supp. 639, 644 (Ct. Int'l Trade 1988), *aff'd*, 865 F.3d 240 (Fed. Cir.), *cert. denied*, 492 U.S. 919 (1989).

[36] *Cleo Inc. v. United States*, 501 F.3d 1291, 1298 (Fed. Cir. 2007); *see also Hitachi Metals, Ltd. v. United States*, 949 F.3d 710, 717 (Fed. Cir. 2020) (the statute requires the Commission to start with Commerce's subject merchandise in reaching its own like product determination).

[37] *Cleo*, 501 F.3d at 1298 n.1 ("Commerce's {scope} finding does not control the Commission's {like product} determination."); *Hosiden Corp. v. Advanced Display Mfrs.,* 85 F.3d 1561, 1568 (Fed. Cir. 1996) (the Commission may find a single like product corresponding to several different classes or kinds defined by Commerce); *Torrington Co. v. United States*, 747 F. Supp. 744, 748–52 (Ct. Int'l Trade 1990), *aff'd*, 938 F.2d 1278 (Fed. Cir. 1991) (affirming the Commission's determination defining six like products in investigations where Commerce found five classes or kinds).

[38] *See*, *e.g.*, *Cleo Inc. v. United States*, 501 F.3d 1291, 1299 (Fed. Cir. 2007); *NEC Corp. v. Department of Commerce*, 36 F. Supp. 2d 380, 383 (Ct. Int'l Trade 1998); *Nippon Steel Corp. v. United States*, 19 CIT 450, 455 (1995); *Torrington Co. v. United States*, 747 F. Supp. 744, 749 n.3 (Ct. Int'l Trade 1990), *aff'd*, 938 F.2d 1278 (Fed. Cir. 1991) ("every like product determination 'must be made on the particular record at issue' and the 'unique facts of each case'"). The Commission generally considers a number of factors, including the following: (1) physical characteristics and uses; (2) interchangeability; (3) channels of distribution; (4) customer and producer perceptions of the products; (5) common manufacturing facilities, production processes, and production employees; and, where appropriate, (6) price. *See Nippon*, 19 CIT at 455 n.4; *Timken Co. v. United States*, 913 F. Supp. 580, 584 (Ct. Int'l Trade 1996).

[39] *See*, *e.g.*, S. Rep. No. 96-249 at 90-91 (1979).

[40] *Nippon*, 19 CIT at 455; *Torrington*, 747 F. Supp. at 748-49; *see also* S. Rep. No. 96-249 at 90-91 (Congress has indicated that the like product standard should not be interpreted in "such a narrow fashion as to permit minor differences in physical characteristics or uses to lead to the conclusion that (Continued...)

A. The Scope of the Investigations

Commerce defined the scope of the imported merchandise under investigation as follows:

> The merchandise covered by this investigation 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 investigation covers 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 the investigations.
>
> Excluded from the scope of the investigations 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 the investigation 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 the investigation are panels with surface area from 3,450 mm^2 to 33,782 mm^2 with one black wire and one

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the product and article are not 'like' each other, nor should the definition of 'like product' be interpreted in such a fashion as to prevent consideration of an industry adversely affected by the imports under consideration.").

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.

Also excluded from the scope of the investigation are:

(1) Off grid CSPV panels in rigid form with a glass cover, with the following characteristics: (A) a total power output of 100 watts or less per panel; (B) a maximum surface area of 8,000 cm^2 per panel; (C) do not include a built-in inverter; (D) must include a permanently connected wire that terminates in either an 8 mm male barrel connector, or a two-port rectangular connector with two pins in square housings of different colors; (E) must include visible parallel grid collector metallic wire lines every 1-4 millimeters across each solar cell; and (F) 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

(2) Off grid CSPV panels without a glass cover, with the following characteristics: (A) a total power output of 100 watts or less per panel; (B) a maximum surface area of 8,000 cm^2 per panel; (C) do not include a built-in inverter; (D) must include visible parallel grid collector metallic wire lines every 1-4 millimeters across each solar cell; and (E) each panel is (1) permanently integrated into a consumer good; (2) encased in a laminated material without stitching, or (3) 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.

In addition, the following CSPV panels are excluded from the scope of the investigation: off-grid CSPV panels in rigid form with a glass cover, with each of the following physical characteristics, whether or not assembled into a fully completed off-grid hydropanel whose function is conversion of water vapor into liquid water: (A) a total power output of no more than 80 watts per panel; (B) a surface area of less than 5,000 square centimeters (cm^2) per panel; (C) do not include a built-in inverter; (D) do not have a frame around the edges of the panel; (E) include a clear glass back panel; and (F) must include a permanently connected wire that terminates in a twoport rectangular connector.

Additionally excluded from the scope of this investigation are off-grid small portable crystalline silicon photovoltaic panels, with or without a

glass cover, with the following characteristics: (1) a total power output of 200 watts or less per panel; (2) a maximum surface area of 16,000 cm^2 per panel; (3) no built-in inverter; (4) an integrated handle or a handle attached to the package for ease of carry; (5) one or more integrated kickstands for easy installation or angle adjustment; and (6) a wire of not less than 3 meters either permanently connected or attached to the package that terminates in an 8 mm diameter male barrel connector.

Also excluded from the scope of this investigation are off-grid crystalline silicon photovoltaic panels in rigid form with a glass cover, with each of the following physical characteristics, whether or not assembled into a fully completed off-grid hydropanel whose function is conversion of water vapor into liquid water: (A) a total power output of no more than 180 watts per panel at 155 degrees Celsius; (B) a surface area of less than 16,000 square centimeters (cm^2) per panel; (C) include a keep-out area of approximately 1,200 cm^2 around the edges of the panel that does not contain solar cells; (D) do not include a built-in inverter; (E) do not have a frame around the edges of the panel; (F) include a clear glass back panel; (G) must include a permanently connected wire that terminates in a two-port rounded rectangular, sealed connector; (H) include a thermistor installed into the permanently connected wire before the twoport connector; and (I) include exposed positive and negative terminals at opposite ends of the panel, not enclosed in a junction box.

Further excluded from the scope of the investigation are:

(1) Off grid rigid CSPV panels with a glass cover, with the following characteristics: (A) a total power output of 200 watts or less per panel, (B) a maximum surface area of 10,500 cm^2 per panel, (C) do not include a built-in inverter, (D) must include a permanently connected wire that terminates in waterproof connector with a cylindrical positive electrode and a rectangular negative electrode with the positive and negative electrodes having an interlocking structure, (E) must include visible parallel grid collector metallic wire lines every 1-4 millimeters across each solar cell, and (F) 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

(2) Off-grid small portable crystalline silicon photovoltaic panels, with or without a glass cover, with the following characteristics: (A) a total power output of 200 watts or less per panel, (B) a maximum surface area of 16,000 cm^2 per panel, (C) no built-in inverter, (D) an integrated handle or a handle attached to the package for ease of carry, (E) one or more integrated kickstands for easy installation or angle adjustment, and (F) a

wire either permanently connected or attached to the package terminates in waterproof connector with a cylindrical positive electrode and a rectangular negative electrode with the positive and negative electrodes having an interlocking structure.

Also excluded from the scope of the investigation are:

(1) Off grid rigid CSPV panels with a glass cover, with the following characteristics: (A) a total power output of 200 watts or less per panel, (B) a maximum surface area of 10,500 cm^2 per panel, (C) do not include a built-in inverter, (D) must include a permanently connected wire that terminates in waterproof connector with a cylindrical positive electrode and a rectangular negative electrode with the positive and negative electrodes having an interlocking structure, (E) must include visible parallel grid collector metallic wire lines every 1-4 millimeters across each solar cell, and (F) 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

(2) Small off-grid panels with glass cover, with the following characteristics: (A) surface area from 3,450 mm^2 to 33,782 mm^2, (B) with one black wire and one red wire (each of type 22AWG or 28 AWG not more than 350 mm in length when measured from panel extrusion), (C) not exceeding 10 volts, (D) not exceeding 1.1 amps, (E) not exceeding 6 watts, and (F) for the purposes of this exclusion, no panel shall contain an internal battery or external computer peripheral ports.

Additionally excluded from the scope of the investigation are:

(1) Off grid rigid CSPV panels with a glass cover, with the following characteristics: (A) a total power output of 175 watts or less per panel, (B) a maximum surface area of 9,000 cm^2 per panel, (C) do not include a built-in inverter, (D) must include a permanently connected wire that terminates in waterproof connector with a cylindrical positive electrode and a rectangular negative electrode with the positive and negative electrodes having an interlocking structure; (E) must include visible parallel grid collector metallic wire lines every 1-4 millimeters across each solar cell, and (F) 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

(2) Off grid CSPV panels without a glass cover, with the following characteristics, (A) a total power output of 220 watts or less per panel, (B) a maximum surface area of 16,000 cm^2 per panel, (C) do not include a

built-in inverter, (D) must include visible parallel grid collector metallic wire lines every 1-4 millimeters across each solar cell, and (E) each panel is encased in a laminated material without stitching.

Also excluded from the scope of this investigation are off-grid CSPV panels in rigid form, with or without a glass cover, permanently attached to an aluminum extrusion that is an integral component of an automation device that controls natural light, whether or not assembled into a fully completed automation device that controls natural light, with the following characteristics:

(1) a total power output of 20 watts or less per panel;

(2) a maximum surface area of 1,000 cm^2 per panel;

(3) does not include a built-in inverter for powering third party devices.

Modules, laminates, and panels produced in a third-country from cells produced in a subject country are covered by the investigations; however, modules, laminates, and panels produced in a subject country from cells produced in a third-country are not covered by the investigations.

Also excluded from the scope of this investigation are all products covered by the scope of the antidumping and countervailing duty orders on 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 Order, 77 FR 73018 (December 7, 2012); and Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules, from the People's Republic of China: Countervailing Duty Order, 77 FR 73017 (December 7, 2012).

Also excluded from the scope of this investigation are all products covered by the scope of the antidumping and countervailing duty orders on Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules from the Socialist Republic of Vietnam: Amended Final Antidumping Duty Determination; Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules from Cambodia, Malaysia, Thailand, and the Socialist Republic of Vietnam: Antidumping duty Orders, 90 FR 26786 (June 24, 2025); Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules from the Socialist Republic of Vietnam: Amended Final Antidumping Duty Determination; Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules from

Cambodia, Malaysia, Thailand, and the Socialist Republic of Vietnam: Antidumping Duty Orders; Correction, 90 FR 29843 (July 7, 2025); and Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules, from Malaysia and Thailand: Amended Final Countervailing Duty Determinations; Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules, from Cambodia, Malaysia, Thailand, and the Socialist Republic of Vietnam: Countervailing Duty Orders, 90 FR 26791 (June 24, 2025).

Merchandise covered by the investigation is currently classified in the Harmonized Tariff System of the United States (HTSUS) under subheadings 8541.42.0010 and 8541.43.0010. Imports of the subject merchandise may enter under HTSUS subheadings 8501.71.0000, 8501.72.1000, 8501.72.2000, 8501.72.3000, 8501.72.9000, 8501.80.1000, 8501.80.2000, 8501.80.3000, 8501.80.9000, 8507.20.8010, 8507.20.8031, 8507.20.8041, 8507.20.8061, and 8507.20.8091. These HTSUS subheadings are provided for convenience and customs purposes; the written description of the scope of the investigation is dispositive.[41]

B. Product Description

CSPV cells are the essential element in CSPV modules (also commonly referred to as solar panels), which in turn are the main components of CSPV systems that convert sunlight into electricity.[42] There are four main market segments: off-grid applications, residential, non-residential, and utility on-grid applications.[43] Off-grid solar products are excluded from the scope of these investigations.

CSPV cells use either monocrystalline or multicrystalline silicon to convert sunlight to electricity and may be fully square or slightly rounded.[44] CSPV cells have a positive layer, a negative layer, and a positive-negative ("p/n") junction, and vary in size depending on the size

[41] *See, e.g., Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules From India: Final Affirmative Determination of Sales at Less Than Fair Value, and Final Affirmative Determination of Critical Circumstances, In Part*, 91 Fed. Reg. 58658, 58661-62 (Dep't. Comm. Sep. 16, 2026).

[42] CR/PR at 1.22.

[43] CR/PR at 1.29.

[44] CR/PR at 1.21. Monocrystalline cells are made from a single grown crystal and tend to have a higher conversion efficiency than multicrystalline cells, which have a random crystal structure. CR/PR at 1.28. Conversion efficiency is the percent of sunlight that is converted to electricity. CR/PR at 1.28 n.36. The record in these investigations shows that producers have shifted away from manufacturing multicrystalline cells, and all the pricing data relate to products containing monocrystalline cells. *See generally*, CR/PR at Section 5.

of the wafer used to produce the cell.[45] A cell generates electricity when sunlight strikes the cell, knocking electrons loose and causing them to travel between the layers. CSPV cells can be monofacial, with a materialized opaque back layer, or bifacial, with a transparent or translucent back that allows the cell to convert light that hits both the front and back of the cell into electricity.[46]

CSPV modules consist of CSPV cells that are soldered together, placed on a matrix, and laminated.[47] The laminate is then typically framed in aluminum and attached to one or more junction boxes.[48] CSPV modules can be used in both ground-mounted and rooftop mounted systems, both on and off the electrical grid.[49] There are five principal stages in manufacturing CSPV products: (1) refining of polysilicon; (2) forming of ingots; (3) slicing of wafers; (4) conversion into cells; and (5) assembly into modules.[50] The most common on-grid CSPV modules have 60 cells (or 120 half-cut cells) or 72 cells (or 144 half-cut cells).[51] As monofacial and bifacial modules have moved closer to cost parity, manufacturers have adjusted their product lines, including by purchasing bifacial cells as inputs and replacing opaque back sheets with glass.[52]

C. Arguments of the Parties

Petitioners' Arguments. Petitioner argues that the Commission should again apply its semi-finished product analysis, as it did in the preliminary phase and in past proceedings involving CSPV products, to define a single domestic like product, coextensive with Commerce's scope, consisting of CSPV cells and modules.[53] Petitioner argues that cells are the primary downstream input for modules, and there have been no significant changes in the characteristics of cells, modules, or the production process that would warrant a definition of

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[45] CR/PR at 1.24. Common sizes of wafers range from 156 to 210 mm in side length. *See* CR/PR at Figure 1.2.

[46] CR/PR at 1.26.

[47] CR/PR at 1.36.

[48] CR/PR at 1.36.

[49] CR/PR at 1.29.

[50] CR/PR at 1.30.

[51] CR/PR at 1.30. Half-cut cells result in lower cell current, which reduces power losses and increases cell efficiency and overall module output. CR/PR at 1.29.

[52] *See* CR/PR at 1.26 n.35. Domestic producers of CSPV products have reported that monofacial and bifacial modules have reached cost parity. CR/PR at 1.26.

[53] Petitioner's Prehearing Brief at 3-4; Petitioner's Posthearing Brief at 4 n.4. *See also CSPV I,* USITC Pub. 4360 at 6; *CSPV II*, USITC Pub. 4519 at 14; *CSPV III*, USITC Pub. 5631 at 28; *Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules from India, Indonesia, and Laos*, Inv. Nos. 701-TA-772-774 and 731-TA-1756-1758 (Preliminary), USITC Pub. 5665 (Sep. 2025) ("*Preliminary Determinations*") at 18.

the domestic like product in these investigations that is different from the definition used in *CSPV I*, *CSPV II*, *CSPV III*, or in the preliminary phase.[54]

Respondents' *Arguments*. Although Canadian Solar (now Mesquite and Jeffersonville Respondents), Heliene, and Silfab argued in the preliminary phase that the Commission should define CSPV cells and CSPV modules as separate domestic like products,[55] no respondent party commented on the final phase questionnaires to advocate that the Commission collect data to analyze a different definition of the domestic like product. Accordingly, no respondent party argues in this final phase that the Commission should define the domestic like product differently from the definition in the preliminary phase.[56]

D. Domestic Like Product Analysis

In its preliminary determinations, the Commission defined a single domestic like product, consisting of CSPV cells and modules, coextensive with Commerce's scope.[57] The Commission noted that it had recently found in *CSPV III* that many of the differences between CSPV cells and modules stem from them being at different stages of production.[58] The record in the preliminary phase of these investigations likewise indicated that cells are dedicated to the production of CSPV modules, and that, although there are differences in size, weight, and finishing, CSPV cells and modules share the same essential characteristics and functions that allow for the conversion of sunlight into electricity. The Commission also found that the cell accounts for a substantial portion of the finished value of the module.[59] The Commission considered the record mixed on the significance and extent of the processes used to transform cells into modules, as module assembly is a labor-intensive and costly operation, but found on balance that module assembly enhances, rather than alters, CSPV's cells' essential functions.[60] Furthermore, although the preliminary phase record was mixed on the degree to which domestically produced cells and modules compete in separate markets, the Commission found

[54] Petitioner's Prehearing Brief at 3-5; Petitioner's Posthearing Brief at 3-4;

[55] *See Preliminary Determinations*, USITC Pub. 5665 at 18.

[56] No respondent party addressed the definition of the domestic like product in its prehearing or posthearing submissions. At the hearing, Mundra's counsel stated with respect to the domestic like product analysis that "I don't believe that we are arguing for differentiation between cells and modules in this instance." Hearing Tr. 180-81 (Becker).

[57] *Preliminary Determinations*, USITC Pub. 5665 at 18.

[58] *Preliminary Determinations*, USITC Pub. 5665 at 13 (citing *CSPV III*, USITC 5613 at 25). The Commission recognized that "semi-finished products for use in downstream products do not necessarily encompass all attributes or functions of the finished products." *Id.* at 15.

[59] *Preliminary Determinations*, USITC Pub. 5665 at 16.

[60] *Preliminary Determinations*, USITC Pub. 5665 at 18.

the six domestic like product factors taken together weighed towards treating cells and modules as a single domestic like product.[61]

The record in the final phase continues to support the findings in the preliminary phase and does not contain any new information that would warrant reconsideration of the Commission's definition of the single domestic like product in the preliminary determinations.[62] Moreover, no party in the final phase has argued that the Commission should adopt a different definition of the domestic like product.[63] Accordingly, we again define a single domestic like product consisting of CSPV cells and modules.

III. Domestic Industry

The domestic industry is defined as the domestic "producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes

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[61] *Preliminary Determinations*, USITC Pub. 5665 at 18.

[62] For example, at the hearing, Suniva's CEO testified that "there is no use of a solar cell other than it become{s} the energy generation agent inside a solar module." Hearing Tr. at 84 (Card). Similarly, Talon's CEO testified that Talon has "zero other markets for our cells other than going into modules." Hearing Tr. at 85. Talon's CEO also testified that "cells are entirely dedicated for use in solar modules. . . . {and} solar cell manufacturing accounts for the largest portion of solar module production costs." Hearing Tr. at 48 (Tesanovich).

[63] In *CSPV III*, consistent with prior investigations involving CSPV products, the Commission excluded thin film solar products from the domestic like product, as they were not like the subject imports of CSPV cells and modules. *See CSPV III*, USITC Pub. 5631 at 28 n.113. No party advocated inclusion, and the record in those investigations "indicated that thin film solar products are produced using different raw materials, manufacturing facilities, manufacturing processes, and production employees, and that thin film solar products differ significantly in physical characteristics, conversion efficiency, and output from CSPV solar cells and modules." *Id*.

The Commission also did not define the domestic like product to include off-grid CSPV modules like those excluded from the scope. *Id*. The Commission found that while off-grid modules were made from the same raw materials as in-scope modules, the record indicated that there were significant differences in their end uses, interchangeability, consumer and producer perceptions, and price. *Id*.

Petitioner argues that the Commission should again decline to define the domestic like product to include thin-film products. *See* Petitioner's Prehearing Brief at 6. SEIA argues that the Commission must consider the financial performance of First Solar, producer of thin-film solar products and a member of the Alliance. SEIA asserts that thin-film solar products are directly competitive with CSPV solar products, and that First Solar currently serves 20 percent of the U.S. utility-scale solar energy market and is expanding. SEIA Prehearing Brief at 4-5.

In the preliminary phase of these investigations, the Commission similarly declined to define the domestic like product to include out-of-scope thin film solar products. *See Preliminary Determinations*, USITC Pub. 5665 at 18 n.83. The record in the final phase of these investigations does not indicate differently, and thus, we do not include out-of-scope thin film solar products in the definition of the domestic like product.

a major proportion of the total domestic production of the product."[64] In defining the domestic industry, the Commission's general practice has been to include in the industry producers of all domestic production of the like product, whether toll-produced, captively consumed, or sold in the domestic merchant market. These investigations raise two sets of domestic industry issues. The first concerns whether processing activities of domestic module manufacturers are sufficient to constitute domestic production. The second concerns whether appropriate circumstances exist to exclude any domestic producers from the domestic industry pursuant to the related parties provision. Petitioner notes that several domestic producers are related to subject producers or exporters, but it does not advocate for the exclusion of any party from the domestic industry.[65] No respondent party addressed the definition of the domestic industry.

A. Sufficient Production-Related Activities

In deciding whether a firm qualifies as a domestic producer of the domestic like product, the Commission generally analyzes the overall nature of a firm's U.S. production-related activities, although production-related activity at minimum levels could be insufficient to constitute domestic production.[66] The Commission has previously determined that U.S. CSPV module assemblers engage in sufficient production-related activities to include them in the domestic industry as domestic producers of the domestic like product, and the Commission did not exclude module assemblers from the domestic industry in the preliminary phase.[67] Because domestic cell production began in late 2024 and still remains low (*** in 2024, *** in 2025, and *** during the January to March 2026 interim period), all U.S. module producers rely on imported cells to assemble domestically produced modules.[68]

There is no new information regarding this issue on the record in this final phase, and in the absence of any party argument to the contrary, we find that U.S. module assemblers engage in sufficient production-related activities to include them in the domestic industry as

[64] 19 U.S.C. § 1677(4)(A).

[65] *See* Petitioner's Prehearing Brief at 7.

[66] The Commission generally considers six factors: (1) source and extent of the firm's capital investment; (2) technical expertise involved in U.S. production activities; (3) value added to the product in the United States; (4) employment levels; (5) quantity and type of parts sourced in the United States; and (6) any other costs and activities in the United States directly leading to production of the like product. No single factor is determinative and the Commission may consider any other factors it deems relevant in light of the specific facts of any investigation. *Crystalline Silica Photovoltaic Cells and Modules from China*, Inv. Nos. 701-TA-481 and 731-TA-1190 (Final), USITC Pub. 4360 at 12-13 (Nov. 2012).

[67] *See Preliminary Determinations*, USITC Pub. 5665 at 19 (citing *CSPV III*, USITC Pub. 5631 at 19).

[68] *See* CR/PR at Table 3.8.

producers of the domestic like product. Consequently, we treat their resulting shipments as shipments by the domestic industry, even though almost all the modules assembled in the U.S. use CSPV cells that are imported from subject and nonsubject sources.

B. Related Parties

We must determine whether any producer of the domestic like product should be excluded from the domestic industry pursuant to section 771(4)(B) of the Tariff Act. This provision allows the Commission, if appropriate circumstances exist, to exclude from the domestic industry producers that are related to an exporter or importer of subject merchandise or which are themselves importers.[69] Exclusion of such a producer is within the Commission's discretion based upon the facts presented in each investigation.[70]

As the Commission explained in the preliminary phase, potential related parties in these investigations continue to rely on imports of CSPV cells due to the low level or nonexistence of domestic cell production during the investigation period.[71] Out of 16 responding domestic producers of CSPV products, the record in this final phase indicates that eight firms are related to an exporter or U.S. importer of subject merchandise, seven firms are related to foreign producers of subject merchandise, and ten U.S. producers directly imported CSPV products from subject sources.[72] Accordingly, because much of the U.S. industry relied on imports of cells from subject countries, any benefit these producers' domestic operations received from such imports was not unique. Therefore, inclusion of any one domestic producer would not

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[69] *See Torrington Co. v. United States*, 790 F. Supp. 1161, 1168 (Ct. Int'l Trade 1992), *aff'd without opinion*, 991 F.2d 809 (Fed. Cir. 1993); *Sandvik AB v. United States*, 721 F. Supp. 1322, 1331-32 (Ct. Int'l Trade 1989), *aff'd mem*., 904 F.2d 46 (Fed. Cir. 1990); *Empire Plow Co. v. United States*, 675 F. Supp. 1348, 1352 (Ct. Int'l Trade 1987).

[70] The primary factors the Commission has examined in deciding whether appropriate circumstances exist to exclude a related party include the following:

(1) the percentage of domestic production attributable to the importing producer;

(2) the reason the U.S. producer has decided to import the product subject to investigation (whether the firm benefits from the LTFV sales or subsidies or whether the firm must import in order to enable it to continue production and compete in the U.S. market);

(3) whether inclusion or exclusion of the related party will skew the data for the rest of the industry;

(4) the ratio of import shipments to U.S. production for the imported product; and

(5) whether the primary interest of the importing producer lies in domestic production or importation. *Changzhou Trina Solar Energy Co. v. USITC*, 100 F. Supp.3d 1314, 1326-31 (Ct. Int'l. Trade 2015); see *also Torrington Co. v. United States*, 790 F. Supp. at 1168.

[71] *Preliminary Determinations,* USITC Pub. 5665 at 20; CR/PR at 3.27, 3.31.

[72] CR/PR at 3.2. Eleven U.S. producers purchased CSPV cells from U.S. importers. *Id*. Three U.S. producers also reported purchasing CSPV modules from subject sources through U.S. importers. *Id*.

have the effect of skewing domestic industry data. The majority of U.S. producers that imported subject merchandise indicated that they did so because of the limited availability of domestically produced cells. In the absence of any contrary arguments and new information about the domestic producers' reasons for importing or purchasing subject imports during the investigation period, we find that appropriate circumstances do not exist to exclude *** from the domestic industry.[73]

Accordingly, consistent with our definition of the domestic like product, we define the domestic industry to include all domestic producers of CSPV cells and modules.

IV. Negligible Imports

Section 771(24) of the Tariff Act, which defines "negligibility," provides that imports from a subject country that are less than 3 percent of the volume of all such merchandise imported into the United States in the most recent 12-month period for which data are available that precedes the filing of the petition or self-initiation, as the case may be, shall be deemed negligible.[74] The statute further provides that subject imports from a single country which comprise less than 3 percent of total such imports of the product may not be considered negligible if there are several countries subject to investigation with negligible imports and the sum of such imports from all those countries collectively accounts for more than 7 percent of the volume of all such merchandise imported into the United States.[75] In the case of countervailing duty investigations involving developing countries (as designated by the United

[73] *See* CR/PR at 3.31; *see also* CR/PR at Table 3.41. We note that in addition to importing CSPV cells like other domestic producers, *** also imported CSPV modules from *** in interim 2025 and in interim 2026. *See* CR/PR at Table 3.21 n. 13; *see also* *** U.S. Importer Questionnaire, EDIS Doc. *** at 43. However, we do not find that appropriate circumstances exist to exclude the firm from the domestic industry based on its imports of CSPV modules. The ratio of its subject imports of modules to its domestic production was *** percent in interim 2025 and *** percent in interim 2026. CR/PR at Table 3.21 n.13. ***. Given that *** was the *** U.S. producer in 2025 and has made substantial investments in future domestic production of CSPV products, its primary interest appears to be in domestic production. Furthermore, its ratio of subject imports to domestic production was low. In addition, *** had *** in 2024 and in interim 2026. Thus, it does not appear that *** subject imports of modules benefited its domestic production operations in such a way that would skew the domestic industry data or mask injury to the domestic industry if *** were included in the domestic industry.

[74] 19 U.S.C. § 1677(24)(A)(i).

[75] 19 U.S.C. § 1677(24)(A)(ii).

States Trade Representative), the statute indicates that the negligibility limits are 4 percent and 9 percent, rather than 3 percent and 7 percent.[76]

A. Arguments of the Parties

No parties argue that subject imports from Indonesia and Laos are negligible.

Mundra and Waaree contend that subject imports from India are negligible because ***.[77] As a result, Waaree concedes that it also "inadvertently reported imports from *** as imports from India in its U.S. Importer Questionnaire Response."[78] However, Mundra objects to the methodology used in Table 4.6 of the Staff Report, which is based on questionnaire data adjusted with proprietary, Census-edited Customs records. Mundra asserts that these records "offer{} zero visibility into the underlying sources of those imports, such as *** and whether the country of origin of any of these added volumes may be mis-reported in the proprietary Customs records."[79] Mundra contends that the figures in Table 4.6 added *** kW of CSPV cell and module imports from unspecified U.S. importers, which resulted in the numerator for India being *** percent higher than the volume using unadjusted questionnaire responses.[80]

Mundra argued in its posthearing brief that the Commission should base negligibility ratios on official import statistics, modified solely to subtract the imports by ***, which they claim results in a negligibility ratio of *** percent.[81] However, in its final comments, Mundra

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[76] Laos, a source of imports subject to the countervailing duty investigations, is on USTR's list of least-developed and developing countries and therefore is subject to the 4 percent negligibility threshold in the countervailing duty investigation. *See Designations of Developing Countries and Least-Developed Countries Under the Countervailing Duty Law,* 85 Fed. Reg. 7613 (Feb. 10, 2020).

[77] *See* Mundra's Posthearing Brief at 1-8; Mundra's Final Comments at 1-6; Waaree's Prehearing Brief at 1-2. In its questionnaire response, *** reported that during the investigation period it imported CSPV cells from *** and imported CSPV modules from ***, but did not import any CSPV products from ***. *** U.S. Importers' Questionnaire Response, EDIS Doc. ***.

[78] *See* Waaree's Prehearing Brief at 1-2.

[79] Mundra's Posthearing Brief at 6.

[80] Mundra's Posthearing Brief at 6-7.

[81] Mundra's Posthearing Brief at 4-5. There appears to be a significant inaccuracy in Mundra's calculation of the *** percent negligibility ratio. It proposes to subtract *** kW of CSPV imports mis-reported as being of Indian-origin by *** in its preliminary phase questionnaire from the 1,945,303 kW of total imports from India contained in Table 4.19 of the prehearing staff report. Mundra Posthearing Brief at 4-5. However, ***'s final phase questionnaire reported *** kW from India during the negligibility period in the final phase. *See* *** U.S. Importer Questionnaire Response, ***. Thus, there is no basis for making a further deduction of *** preliminary phase questionnaire data from the numerator for India. Mundra also proposes that the Commission should alternatively use the preliminary phase data, adjusted to remove *** misreported imports, which shows subject imports (Continued...)

argues for use of unadjusted questionnaire data on the grounds that the proprietary Customs data contain errors that make them unreliable. It contends that there are discrepancies between *** final questionnaire data and the import volumes *** that the Commission could not reconcile.[82]

Petitioner does not challenge ***, but argues, even with the revision, imports from India are not negligible.[83] Petitioner argues that the dataset in this final phase is more comprehensive than in the preliminary phase, and that the Commission's methodology shows imports from India exceeded the negligibility threshold.[84] It contends that there is no reasonable methodology that supports finding that subject imports from India are negligible.

B. Analysis

For the reasons explained below, we find that imports from India, Indonesia, and Laos are not negligible for purposes of present material injury.

We first consider which data to use for calculating imports for purposes of our negligibility analysis. As a preliminary matter, we note that on June 23, 2026, CBP determined that a subset of Waaree's entries of CSPV products from 2021 to 2025 evaded the AD/CVD orders on CSPV products from Malaysia and Vietnam and the circumvention determinations on certain CSPV products from Vietnam.[85] We note, as we have above, that this what not ***. Waaree stated that ***.[86] In its public determination, CBP stated that only "when Commerce initiated its current investigation of solar cells from India, Indonesia, and Laos in August 2025, did Waaree attempt to notify Commerce and CBP that it declared the wrong country of origin for its imports into the United States."[87] CBP further stated that "Waaree's four year history of reporting the wrong country is . . . an act that is material and false."[88] Thus, official data regarding imports from India, without adjustments, improperly include entries that Waaree misreported as Indian origin.

Accordingly, we rely on the questionnaire data, as adjusted by Commission staff with data from proprietary, Census-edited Customs records, as the best information available on the

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from India were *** percent of total imports during the negligibility period. *See* Mundra's Posthearing Brief at 7-8.

[82] Mundra's Final Comments at 4.

[83] *See generally*, Petitioner's Posthearing Brief at 4-5.

[84] Petitioner's Posthearing Brief at 5; Petitioner's Final Comments at 3-4.

[85] CBP Evasion Determination at 1-2.

[86] *See* Attachment to Waaree's Prehearing Brief at 3.

[87] CBP Evasion Determination at 11.

[88] CBP Evasion Determination at 11.

record for purposes of calculating the volume of subject imports from each country for purposes of our negligibility analysis. Specifically, the Commission used the proprietary, Census-edited Customs records to identify imports by non-responding U.S. importers of record under HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010,[89] and added them into the numerator and denominator of its negligibility calculations. The proprietary Customs data also allow the Commission to identify imports under those numbers by importers that certified in their questionnaire responses that they did not import subject merchandise, and subtract them as necessary.[90]

Based on questionnaire data, adjusted as indicated, during the 12-month period preceding the filing of the petitions (July 2024-June 2025), subject imports from India accounted for *** percent of total imports, subject imports from Indonesia accounted for *** percent of total imports, and subject imports from Laos accounted for *** percent of total imports.[91]

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[89] *See* Aggregate Data Questionnaire Response, EDIS Doc. 892260.

[90] *See* CR/PR at Table 4.6; *see also* Staff Worksheet, EDIS Doc. 896993-2631766.

[91] Mundra objects to these adjustments on the grounds that the data released to the parties in the Aggregate Data Questionnaire Response, EDIS Doc. 892260, aggregated all entries that qualified for addition to the numerator and denominator. *See* Mundra's Posthearing Brief at 6-7. We find Mundra's arguments unpersuasive. The Commission often relies on aggregate Customs data in the form of total imports reported under an HTS heading without releasing to the parties or validating the underlying firm- and entry-specific data. *See U.S. Aluminum Extruders Coal. v. United States*, 777 F. Supp. 3d 1344, 1348 (Ct. Int'l Trade 2025) (affirming Commission's negligibility calculation that included "using Customs records edited by the U.S. Census Bureau" as a "reasonable methodological choice with a rational basis in fact"). We recognize that there are discrepancies between the Census-edited Customs data and the data that certain importers reported to the Commission. We note in this regard that CBP found that Waaree falsely reported its import data over a four-year period to evade prior AD/CVD duties. *See* CBP Evasion Determination at 11. There is no basis on the record to suggest that similar discrepancies exist with respect to the many other importers or exporters that have not been found to have misreported data to CBP. Therefore, we find that the data used in Table 4.6, consisting of questionnaire data adjusted to reflect Census-edited Customs data, are the best information available for calculating negligibility.

We find that these data more accurately reflect the volume and value of subject imports and total imports than do unadjusted questionnaire data. The staff report indicates, and no party has disputed, that although the questionnaires attained a high coverage of subject imports and total imports, they fall short by small, but meaningful margins. CR/PR at 4.15 n.9; *see also* CR/PR at Table 4.1. Accordingly, these unadjusted questionnaire data are not the best information available for purposes of calculating negligibility because they do not account for a meaningful volume of imports by non-responding importers that were available to the Commission through proprietary, Census-edited Customs records.

Finally, we also reject Mundra's argument that we should use preliminary phase data in our negligibility calculations. As an initial matter, in final investigations the Commission generally does not (Continued...)

We note that even when using official import statistics, as adjusted to (1) remove data for firms that certified that they had not imported CSPV cells and modules since January 1, 2023, and (2) reclassify (***) misreported imports from India as imports from Indonesia, shows that during the negligibility period subject imports from India accounted for *** percent of total imports, subject imports from Indonesia accounted for *** percent of total imports, and subject imports from Laos accounted for *** percent of total imports.[92] We find that these data are not as accurate as the adjusted questionnaire discussed above because they do not account for entries by non-responding importers, and are therefore understated. Nevertheless, this alternate methodology also supports a finding that subject imports from India are not negligible.

In sum, we find that subject imports of CSPV products from India, Indonesia, and Laos are not negligible in these investigations.

V. Cumulation

For purposes of evaluating the volume and effects for a determination of material injury by reason of subject imports, section 771(7)(G)(i) of the Tariff Act requires the Commission to cumulate subject imports from all countries as to which petitions were filed and/or investigations self-initiated by Commerce on the same day, if such imports compete with each other and with the domestic like product in the U.S. market. In assessing whether subject imports compete with each other and with the domestic like product, the Commission generally has considered four factors:

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rely on preliminary phase data if there is a more complete dataset available in the final phase. *See Aluminum Extrusions from China, Colombia, Dominican Republic, Ecuador, India, Indonesia, Italy, Malaysia, Mexico, South Korea, Taiwan, Thailand, Turkey, United Arab Emirates, and Vietnam*, Inv. Nos. 701-TA-695-698, 731-TA-1643-1644 and 1646-1657 (Final), USITC Pub. 5560 (Nov. 2024) (declining to rely on less comprehensive preliminary phase pricing data in final investigations). Given the more comprehensive data available to the Commission in this final phase, we do not find a compelling reason to rely on the preliminary phase data as the best information available for purposes of calculating negligibility.

[92] *See* CR/PR at 4.15 n.9; *see also* Staff Worksheet, EDIS Doc. 896993-2631767. Mundra argues that there are discrepancies between official import statistics and questionnaire responses due to reporting errors within the proprietary Census-edited Customs records. *See* Mundra's Final Comments at 3-4. For example, Mundra asserts that ***. *Id*. at 3. Commission staff worked diligently to address the discrepancies between the proprietary Census-edited Customs records and *** importer questionnaire response. *See* *** Supplemental Importer Questionnaire Response, EDIS Doc. ***. Furthermore, the proprietary Customs data used in the calculation for Table 4.6 do not include data from importers that responded to the Commission's questionnaires, (*i.e.*, ***) and reported importing subject merchandise. In the calculation using official import statistics, Commission staff ***. *See also* Staff Worksheet, EDIS Doc. 896993-2631767.

(1) the degree of fungibility between subject imports from different countries and between subject imports and the domestic like product, including consideration of specific customer requirements and other quality related questions;

(2) the presence of sales or offers to sell in the same geographic markets of subject imports from different countries and the domestic like product;

(3) the existence of common or similar channels of distribution for subject imports from different countries and the domestic like product; and

(4) whether the subject imports are simultaneously present in the market.[93]

While no single factor is necessarily determinative, and the list of factors is not exhaustive, these factors are intended to provide the Commission with a framework for determining whether the subject imports compete with each other and with the domestic like product.[94] Only a "reasonable overlap" of competition is required.[95]

Petitioner argues that cumulation is mandatory in these investigations because the petitions for all three countries were filed on the same day, none of the statutory exceptions to cumulation apply, and that there is a reasonable overlap in competition between and among subject imports Laos, India, and Indonesia and the domestic like product.[96]

Mundra argues that subject imports from India should not be cumulated because they compete under different conditions than subject imports from Laos and Indonesia. Mundra asserts that Indian-solar producers are not affiliated with Chinese solar companies like those in Indonesia and Laos.[97] Petitioner does not dispute that Indian solar producers are not under the

[93] *See Certain Cast-Iron Pipe Fittings from Brazil, the Republic of Korea, and Taiwan*, Inv. Nos. 731-TA-278-280 (Final), USITC Pub. 1845 (May 1986), *aff'd*, *Fundicao Tupy, S.A. v. United States*, 678 F. Supp. 898 (Ct. Int'l Trade), aff'd, 859 F.2d 915 (Fed. Cir. 1988).

[94] *See*, *e.g.*, *Wieland Werke, AG v. United State*s, 718 F. Supp. 50 (Ct. Int'l Trade 1989).

[95] The Statement of Administrative Action (SAA) to the Uruguay Round Agreements Act (URAA), expressly states that "the new section will not affect current Commission practice under which the statutory requirement is satisfied if there is a reasonable overlap of competition." H.R. Rep. No. 103-316, Vol. I at 848 (1994) (*citing Fundicao Tupy, S.A. v. United States*, 678 F. Supp. at 902; *see Goss Graphic Sys., Inc. v. United States*, 33 F. Supp. 2d 1082, 1087 (Ct. Int'l Trade 1998) ("cumulation does not require two products to be highly fungible"); *Wieland Werke, AG*, 718 F. Supp. at 52 ("Completely overlapping markets are not required.").

[96] Petitioner's Prehearing Brief at 10-14; Petitioner's Posthearing Brief, Responses to Commission Questions at 1.

[97] Mundra's Prehearing Brief at 17-19; Mundra's Posthearing Brief at 9.

ownership of Chinese solar companies but asserts that Indian producers are affected by the same market dynamics as subject producers in other countries, namely oversupply driven by Chinese solar producers, and thus Indian producers have the incentive to direct exports of CSPV products to the United States.[98]

Mundra also asserts that imports of subject merchandise from India differed from other subject imports during the investigation period in that their volume was small and decreasing, they were higher priced, predominantly oversold the domestic like product, sold through distinct channels of distribution and in distinct geographic markets, and sold primarily based on non-price factors such as supply chain traceability and Uyghur Forced Labor Prevention Act ("UFLPA") compliance. It argues further India has a large and growing home market for CSPV cells and modules, which make Indian producers less export-oriented than producers in Indonesia or Laos.[99]

The statutory threshold for cumulation is satisfied in these investigations because Petitioner filed the antidumping and countervailing duty petitions with respect to all three subject countries on the same day, July 17, 2025.[100]

Fungibility. As in the preliminary phase, the record continues to indicate that domestically produced CSPV products and imports from each subject country are generally fungible. Most responding U.S. producers reported that subject imports from each subject country were always or frequently interchangeable with each other as well as with the domestic like product.[101] Most responding importers reported that subject imports from each subject country were either always or frequently interchangeable with each other as well as with the domestic like product.[102] Nearly all responding purchasers stated that imports from each subject country were always or frequently interchangeable with each other and with the domestic like product.[103]

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[98] Petitioner's Posthearing Brief, Responses to Commission Questions at 6.

[99] Mundra's Prehearing Brief at 15-27; *see also* Mundra's Posthearing Brief at 8-10.

[100] None of the statutory exceptions to cumulation apply. We observe that the volume of imports subject to the antidumping and countervailing duty investigations is the same for each subject country.

[101] *See* CR/PR at Table 2.18. At least six of 13 producers reported that imports from each subject country were "always" interchangeable with each other as well as with the domestic like product. *Id*.

[102] CR/PR at Table 2.19.

[103] CR/PR at Table 2.20. Four of five purchasers reported that subject imports from India are frequently comparable with the domestic like product, and one reported that they always are. *Id*. Five of seven purchasers reported that subject imports from Indonesia are frequently comparable with the domestic like product, one reported that they always are, and one reported that they sometimes are. *Id*. Four of six purchasers reported that subject imports from Laos are frequently comparable with the (Continued...)

Sales of bifacial modules using bifacial cells represent an area of significant overlap among the subject sources, as they represented the majority of U.S. shipments of the domestic like product and of subject imports from India and Laos in 2025, and a substantial share of subject imports from Indonesia.[104] Additionally, the pricing data for product 4 – the pricing product with the largest volume – show sales of substantial volumes of the domestic like product and subject imports from each country from the third quarter of 2024 through the first quarter of 2026.[105]

In response to questions concerning how often differences other than price were significant in sales of CSPV products from different sources, most U.S. producers and U.S. importers reported that differences other than price were only sometimes or never significant between the domestic like product and subject imports from Indonesia and Laos, but only half reported that was the case when comparing the domestic like product and subject imports from India.[106] Most U.S. importers reported that factors other than price were always or frequently significant when comparing the domestic like product with imports from each subject country.[107] Among purchasers, most firms indicated that non-price factors were only sometimes or never significant when comparing U.S.-produced product to product from Indonesia and when comparing subject imports to each other, and a slight majority reported also this was the case when comparing U.S.-produced product to product from India and Laos.[108]

Although Mundra argues that U.S. purchasers prioritize non-price factors such as UFLPA compliance and supply chain traceability in choosing to buy from Indian sources, the questionnaire data generally do not indicate that these factors differentiate India from other subject sources and the domestic like product. For example, three of five responding U.S.

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domestic like product, one reported that they always are, and one reported that they sometimes are. *Id*. No purchasers comparing subject imports from each source with the domestic like product reported that they are never comparable. *Id*.

[104] CR/PR at Table 4.17. In 2025, *** percent of U.S. producers' U.S. shipments consisted of bifacial modules using bifacial cells, *** percent of U.S. importers' U.S. shipments of subject imports from India consisted of bifacial modules using bifacial cells, *** percent of U.S. importers' U.S. shipments of subject imports from Indonesia consisted of bifacial modules using bifacial cells, and *** percent of U.S. importers' U.S. shipments of subject imports from Laos consisted of bifacial modules using bifacial cells. CR/PR at Table 4.17.

[105] CR/PR at Figure 5.6; *see also* CR/PR at Table 5.8. Pricing product data for product 4 for U.S. importers' shipments of subject merchandise from India is available only through the third quarter of 2025. *Id*.

[106] CR/PR at Table 2.21.

[107] CR/PR at Table 2.22.

[108] CR/PR at Table 2.23.

purchasers reported that differences other than price between CSPV products produced in the United States compared to India are only sometimes or never significant.[109] Furthermore, three of four responding U.S. purchasers reported that differences other than price are only sometimes or never significant when comparing subject imports from India with subject imports from Indonesia and when comparing subject imports from India with subject imports from Laos.[110] Although the evidence provided by Mundra indicates that UFLPA compliance and other supply chain considerations, including customers wishing to diversify from sourcing from Chinese-owned producers, may be important in purchasing decisions, in our view, for purposes of our cumulation analysis, the available data do not indicate that the importance of these non-price factors is significantly different in purchasing decisions regarding subject imports from India compared to other subject sources.

Moreover, even if solar producers in India are not owned by Chinese solar companies as Mundra asserts, there is evidence in the record that Indian solar producers' supply chains depend heavily on sourcing of inputs from China, similar to solar companies in Indonesia and Laos.[111] For example, in CBP's Evasion Determination, it found that the information it had "reasonably suggest{s} that the solar cells supplied to Waaree were not Indian-origin, but instead originated in China, either directly or through countries subject to Commerce circumvention inquiries."[112] On balance, the record indicates that there was a sufficient degree of fungibility between subject imports from different countries and between subject imports and the domestic like product.[113]

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[109] CR/PR at Table 2.23

[110] CR/PR at Table 2.23

[111] According to the China Photovoltaic Industry Association, in 2024, China produced 93.2 percent of the world's polysilicon, 96.6 percent of wafers, 92.3 percent of photovoltaic (PV) cells, and 86.4 percent of PV modules. *Id*. Thus, Indian solar producers are subject to the same market conditions for sourcing polysilicon, wafers, and cells as producers in Laos and Indonesia.

[112] *See* CBP Evasion Determination at 3.

[113] Although Mundra provided declarations stating that solar project operators will not "intermix modules from multiple sources within the same project", Mundra's Posthearing Brief, Responses to Commission Questions at 15 (citing Statement of *** attached as Exhibit 3), Mundra concedes that imports from all subject sources are mechanically comparable and perform the same functions. Mundra Posthearing Brief, Responses to Commission Questions at 14. Moreover, *** states in his declaration that "{p}rior to installation, the modules with the same technical parameters may be interchangeable. However, once a certain module from a specific supplier is selected for the project, and the project development is underway, switching suppliers for specific installations is difficult, if not impossible. For operational and safety purposes, modules from one supplier cannot be connected to modules produced by a different supplier." Mundra's Posthearing Brief, Exhibit 3, Statement of ***. This declarant, however, does not state that a solar operator's preference not to switch suppliers is unique to projects (Continued...)

Channels of Distribution. The record shows that domestic producers mainly sold to distributors from 2023 to interim 2026, with lesser shares of shipments to commercial installers, residential installers, and utilities at varying times during the investigation period.[114] Almost all U.S. shipments of CSPV products from India went to utilities/developers throughout the investigation period.[115] Most U.S. shipments of CSPV products from Indonesia went to utilities through the investigation period,[116] and most U.S. shipments of CSPV products from Laos went to utilities/developers in 2024, but the majority went to distributors in 2025 and interim 2026.[117] Domestic producers and importers of subject merchandise from countries eligible for cumulation substantially overlapped in their sales to utilities customers in the U.S.

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utilizing subject imports from India. Accordingly, while it may not be preferable for a solar operator to commingle CSPV products from different suppliers or subject countries for an existing project, the record evidence indicates that it is at least technically possible to do so. Moreover, this declarant concedes that while a solar project is in the planning phase, any modules with similar technical characteristics are interchangeable regardless of their source. In our view, this evidence does not preclude finding a sufficient degree of fungibility between and among subject imports and the domestic like product.

[114] CR/PR at Table 2.6. The share of domestic producers' U.S. shipments that went to distributors was *** percent in 2023, *** percent in 2024, and *** percent in 2025; it was *** percent in interim 2026 compared to *** percent in interim 2025. The share of domestic producers' shipments that went to utilities/developers was *** percent in 2023, *** percent in 2024, and *** percent in 2025; it was *** percent in interim 2026 compared to *** percent in interim 2025. The share of domestic producers' U.S. shipments that went to commercial installers was *** percent in 2023, *** percent in 2024, and *** percent in 2025; it was *** percent in interim 2026 compared to *** percent in interim 2025. The share of domestic producers' U.S. shipments that went to residential installers was *** percent in 2023, *** percent in 2024, and *** percent in 2025; it was *** percent in interim 2026 compared to *** percent in interim 2025.

[115] CR/PR at Table 2.6. The share of U.S. importers' U.S. shipments of subject imports from India to utilities/developers exceeded *** percent in 2023, 2024, and 2025.

[116] CR/PR at Table 2.6. The share of U.S. importers' U.S. shipments of subject imports from Indonesia to utilities/developers was *** percent in 2023, *** percent in 2024, and *** percent in 2025; it was *** percent in interim 2026 compared to *** percent in interim 2025. The share of U.S. importers' U.S. shipments of subject imports from Indonesia to distributors was *** percent in 2023, *** percent in 2024, and *** percent in 2025; it was *** percent in interim 2026 compared to *** percent in interim 2025. The share of U.S. importers' U.S. shipments of subject imports from Indonesia to commercial installers was *** percent in 2024 and *** percent in 2025.

[117] CR/PR at Table 2.6. The share of U.S. importers' U.S. shipments of subject imports from Laos to utilities/developers was *** percent in 2024 and *** percent in 2025; it was *** percent in interim 2026 compared to *** percent in interim 2025. The share of U.S. importers' U.S. shipments of subject imports from Laos to distributors was *** percent in 2024 and *** percent in 2025; it was *** percent in interim 2026 compared to *** percent in interim 2025. The share of U.S. importers' U.S. shipments of subject imports from Laos to commercial installers was *** percent in 2025 and *** percent in interim 2026.

market in interim 2026.[118] In 2025 and interim 2026, the channels of distribution for U.S. producers' U.S. shipments and U.S. shipments of subject imports from Laos overlapped, especially in the distributors channel and to a slightly lesser degree, for U.S. producers' U.S. shipments and U.S. shipments of subject imports from all three subject countries in the utilities/developers channel in 2024 and 2025.[119] Although Mundra contends that subject imports from India compete differently than subject imports from Laos and Indonesia,[120] we note that U.S. importers' U.S. shipments of subject merchandise from India significantly overlapped in competition in shipments with U.S. shipments of subject merchandise from Laos and Indonesia to utilities and developers in 2024 and 2025.[121]

Geographic Overlap. In 2025, U.S. producers and importers of subject merchandise each reported selling CSPV products to all areas of the contiguous United States, as well as to other U.S. markets, including Alaska, Hawaii, Puerto Rico, and the U.S. Virgin Islands.[122] Official import statistics indicate that imports from each subject country entered the United States through ports located at all four borders of the United States in 2025.[123]

Simultaneous Presence in Market. The domestic like product was present in the U.S. market in every month of the investigation period.[124] Imports from India were present in each month of the investigation period except November 2025.[125] Imports from Indonesia were present in all 39 months of the investigation period.[126] Beginning in December 2023, imports

[118] *See* CR/PR at Table 2.6.

[119] CR/PR at Table 2.6. The share of U.S. producers' U.S. shipments to utilities and developers was between *** to *** percent during the investigation period, while the share of U.S. importers' U.S. shipments from the three subject countries was between *** percent to *** percent during the investigation period. *See* CR/PR at Table 2.6.

[120] Mundra Posthearing Brief at 10.

[121] CR/PR at Table 2.6.

[122] CR/PR at Table 2.7. U.S. producers and U.S. importers of subject merchandise from Indonesia and Laos reported selling to all geographic markets in the United States. U.S. importers of subject merchandise from India sold to all geographic markets in the United States except the "Other" region encompassing Alaska, Hawaii, Puerto Rico, and the U.S. Virgin Islands. *Id*.

[123] CR/PR at 4.18. The largest share of CSPV cells and modules from India (60.5 percent) entered the United States through ports in the South. The largest share of CSPV cells and modules from Indonesia (46.4 percent) entered the United States through ports in the West. The largest share of CSPV cells and modules from Laos (40.3 percent) entered the United States through ports in the West. *See id.*

[124] *See, e.g.*, CR/PR at Table 5.10.

[125] CR/PR at Table 4.19.

[126] CR/PR at Table 4.19.

from Laos were present in every month for the remainder of the investigation period, with the exception of May 2024, for a total of 27 of 39 months.[127]

Conclusion. The final phase record indicates that subject imports from India, Indonesia, and Laos are generally fungible with the domestic like product and each other, and overlapped in channels of distribution, with particularly significant overlap in the utilities/developers distribution channel in 2025 and interim 2026. The record further indicates that imports from each of the subject countries and the domestic like product were generally sold in overlapping geographic markets in 2025, and were simultaneously present in the U.S. market, except for May 2024 and November 2025, for the entire period from December 2023 through May 2026. Finally, although producers in India may not have the same level of affiliation with Chinese producers as producers in Laos and Indonesia, we find that this fact does not outweigh the record evidence on the four factors that the Commission traditionally considers regarding cumulation that indicate that subject imports from India reasonably overlap in competition with the domestic like product and other subject sources. In light of these considerations, we find that there is a reasonable overlap of competition between the like product and imports from each subject country and between imports from each subject country eligible for cumulation.

VI. Material Injury by Reason of Subject Imports

Based on the record in the final phase of this investigation, we find that an industry in the United States is materially injured by reason of imports of CSPV products from India, Indonesia, and Laos that Commerce has found to be sold in the United States at less than fair value and subsidized by the governments of India, Indonesia, and Laos.

A. Legal Standards

In the final phase of antidumping and countervailing duty investigations, the Commission determines whether an industry in the United States is materially injured or threatened with material injury by reason of the imports under investigation.[128] In making this determination, the Commission must consider the volume of subject imports, their effect on

[127] CR/PR at Table 4.19. We note that subject imports from Laos first entered the U.S. market during the investigation period in December 2023. Subject imports from India and Indonesia were present in the U.S. market each month from January 2023 to November 2023 before imports from Laos entered the U.S. market. *See id*.

[128] 19 U.S.C. §§ 1671d(b), 1673d(b).

prices for the domestic like product, and their impact on domestic producers of the domestic like product, but only in the context of U.S. production operations.[129] The statute defines "material injury" as "harm which is not inconsequential, immaterial, or unimportant."[130] In assessing whether the domestic industry is materially injured by reason of subject imports, we consider all relevant economic factors that bear on the state of the industry in the United States.[131] No single factor is dispositive, and all relevant factors are considered "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."[132]

Although the statute requires the Commission to determine whether the domestic industry is "materially injured or threatened with material injury by reason of" unfairly traded imports,[133] it does not define the phrase "by reason of," indicating that this aspect of the injury analysis is left to the Commission's reasonable exercise of its discretion.[134] In identifying a causal link, if any, between subject imports and material injury to the domestic industry, the Commission examines the facts of record that relate to the significance of the volume and price effects of the subject imports and any impact of those imports on the condition of the domestic industry. This evaluation under the "by reason of" standard must ensure that subject imports are more than a minimal or tangential cause of injury and that there is a sufficient causal, not merely a temporal, nexus between subject imports and material injury.[135]

In many investigations, there are other economic factors at work, some or all of which may also be having adverse effects on the domestic industry. Such economic factors might

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[129] 19 U.S.C. § 1677(7)(B). The Commission "may consider such other economic factors as are relevant to the determination" but shall "identify each {such} factor ... and explain in full its relevance to the determination." 19 U.S.C. § 1677(7)(B).

[130] 19 U.S.C. § 1677(7)(A).

[131] 19 U.S.C. § 1677(7)(C)(iii).

[132] 19 U.S.C. § 1677(7)(C)(iii).

[133] 19 U.S.C. §§ 1671d(b), 1673d(b).

[134] *Angus Chemical Co. v. United States*, 140 F.3d 1478, 1484-85 (Fed. Cir. 1998) ("{T}he statute does not 'compel the commissioners' to employ {a particular methodology}."), *aff'g,* 944 F. Supp. 943, 951 (Ct. Int'l Trade 1996).

[135] The Federal Circuit, in addressing the causation standard of the statute, observed that "{a}s long as its effects are not merely incidental, tangential, or trivial, the foreign product sold at less than fair value meets the causation requirement." *Nippon Steel Corp. v. USITC*, 345 F.3d 1379, 1384 (Fed. Cir. 2003). This was further ratified in *Mittal Steel Point Lisas Ltd. v. United States*, 542 F.3d 867, 873 (Fed. Cir. 2008), where the Federal Circuit, quoting *Gerald Metals, Inc. v. United States*, 132 F.3d 716, 722 (Fed. Cir. 1997), stated that "this court requires evidence in the record 'to show that the harm occurred "by reason of" the LTFV imports, not by reason of a minimal or tangential contribution to material harm caused by LTFV goods.'" *See also Nippon Steel Corp. v. United States*, 458 F.3d 1345, 1357 (Fed. Cir. 2006); *Taiwan Semiconductor Industry Ass'n v. USITC*, 266 F.3d 1339, 1345 (Fed. Cir. 2001).

include nonsubject imports; changes in technology, demand, or consumer tastes; competition among domestic producers; or management decisions by domestic producers. The legislative history explains that the Commission must examine factors other than subject imports to ensure that it is not attributing injury from other factors to the subject imports, thereby inflating an otherwise tangential cause of injury into one that satisfies the statutory material injury threshold.[136] In performing its examination, however, the Commission need not isolate the injury caused by other factors from injury caused by unfairly traded imports.[137] Nor does the "by reason of" standard require that unfairly traded imports be the "principal" cause of injury or contemplate that injury from unfairly traded imports be weighed against other factors, such as nonsubject imports, which may be contributing to overall injury to an industry.[138] It is clear that the existence of injury caused by other factors does not compel a negative determination.[139]

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[136] SAA at 851-52 ("{T}he Commission must examine other factors to ensure that it is not attributing injury from other sources to the subject imports."); S. Rep. 96-249 at 75 (1979) (the Commission "will consider information which indicates that harm is caused by factors other than less-than-fair-value imports."); H.R. Rep. 96-317 at 47 (1979) ("in examining the overall injury being experienced by a domestic industry, the ITC will take into account evidence presented to it which demonstrates that the harm attributed by the petitioner to the subsidized or dumped imports is attributable to such other factors;" those factors include "the volume and prices of nonsubsidized imports or imports sold at fair value, contraction in demand or changes in patterns of consumption, trade restrictive practices of and competition between the foreign and domestic producers, developments in technology and the export performance and productivity of the domestic industry"); *accord Mittal Steel*, 542 F.3d at 877.

[137] SAA at 851-52 ("{T}he Commission need not isolate the injury caused by other factors from injury caused by unfair imports."); *Taiwan Semiconductor Industry Ass'n,* 266 F.3d at 1345 ("{T}he Commission need not isolate the injury caused by other factors from injury caused by unfair imports ... . Rather, the Commission must examine other factors to ensure that it is not attributing injury from other sources to the subject imports." (emphasis in original)); *Asociacion de Productores de Salmon y Trucha de Chile AG v. United States*, 180 F. Supp. 2d 1360, 1375 (Ct. Int'l Trade 2002) ("{t}he Commission is not required to isolate the effects of subject imports from other factors contributing to injury" or make "bright-line distinctions" between the effects of subject imports and other causes.); *see also Softwood Lumber from Canada*, Inv. Nos. 701-TA-414 and 731-TA-928 (Remand), USITC Pub. 3658 at 100-01 (Dec. 2003) (Commission recognized that "{i}f an alleged other factor is found not to have or threaten to have injurious effects to the domestic industry, *i.e*., it is not an 'other causal factor,' then there is nothing to further examine regarding attribution to injury"), *citing Gerald Metals,* 132 F.3d at 722 (the statute "does not suggest that an importer of LTFV goods can escape countervailing duties by finding some tangential or minor cause unrelated to the LTFV goods that contributed to the harmful effects on domestic market prices.").

[138] S. Rep. 96-249 at 74-75; H.R. Rep. 96-317 at 47.

[139] *See Nippon Steel Corp*., 345 F.3d at 1381 ("an affirmative material-injury determination under the statute requires no more than a substantial-factor showing. That is, the 'dumping' need not be the sole or principal cause of injury.").

Assessment of whether material injury to the domestic industry is "by reason of" subject imports "does not require the Commission to address the causation issue in any particular way" as long as "the injury to the domestic industry can reasonably be attributed to the subject imports."[140] The Commission ensures that it has "evidence in the record" to "show that the harm occurred 'by reason of' the LTFV imports," and that it is "not attributing injury from other sources to the subject imports." [141] The Federal Circuit has examined and affirmed various Commission methodologies and has disavowed "rigid adherence to a specific formula."[142]

The question of whether the material injury threshold for subject imports is satisfied notwithstanding any injury from other factors is factual, subject to review under the substantial evidence standard.[143] Congress has delegated this factual finding to the Commission because of the agency's institutional expertise in resolving injury issues.[144]

B. Conditions of Competition and the Business Cycle

The following conditions of competition inform our analysis of whether there is material injury by reason of subject imports.

1. Demand Considerations

U.S. demand for CSPV products derives from demand for solar-generated electricity, which is influenced by factors such as cost competitiveness with traditional nonrenewable energy sources, environmental concerns, a desire for national energy independence, total

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[140] *Mittal Steel*, 542 F.3d at 876 &78; *see also id.* at 873 ("While the Commission may not enter an affirmative determination unless it finds that a domestic industry is materially injured 'by reason of' subject imports, the Commission is not required to follow a single methodology for making that determination ... {and has} broad discretion with respect to its choice of methodology.") *citing United States Steel Group v. United States*, 96 F.3d 1352, 1362 (Fed. Cir. 1996) and S. Rep. 96-249 at 75. In its decision in *Swiff-Train v. United States*, 793 F.3d 1355 (Fed. Cir. 2015), the Federal Circuit affirmed the Commission's causation analysis as comporting with the Court's guidance in *Mittal*.

[141] *Mittal Steel*, 542 F.3d at 873 (quoting from *Gerald Metals*, 132 F.3d at 722), 877-79. We note that one relevant "other factor" may involve the presence of significant volumes of price-competitive nonsubject imports in the U.S. market, particularly when a commodity product is at issue. In appropriate cases, the Commission collects information regarding nonsubject imports and producers in nonsubject countries in order to conduct its analysis.

[142] *Nucor Corp. v. United States*, 414 F.3d 1331, 1336, 1341 (Fed. Cir. 2005); *see also Mittal Steel*, 542 F.3d at 879 ("*Bratsk* did not read into the antidumping statute a Procrustean formula for determining whether a domestic injury was 'by reason' of subject imports.").

[143] We provide in our discussion below a full analysis of other factors alleged to have caused any material injury experienced by the domestic industry.

[144] *Mittal Steel*, 542 F.3d at 873; *Nippon Steel Corp.*, 458 F.3d at 1350, *citing U.S. Steel Group*, 96 F.3d at 1357; S. Rep. 96-249 at 75 ("The determination of the ITC with respect to causation is ... complex and difficult, and is a matter for the judgment of the ITC.").

energy consumption, and the availability of federal, state, and local incentives to produce or install CSPV products.[145] While most electricity demand in the United States is supplied by conventional sources, the share of electricity generated from renewable sources has been steadily increasing.[146] Over the investigation period, solar generated-electricity's share of U.S. net electricity generation increased from 4.0 percent in 2023 to 5.1 percent in 2024 and to 6.7 percent in 2025.[147] There are three on-grid market segments that drive demand for CSPV products: residential, commercial, and utilities.[148]

Most domestic producers and U.S. importers reported that demand for CSPV products increased during the investigation period. Nine of 15 U.S. producers, 24 of 44 importers, and nine of ten U.S. purchasers indicated that the U.S. CSPV market is subject to business cycles.[149]

The availability of government incentives was also a significant demand condition during the investigation period. The Inflation Reduction Act ("IRA"), enacted on August 16, 2022, updated and extended the Investment Tax Credit ("ITC") and the Manufacturing Production Tax Credit ("MPTC"), two of the major policies that promote solar energy.[150] The IRA also provided a bonus to existing incentives for the deployment of solar power projects that utilize domestic content.[151] However, the passage One Big Beautiful Bill Act ("OBBBA") in July 2025 placed restrictions on the energy tax credits enacted under the IRA.[152] U.S. producers and importers had mixed responses regarding the effect of the tax incentive phaseouts on U.S. demand.[153]

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[145] CR/PR at 2.11.

[146] CR/PR at 2.11.

[147] CR/PR at Table 2.10. The Electric Reliability Council of Texas (ERCOT) grid, which covers most of Texas, is expected to account for 40 percent of total solar capacity additions in the United States this year, and the U.S. Energy Information Administration (EIA) estimates that in 2026 annual electric power generation from utility-scale solar in this grid will surpass that from coal for the first time. CR/PR at 2.11.

[148] CR/PR at 1.28.

[149] CR/PR at 2.12.

[150] *See Preliminary Determinations*, USITC Pub. at 42.

[151] The IRA updated and extended the ITC and the PTC. In addition, the IRA established the Clean Electricity Investment Tax Credit, the Clean Energy Production Tax Credit and added "bonus credits" in all for programs for electricity generation projects that meet domestic content requirements. *See Preliminary Determinations*, USITC Pub. at 42 n.151. However, OBBBA shortened the deadlines for projects to qualify for tax credits and restricted the qualifications for some types of foreign ownership, but continued the IRA's bonus credits. *Id*.

[152] *See Preliminary Determinations*, USITC Pub. at 42.

[153] *See* CR/PR at Tables D.1 and D.2. For example, U.S. producer *** reported that the ***. *Id*. at Table D.1. Similarly, U.S. producer *** reported that ***. *Id*. U.S. producer *** also reported that ***. *Id*. On the other hand, U.S. producer *** reported that the ***. *Id*.
(Continued...)

Apparent U.S. consumption of CSPV cells and modules increased by *** percent from 2023 to 2025, increasing from *** GW in 2023 to *** GW in 2024 and to *** GW in 2025. Apparent U.S. consumption was *** percent lower in interim 2026 at *** GW, than in interim 2025 at *** GW.[154]

2. Supply Considerations

The domestic industry was the smallest source of supply, by value, of CSPV cells and modules to the U.S. market in 2023, but was the second smallest source of supply in 2024 and 2025. Because there was no domestic cell production until 2024, the data for U.S. producers' share of apparent U.S. consumption of CSPV cells and modules by value are based on U.S. producers' value added to imports of cells in U.S. production of modules.[155]

Its share of apparent U.S. consumption by value increased overall by *** percentage points from 2023 to 2025, increasing from *** percent in 2023 to *** percent in 2024 and to *** percent in 2025; it was higher in interim 2026, at *** percent, compared to interim 2025, at *** percent.[156] The domestic industry's share of apparent U.S. consumption of CSPV modules by quantity increased from *** percent in 2023 to *** in 2024 and to *** percent in 2025, for an overall increase of *** percentage points.[157] The domestic industry's share of apparent U.S. consumption of CSPV modules by quantity was higher in interim 2026, at *** percent, than in interim 2025, at *** percent.[158] Overall, the domestic industry's practical capacity for modules increased 489.2 percent from 2023 to 2025, from 5.2 GW in 2023 to 15.3 GW in 2024 and to 30.8 GW in 2025; it was 27.4 percent higher in interim 2026 at 8.5 GW than in interim 2025 at 6.7 GW.[159]

There were several changes to the domestic industry during the period of investigation. Domestic producers Canadian Solar, Elin Energy, Illuminate, Imperial Star Solar, Meyer Burger,

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U.S. importers generally reported that the tax incentives boosted U.S. demand for CSPV products. For example, importer *** reported that the ***. *Id*. at Table D.2. Importer *** stated that the ***. *Id.*

[154] CR/PR at Tables 4.20 and C.1.

[155] CR/PR at Table C.1 n.3.

[156] CR/PR at Tables 4.21 and C.1.

[157] *See* CR/PR at Table C.3.

[158] CR/PR at Table C.3. The domestic industry recommenced cell production in 2024. Accordingly, the domestic industry's share of apparent U.S. consumption of CSPV cells by quantity increased from *** percent in 2023 to *** percent in 2024 to *** percent in 2025; it was *** percent in interim 2026 compared to *** percent in interim 2025. CR/PR at Table C.2.

[159] CR/PR at Table C.1. The domestic industry's practical capacity for cell production was *** MW in 2024, *** GW in 2025, and *** MW in interim 2026, as opposed to *** MW in interim 2025. CR/PR at Table C.2.

Runergy, SEG Solar, and Waaree Energies opened domestic module facilities and began commercial operations.[160] Domestic producers Hanwha and Heliene expanded their domestic facilities and added module production capacity.[161] In late 2024, Suniva started domestic production of CSPV cells at its facility in Georgia,[162] and ES Foundry began cell production in early 2025 at its facility in South Carolina.[163] In May 2025, Meyer Burger announced that it ceased U.S. operations at its Arizona module assembly plant, which had opened in June 2024.[164]

Cumulated subject imports from India, Indonesia, and Laos were the second largest source of supply to the U.S. market for cells and modules by value in 2023 and 2024, but were the largest source of supply in 2025. Cumulated subject imports' share of apparent U.S. consumption of cells and modules by value decreased from *** percent in 2023 to *** percent in 2024 before increasing to *** percent in 2025, for an overall increase of *** percentage points; it was *** percentage points lower in interim 2026 at *** percent, than in interim 2025, at *** percent.[165] Cumulated subject imports' share of apparent U.S. consumption of cells and modules by quantity decreased from *** percent in 2023 to *** percent in 2024 before increasing to *** percent in 2025, for an overall increase of *** percentage points; it was *** percentage points higher in interim 2026 at *** percent than in interim 2025 at *** percent. Cumulated subject imports' share of apparent U.S. consumption of CSPV modules by quantity decreased from *** percent in 2023 to *** percent in 2024, before increasing to *** percent in 2025, for an overall increase of *** percentage points; it was *** percentage points lower in interim 2026 at *** percent than in interim 2025 at *** percent. [166]

Nonsubject imports were the largest source of supply to the U.S. market for cells and modules by value in 2023 and 2024 but were the second largest source of supply in 2025.[167] Nonsubject imports were the largest source of supply to the U.S. market for cells and modules

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[160] CR/PR at Table 3.3. In addition, Trina/T1 began domestic production of modules and anticipates commencing domestic production of cells by the end of 2026. CR/PR at Table 3.3.

[161] CR/PR at Table 3.3. Information from questionnaire responses indicates that ***. CR/PR at Table 3.4.

[162] CR/PR at Table 3.3.

[163] CR/PR at Table 3.3.

[164] CR/PR at Table 3.3. In addition, Heliene announced a permanent layoff of 93 employees at its Minnesota module assembly facility in August 2026. *Id*.

[165] CR/PR at Tables 4.21 and C.1.

[166] *See* CR/PR at Table C.3. Cumulated subject imports' share of apparent U.S. consumption of CSPV cells by quantity increased *** percentage points from 2023 to 2025, slightly decreasing from *** percent in 2023 to *** percent in 2024 and increasing to *** percent in 2025; it was *** percent in interim 2026 compared to *** percent in interim 2025. CR/PR at Table C.2.

[167] CR/PR at Table C.1.

by value in 2023 and 2024 but were the second largest source of supply in 2025.[168] The primary sources of nonsubject imports were Vietnam, Thailand, and Malaysia.[169] Nonsubject imports were also the largest source of supply to the U.S. market for modules by quantity in 2023 and 2024, but were the smallest source of supply in 2025. Their share of apparent U.S. consumption of modules by quantity decreased from *** percent in 2023 to *** percent in 2024 and to *** percent in 2025, for an overall decrease of *** percentage points; their share was the same in interim 2025 and interim 2026 at *** percent.[170]

Nonsubject imports in these investigations include imports of CSPV products from Cambodia, Malaysia, Thailand, and Vietnam that were subject to the Commission's *CSPV III* investigations. The petitions for those investigations were filed in April 2024, and provisional antidumping and countervailing orders for imports of CSPV products from those countries were imposed in October and December 2024, and the final orders were imposed in June 2025.[171] As mentioned above, during the investigation period from January 1, 2023 until the expiration of the tariff moratorium on June 6, 2024, unfairly traded nonsubject circumventing imports

[168] CR/PR at Table C.1.

[169] CR/PR at 4.6. Imports of CSPV products from Vietnam, Thailand, and Malaysia are subject to the *CSPV III* orders. These recent order sources accounted for most of the market share held by nonsubject imports during the investigation period. Recent order sources' share of apparent U.S. consumption of modules by quantity increased from *** percent in 2023 to *** percent in 2024 and decreased to *** percent in 2025, for an overall decrease of *** percentage points; their share was *** percentage points lower in interim 2026 at *** percent compared to interim 2025 at *** percent. CR/PR at Table C.3.

[170] *See* CR/PR at Table C.3. Nonsubject imports' share of apparent U.S. consumption of CSPV cells by quantity decreased overall by *** percentage points from 2023 to 2025, increasing from *** percent in 2023 to *** percent in 2024 and decreasing to *** percent in 2025; it was *** percent in interim 2026 compared to *** percent in interim 2025. CR/PR at Table C.2.

Recent order sources' share of apparent U.S. consumption of CSPV cells by quantity decreased *** percentage points overall from 2023 to 2025, increasing from *** percent in 2023 to *** percent in 2024 and decreasing to *** percent in 2025; it was *** percent in interim 2026 compared to *** percent in interim 2025. CR/PR at Table C.2.

[171] *Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules from the Socialist Republic of Vietnam: Amended Final Antidumping Duty Determination; Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules from Cambodia, Malaysia, Thailand, and the Socialist Republic of Vietnam: Antidumping duty Orders*, 90 Fed. Reg. 26786 (June 24, 2025); *Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules from the Socialist Republic of Vietnam: Amended Final Antidumping Duty Determination; Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules from Cambodia, Malaysia, Thailand, and the Socialist Republic of Vietnam: Antidumping Duty Orders; Correction*, 90 Fed. Reg. 29843 (July 7, 2025); and *Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules, from Malaysia and Thailand: Amended Final Countervailing Duty Determinations; Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules, from Cambodia, Malaysia, Thailand, and the Socialist Republic of Vietnam: Countervailing Duty Orders*, 90 Fed. Reg. 26791 (June 24, 2025).

entered the United States free from antidumping and countervailing duties. These circumventing imports were also nonsubject imports in the *CSPV III* investigations.[172]

A small minority of domestic producers (three of 15) reported supply constraints during the investigation period.[173] A minority of U.S. importers (seven of 42) reported supply constraints during the investigation period, which they attributed to Customs holds related to UFLPA compliance issues and the limited availability of domestically-produced CSPV cells.[174]

Four of ten responding U.S. purchasers reported that they had experienced supply constraints, with three firms reporting supply constraints from domestic producers and two firms reporting supply constraints from foreign producers or importers. U.S. purchasers attributed supply constraints to limited cell capacity and lack of availability due to increased demand, delivery delays, and changes in U.S. trade policy since 2023.[175]

3. Substitutability and Other Conditions

We find that there is a moderate-to-high degree of substitutability between the domestic like product and cumulated subject imports from India, Indonesia, and Laos. Factors contributing to the moderate-to-high level of substitutability include the high degree of interchangeability between domestic and subject sources as reported by U.S. producers, importers, and purchasers, as well as most purchasers reporting U.S.-produced CSPV products and CSPV products imported from subject sources as comparable with respect to quality meeting industry standards and reliability of supply.[176] Factors that reduce substitutability include differences in lead times from domestic and subject sources, with lead times for U.S. producers produced-to-order sales averaging 70 days and lead times for U.S. importers' produced-to-order sales averaging 126 days.[177]

Most U.S. producers, U.S. importers, and U.S. purchasers reported that domestically-produced CSPV products were either always or frequently interchangeable with subject imports and other sources.[178] In comparing U.S. produced CSPV products to subject imports on 18 purchasing factors, most responding purchasers rated domestically produced CSPV products as

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[172] *See CSPV III*, USITC Pub. 5631 at 45.

[173] CR/PR at 2.9.

[174] *See* CR/PR at 2.9. Of the seven importers that reported supply constraints, four reported supply constraints during 2023, six reported supply constraints during 2024, six reported supply constraints during 2025, and seven reported supply constraints during 2026. CR/PR at 2.9.

[175] CR/PR at 2.10.

[176] CR/PR at 2.13.

[177] CR/PR at 2.13.

[178] CR/PR at 2.20; *see also* CR/PR at Tables 2.18-2.20.

comparable to CSPV products imported from subject sources with respect to quality meeting industry standards, reliability of supply, delivery time and terms, bankability, technical support/service, payment terms, packaging, and minimum quantity requirements.[179] Most responding purchasers rated U.S. produced CSPV products as inferior on price (i.e., higher-priced) and product range compared to imports from each subject source.[180] No purchasers reported that U.S.-produced CSPV products and subject imports from India, Indonesia, and Laos rarely or only sometimes met minimum quality standards.[181] A slight majority of purchasers (six of ten) reported usually or always making purchasing decisions based on the country of origin, while all purchasers (six of six) reported that their customers only sometimes make purchasing decisions based on country of origin.[182] While a majority of purchasers (six of 10) reported aways or usually making purchasing decisions based on the producer, most purchasers (five of six) reported that their customers sometimes or never make purchasing decisions based on the producer.[183]

We find that price is an important factor in purchasing decisions for CSPV cells and modules, among other important purchasing factors. Responding U.S. purchasers most often cited price as among their top three purchasing factors (ten purchasers), followed by quality/technology (nine purchasers) and availability/delivery schedule (eight purchasers).[184] Five purchasers listed quality/technology as the first-most important factor and three listed price as the first-most important factor.[185] Five of ten purchasers reported that they usually purchase the lower-priced product, three purchasers indicated that they sometimes do, and two purchasers indicated that they never purchase the lowest-priced product.[186] Half (5 of 10) of responding U.S. producers reported that differences other than price were sometimes or never significant comparing U.S.-produced CSPV products to imports from India, most (nine of 13) indicated the same comparing imports from Indonesia, and most (seven of 11) indicated the

[179] CR/PR at 2.17, Table 2.17.

[180] *See* CR/PR at Table 2.17.

[181] CR/PR at Table 2.15. Six of nine responding U.S. purchasers reported that the quality of U.S.-produced CSPV products always or usually met minimum quality standards and three did not know. *Id*. Four of ten responding U.S. purchasers reported that the quality of subject imports from India always or usually met minimum quality standards and six did not know. Eight of 10 U.S. purchasers reported that the quality of subject imports from Indonesia always or usually met minimum quality standards and two did not know. *Id*. Five of 10 U.S. purchasers reported that the quality of subject imports from Laos always or usually met minimum quality standards and five did not know. *Id*.

[182] CR/PR at Table 2.12.

[183] CR/PR at Table 2.12.

[184] CR/PR at 2.14.

[185] CR/PR at Table 2.13.

[186] CR/PR at 2.14.

same comparing imports from Laos to U.S.-produced CSPV products.[187] Most importers reported factors other than price were either always or frequently significant when comparing CSPV products from the United States to product from each subject source.[188] Among purchasers, most firms indicated non-price factors were only sometimes or never significant when comparing U.S.-produced product to product from Indonesia, while a small majority reported this was the case when comparing U.S.-produced product to product from India and Laos.[189]

Domestic producers reported that 94.8 percent of their commercial shipments were produced to order, with lead times averaging 70 days.[190] U.S. importers reported that 83.5 percent of their commercial shipments were produced to order, with lead times averaging 126 days.[191]

Eight of ten responding purchasers reported that they require their suppliers to become certified or qualified to sell CSPV products to their firms, most purchasers (six of eight) reported that qualification times ranged from 90 to 180 days.[192] One purchaser reported that foreign supplier *** initially failed in its attempt to qualify to supply CSPV products but later met the certification requirements during the investigation period.[193]

In 2025, most U.S. producers reported selling their CSPV products under short term contracts (*** percent), with lesser quantities sold under long-term contracts (*** percent), spot sales (*** percent), and annual contracts (*** percent).[194] In 2025, responding U.S. importers of subject merchandise reported that their commercial shipments were through short term contracts (*** percent), followed by long-term contracts (*** percent), annual contracts (*** percent), and spot sales (*** percent).[195] The majority of U.S. producers and

[187] CR/PR at Table 2.21.
[188] CR/PR at Table 2.22.
[189] CR/PR at Table 2.23.
[190] CR/PR at 2.15.
[191] CR/PR at 2.15.
[192] CR/PR at 2.16. Two purchasers reported qualification times ranging from 30 to 90 days. *Id*.
[193] CR/PR at 2.16.
[194] CR/PR at Table 5.4.
[195] CR/PR at Table 5.4. Most U.S. producers and importers reported their short-term contracts do not allow for price renegotiation, fix both price and quantity, and are not indexed to raw materials. CR/PR at 5.7. With respect to long-term contracts, most U.S. producers reported they allow for price renegotiation and are indexed to raw materials while half of responding firms reported they fix quantity. Most U.S. importers reported their long-term contracts fix both price and quantity and are not indexed to raw materials. *Id*.

U.S. importers reported that they set their prices using transaction-by-transaction negotiations and through contracts, with a minority reporting using a set price list.[196]

The main raw material for CSPV cells is polysilicon, which is used to make the ingots and wafers that are processed into cells.[197] CSPV cells are then assembled, along with other components, including solar glass, aluminum frames, junction boxes, and backsheets, into CSPV modules.[198] The record indicates that the global average price for polysilicon decreased from 2023 to 2026, decreasing overall by *** percent for polysilicon and *** percent for second grade polysilicon.[199] Similarly, the global average price for monocrystalline cells decreased from 2023 until early 2026 when prices fluctuated up slightly. During the investigation period, prices for mono cells, N-type mono cells, and PERC mono cells, decreased by approximately *** percent.[200] Raw materials represented the largest share of U.S. producers' total cost of goods sold ("COGS") throughout the investigation period and decreased overall from *** percent in 2023 to *** percent in 2024 and to *** percent in 2025; they were *** percent in interim 2026, compared to *** percent in interim 2025.[201] The average unit raw material costs for CSPV products declined *** percent from 2023 to 2025, from $*** per kilowatt in 2023 to $*** per kilowatt in 2024 and to $*** per kilowatt in 2025; they were *** percent higher in interim 2026, at $*** per kilowatt, compared to $*** per kilowatt in interim 2025.[202]

As stated above, the United States imposed a global safeguard measure on CSPV products from February 7, 2018, through February 7, 2026.,[203] Imports of CSPV products from India and Laos were subject to the safeguard measure since its inception, while imports from Indonesia were not subject to the safeguard measure, under the exception for certain developing counties.[204]

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[196] CR/PR at Table 5.3.

[197] CR/PR at 1.30, 5.1.

[198] CR/PR at 5.1.

[199] CR/PR at 5.1. Polysilicon prices largely declined at the beginning of the investigation period following large increases in global capacity due to new polysilicon factories coming online in China. *Id*. Polysilicon prices recovered modestly beginning in July 2025. During this period, the Chinese Ministry of Industry and Information Technology (MIIT) met with solar manufacturers to discuss government efforts to curb oversupply, and polysilicon output is estimated to have decreased by 43.8 percent in the first half of 2025. *Id*.

[200] CR/PR at 5.4 and Figure 5.2; *see also* CR/PR at Table 5.2.

[201] CR/PR at Table 6.1.

[202] CR/PR at Table 6.1.

[203] In June 2019, USTR granted an exclusion for bifacial CSPV modules from the safeguard measures. *See Presidential Proclamation 10339 of February 4, 2022*, 87 Fed. Reg. 7357 (Feb. 9, 2022).

[204] *See* CR/PR at 1.6.

Although imports of bifacial panels were excluded from the safeguard measure when it was extended in February 2022, Presidential Proclamation 10779 of June 21, 2024, revoked that exclusion, and provided that imports of bifacial panels would be subject to the safeguard measure.[205]

CSPV products from India and Indonesia are subject to additional 10 percent duties under section 301 of the Trade Act of 1974, while subject imports from Laos are not.[206]

C. Volume of Subject Imports

Section 771(7)(C)(i) of the Tariff Act provides that the "Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States, is significant."[207]

The volume of cumulated subject imports of CSPV cells and modules from India, Indonesia, and Laos increased by *** percent from 2023 to 2025, from *** GW in 2023, to *** GW in 2024, and to *** GW in 2025; cumulated subject import volumes were *** GW in interim 2026, compared to *** GW in interim 2025.[208] As a share of apparent U.S. consumption by quantity, cumulated subject imports of CSPV cells and modules decreased from *** percent in 2023 to *** percent in 2024 and then increased to *** percent in 2025, a level *** percentage points higher than in 2023.[209] Cumulated subject imports' share of apparent

[205] CR/PR at 1.6 n.11.

[206] CR/PR at 1.19. Beginning in February 2025, imports of subject merchandise were subject to varying levels of additional tariffs under the International Emergency Economic Powers Act ("IEEPA"). CR/PR at 1.19. Effective February 20, 2026, tariffs initiated under IEEPA and the associated duties imposed under IEEPA were terminated. *Id*. Effective February 24, 2026 through July 24, 2026, CSPV products from India, Indonesia, and Laos were subject to additional 10 percent duties under section 122 of the Trade Act of 1974. *Id.*

[207] 19 U.S.C. § 1677(7)(C)(i).

[208] CR/PR at Table 4.2. Volumes of cumulated subject imports of CSPV cells and modules by value increased by *** percent overall from 2023 to 2025, decreasing from $*** in 2023 to $*** in 2024, and increasing to $*** in 2025; it was $*** in interim 2026 compared to *** in interim 2025. *Id*.

[209] CR/PR at Table C.1. As a share of apparent U.S. consumption by value, cumulated subject imports of CSPV cells and modules increased by *** percentage points from 2023 to 2025, decreasing from *** percent in 2023, to *** percent in 2024, and increasing to *** percent in 2025; their share was *** percent in interim 2026, compared to *** percent in interim 2025. CR/PR at Table C.4.

As a share of apparent U.S. consumption by quantity, cumulated subject imports of CSPV modules increased by *** percentage points from 2023 to 2025, decreasing from *** percent in 2023 to *** percent in 2024, and increasing to *** percent in 2025; they were *** percent in interim 2026, compared to *** percent in interim 2025. CR/PR at Table C.3.

(Continued...)

U.S. consumption was higher in interim 2026, at *** percent, than in interim 2025, at *** percent.[210] The ratio of cumulated subject imports by quantity to domestic production was *** percent in 2023, *** percent in 2024, and *** percent in 2025; it was *** percent in interim 2026, compared to *** percent in interim 2025.[211]

Based on the foregoing, we find that the volume of cumulated subject imports from India, Indonesia, and Laos is significant in absolute terms and relative to production and consumption in the United States, and that the increase in the volume of cumulated subject imports is significant in absolute terms and relative to consumption in the United States.[212]

D. Price Effects of the Subject Imports

Section 771(7)(C)(ii) of the Tariff Act provides that, in evaluating the price effects of the subject imports, the Commission shall consider whether

> (I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and
> (II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.[213]

As discussed above, we find that there is a moderate-to-high degree of substitutability between cumulated subject imports and the domestic like product, and that on balance, price is an important factor in purchasing decisions although there are other important factors.

The Commission collected quarterly quantity and f.o.b. pricing data on sales of four pricing products, all of which were CSPV modules,[214] shipped to unrelated U.S. customers during January 2023 to March 2026.[215]

As a share of apparent U.S. consumption by quantity, cumulated subject imports of CSPV cells increased by *** percentage points from 2023 to 2025, decreasing from *** percent in 2023 to *** percent in 2024, and increasing to *** percent in 2025; their share was *** percent in interim 2026, compared to *** percent in interim 2025. CR/PR at Table C.2.

[210] CR/PR at Table 4.20.

[211] CR/PR at Table 4.2.

[212] *See* CR/PR at Table 4.20.

[213] 19 U.S.C. § 1677(7)(C)(ii).

[214] No party proposed that the Commission collect pricing product data for CSPV cells. *See generally* Petitioner's Comments on Draft Questionnaires, EDIS Doc. 868311; Mundra's Comments on Draft Questionnaires, EDIS Doc. 868275.

[215] CR/PR at 5.8. The four pricing products are:

(Continued...)

Ten U.S. producers and 19 importers provided usable pricing data, although not all firms reported pricing for all products for all quarters.[216] Pricing data reported by these firms accounted for approximately *** percent of reported U.S. producers' shipments of CSPV modules, *** percent of reported U.S. shipments of subject imports from India, *** percent of reported U.S. shipments from Indonesia, and *** percent of reported U.S. shipments of subject imports from Laos in 2025.[217]

The pricing data show that subject imports undersold the domestic like product in 21 of 41 quarterly comparisons, or 51.2 percent of comparisons, at margins ranging from *** to *** percent, and averaging *** percent.[218] Subject imports oversold the domestic like product in the remaining 20 instances, or 48.8 percent of the comparisons, at margins ranging from *** to *** percent, and averaging *** percent.[219]

There were *** GW of reported subject import sales in quarters with underselling, or *** percent of total reported subject import pricing sales volume, compared to *** GW in quarters with overselling, or *** percent of total reported import sales volume.[220]

As mentioned above, in *CSPV III*, the Commission found that U.S. prices were depressed by *CSPV III* imports and circumventing *CSPV I* imports in 2023 and 2024. Accordingly, in considering whether subject imports significantly undersold the domestic like product during the investigation period, we are considering a U.S. market in which prices had already been depressed in the first two years of the investigation period by prior imports of CSPV products. The pricing data and other evidence on the record indicate that the underselling by the imports subject to these investigations was

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Product 1.-- Monocrystalline silicon module with front-side area of less than 2.2 square meters and a peak power wattage between 380w and 450w, inclusive, P-max or Wp as measured under Standard Test Conditions (STC), excluding bifacial and flexible modules.

Product 2.-- Monocrystalline silicon module with front-side area of greater than or equal to 2.2 square meters and a peak power wattage between 320w and 440w, inclusive, P-max or Wp as measured under STC, excluding bifacial and flexible modules.

Product 3.-- Monocrystalline silicon bifacial module that generates power on both sides of the panel with a front-side area of greater than or equal to 1.9 square meters and a peak power wattage between 320w and 450w, inclusive, P-max or Wp as measured under STC, excluding flexible modules.

Product 4.-- Monocrystalline silicon bifacial module that generates power on both sides of the panel with front-side area of greater than or equal to 1.9 square meters and a peak power wattage between 485w and 585w, inclusive, P-max or Wp as measured under STC, excluding flexible modules.

[216] CR/PR at 5.9.

[217] CR/PR at 5.9.

[218] CR/PR at Table 5.13.

[219] CR/PR at Table 5.13.

[220] *Derived from* CR/PR at Table 5.13.

also significant, additional to the effects of *CSPV III* imports and circumventing *CSPV I* imports.

First, the quarterly pricing data indicate that subject imports undersold the domestic like product in the majority of instances. In 2023, subject imports undersold the domestic like product in all four comparisons as U.S. prices declined due to both subject and non-subject imports but remained above subject import prices.[221] In 2024, U.S. prices reached such a low point that subject imports oversold the domestic like product in 9 out of 10 instances and *** percent by volume.[222] In 2025, the full year period not covered by the *CSPV III* investigations, as unfairly traded imports from *CSPV III* countries receded from the market, U.S. prices remained depressed and subject imports undersold the domestic like product in 12 of 23 quarterly comparisons, or *** percent of the comparisons, and *** percent by volume.[223] In interim 2026, with the order on imports from *CSPV III* countries fully in place, subject imports undersold the domestic like product in all four comparisons.[224] These data indicate that subject imports substantially undersold the domestic like product during the investigation period and would have done so to a greater extent if U.S. prices were not being depressed by unfairly traded imports.

Several other considerations support this conclusion. The average unit value ("AUV") of U.S. importers' U.S. shipments were lower than the AUVs of U.S. producers' U.S. shipments in 2023, 2025, and in interim 2026.[225] Purchaser questionnaire responses regarding the

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[221] CR/PR at Table 5.14. In 2023, there were *** MW of reported subject import sales in the four quarters with underselling. *Id*.

[222] CR/PR at Table 5.14. In 2024, there were *** kW of reported subject import sales in quarters with underselling, or *** percent of total reported subject import pricing sales volume, compared to *** GW in quarters with overselling, or *** percent of total reported import sales volume.

[223] CR/PR at Table 5.14. During the investigation period, underselling occurred at margins ranging from *** to *** percent, and averaging *** percent. *Id*. Subject imports oversold the domestic like product in 11 instances, or *** percent of the comparisons, at margins ranging from *** to *** percent, and averaging *** percent. *Id*. In 2025, there were *** GW of reported subject import sales in quarters with underselling, or *** percent of total reported subject import pricing sales volume, compared to *** GW in quarters with overselling, or *** percent of total reported import sales volume in 2025. *Id*.

[224] In interim 2026, there were *** GW of reported subject import sales in the quarters with underselling compared.

[225] The AUV of U.S. producers' U.S. shipments of CSPV products was $*** per kW in 2023, $*** per kW in 2024, and $*** per kW in 2025; it was $*** per kW in interim 2026, compared to $*** per kW in interim 2025. CR/PR at Table C.1.

The AUV of U.S. importers' U.S. shipments of subject merchandise was $*** per kW in 2023, $*** per kW in 2024, and $*** per kW in 2025; it was $*** per kW in interim 2026, compared to $*** per kW in interim 2025. CR/PR at Table C.1.

comparability of domestic CSPV products and subject imports further suggest that subject imports were generally priced lower than the domestic like product. Four of four responding purchasers reported that U.S. produced CSPV products were inferior in price (*i.e.*, priced higher) than subject imports from India, seven of eight responding purchasers reported that U.S. produced CSPV products were inferior in price than subject imports from Indonesia, and five of six reported the same regarding subject imports from Laos.[226]

We have also considered information concerning lost sales. The Commission sent a U.S. purchasers' questionnaire to 34 firms.[227] Of the ten purchasers that responded to the Commission's questionnaire, eight reported purchasing imported CSPV products rather than U.S.-produced CSPV products during the investigation period.[228] Of those eight purchasers, seven reported that subject import prices were lower than U.S.-produced product, and three purchasers reported that price was the primary reason for purchasing subject imports of CSPV products instead of the domestic like product.[229]

In light of these considerations, including the moderate-to-high degree of substitutability between subject imports and the domestic like product, the importance of price in purchasing decisions, the pricing data showing a majority of instances of underselling by subject imports, the data showing lower subject import AUVs in two of the three years of the investigation period and in the interim periods, and the responses by a majority of purchasers reporting that subject imports were lower priced than the domestic like product, we find that subject imports from Indonesia, India, and Laos undersold the domestic like product to a significant degree during the investigation period. This significant underselling prevented the domestic industry from capturing more market share than it otherwise would have in the absence of low-priced subject imports as subject imports essentially replaced the unfairly traded *CSPV III* imports in the U.S. market by the end of 2025.[230]

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[226] CR/PR at Table 2.17.

[227] CR/PR at 5.23.

[228] CR/PR at Tables 5.16 and 5.17.

[229] CR/PR at Table 5.16. Of the ten responding purchasers, two reported that U.S. producers had reduced prices to compete with lower priced imports from subject sources, five did not know, and one did not provide a response. CR/PR at 5.26. The reported estimated price reductions ranged from *** to *** percent. CR/PR at Table 5.18.

[230] From 2023 to 2025, cumulated subject imports captured *** percentage points of apparent U.S. consumption of CSPV cells and modules by quantity, while recent order sources lost *** percentage points of market share. CR/PR at Table C.1. From 2023 to 2025, cumulated subject imports captured (Continued...)

We have also considered price trends during the investigation period and whether subject imports depressed prices to a significant degree. The pricing data indicate that prices for domestically produced CSPV products decreased overall from the first quarter of 2023 to the first quarter of 2026 for all reported pricing products for which data are available. Although the domestic price for product 1 fluctuated upwards during some quarters of the investigation period, it decreased overall by *** percent from January 2023 through March 2026.[231] The domestic price for product 2 decreased by *** percent from January 2023 through March 2025, the last quarter for which data are available.[232] The domestic price for product 3 decreased by *** percent from January 2023 through December 2025, the last quarter for which data are available.[233] The domestic price for product 4, the pricing product with the largest volume, decreased by *** percent from July 2023, the first quarter for which data were available, through March 2026, the last quarter for which data are available.[234] In addition, the AUV of U.S. producers' U.S. shipments decreased 30.0 percent from 2023 to 2025, from $401 per kW in 2023 to $273 per kW in 2024, and increasing slightly to $281 per kW in 2025; it was $292 per kW in interim 2026 compared to $281 per kW in interim 2025.[235]

The pricing data indicate that prices for subject imports also decreased overall during the investigation period for all reported pricing products for which data are available. Importers' U.S. prices for product 1 decreased by *** percent from January 2023 through March 2026.[236] Importers' U.S. prices for product 4 decreased by *** percent from January

*** percentage points of apparent U.S. consumption of CSPV cells and modules by value, while recent order sources declined by *** percentage points over the same period. *Id*. We acknowledge that U.S. producers' share of apparent U.S. consumption of CSPV cells and modules by value increased by *** percentage points from 2023 to 2025, but we would have expected this increase to be higher given the imposition of trade relief in *CSPV III*.

Cumulated subject imports' share of apparent U.S. consumption of CSPV modules by quantity decreased from *** percent in 2023 to *** in 2024, before increasing to *** percent in 2025, for an overall increase of *** percentage points; it was *** percentage points lower in interim 2026 at *** percent than in interim 2025 at *** percent. *See* CR/PR at Table C.3. Cumulated subject imports' share of apparent U.S. consumption of CSPV cells by quantity increased *** percentage points from 2023 to 2025, slightly decreasing from *** percent in 2023 to *** percent in 2024 and increasing to *** percent in 2025; it was *** percent in interim 2026 compared to *** percent in interim 2025. CR/PR at Table C.2.

[231] CR/PR at Table 5.10.

[232] CR/PR at Table 5.10.

[233] CR/PR at Table 5.10.

[234] CR/PR at Table 5.10.

[235] CR/PR at Tables 3.17 and C.1. .

[236] CR/PR at Table 5.11. There were no price comparisons available from the second quarter of 2023 through the fourth quarter of 2024. *Id*.

2023 through March 2026.[237] The AUV of U.S. importers' U.S. shipments also decreased *** percent from 2023 to 2025, decreasing from $*** per kW in 2023 to $*** per kW in 2024, and decreasing to $*** per kW in 2025; it was $*** per kW in interim 2026 compared to $*** per kW in interim 2025.

We have also considered whether subject imports depressed or suppressed U.S. prices to a significant degree. U.S. producers' COGS-to-net sales ratio increased by *** percentage points from 2023 to 2025, increasing from *** percent in 2023 to *** percent in 2024 and declining to *** percent in 2025; it was higher in interim 2026 at *** percent than in interim 2025 at *** percent.[238] The domestic industry's per-unit COGS decreased by *** percent from 2023 to 2025, decreasing from $*** per kW in 2023 to $*** per kW in 2024 and to $*** per kW in 2025; it was higher in interim 2026 at $*** per kW than in interim 2025 at $*** per kW.[239] The domestic industry's net sales AUV decreased *** percent from 2023 to 2025, decreasing from $ *** per kW in 2023 to $*** per kW in 2024, and increasing slightly to $*** per kW in 2025; it was $*** per kW in interim 2026 compared to $*** per kW in interim 2025.[240] We found in *CSPV III* that prices in 2023 and 2024 were depressed by the *CSPV III* subject imports. We would have expected the imposition of the *CSPV III* orders to have allowed domestic prices to increase to cover costs of production and achieve some margin of profitability, especially in light of the *** percent increase in apparent U.S. consumption from 2023 to 2025. The record does show some improvement in 2025 and interim 2026, but only to a tiny degree, and far less than we would have anticipated. We attribute this anemic recovery to subject imports, and accordingly find that subject imports suppressed domestic prices.[241]

Although the pricing data indicate that domestic producers were able to raise prices from the first quarter of 2025 through the first quarter of 2026, U.S. importers' prices decreased during this period.[242] From January 2025 through March 2026, U.S. producers' domestic price increased by *** percent for product 1 and *** percent for product 4, and it

[237] CR/PR at Table 5.11.

[238] CR/PR at Tables 6.1 & C.1.

[239] CR/PR at Tables 6.1 & C.1.

[240] CR/PR at Tables 6.1 & C.1.

[241] Of the 16 responding U.S. producers of CSPV products, six reported that they had to reduce prices, three reported that they had to roll back announced price increases, and five reported that they had lost sales to subject imports during the investigation period. CR/PR at 5.23. Of the ten responding purchasers, two reported that U.S. producers had reduced prices to compete with lower-priced imports from subject sources, specifically Indonesia, five reported that they did not know, and one did not provide a response. The two purchasers reported the estimated price reductions were *** and *** percent. CR/PR at 5.26.

[242] *See* CR/PR at Tables 5.10 and 5.11.

increased *** percent for product 3 from January 2025 through December 2025, the last quarter for which data are available.[243] However, from January 2025 through March 2026, importers' U.S. prices decreased by *** percent for product 1 and by *** percent for product 4.[244] The U.S. producers' price increases in 2025 came after U.S. prices were already depressed in 2023 and 2024 as the Commission found in *CSPV III*, and during that year the available pricing data show that subject imports continued to exert downward pricing pressure. Accordingly, although U.S. producers were able to raise prices at the tail end of the investigation period, subject import prices decreased and continued the downward pressure on domestic prices.[245]

In sum, we find that significant underselling by cumulated subject imports in a market with already depressed U.S. prices prevented the domestic industry from capturing additional market share than it otherwise would have given the increase in apparent U.S. consumption from 2023 to 2025 and contributed to the domestic industry's inability to raise prices to levels sufficient to cover its costs. We therefore find that cumulated subject imports had significant price effects.

E. Impact of the Subject Imports[246]

Section 771(7)(C)(iii) of the Tariff Act provides that examining the impact of subject imports, the Commission "shall evaluate all relevant economic factors which have a bearing on

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[243] *Derived from* CR/PR at Tables 5.5 and 5.8.

[244] *Derived from* CR/PR at Tables 5.5 and 5.8. At the hearing, domestic industry witnesses testified regarding the pricing pressure imposed by subject imports. For example, the president of Mission Solar testified that "{d}espite trying our best to be cost competitive, our customers repeatedly told us our prices are too high. Subject producers have even offered prices well below our cost of production." Hearing Tr. at 41 (Martens).

[245] Once the market share of *CSPV III* imports declined in 2025 due to the orders on those imports, we would have expected the price depression they caused to be eliminated, but U.S. prices did not rise to a great extent despite the financial losses being incurred by the domestic industry. As noted, the domestic industry's U.S. shipment net sales AUVs of $*** per kW in 2023 fell to $*** per kW in 2024 and rose only slightly thereafter, to $*** per kW in 2025 and $*** per kW in interim 2026, never coming close to the 2023 level. CR/PR at Table 6.1. We acknowledge that for the domestic industry overall, including many module producers likely benefiting from declining cell prices, there was no rise in per-unit COGS until interim 2026 when per-unit COGS rose *** percent and net sales AUV rose *** percent to more than cover that increase. CR/PR at Table 6.2. We nevertheless see the inability to further raise prices in 2025 and interim 2026 after price depression from *CSPV III* imports as a form of price suppression.

[246] The statute instructs the Commission to consider the "magnitude of the dumping margin" in an antidumping proceeding as part of its consideration of the impact of imports. 19 U.S.C. § 1677(7)(C)(iii)(V). In its final determinations of sales at less than fair value, Commerce found dumping margins of 123.04 percent for imports from India, 94.36 percent for imports from Indonesia, and 65.43 percent for imports from Laos. *See Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into*
(Continued...)

the state of the industry."[247] These factors include output, sales, inventories, capacity utilization, market share, employment, wages, productivity, gross profits, net profits, operating profits, cash flow, return on investment, return on capital, ability to raise capital, ability to service debts, research and development, and factors affecting domestic prices. No single factor is dispositive and all relevant factors are considered "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."[248]

The domestic industry's output and U.S. shipments increased during the investigation period and its employment indicators improved; however, its financial performance was poor and generally worsened.

Almost every measure of production and employment increased dramatically. The industry's module capacity nearly quintupled,[249] while production increased six-fold,[250]

Modules From India: Final Affirmative Determination of Sales at Less Than Fair Value, and Final Affirmative Determination of Critical Circumstances, In Part, 91 Fed. Reg. 58658, 58660 (Dep't Comm. Sep. 16, 2026); *Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From Indonesia: Final Affirmative Determination of Sales at Less Than Fair Value and Final Affirmative Determination of Critical Circumstances*, 91 Fed. Reg. 58651, 58653 (Dep't. Comm. Sep. 16, 2026); *Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From the Lao People's Democratic Republic: Final Affirmative Determination of Sales at Less Than Fair Value and Final Affirmative Determination of Critical Circumstances, in Part*, 91 Fed. Reg. 58633, 58635 (Dep't. Comm. Sep. 16, 2026).

We consider in our analysis the fact that Commerce has made final findings that all subject producers in India, Indonesia, and Laos are selling subject imports in the United States at less than fair value. In addition to this consideration, our impact analysis has considered other factors affecting domestic prices. Our analysis of the significant price effects of subject imports, described in both the price effects discussion and below, is particularly probative to an assessment of the impact of the subject imports.

[247] 19 U.S.C. § 1677(7)(C)(iii); *see also* SAA at 851 and 885 ("In material injury determinations, the Commission considers, in addition to imports, other factors that may be contributing to overall injury. While these factors, in some cases, may account for the injury to the domestic industry, they also may demonstrate that an industry is facing difficulties from a variety of sources and is vulnerable to dumped or subsidized imports.").

[248] 19 U.S.C. § 1677(7)(C)(iii). This provision was amended by the Trade Preferences Extension Act of 2015, Pub. L. 114-27.

[249] The domestic industry's practical capacity for modules increased by 489.2 percent from 2023 to 2025, from 5.2 GW in 2023 to 15.3 GW in 2024, and 30.8 GW in 2025; it was 27.4 percent higher in interim 2026 at 8.5 GW, than in interim 2025 at 6.7 GW. CR/PR at Tables 3.10, C.1.

[250] The domestic industry's module production increased by 614.4 percent from 2023 to 2025, from 3.2 GW in 2023 to 10.6 GW in 2024, and to 22.8 GW in 2025; it was 47.5 percent higher in interim 2026 at 7.4 GW, than in interim 2025 at 5.0 GW. CR/PR at Tables 3.10, C.1.

resulting in capacity utilization growing by 12.9 percentage points from 2023 to 2025, and then increasing by another 11.9 percentage points in interim 2026 to reach 87.0 percent.[251]

All measures of employment increased almost as dramatically. The industry's number of production and related workers ("PRWs") increased by *** percent from 2023 to 2025, from *** PRWs in 2023 to *** PRWs in 2024 and to *** in 2025.[252] Hours worked rose by *** percent from 2023 to 2025,[253] wages paid increased by *** percent,[254] and productivity improved by *** percent.[255]

The domestic industry's U.S. shipments of modules increased 659.8 percent by volume from 2023 to 2025,[256] boosting its market share for CSPV modules up by *** percentage points from 2023 to 2025.[257] The domestic industry's market share for CSPV cells and modules, by value, increased by *** percentage points.[258] The domestic industry's end-of-period inventories of modules increased overall by *** percent from 2023 to 2025, from *** MW in

[251] The domestic industry's practical capacity utilization increased by 12.9 percentage points from 2023 to 2025, from 61.0 percent in 2023 to 69.2 percent in 2024 and to 73.9 percent in 2025; it was 11.9 percentage points higher in interim 2026 at 87.0 percent than in interim 2025 at 75.1 percent. CR/PR at Tables 3.10, C.1.

[252] The number of PRWs were *** percent higher in interim 2026 at *** PRWs than in interim 2025 at *** PRWs CR/PR at Tables 3.44, C.1.

[253] Hours worked increased from *** hours in 2023 to *** hours in 2024 and to *** hours in 2025; hours worked were *** percent higher in interim 2026, at *** hours, than in interim 2025, at *** hours. CR/PR at Tables 3.44, C.1.

[254] Wages paid increased from $*** in 2023 to $*** in 2024 and to $*** in 2025; wages paid were *** percent higher in interim 2026, at $***, than in interim 2025 at $***. CR/PR at Tables 3.44, C.1.

[255] Productivity increased from *** kilowatts per 1,000 hours in 2023 to *** kilowatts per 1,000 hours in 2024 and to *** kilowatts per 1,000 hours in 2025; productivity was *** percent lower in interim 2026 at *** kilowatts per 1,000 hours than in interim 2025 at *** kilowatts per 1,000 hours. CR/PR at Tables 3.44, C.1.

[256] Shipments increased from 3.1 GW in 2023 to 9.8 GW in 2024 and to 23.2 GW in 2025; U.S. producers' U.S. shipments were 41.5 percent higher in interim 2026 at 6.0 GW than in interim 2025 at 4.2 GW. CR/PR at Table C.3.

[257] Market share increased from *** percent in 2023 to *** percent in 2024 and to *** percent in 2025; the domestic industry's market share was higher in interim 2026 at *** percent than in interim 2025 at *** percent. CR/PR at Table C.3. While the Commission acknowledges that the domestic industry's percentage increases in shipments and market share are large, the domestic industry's baseline for both shipments and market share was low. Accordingly, these increases would likely have been even greater but for the increased presence in the market of unfairly traded subject imports.

[258] Market share by value increased from *** percent in 2023 to *** percent in 2024 and to *** percent in 2025; the domestic industry's market share was higher in interim 2026 at *** percent than in interim 2025 at *** percent. CR/PR at Tables 4.21, C.1.

2023 to *** MW in 2025,[259] but with growing shipments, these inventory levels as a share of total shipments decreased by *** percentage points from 2023 to 2025.[260]

Despite these positive trade data outcomes for the domestic industry, its financial performance was nevertheless poor throughout the investigation period. Although the net value of its sales increased along with the volume of shipments, by *** percent from 2023 to 2025,[261] every measure of profitability was very low and only worsened. Gross losses increased from a loss of $*** in 2023 to a loss of $*** in 2025.[262] The industry's operating income worsened from $*** in 2023 to $*** in 2025,[263] and net income worsened by *** percent from$ *** in 2023to $*** in 2025.[264] Ratios to net sales were equally dire, with the operating margin declining by *** percentage points overall from 2023 to 2025, [265] and its net income margin declining by *** percentage points overall from 2023 to 2025.[266] Although the interim period was only three months, we find it noteworthy that the domestic industry's financial performance was worse in interim 2026, a time when it should have been able to see benefits of the *CSPV III* orders, than it was in interim 2025.[267]

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[259] Inventories increased from *** MW in 2023 to *** MW in 2024 and decreasing to *** MW in 2025; end-of-period inventories were *** percent higher in interim 2026 at *** GW than in interim 2025 at *** GW. CR/PR at Table C.1.

[260] End-of-period inventories increased in relation to total shipments from *** percent in 2023 to *** percent in 2024, and decreased to *** percent in 2025; that figure was *** percentage points lower in interim 2026 at *** percent than in interim 2025 at *** percent. CR/PR at Table C.1.

[261] Net sales value increased from $*** in 2023 to $*** in 2024 and to $*** in 2025; its net sales value was *** percent higher in interim 2026 at $*** than in interim 2025 at $***. CR/PR at Table C.1.

[262] Gross income fell from $*** in 2023 to $*** in 2024, and slightly improved to *** in 2025; the domestic industry had a gross loss of $*** in interim 2026 compared to a gross profit of *** in interim 2025. CR/PR at Table C.1.

[263] Operating income worsened from *** in 2023 to *** in 2024 and *** in 2025. The domestic industry's operating income in interim 2026, ***, was worse than interim 2025's ***. CR/PR at Table C.1.

[264] CR/PR at Table C.1.

[265] The industry's ratio of operating income to net sales declined by *** percentage points overall from 2023 to 2025, decreasing from *** percent in 2023 to *** percent in 2024, and improving to *** percent in 2025; it worsened in interim 2026 at *** compared to *** percent in interim 2025. CR/PR at Table C.1.

[266] The net income margin decreased from *** percent in 2023 to *** percent in 2024, and to *** percent in 2025; the domestic industry's net income margin was *** percent in interim 2026 compared to *** percent in interim 2025. CR/PR at Table C.1.

[267] Although OBBBA accelerated the phaseout of the IRA tax incentives, we note that the domestic industry reported more IRA income in interim 2026, at $***, than in interim 2025, at $***. CR/PR at Tables 6.1. Although the per-module IRA income likely declined given the domestic industry's substantial increase in production, given that total IRA income increased, the record does not indicate that the domestic industry's worse financial performance in interim 2026 compared to interim 2025 is attributable to a reduction in IRA incentives.

The domestic industry's capital expenditures increased *** percent overall from 2023 to 2025,[268] while its research and development ("R&D") expenses decreased overall by *** percent.[269] Total net assets increased ***, rising from $*** in 2023 to $*** in 2025.[270] The industry's return on assets declined from 2023 to 2025.[271] Several U.S. producers reported negative effects on their investments that they attributed to subject imports, including cancellation or postponement of expansion projects.[272]

Based on the record in the final phase of these investigations, we find that cumulated subject imports from India, Indonesia, and Laos caused the domestic industry's inability to fully capitalize on increasing apparent U.S. consumption during the POI. The significant and increasing volume of subject imports replaced unfairly traded imports from the *CSPV III* countries, both in terms of volume and in terms of low prices, preventing the domestic industry from increasing prices to profitable levels. Therefore, the domestic industry's market share and financial performance were weaker than they would have been otherwise, considering the *** percent increase in apparent U.S. consumption by quantity from 2023 to 2025, and robust growth in capacity, shipments, and capacity utilization, and despite the imposition of the *CSPV III* AD/CVD measures that should have provided relief from low-priced LTFV and subsidized imports.

We have also considered whether there are other factors that may have had an impact on the domestic industry, to ensure that we are not attributing injury from such other factors to subject imports. As the Commission stated in the preliminary determinations, we recognize that in *CSPV III*, for the period covering 2022 to 2024, we determined that the domestic industry was materially injured by reason of imports from Malaysia and Vietnam, and threatened with material injury by reason of imports of these products from Cambodia and Thailand, (all of which are nonsubject imports in the instant investigations).[273] We also acknowledge that the Commission found in *CSPV III* that nonsubject imports, which include subject imports covered

[268] Capital expenditures increased from $*** in 2023 to $*** in 2024 and decreased to $*** in 2025; the domestic industry's capital expenditures were *** percent lower in interim 2026 at $*** than in interim 2025 at $***. CR/PR at Tables 6.6, C.1.

[269] R&D expenses increased from $*** in 2023 to $*** in 2024, and then decreased to $*** in 2025; the industry's R&D expenses were *** percent higher in interim 2026 at $*** than in interim 2025 at $***. CR/PR at Tables 6.8, C.1.

[270] Total assets increased from $*** in 2023 to $*** in 2024 and $*** in 2025. CR/PR at Tables 6.10, C.1. Interim period data regarding the domestic industry's total assets were not collected.

[271] Return on assets fell from *** percent in 2023, to *** percent in 2024 and to *** percent in 2025. CR/PR at Table 6.11. Interim period data regarding the domestic industry's return on assets were not available.

[272] CR/PR at Tables 6.13, 6.14.

[273] *Preliminary Determinations*, USITC Pub. 5665 at 45.

by these investigations, could not "explain the material injury we have attributed to" *CSPV III* imports.[274] We emphasize, however, that at no point did the Commission find that nonsubject imports had no negative effects. We instead found that those imports did not explain the negative effects that the Commission was attributing to the four subject countries.[275] As the Court of International Trade has explained, "{s}ubject imports do not need to be the sole, principal, substantial, or significant cause of the material injury."[276]

The divergent market share trends shown by imports from the *CSPV III* countries and the *CSPV IV* countries establishes that subject imports from India, Indonesia, and Laos were an independent cause of material injury during the investigation period. As a share of apparent U.S. consumption of cells and modules by quantity, the share held by imports from the *CSPV III* countries decreased by *** percentage points overall from 2023 to 2025, increasing from *** percent in 2023 to *** percent in 2024, and then decreasing sharply to *** percent in 2025.[277] Over that same period, the *CSPV IV* countries' share of apparent U.S. consumption of cells and modules by quantity increased by *** percent, decreasing slightly from *** percent in 2023 to *** percent in 2024, and increasing markedly to *** percent in 2025.[278] As a share of apparent U.S. consumption of cells and modules by value, *CSPV III* sources decreased by *** percentage points overall from 2023 to 2025[279] while *CSPV IV* imports' share of apparent U.S. consumption of cells and modules by value increased by *** percentage points.[280]

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[274] *CSPV III*, USITC Pub. 5631 at 77.

[275] In fact, the Commission noted even in *CSPV III* that nonsubject circumventing imports, which are also nonsubject in these investigations, likely had some adverse impact on the domestic industry, independent from *CSPV III* subject imports. It stated that given "that entries of circumventing merchandise were found by Commerce to be unfairly traded but exempt from the disciplining effects of the *CSPV I* orders for the duration of the tariff holiday that ended late in the POI in June 2024, Appendix IV entries likely had some adverse impact on the domestic industry. However, considering that cumulated subject imports' share of apparent U.S. consumption increased each year of the POI, and that Appendix IV imports decreased markedly in 2024, Appendix IV entries do not undermine our finding of a causal nexus between subject imports and material injury to the domestic industry." *CSPV III*, USITC Pub. 5631 at 77-78 n.388.

[276] *ITG Voma Corp. v. U.S. Int'l Trade Comm'n*, 253 F. Supp. 3d 1339, 1361 (Ct. Int'l Trade 2017), *aff'd*, 753 F. App'x 913 (Fed. Cir. 2019).

[277] CR/PR at Tables 4.20, C.1.

[278] CR/PR at Tables 4.20, C.1.

[279] Imports from *CSPV III* countries' market share increased from *** percent in 2023 to *** percent in 2024, and then decreased sharply to *** percent in 2025. CR/PR at Tables 4.21, C.1.

[280] *CSPV IV* countries' share of apparent U.S. consumption of cells and modules by value increased by *** percentage points, decreasing slightly from *** percent in 2023 to *** percent in 2024, and increasing sharply to *** percent in 2025. CR/PR at Table C.1.

In the U.S. market for CSPV modules, *CSPV III* countries' share of apparent U.S. consumption by quantity decreased from *** percent in 2023 to *** percent in 2025, while *CSPV IV* subject imports increased from *** percent in 2023 to *** percent in 2025. In the U.S. market for CSPV cells, *CSPV III* sources' share of apparent U.S. consumption by quantity decreased from *** percent in 2023 to *** percent in 2025, while *CSPV IV* subject imports increased from *** percent in 2023 to *** percent in 2025.[281]

The market share trends are even more pronounced when looking only at 2024 to 2025, a period that was not covered in full by the *CSPV III* investigations. From 2024 to 2025, *CSPV IV* subject imports' share of apparent U.S. consumption of U.S. cells and modules increased *** percentage points by quantity, from *** percent to *** percent, and *** percentage points by value, from *** percent to *** percent, while *CSPV III* sources' share of apparent U.S. consumption decreased *** percent by quantity, decreasing from *** percent to *** percent, and *** percent by value, from *** percent to *** percent.[282] In the U.S. market for CSPV modules, *CSPV III* sources' share of apparent U.S. consumption by quantity decreased by *** percentage points from 2024 to 2025, while *CSPV IV* subject imports' share increased by *** percent.[283] The trend is the same in the market for U.S. cells: *CSPV III* sources' share of apparent U.S. consumption by quantity decreased by *** percentage points from 2024 to 2025, while subject imports' share increased by *** percentage points.[284]

The statute broadly defines "material injury" as "harm which is not inconsequential, immaterial, or unimportant." 19 U.S.C. § 1677(7)(A). In *CSPV III*, the Commission found that the domestic industry was in a vulnerable condition.[285] The record in these investigations shows that almost as soon as the domestic industry sought relief from imports from the *CSPV III* sources, *CSPV IV* subject imports rapidly increased in volume. By the end of 2025 subject imports had seized most of the market share previously held by unfairly traded *CSPV III* imports. Unsurprisingly, reinvigorated hammering from the new unfair imports sources left the

[281] CR/PR at Table C.3.

[282] CR/PR at Table C.1.

[283] CR/PR at Table C.3.

[284] CR/PR at Table C.2. Nonsubject imports in the aggregate likewise do not explain the injury we have attributed to subject imports in these investigations. As a share of apparent U.S. consumption of CSPV cells and modules by quantity, nonsubject imports declined *** percentage points from 2023 to 2025 and were *** percentage points lower in interim 2026 compared to interim 2025. Similarly, nonsubject imports from "all other sources" (*i.e.*, non-*CSPV III* sources) declined *** percentage points overall from 2023 to 2025, decreasing from *** percent in 2023 to *** percent in 2024 and to *** percent in 2025; they were *** percentage points higher in interim 2026 at ***, than in interim 2025 at *** percent. CR/PR at Table C.1.

[285] *CSPV III*, USITC Pub. 5631 at 94.

vulnerable domestic industry in even worse financial condition than before. In sum, we find that subject imports prevented the domestic industry from fully capitalizing on the relief it should have obtained from the *CSPV III* orders, and independently worsened the condition of the domestic industry. Accordingly, nonsubject imports cannot explain the specific material injury that we have attributed to cumulated subject imports in these investigations, particularly at the end of the investigation period.

VII. Critical Circumstances

A. Legal Standards and Party Arguments

The petitions in these investigations were filed on July 17, 2025. On September 16, 2026, Commerce issued its final determination in the antidumping duty investigation on CSPV products from India and found that critical circumstances exist with respect to subject imports from Mundra Solar Energy, Mundra Solar PV, Kowa, and Premier Energies, and that critical circumstances do not exist for all other exporters and producers of subject merchandise in India.[286] On September 16, 2026, Commerce issued its final determination in the countervailing duty investigation on CSPV products from India and found that critical circumstances exist with respect to subject imports from Mundra Solar Energy and Mundra Solar PV, but that critical circumstances do not exist for all other exporters and producers of subject merchandise in India.[287]

On September 16, 2026, Commerce issued its final determination in the antidumping duty investigation on CSPV products from Indonesia and found that critical circumstances do not exist with respect to subject imports from Blue Sky and PT REC Solar Energy Indonesia ("REC Solar"), but that critical circumstances do exist for all other exporters and producers of subject merchandise in Indonesia.[288] On September 16, 2026, Commerce issued its final determination in the countervailing duty investigation on CSPV products from Indonesia and found that critical circumstances exist with respect to subject imports from Blue Sky and all other producers/and or exporters of CSPV products from Indonesia, except for REC Solar, for which Commerce found that critical circumstances do not exist.[289]

On September 16, 2026, Commerce issued its final determination in the antidumping duty investigation on CSPV products from Laos and found that critical circumstances do not

[286] CR/PR at 4.17.
[287] CR/PR at 4.17.
[288] CR/PR at 4.18.
[289] CR/PR at 4.18.

exist with respect to subject imports from SolarSpace Laos, but that critical circumstances do exist with respect to subject imports from Vietnam Sunergy Joint Stock Company and all other exporters and producers of subject merchandise in Laos.[290] On September 16, 2026, Commerce issued its final determination in the countervailing duty investigation on CSPV products from Laos and found that critical circumstances do not exist with respect to subject imports from SolarSpace and SolarSpace Technology (Hong Kong) Limited, which Commerce treated as a single entity, but that critical circumstances do exist with respect to subject imports from the Laos-wide entity and all other separate-rate exporters and producers of subject merchandise in Laos.[291]

Because we have determined that the domestic industry is materially injured by reason of subject imports from India, Indonesia, and Laos, we must further determine "whether the imports subject to the affirmative {Commerce critical circumstances} determination ... are likely to undermine seriously the remedial effect of the antidumping {and/or countervailing duty} order{s} to be issued."[292] The SAA indicates that the Commission is to determine "whether, by massively increasing imports prior to the effective date of relief, the importers have seriously undermined the remedial effect of the order" and specifically "whether the surge in imports prior to the suspension of liquidation, rather than the failure to provide retroactive relief, is likely to seriously undermine the remedial effect of the order."[293] The legislative history for the critical circumstances provision indicates that the provision was designed "to deter exporters whose merchandise is subject to an investigation from circumventing the intent of the law by increasing their exports to the United States during the period between initiation of an investigation and a preliminary determination by {Commerce}."[294] An affirmative critical circumstances determination by the Commission, in conjunction with an affirmative determination of material injury by reason of subject imports, would normally result in the retroactive imposition of duties for those imports subject to the affirmative Commerce critical circumstances determination for a period 90 days prior to the suspension of liquidation.

The statute provides that, in making this determination, the Commission shall consider, among other factors it considers relevant,

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[290] CR/PR at 4.19.

[291] CR/PR at 4.19.

[292] 19 U.S.C. §§ 1671d(b)(4)(A)(ii), 1673d(b)(4)(A)(ii).

[293] SAA at 877.

[294] *ICC Industries, Inc. v United States,* 812 F.2d 694, 700 (Fed. Cir. 1987), *quoting* H.R. Rep. No. 96-317 at 63 (1979), *aff'g* 632 F. Supp. 36 (Ct. Int'l Trade 1986). *See* 19 U.S.C. §§ 1671b(e)(2), 1673b(e)(2).

(I) the timing and the volume of the imports,

(II) a rapid increase in inventories of the imports, and

(III) any other circumstances indicating that the remedial effect of the {order} will be seriously undermined.[295]

In considering the timing and volume of subject imports, the Commission's practice is to consider import quantities prior to the filing of the petition with those subsequent to the filing of the petition using monthly statistics on the record regarding those firms for which Commerce has made an affirmative critical circumstances determination.[296]

B. Arguments of the Parties

Indonesia[297]

Petitioner contends that the largest importers of CSPV modules during the post-petition period, ***, are related *** and have shown a pattern in these and prior investigations of "whack-a-mole sourcing patterns and post-petition surges" to avoid AD/CVD liability.[298] Petitioner argues that comparing the pre- and post-petition periods indicates that imports from Indonesia increased *** percent in the AD investigation, and *** percent in the CVD investigation.[299] Petitioner also contends that the post-petition critical circumstances volume in both investigations was *** percent of apparent U.S. consumption in 2025, and the increase in imports in the post-petition period compared to the pre-petition period was almost *** percent of apparent U.S. consumption in in 2025.[300]

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[295] 19 U.S.C. §§ 1671d(b)(4)(A)(ii), 1673d(b)(4)(A)(ii).

[296] *See Lined Paper School Supplies from China, India, and Indonesia,* Inv. Nos. 701-TA-442-43, 731-TA-1095-97 (Final)**,**USITC Pub. 3884 at 46-48 (Sept. 2006); *Carbazole Violet Pigment from China and India,* Inv. Nos. 701-TA-437 and 731-TA-1060-1061 (Final), USITC Pub. 3744 at 26 (Dec. 2004); *Certain Frozen Fish Fillets from Vietnam,* Inv. No. 731-TA-1012 (Final), USITC Pub. 3617 at 20-22 (Aug. 2003).

[297] Petitioner does not argue that critical circumstances exist with respect to subject imports from India**.** Mundra argues that the Commission should find no critical circumstances for subject imports from India because imports from India subject to Commerce's critical circumstances determinations decreased to *** in the post-petition period. Mundra Posthearing Brief at 14.

[298] Petitioner's Posthearing Brief, Responses to Commission Questions at 29.

[299] Petitioner's Posthearing Brief, Responses to Commission Questions at 20-21. Petitioner asserts that total import volumes from Indonesia increased by more than *** percent in 2025. *Id*.

[300] Petitioner's Posthearing Brief, Responses to Commission Questions at 25.

Respondents BYD, JA Solar, Trina, Runergy, SEG Manufacturing, and Waaree advance a number of arguments against an affirmative that critical circumstances exist regarding subject imports from Indonesia in the AD and CVD investigations.[301] BYD argues that the increases in subject imports from Indonesia in the post-petition period were unrelated to the filing of the petitions or a desire to avoid paying preliminary duties. It asserts that as the average lead time for produced-to-order shipments was 126 days, any imports from Indonesia before November 21, 2025, were ordered prior to the petitions' July 17, 2025, filing date.[302] BYD contends that subject imports from Indonesia were sold almost entirely to utility companies through long-term contracts, rather than through spot sales, and that the contracts typically close 12 to 15 months in advance of delivery.[303] BYD also argues that several market participants reported that the OBBBA's phaseout of tax incentives in July 2025 caused demand to increase, which corresponds to the increased imports that arrived in the United States through November 2025.[304]

Trina contends that the increase in imports from Indonesia coincided with the opening of several new CSPV cell and module facilities in Indonesia that were planned well before the filing of the petitions and established to serve growing global demand for CSPV products.[305] JA Solar argues that imports in the pre-petition period from Indonesia increased at a faster pace than in the post-petition period, indicating that importers began to decelerate heir imports after the petition was filed, rather than stockpiling imports to try to undermine the remedial effect of the provision duties.[306]

Regarding inventories, BYD asserts that existing inventories of subject merchandise from Indonesia are unlikely to seriously undermine the effects of the orders and are unlikely to overhang the market given U.S. demand trends. It argues that 2025 annual apparent consumption totaled *** GW, which amounts to daily consumption of *** MW. As an example, BYD asserts that the *** GW in inventories in January 2026 would have been consumed in just *** days.[307]

[301] BYD provides extensive analysis on the critical circumstances issues regarding Indonesia. We accordingly treat the BYD arguments as representing generally the views of respondents and note where other parties raise issues that BYD does not address.

[302] BYD Posthearing Brief at 6.

[303] BYD Posthearing Brief at 9-10.

[304] BYD Posthearing Brief at 10.

[305] Trina Prehearing Brief at 9.

[306] JA Solar's Posthearing Brief at 7.

[307] BYD Posthearing Brief at 8.

Runergy asserts that its inventories of imports from Indonesia in the second half of 2025 and interim 2026 were *** and were ***, rather than stockpiling to undermine the imposition of provision duties.[308]

Petitioner disputes that long-term contracts and lead times explain the post-petition surge in imports. It contends that the 126-day average lead time cited by Respondents is for all subject imports shipments and that the average for imports from Indonesia was only *** days.[309] Petitioner contends that any imports from Indonesia after that lead time period were ordered after the filing of the petitions, which coincides with November 2025 when imports from Indonesia were at their highest monthly levels during the investigation period, equal to the total volume of imports from Indonesia in full-year 2023 and 2024 combined.[310]

Laos

Petitioner argues that early in the six-month post-petition period, volumes of subject imports from Laos increased, and only began to drop later as U.S. importers' U.S. inventories of subject imports from Laos increased.[311] Petitioner asserts that importers' end-of-period inventories of subject imports from Laos increased *** percent in the six months after the filing of the petition, which suggests that they were stockpiling dumped Laotian imports to a degree that will undermine the remedial effects of any order.[312]

Mesquite and Jeffersonville Manufacturing and JA Solar emphasize that subject imports from Laos declined *** percent in the six-month post-petition period (Aug. 2025-Jan. 2026), compared to the six-month pre-petition period (Feb. 2025-July 2025).[313] They argue that the average lead time for produced-to-order import shipments was 126 days, indicating that the majority of imports from Laos in the post-petition period had been ordered before the filing of the petitions. They further contend that import volume trends from Laos are comparable, and actually smaller, than those from Vietnam in the post-petition period in *CSPV III* with respect to

[308] Runergy Posthearing Brief, Responses to Commission Questions at 8-9.

[309] Petitioner's Posthearing Brief at 22.

[310] Petitioner's Posthearing Brief at 22. Petitioner contends that not all Indonesian producers had lead times as long as the average, with one Indonesian producer, Shenzhen Sungolf Solar Co., Ltd, reporting typical lead times of 20-30 days for shipments to the United States and European Union. Petitioner's Posthearing Brief, Responses to Commission Questions at 23.

[311] Petitioner's Prehearing Brief at 52.

[312] Petitioner's Posthearing Brief, Responses to Commission Questions at 30. Petitioner asserts that U.S. inventories of subject imports from Laos were *** MW on July 31, 2025, and increased to *** MW by January 31, 2026. *Id*.

[313] Mesquite Posthearing Brief at 3.

which the Commission made negative critical circumstances determinations.[314] Mesquite and Jeffersonville Manufacturing assert that inventories of CSPV products from Laos never exceeded *** MW at any point during the post-petition period, and post-petition monthly inventories ranged between *** to *** percent of apparent U.S. consumption in 2025.[315] They assert that such small inventories do not indicate there was stockpiling after the filing of the petitions and cannot seriously undermine the remedial effects of any order.[316]

C. Analysis

1. Choice of Time Period

We begin the critical circumstances analysis by identifying the appropriate period for comparison of pre-and post-petition subject imports from each relevant country. The Commission is not required to analyze the same period that Commerce examined.[317] The Commission generally compares six months of data gathered from the periods immediately preceding and following the petitions' filing, with the earlier period including the month in which the petitions were filed.[318] Because Commerce's preliminary determinations applicable

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[314] Mesquite Posthearing Brief at 5 (citing *CSPV III*, USITC Pub. 5631 at 100-01).

[315] Mesquite Posthearing Brief, Responses to Commission Questions at 1.

[316] Mesquite Posthearing Brief at 6.

[317] *Certain Polyester Staple Fiber from China*, Inv. No. 731-TA-1104 (Final), USITC Pub. 3922 at 35 (June 2007); *Steel Concrete Reinforcing Bars from Turkey*, Inv. No. 731-TA-745 (Final), USITC Pub. 3034 at 34 (Apr. 1997).

[318] *Laminated Woven Sacks from China*, Inv. Nos. 701-TA-450 and 731-TA-1122 (Final), USITC Pub. 4025 at 48-50 (July 2008); *Light-Walled Rectangular Pipe from China et al.,* Inv. Nos. 701-TA-459 and 731-TA-1118-20 (Final), USITC Pub. 4024 at 18-19 (July 2008); *Certain Steel Nails from China*, Inv. No. 731-TA-1114 (Final), USITC Pub. 4022 at 28-29 (July 2008); *Polyester Staple Fiber from China*, Inv. No. 731-TA-1104 (Final), USITC Pub. 3922 at 35 (June 2007); *Chlorinated Isocyanurates from China and Spain,* Inv. Nos. 731-TA-1082-83 (Final), USITC Pub. 3782 at 35-37 (June 2005); *Alloy Magnesium from China*, Inv. No. 731-TA-1071 (Final), USITC Pub. 4182 at 24 (Sept. 2010); *Stainless Steel Butt-Weld Pipe Fittings from Italy, Malaysia, and the Philippines*, Inv. Nos. 731-TA-865-67 (Final), USITC Pub. 3387 at 13-16 (Jan. 2001); *Certain Warmwater Shrimp and Prawns,* Inv. Nos. 731-TA-1063-68 (Final), USITC Pub. 3748 at 36-37 (Jan. 2005).

The Commission has relied on a shorter comparison period when Commerce's preliminary determination applicable to the country at issue fell within the six-month post-petition period the Commission typically considers. *Certain Hot-Rolled Steel Flat Products from Australia, Brazil, Japan, Korea, the Netherlands, Turkey, and the United Kingdom*, Inv. Nos. 701-TA-545-547, 731-TA-1291-1297 (Final), USITC Pub. 4638 at 49-50 (Sept. 2016); *Certain Corrosion-Resistance Steel Products from China, India, Italy, Korea, and Taiwan,* Inv. No. 701-TA-534-537 and 731-TA-1274-1278 (Final), USITC Pub. 4630 at 35-40 (July 2016); *Carbon and Certain Steel Wire Rod from China*, Inv. Nos. 701-TA-512, 731-TA-1248 (Continued...)

to the imports from the subject countries did not fall within the six-month post-petition period the Commission typically considers, there is no reason to opt for a shorter period, and no party has contested the use of six-month comparison periods for this analysis. Therefore, we compare the volume of subject imports in the six months prior to the filing of the petitions (February 2025 to July 2025, with the volume of subject imports in the six months after the filing of the petitions (August 2025 to January 2026) to evaluate whether critical circumstances exist with respect to each subject country.

2. Critical Circumstances Regarding Indonesia[319]

Subject imports from Indonesia subject to Commerce's affirmative critical circumstances determinations in the antidumping duty investigations increased from *** GW in the pre-petition period to *** GW in the post-petition period, an increase of *** percent.[320] This aggregate volume of CSPV cells and modules from Indonesia in the six-month post-petition

(Final), USITC Pub. 4509 at 25-26 (Jan. 2015) (using five-month periods because preliminary Commerce countervailing duty determination was during the sixth month after the petition). Here, that is not the case, as Commerce made its relevant preliminary determinations on February 26, 2026 and April 28, 2026. *See* CR/PR at 4.17-4.18.

The Commission may also use different periods when the product is seasonal. *See 1,1,1,2--Tetrafluoroethane (R-134a) from China*, Inv. No. 731-TA-1313 (Final), USITC Pub. 4679 at 25 (April 2017) (seasonal product); *Certain Polyester Staple Fiber from China*, Inv. No. 731-TA-1104 (Final), USITC Pub. 3922 at 35 (June 2007) (declining to analyze different periods absent seasonality). No party argues that seasonality explains the post-petition import trends. *See, e.g*. JA Solar Posthearing Brief at 45.

[319] As stated above, no parties argue that critical circumstances exist with respect to subject imports from India, although we still consider whether subject imports from India would seriously undermine the remedial effects of the order given Commerce's affirmative critical circumstances determinations.

In the antidumping duty investigations, subject imports from India decreased from *** GW in the pre-petition period to *** kW in the post-petition period, which is a decrease of essentially *** percent in the post-petition period. CR/PR at Table 4.7. In the countervailing duty investigations, subject imports from India decreased from *** GW in the pre-petition period to *** kW in the post-petition period, which is a decrease of essentially *** percent in the post-petition period. CR/PR at Table 4.9.

There were *** U.S. inventories of the relevant subject imports from India in the antidumping duty investigations on January 31, 2026, CR/PR at Table 4.8, and there were *** U.S inventories of the relevant subject imports from India in the countervailing duty investigations on January 31, 2026. CR/PR at Table 4.10.

In light of CSPV products from India essentially exiting the U.S. market in the post-petition period, we find that subject imports from India subject to Commerce's affirmative determinations of critical circumstances are not likely to undermine seriously the remedial effects of the antidumping or countervailing duty orders.

[320] CR/PR at Table 4.15.

period was equal to *** percent of total subject imports in 2025,[321] and *** percent of apparent U.S. consumption in that year.[322] Similarly, subject imports from Indonesia subject to Commerce's affirmative critical circumstances determinations in the countervailing duty investigations increased from *** GW in the pre-petition period to *** GW in the post-petition period, an increase of *** percent.[323] The aggregate volume of CSPV cells and modules from Indonesia in the six-month post-petition period was equal to *** percent of total subject imports in 2025,[324] and *** percent of apparent U.S. consumption in that year.[325] This drove a broader increase in the volume of subject imports from Indonesia for the full year of 2025. From 2024 to 2025, U.S. importers' U.S. shipments of subject imports from Indonesia increased *** percent, from *** MW in 2024 to *** GW in 2025, though with distinctly large increases in the post-petition period, as further detailed below.[326]

Although several Respondents argue that imports from Indonesia rapidly increased in the post-petition period because they were shipped pursuant to existing contracts, rather than in response to the filing of the petitions, we find this argument unconvincing. We agree with Petitioner that the ***-day average specific to subject imports from Indonesia is more appropriate than the 126-day average the Respondents provided for cumulated subject imports. To calculate this average lead time of produced-to-order shipments from Indonesia, Petitioner compiled data from questionnaire responses, and we find the data in this compilation to be accurate and convincing.[327]

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[321] *Calculated from* CR/PR at Tables 4.5, 4.11.

[322] *Calculated from* CR/PR at Tables 4.11, C.1.

[323] CR/PR at Table 4.13.

[324] *Calculated from* CR/PR at Tables 4.5, 4.13.

[325] *Calculated from* CR/PR at Tables 4.13, C.1.

[326] CR/PR at Table C.1.

We find that post-petition trend in the subject import volume from Indonesia was not merely a continuation of pre-petition trends as BYD argues. *See* BYD Posthearing Brief at 1. We note that the post-petition import volume from Indonesia from August 2025-January 2026 was a roughly nine-fold increase over the import volume from August 2024-January 2025, whereas the import volume from August 2024-January 2025 was a five-fold increase over the import volume from August 2023-January 2024. If this were merely continuation of previous import trends, the annual percentage increases would be steady or decline as import levels rise, but the opposite happened with respect to imports from Indonesia. *Derived from* CR/PR at Table 4.19. Moreover, that earlier increase in the investigation period was itself extraordinary and due entirely to producers moving production to avoid the *CSPV III* orders.

[327] *See* Petitioner's Posthearing Brief, Exhibit 13. We are cognizant that these lead times are averages and that individual shipments would have had both greater and lesser lead times. Nevertheless, we find that the average lead time specific to shipments from Indonesia is more relevant for our analysis of critical circumstances regarding imports from Indonesia as opposed to the average lead time across all three subject countries.

Using this more relevant ***-day average lead time for shipments from Indonesia suggests that imports after *** were likely shipped in response to the petitions. In November 2025, imports from Indonesia subject to Commerce's critical circumstances findings were *** GW in the antidumping and countervailing duty investigations, which were by far the largest monthly volume in the post-petition period and indeed were the largest monthly volume during the entire investigation period.[328] Notably, imports in November 2025 were *** the volume of imports in October 2025, which was the last month of pre-petition period. The following month, December 2025, saw imports from Indonesia remain at a historically high level of *** GW, which was the second highest monthly volume during the entire investigation period.[329] In fact, the monthly imports from Indonesia in November and December 2025 each exceeded the combined yearly total of subject imports from Indonesia in 2023 and 2024.[330] Accordingly, the record evidence supports that the vast majority of post-petition entries of imports subject to the critical circumstances determinations regarding Indonesia were ordered after the filing of the petitions.[331]

Also informing our analysis is the fact that several of the importers responsible for entries of merchandise from Indonesia subject to Commerce's critical circumstances determinations were importers of subject merchandise in the *CSPV III* investigations with sophisticated ability to rapidly shift their supply chains. Several firms, including *** imported both *CSPV IV* subject merchandise and merchandise from *CSPV III* sources during the investigation period.[332] As discussed above in Section I, record evidence supports that several importers and foreign producers have shifted production and supply chains specifically to avoid existing AD/CVD duties. BYD argues that the OBBBA's phaseout of the IRA residential solar tax

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[328] CR/PR at Tables 4.11 and 4.13.

[329] *See* CR/PR at Tables 4.11 and 4.13.

Official import statistics show that subject imports from Indonesia were 1.3 GW in January 2026 and 669.5 KW in February 2026, but decreased dramatically in March 2026 to 55.0 MW after provisional duties went into effect in February 2026. CR/PR at Table 4.19.

[330] *See* CR/PR at Tables 4.2, 4.11, and 4.13.

[331] U.S. importer questionnaire responses, as compiled by Petitioner, indicate that most Indonesian imports were sold through short-term contracts rather than long-term contracts between August and December 2025. Petitioner's Posthearing Brief, Exhibit 13. In 2025, subject U.S. importers sold *** percent of their U.S. shipments through short-term contracts, with lesser amounts through long-term contracts (*** percent), and annual contracts (*** percent). CR/PR at Table 5.4. And, even for long-term and annual contracts, the filing of the petitions would have given U.S. importers and Indonesian exporters an incentive to speed up deliveries so as to avoid the imposition of provisional duties.

[332] CR/PR at Table 4.1. *** was the largest importer of solar modules from Indonesia during the post-petition period. It is ***. *See* Petitioner's Posthearing Brief, Exhibit 13.

incentives in July 2025 caused demand to increase before the end of 2025, pulling in imports, and subsequently argues that this corresponds to the increased imports that arrived in the United States through November 2025.[333] We are not persuaded by this argument as the record does not indicate similar increases in imports from India and Laos during the same time period. If overall demand was increasing due to the OBBBA changes, we would have expected similar trends in the post-petition period by imports from India and Laos. Rather, we see a surge of imports from Indonesia ***, while subject imports from India and Laos decreased in the post-petition period.[334]

Moreover, U.S. inventories of the relevant subject imports from Indonesia in the antidumping and countervailing duty investigations were *** percent higher on January 31, 2026, at *** GW, than on July 31, 2025, at *** GW.[335]

Finally, subject imports from Indonesia undersold the domestic like product in 14 of 20 quarters during the investigation period, or 70 percent of comparisons, at margins ranging from *** to *** percent, and averaging *** percent.[336] Subject imports oversold the domestic like product in the remaining six instances, or 30 percent of the comparisons, at margins ranging from *** to *** percent, and averaging *** percent.[337] There were *** GW of reported sales of subject imports from Indonesia in quarters with underselling, or *** percent of total reported pricing sales volume, compared to *** GW in quarters with overselling, or *** percent of total reported import sales volume.[338]

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[333] BYD Posthearing Br. at 10, Response to Commission Questions at 14-16.

[334] *See* CR/PR at Tables 4.7, 4.9, 4.15. We also note that the *** percent increase is orders of magnitude greater than the increase in apparent U.S. consumption from 2024 to 2025, which was *** percent. CR/PR at Table C.1. In addition, U.S. importers' U.S. shipments of subject imports from Indonesia were *** percent higher in interim 2026, at *** GW, than in interim 2025, at *** MW. CR/PR at Table C.1. Accordingly, the record suggests that the increase in Indonesian imports far exceeded the increase in demand that may have been attributed to OBBBA's phaseout of residential solar tax credits by December 2025.

[335] CR/PR at Tables 4.12, 4.14. We acknowledge Runergy's argument that its inventories from Indonesia in the second half of 2025 and interim 2026 ***. Runergy Posthearing Brief at 9-10. Runergy reported *** kW of inventories from Indonesia for interim 2026, which represented *** percent of the *** GW of total inventories from Indonesia in interim 2026. However, while that may explain some of the increase in inventories of subject merchandise from Indonesia in the post-petition period, it does not explain the significant increase in import volume, or outweigh the other evidence upon which we have led us to determine that critical circumstances exist with respect to imports from Indonesia.

[336] CR/PR at Table 5.13.

[337] CR/PR at Table 5.13.

[338] CR/PR at Table 5.13. Pricing data for pricing product 4, which accounted for most of the volume of subject imports from Indonesia, declined overall in the post-petition period. Prices decreased from $*** per kW in the third quarter of 2025, when there were *** MW of sales volume, to $*** per (Continued...)

In sum, we find that the volume of imports from Indonesia subject to Commerce's critical circumstances determinations in the antidumping and countervailing duty investigations increased greatly during the post-petition period. The months with the two highest monthly volumes of subject imports from Indonesia during the entire investigation period occurred during the post-petition period. Several Indonesian exporters and U.S importers of subject merchandise from Indonesia have previously shifted their supply chains in response to U.S. AD/CVD orders, and evidence regarding lead times indicates that many of these shipments began after the filing of the petitions. Finally, available pricing data show that subject imports from Indonesia undersold the domestic like product, and declined in available comparisons during the post-petition period. For these reasons, we find that imports from Indonesia subject to Commerce's affirmative critical circumstances determinations are likely to undermine seriously the remedial effects of the antidumping and countervailing duty orders on Indonesia. Accordingly, we determine that critical circumstances exist with respect to subject imports from Indonesia in the antidumping and countervailing duty investigations.

3. Critical Circumstances Regarding Laos

Subject imports from Laos subject to Commerce's affirmative critical circumstances determinations in the antidumping and countervailing duty investigations decreased from *** GW in the pre-petition period to *** GW in the post-petition period, which is a decrease of *** percent.[339] The aggregate volume of CSPV cells and modules in the six-month post-petition period was equal to *** percent of total subject imports in 2025, and just *** percent of apparent domestic consumption in that year.[340]

U.S. inventories of the relevant subject imports from Laos in the antidumping and countervailing duty investigations were *** percent higher on January 31, 2026, at *** MW, than on July 31, 2025, *** MW, but the post-petition volume was equivalent to only *** percent of apparent U.S. consumption in 2025 and equivalent to only *** percent of imports from Laos in 2025, indicating that any stockpiling of subject imports after the filing of the petitions was not meaningful.[341]

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kW in the fourth quarter of 2025, when there were *** GW of sales volume. CR/PR at Table 5.8. Prices slightly increased in the first quarter of 2026 to $*** per kW, when there were *** MW of sales volume. *Id*. These pricing data cover four out of the six months of the post-petition period.

[339] CR/PR at Table 4.15.

[340] *Calculated from* CR/PR at Tables 4.15, C.1.

[341] CR/PR at Tables 4.16 and 4.2. Post-petition inventories increased from *** KW to *** KW, or an increase of *** KW. Total imports from Laos were *** KW in 2025.

Considering the decrease in volumes of CSPV products imported from Laos in the post-petition period and the relatively small volume of inventories over this period, we find that subject imports from Laos subject to Commerce's affirmative determinations of critical circumstances are not likely to undermine seriously the remedial effects of the antidumping or countervailing duty orders. Consequently, we make negative critical circumstances findings with respect to subject imports from Laos subject to Commerce's affirmative determinations of critical circumstances.

VIII. Conclusion

For the reasons stated above, we determine that an industry in the United States is materially injured by reason of subject imports of CSPV products from India, Indonesia, and Laos that are sold in the United States at less than fair value and subsidized by the governments of India, Indonesia, and Laos. We also find that critical circumstances do not exist with respect to imports from India and Laos that are subject to Commerce's final affirmative critical circumstances determinations in its antidumping and countervailing duty investigations and that critical circumstances exist with respect to CSPV products from Indonesia that are subject to Commerce's final affirmative critical circumstances determinations in the antidumping and countervailing duty investigations.

Finally, the Commission takes this opportunity to recognize that "country-hopping" (or "whack-a-mole") seriously erodes – and in some cases may fully nullify – the trade remedy laws enacted by Congress. The solar industry presents a particularly stark and pernicious example of this practice, as this is now the *fourth round* of Title VII investigations (with the first round resulting in an order nearly 15 years ago), in addition to the anticircumvention determinations by the Department of Commerce and the evasion findings by CBP. Furthermore, the Commission observes, with concern, that trade trends now indicate that Chinese-owned solar producers may be moving production yet again to other countries in Asia, Africa, and the Middle East.[342]

The Commission is committed to fulfilling its statutory duties – and using any new tools put in place by further legislation – to address country-hopping, as appropriate, to provide relief to U.S. workers and firms that are injured by dumped and subsidized imports sold in the United States. The Commission is also exploring the possibility of instituting a broader fact-

[342] *Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From the People's Republic of China: Initiation of Circumvention Inquiry on the Antidumping and Countervailing Duty Orders*, 91 FR 44821 (July 13, 2026).

finding investigation across industries under Section 332 of the Tariff Act of 1930 in the near future into the issue of country-hopping, addressing potential causes (including the Belt-and-Road Initiative), its consequences for domestic industries, and how U.S. trade remedy laws are eroded or nullified by this practice.

Part 1: Introduction

Background

These investigations result from petitions filed with the U.S. Department of Commerce ("Commerce") and the U.S. International Trade Commission ("USITC" or "Commission") by the Alliance for American Solar Manufacturing and Trade ("the Alliance")[1] on July 17, 2025, alleging that an industry in the United States is materially injured and threatened with material injury by reason of subsidized and less-than-fair-value ("LTFV") imports of crystalline silicon photovoltaic cells, whether or not assembled into modules ("CSPV cells and modules" or "CSPV products")[2] from India, Indonesia, and Laos. Table 1.1 presents information relating to the background of these investigations.[3] [4]

Table 1.1 CSPV cells and modules: Information relating to the background and schedule of this proceeding

Effective date	Action
July 17, 2025	Petitions filed with Commerce and the Commission; institution of the Commission's investigations (90 FR 34518, July 22, 2025)
August 6, 2025	Commerce's notice of initiation, AD investigations (90 FR 38736, August 12, 2025), and CVD investigations (90 FR 38745, August 12, 2025)
September 2, 2025	Commission's preliminary determinations (90 FR 42983, September 5, 2025)
February 26, 2026	Commerce's preliminary CVD determinations with respect to India (91 FR 9555, February 26, 2026), Indonesia (91 FR 9564, February 26, 2026), and Laos (91 FR 9568, February 26, 2026)
April 28, 2026	Commerce's preliminary AD determinations with respect to India (91 FR 22798, April 28, 2026); Indonesia (91 FR 22802, April 28, 2026); and Laos (91 FR 22794, April 28, 2026); scheduling of final phase of Commission investigations (91 FR 27078, May 13, 2026)
September 9, 2026	Commission's hearing
September 16, 2026	Commerce's final CVD determinations with respect to India (91 FR 58643, September 16, 2026), Indonesia (91 FR 58647, September 16, 2026), and Laos (91 FR 58638, September 16, 2026)

[1] The Alliance is comprised of First Solar, Inc., Tempe, Arizona; Hanwha Q CELLS USA, Inc., Dalton, Georgia; and Mission Solar Energy LLC, San Antonio, Texas.

[2] See the section entitled "The subject merchandise" in Part 1 of this report for a complete description of the merchandise subject in this proceeding.

[3] Pertinent Federal Register notices are referenced in appendix A and may be found at the Commission's website (www.usitc.gov).

[4] Appendix B presents the witnesses who appeared at the Commission's hearing.

Effective date	Action
	Commerce's final AD determinations with respect to India (91 FR 58658, September 16, 2026); Indonesia (91 FR 58651, September 16, 2026); and Laos (91 FR 58633, September 16, 2026)
October 14, 2026	Commission's vote
November 2, 2026	Commission's views

Statutory criteria

Section 771(7)(B) of the Tariff Act of 1930 (the "Act") (19 U.S.C. § 1677(7)(B)) provides that in making its determinations of injury to an industry in the United States, the Commission—

> shall consider (I) the volume of imports of the subject merchandise, (II) the effect of imports of that merchandise on prices in the United States for domestic like products, and (III) the impact of imports of such merchandise on domestic producers of domestic like products, but only in the context of production operations within the United States; and. . . may consider such other economic factors as are relevant to the determination regarding whether there is material injury by reason of imports.

Section 771(7)(C) of the Act (19 U.S.C. § 1677(7)(C)) further provides that—[5]

> In evaluating the volume of imports of merchandise, the Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States is significant.. . .In evaluating the effect of imports of such merchandise on prices, the Commission shall consider whether. . .(I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and (II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.. . . In examining the impact required to be considered under subparagraph (B)(i)(III), the Commission shall evaluate (within the context of the business cycle and conditions of competition that are distinctive to the affected industry) all relevant economic factors which have a bearing on the state of the industry in the United States, including, but not limited to. . . (I) actual and potential decline in output, sales,

[5] Amended by PL 114—27 (as signed, June 29, 2015), Trade Preferences Extension Act of 2015.

market share, gross profits, operating profits, net profits, ability to service debt, productivity, return on investments, return on assets, and utilization of capacity, (II) factors affecting domestic prices, (III) actual and potential negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital, and investment, (IV) actual and potential negative effects on the existing development and production efforts of the domestic industry, including efforts to develop a derivative or more advanced version of the domestic like product, and (V) in {an antidumping investigation}, the magnitude of the margin of dumping.

In addition, Section 771(7)(J) of the Act (19 U.S.C. § 1677(7)(J)) provides that—[6]

(J) EFFECT OF PROFITABILITY.—The Commission may not determine that there is no material injury or threat of material injury to an industry in the United States merely because that industry is profitable or because the performance of that industry has recently improved.

Organization of report

Part 1 of this report presents information on the subject merchandise, subsidy rates/dumping margins, and domestic like product. Part 2 of this report presents information on conditions of competition and other relevant economic factors. Part 3 presents information on the condition of the U.S. industry, including data on capacity, production, shipments, inventories, and employment. Parts 4 and 5 present the volume of subject imports and pricing of domestic and imported products, respectively. Part 6 presents information on the financial experience of U.S. producers. Part 7 presents the statutory requirements and information obtained for use in the Commission's consideration of the question of threat of material injury as well as information regarding nonsubject countries.

[6] Amended by PL 114—27 (as signed, June 29, 2015), Trade Preferences Extension Act of 2015.

Market summary

CSPV cells, which are made from crystalline silicon, are the building blocks of solar photovoltaic power-generation systems.[7] CSPV cells typically form the basic element of solar panels or modules but can be utilized in other products as well. The resulting system of solar panels or modules are often installed on or above the roofs of residential and non-residential buildings, as free field installations, or as stand-alone units.

The only two responding U.S. producers of CSPV cells are Silfab Solar WA Inc. ("Silfab") and Suniva, Inc. ("Suniva")[8] and the leading U.S. producer of CSPV modules is ***, while leading producers of CSPV cells and modules outside the United States include *** of India, *** of Laos. The leading U.S. importer of CSPV cells and modules from India is ***, while the leading importer of CSPV cells and modules from Indonesia is ***, and the leading U.S. importer of CSPV cells and modules from Laos is ***. The leading importers of CSPV cells and modules from nonsubject countries (primarily Thailand and Malaysia) include *** and ***. U.S. purchasers of CSPV products include utility companies/developers, distributors, module assemblers, residential installers, and utility installers. Leading responding purchasers include ***.

[7] Petition, pp. 12 to 13.

[8] Scott Moskowitz of Hanwha Q Cells USA testified during the preliminary conference that ES Foundry is producing and shipping CSPV cells and noted that Hanwha, Mission Solar, Heliene, Silfab, and Canadian Solar have cell factories under construction. Conference transcript, p. 100 (Moskowitz).

Apparent U.S. consumption of CSPV cells and modules totaled approximately *** megawatts ($***) in 2025. Currently, two firms are known to produce CSPV cells, and fifteen are known to produce CSPV modules the United States. U.S. producers' overall value of U.S. shipments including the incremental value added by module assemblers to domestically produced and imported CSPV cells was *** percent of apparent U.S. consumption by value. U.S. shipments of imports from subject sources totaled *** megawatts ($***) in 2025 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. shipments of imports from nonsubject sources totaled *** megawatts ($***) in 2025 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value.

Summary data and data sources

A summary of data collected in these investigations is presented in appendix C, tables C.1 through C.3. The Commission's questionnaires collected data for the years 2023 to 2025 and interim periods January through March of 2025 ("interim 2025") and January through March of 2026 ("interim 2026"). Except as noted, U.S. industry data are based on questionnaire responses of two firms that accounted for *** U.S. production of CSPV cells[9] and fifteen firms that accounted for the vast majority of CSPV modules during 2025. U.S. imports are based on questionnaire data.[10]

[9] ***, the other commercially active U.S. producer of CSPV cells, did not provide a response to the Commission's U.S. producer questionnaire.

[10] Where noted, importer questionnaire data have been supplemented with proprietary, Census-edited Customs' import records.

Previous and related investigations

The Commission has conducted a number of previous import relief investigations on CSPV cells and modules or similar merchandise, as presented in table 1.2.[11]

[11] The global safeguard measure on CSPV products (TA-201-075) was in the form of (1) a TRQ on imports of CSPV cells not partially or fully assembled into other products and (2) an increase in duties on imports of CSPV modules. Crystalline Silicon Photovoltaic Cells, Whether or Not Partially or Fully Assembled Into Other Products ("CSPV products"), Evaluation of the Effectiveness of Import Relief, Inv. No. TA-201-075, USITC Publication 5773, August 2026, pp. 1.24 to 1.26. The safeguard measure was applicable to imports from all countries, except for imports from certain developing countries that are members of the WTO, as long as such a country's share of total imports of the product, based on imports during a recent representative period, did not exceed 3 percent, provided that imports that were the product of all such countries with less than 3 percent import share collectively account for not more than 9 percent of total imports of the product. Laos was subject to the safeguard measures, as was India, which was removed from the list of beneficiary developing countries as of June 5, 2019. Indonesia, however, was on the excepted list. Id. at pp. 1.7 to 1.8, n.22. For a full list of countries exempt from the safeguard measure, see U.S. Customs and Border Protection, "QB 25-507 2025 Solar Cells and Modules," January 27, 2025, https://www.cbp.gov/trade/quota/bulletins/qb-25-507-2025. The safeguard action on CSPV products" went into effect on February 7, 2018, and after one four-year extension, terminated on February 6, 2026.

Table 1.2
CSPV cells and modules: Previous and related Commission proceedings and status

Date	Number	Country	ITC original determination	Status
2011	701-481	China	Affirmative	Order continued after second review, September 20, 2024
2011	731-1190	China	Affirmative	Order continued after second review, September 20, 2024
2013	701-TA-511	China	Affirmative	Order continued after first review, effective September 11, 2020
2013	731-TA-1246	China	Affirmative	Order continued after first review, effective September 11, 2020
2013	731-TA-1247	Taiwan	Affirmative	Order continued after first review, effective September 11, 2020
2017	TA-201-075	—	Affirmative	Safeguard measure in effect from February 7, 2018, through February 6, 2026
2025	701-TA-722	Cambodia	Affirmative	Order issued on June 24, 2025
2025	701-TA-723	Malaysia	Affirmative	Order issued on June 24, 2025
2025	701-TA-724	Thailand	Affirmative	Order issued on June 24, 2025
2025	701-TA-725	Vietnam	Affirmative	Order issued on June 24, 2025
2025	731-TA-1690	Cambodia	Affirmative	Order issued on June 24, 2025
2025	731-TA-1691	Malaysia	Affirmative	Order issued on June 24, 2025, corrected July 7, 2025
2025	731-TA-1692	Thailand	Affirmative	Order issued on June 24, 2025
2025	731-TA-1693	Vietnam	Affirmative	Order issued on June 24, 2025, corrected July 7, 2025

Source: U.S. International Trade Commission publications and Federal Register notices.

Note: “Date” refers to the year in which the investigation was instituted by the Commission.

Note: Investigations 701-TA-481 and 731-TA-1190 do not include U.S. imports of CSPV modules assembled in China from CSPV cells made in a country other than China. Investigations 701-TA-511 and 731-TA-1246-1247 include U.S. imports of the following: (1) CSPV modules assembled in China from CSPV cells made in Taiwan and (2) CSPV modules assembled in China from CSPV cells made in third countries. Commerce defined the subject merchandise from Taiwan to include U.S. imports of: (1) CSPV cells made in Taiwan; (2) CSPV modules assembled in Taiwan from CSPV cells made in Taiwan; and (3) CSPV modules assembled in third countries other than China from CSPV cells made in Taiwan. Therefore, the module assembly location determined the country of origin for U.S. imports of modules from China, except for modules covered by the prior CSPV 1 orders (which were considered nonsubject merchandise from China in the CSPV 2 investigations); the cell manufacture location determined the country of origin for U.S. imports of cells and modules from Taiwan. 79 FR 76962 and 76970, December 23, 2014.

Nature and extent of subsidies and sales at LTFV

Subsidies

On September 16, 2026, Commerce published a notice in the Federal Register of its final determination of countervailable subsidies for producers and exporters of CSPV cells and modules from India, Indonesia, and Laos.[12] Tables 1.3 through 1.5 present Commerce's findings of subsidization of CSPV cells and modules in India, Indonesia, and Laos, respectively.

Table 1.3 CSPV cells and modules: Commerce's final subsidy determination with respect to imports from India

Entity	Final countervailable subsidy rate (percent)
Mundra Solar Energy Limited	126.09
Mundra Solar PV Limited	126.09
All others	126.09

Source: 91 FR 58643, September 16, 2026.

Note: Rate based on facts available with adverse inferences for Mundra Solar Energy Limited and Mundra Solar PV Limited.

Note: For further information on programs determined to be countervailable, see Commerce's associated Issues and Decision Memorandum.

Table 1.4 CSPV cells and modules: Commerce's final subsidy determination with respect to imports from Indonesia

Entity	Final countervailable subsidy rate (percent)
PT Blue Sky Solar Indonesia	173.70
PT REC Solar Energy Indonesia	73.20
All others	73.20

Source: 91 FR 58647, September 16, 2026.

Rate for PT Blue Sky Solar Indonesia is based on facts available with adverse inferences.

Note: For further information on programs determined to be countervailable, see Commerce's associated Issues and Decision Memorandum.

[12] 91 FR 58643, 91 FR 58647, and 91 FR 58638, September 16, 2026.

Table 1.5 CSPV cells and modules: Commerce's final subsidy determination with respect to imports from Laos

Entity	Final countervailable subsidy rate (percent)
Solarspace Technology (Laos) Sole Co. Ltd	82.03
Vietnam Sunergy Joint Stock Company	153.67
All others	82.03

Source: 91 FR 58638, September 16, 2026.

Rate for Vietnam Sunergy Joint Stock Company is based on facts available with adverse inferences.

Note: For further information on programs determined to be countervailable, see Commerce's associated Issues and Decision Memorandum.

Sales at LTFV

On September 16, 2026, Commerce published a notice in the Federal Register of its final determination of sales at LTFV with respect to imports from India, Indonesia, and Laos.[13] Tables 1.6 through 1.8 present Commerce's dumping margins with respect to imports of product from India, Indonesia, and Laos, respectively.

Table 1.6 CSPV cells and modules: Commerce's final weighted-average LTFV margins with respect to imports from India

Exporter/Producer	Final dumping margin (percent)
Mundra Solar PV Limited	123.04
Mundra Solar Energy Limited	123.04
Kowa Company Ltd	123.04
Premier Energies Photovoltaic Private Limited	123.04
All others	123.04

Source: 91 FR 58658, September 16, 2026.

Note: Rate based on facts available with adverse inferences.

[13] 91 FR 58658, 91 FR 58651, and 91 FR 58633, September 16, 2026.

Table 1.7 CSPV cells and modules: Commerce's final weighted-average LTFV margins with respect to imports from Indonesia

Exporter/producer	Final dumping margin (percent)
PT Blue Sky Solar Indonesia	94.36
PT REC Solar Energy Indonesia	94.36
All others	94.36

Source: 91 FR 58651, September 16, 2026.

Note: Rate based on facts available with adverse inferences for Blue Sky Solar Indonesia and PT REC Solar Energy Indonesia.

Table 1.8 CSPV cells and modules: Commerce's final weighted-average LTFV margins with respect to imports from Laos

Exporter	Producer	Final dumping margin (percent)
Solarspace Technology (Laos) Sole Co., Ltd/ SolarSpace Technology (Hong Kong) Limited	Solarspace Technology (Laos) Sole Co., Ltd	65.43
JA Solar Vietnam Co. Ltd.	Solarspace Technology (Laos) Sole Co., Ltd	65.43
Trina Solar Energy Development Pte. Ltd	Solarspace Technology (Laos) Sole Co., Ltd	65.43
Trina Solar Science & Technology (Thailand) Company Limited	Solarspace Technology (Laos) Sole Co., Ltd	65.43
Laos-Wide Entity	NA	65.43

Source: 91 FR 58633, September 16, 2026.

The subject merchandise

Commerce's scope

In the current proceeding, Commerce has defined the scope as follows:[14]

> The merchandise covered by this investigation 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 investigation covers 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 the investigations.
>
> Excluded from the scope of the investigations 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 the investigation 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.

[14] 91 FR 58643, September 16, 2026.

Additionally, excluded from the scope of the investigation 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.

Also excluded from the scope of the investigation are:

(1) Off grid CSPV panels in rigid form with a glass cover, with the following characteristics: (A) a total power output of 100 watts or less per panel; (B) a maximum surface area of 8,000 cm^2 per panel; (C) do not include a built-in inverter; (D) must include a permanently connected wire that terminates in either an 8 mm male barrel connector, or a two-port rectangular connector with two pins in square housings of different colors; (E) must include visible parallel grid collector metallic wire lines every 1-4 millimeters across each solar cell; and (F) 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

(2) Off grid CSPV panels without a glass cover, with the following characteristics: (A) a total power output of 100 watts or less per panel; (B) a maximum surface area of 8,000 cm^2 per panel; (C) do not include a built-in inverter; (D) must include visible parallel grid collector metallic wire lines every 1-4 millimeters across each solar cell; and (E) each panel is (1) permanently integrated into a consumer good; (2) encased in a laminated material without stitching, or (3) 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.

In addition, the following CSPV panels are excluded from the scope of the investigation: off-grid CSPV panels in rigid form with a glass cover, with each of the following physical characteristics, whether or not assembled into a fully completed off-grid hydropanel whose function is conversion of water vapor into liquid water: (A) a total power output of no more than 80 watts per panel; (B) a surface area of less than 5,000 square centimeters (cm^2) per panel; (C) do not include a built-in inverter; (D) do not have a frame around the edges of the panel; (E) include a clear glass back panel; and (F) must include a permanently connected wire that terminates in a twoport rectangular connector.

Additionally excluded from the scope of this investigation are off-grid small portable crystalline silicon photovoltaic panels, with or without a glass cover, with the following characteristics: (1) a total power output of 200 watts or less per panel; (2) a maximum surface area of 16,000 cm^2 per panel; (3) no built-in inverter; (4) an integrated handle or a handle attached to the package for ease of carry; (5) one or more integrated kickstands for easy installation or angle adjustment; and (6) a wire of not less than 3 meters either permanently connected or attached to the package that terminates in an 8 mm diameter male barrel connector.

Also excluded from the scope of this investigation are off-grid crystalline silicon photovoltaic panels in rigid form with a glass cover, with each of the following physical characteristics, whether or not assembled into a fully completed off-grid hydropanel whose function is conversion of water vapor into liquid water: (A) a total power output of no more than 180 watts per panel at 155 degrees Celsius; (B) a surface area of less than 16,000 square centimeters (cm^2) per panel; (C) include a keep-out area of approximately 1,200 cm^2 around the edges of the panel that does not contain solar cells; (D) do not include a built-in inverter; (E) do not have a frame around the edges of the panel; (F) include a clear glass back panel; (G) must include a permanently connected wire that terminates in a two-port rounded rectangular, sealed connector; (H) include a thermistor installed into the permanently connected wire before the twoport connector; and (I) include exposed positive and negative terminals at opposite ends of the panel, not enclosed in a junction box.

Further excluded from the scope of the investigation are:

(1) Off grid rigid CSPV panels with a glass cover, with the following characteristics: (A) a total power output of 200 watts or less per panel, (B) a maximum surface area of 10,500 cm^2 per panel, (C) do not include a built-in inverter, (D) must include a permanently connected wire that terminates in waterproof connector with a cylindrical positive electrode and a rectangular negative electrode with the positive and negative electrodes having an interlocking structure, (E) must include visible parallel grid collector metallic wire lines every 1-4 millimeters across each solar cell, and (F) 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

(2) Off-grid small portable crystalline silicon photovoltaic panels, with or without a glass cover, with the following characteristics: (A) a total power output of 200 watts or less per panel, (B) a maximum surface area of 16,000 cm^2 per panel, (C) no built-in inverter, (D) an integrated handle or

a handle attached to the package for ease of carry, (E) one or more integrated kickstands for easy installation or angle adjustment, and (F) a wire either permanently connected or attached to the package terminates in waterproof connector with a cylindrical positive electrode and a rectangular negative electrode with the positive and negative electrodes having an interlocking structure.

Also excluded from the scope of the investigation are:

(1) Off grid rigid CSPV panels with a glass cover, with the following characteristics: (A) a total power output of 200 watts or less per panel, (B) a maximum surface area of 10,500 cm^2 per panel, (C) do not include a built-in inverter, (D) must include a permanently connected wire that terminates in waterproof connector with a cylindrical positive electrode and a rectangular negative electrode with the positive and negative electrodes having an interlocking structure, (E) must include visible parallel grid collector metallic wire lines every 1-4 millimeters across each solar cell, and (F) 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

(2) Small off-grid panels with glass cover, with the following characteristics: (A) surface area from 3,450 mm^2 to 33,782 mm^2, (B) with one black wire and one red wire (each of type 22AWG or 28 AWG not more than 350 mm in length when measured from panel extrusion), (C) not exceeding 10 volts, (D) not exceeding 1.1 amps, (E) not exceeding 6 watts, and (F) for the purposes of this exclusion, no panel shall contain an internal battery or external computer peripheral ports.

Additionally excluded from the scope of the investigation are:

(1) Off grid rigid CSPV panels with a glass cover, with the following characteristics: (A) a total power output of 175 watts or less per panel, (B) a maximum surface area of 9,000 cm^2 per panel, (C) do not include a built-in inverter, (D) must include a permanently connected wire that terminates in waterproof connector with a cylindrical positive electrode and a rectangular negative electrode with the positive and negative electrodes having an interlocking structure; (E) must include visible parallel grid collector metallic wire lines every 1-4 millimeters across each solar cell, and (F) 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

(2) Off grid CSPV panels without a glass cover, with the following characteristics, (A) a total power output of 220 watts or less per panel, (B) a maximum surface area of 16,000 cm^2 per panel, (C) do not include a built-in inverter, (D) must include visible parallel grid collector metallic wire lines every 1-4 millimeters across each solar cell, and (E) each panel is encased in a laminated material without stitching.

Also excluded from the scope of this investigation are off-grid CSPV panels in rigid form, with or without a glass cover, permanently attached to an aluminum extrusion that is an integral component of an automation device that controls natural light, whether or not assembled into a fully completed automation device that controls natural light, with the following characteristics:

(1) a total power output of 20 watts or less per panel;

(2) a maximum surface area of 1,000 cm^2 per panel;

(3) does not include a built-in inverter for powering third party devices.

Modules, laminates, and panels produced in a third-country from cells produced in a subject country are covered by the investigations; however, modules, laminates, and panels produced in a subject country from cells produced in a third-country are not covered by the investigations.

Also excluded from the scope of this investigation are all products covered by the scope of the antidumping and countervailing duty orders on 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 Order,77 FR 73018 (December 7, 2012); and Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules, from the People's Republic of China: Countervailing Duty Order,77 FR 73017 (December 7, 2012).

Also excluded from the scope of this investigation are all products covered by the scope of the antidumping and countervailing duty orders on Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules from the Socialist Republic of Vietnam: Amended Final Antidumping Duty Determination; Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules from Cambodia, Malaysia, Thailand, and the Socialist Republic of Vietnam: Antidumping duty

Orders,90 FR 26786 (June 24, 2025); Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules from the Socialist Republic of Vietnam: Amended Final Antidumping Duty Determination; Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules from Cambodia, Malaysia, Thailand, and the Socialist Republic of Vietnam: Antidumping Duty Orders; Correction,90 FR 29843 (July 7, 2025); and Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules, from Malaysia and Thailand: Amended Final Countervailing Duty Determinations; Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules, from Cambodia, Malaysia, Thailand, and the Socialist Republic of Vietnam: Countervailing Duty Orders,90 FR 26791 (June 24, 2025).

Tariff treatment

CSPV cells and modules are currently imported under Harmonized Tariff Schedule of the United States ("HTS") statistical reporting numbers 8541.42.0010 ("crystalline silicon photovoltaic cells not assembled in modules or made up into panels") and 8541.43.0010 ("crystalline silicon photovoltaic cells assembled in modules or made up into panels"). The general rate of duty is free for HTS subheadings 8541.42.00 and 8541.43.00.[15] Decisions on the tariff classification and treatment of imported goods are within the authority of U.S. Customs and Border Protection.

The United States imposed a global safeguard measure on CSPV products, effective February 7, 2018, in the form of a tariff-rate quota ("TRQ") on imports of CSPV cells not partially or fully assembled into other products and an increase in duties on imports of CSPV modules.[16] The safeguard measure was extended and remained in effect through February 6,

[15] These articles may also be imported as parts or subassemblies of goods provided for in subheadings 8501.71, 8501.72, 8501.80, and 8507.20.80. USITC, HTS (2026) Revision 19, Publication 5792, September 2026.

[16] 83 FR 3541, January 25, 2018.

2026.[17] [18] [19] Imports of CSPV products from India and Laos are subject to the safeguard measure, while imports from Indonesia are not subject to the safeguard measure, under the exception for certain developing countries that are WTO members.[20] While imports of bifacial panels were excluded from the safeguard measure when it was extended in February 2022, Presidential Proclamation 10779 of June 21, 2024 revoked that exclusion, and provided that imports of bifacial panels would be subject to the safeguard measure.[21]

On April 1, 2022, Commerce initiated an inquiry into whether Chinese-manufactured CSPV cells and modules circumvented U.S. antidumping and countervailing duty orders.[22] On August 23, 2023, Commerce issued its final determination in the circumvention inquiries, finding that CSPV cells and modules exported from, and produced in, Cambodia, Malaysia, Thailand, and Vietnam by certain producers were circumventing the orders.[23] However, pursuant to the Presidential Proclamation on June 6, 2022, duties were not collected on imports of CSPV cells and modules from these four countries subject to Commerce's final determination where appropriate certifications were filed with Customs and those imports

[17] 87 FR 7357, February 9, 2022.

[18] Duty rates for imports from nonexempt countries of CSPV cells not partially or fully assembled into other products in excess of the TRQ are 14.75 percent ad valorem from February 7, 2022, through February 6, 2023; 14.50 percent ad valorem from February 7, 2023, through February 6, 2024; 14.25 percent ad valorem from February 7, 2024, through February 6, 2025; and 14.00 percent ad valorem from February 7, 2025, through February 6, 2026. U.S. Customs and Border Protection, "QB 25-507 2025 Solar Cells and Modules," January 27, 2025, https://www.cbp.gov/trade/quota/bulletins/qb-25-507-2025. See also HTS heading 9903.45.22 and U.S. note 18(f) to subchapter 3 of chapter 99 and related tariff provisions for this duty treatment. USITC, HTS (2026) Revision 19, Publication 5792, September 2026.

[19] Duty rates for imports from nonexempt countries of CSPV modules are 14.75 percent ad valorem from February 7, 2022, through February 6, 2023; 14.50 percent ad valorem from February 7, 2023, through February 6, 2024; 14.25 percent ad valorem from February 7, 2024, through February 6, 2025; and 14.00 percent ad valorem from February 7, 2025, through February 6, 2026. U.S. Customs and Border Protection, "QB 25-507 2025 Solar Cells and Modules," January 27, 2025, https://www.cbp.gov/trade/quota/bulletins/qb-25-507-2025. See also HTS heading 9903.45.25 and U.S. note 18(h) to subchapter 3 of chapter 99 and related tariff provisions for this duty treatment. USITC, HTS (2026) Revision 19, Publication 5792, September 2026.

[20] For a full list of countries exempt from the safeguard measure, see U.S. Customs and Border Protection, "QB 25-507 2025 Solar Cells and Modules," January 27, 2025, https://www.cbp.gov/trade/quota/bulletins/qb-25-507-2025. See also U.S. note 18(b) to subchapter 3 of chapter 99. USITC, HTS (2026) Revision 19, Publication 5792, September 2026.

[21] 89 FR 53333, June 26, 2024.

[22] 87 FR 19071, April 1, 2022.

[23] Commerce also made country-wide circumvention findings with respect to all four countries. 88 FR 57419, August 23, 2023.

were used in the United States no later than 180 days after June 6, 2024, the Proclamation's termination date.[24]

Table 1.9 provides a summary of additional tariffs applied to CSPV cells and modules from India, Indonesia, and Laos in place as of October 1, 2026.[25] Historical information is summarized beneath the table.

Table 1.9 CSPV cells and modules: Additional tariffs on imports originating in India, Indonesia, and Laos as of October 1, 2026

Duty rates in percent ad valorem

Additional tariff	India	Indonesia	Laos
Section 301	10	10	NA
Total additional ad valorem rate	10	10	NA

Source: Federal Register notices and other sources cited in this section (Tariff treatment).

Note: For the purposes of this table, "not applicable" is shown as "NA." This applies when the subject product from that subject country is not subject to the tariff for any reason.

Note: Duty rates in the table reflect the duty rates as of the writing of this report. See the text below for historical changes to the additional tariffs.

Section 301

Effective July 24, 2026, CSPV products originating in India and Indonesia are subject to an additional 10 percent ad valorem duty as part of tariffs initiated in July 2026 under section 301 of the Trade Act of 1974.[26] CSPV products originating in Laos are not subject to an additional duty as part of tariffs initiated in July 2026 under section 301 of the Trade Act of 1974.

[24] The notice provided for "Appendix V" certificates to be used for specific entries by the three firms that Commerce had determined were not circumventing the orders, and for "Appendix VI" certificates to be used by other firms to show that specific entries met certain "component content requirements" and were thus not circumventing the orders. Commerce provided that firms that had not cooperated in its investigation were not eligible to use Appendix V or VI certifications, providing a list of such companies, including New East Solar Energy (Cambodia) Co., in Appendix II to the notice. The notice also provided for "Appendix IV" certifications that importers or exporters could use to certify that their merchandise were "applicable entries" in compliance with the terms of the Presidential Proclamation. 87 FR 56868, September 16, 2022; 88 FR 57419, August 23, 2023.

[25] On August 6, 2026, President Donald J. Trump signed a Proclamation establishing minimum import prices and a 15 percent ad valorem duty under Section 232 for polysilicon and polysilicon derivatives, including CSPV cells and modules. The order will take effect on December 4, 2026. 91 FR 51975, August 11, 2026.

[26] 91 FR 47717, July 28, 2026. See also HTS headings 9903.05.44 and 9903.05.45 and U.S. note 52 to subchapter 3 of chapter 99 and related tariff provisions for this duty treatment. USITC, HTS (2026) Revision 19, Publication 5792, September 2026.

Section 122 tariffs

Effective February 24, 2026, through July 24, 2026, CSPV products originating in India, Indonesia, and Laos were subject to an additional 10 percent ad valorem duty under section 122 of the Trade Act of 1974.[27]

Tariffs initiated under the International Emergency Economic Powers Act ("IEEPA")[28]

Effective February 20, 2026, all tariffs initiated under IEEPA were terminated. Below is a history of the IEEPA tariffs relevant to CSPV products originating in India, Indonesia, and Laos that were in effect until February 20, 2026.[29]

Country specific IEEPA tariffs

Effective August 27, 2025, CSPV cells and modules originating in India were subject to an additional 25 percent ad valorem duty under IEEPA. Effective February 7, 2026, the additional tariff specific to India was terminated.[30]

Tariffs initiated in April 2025 under IEEPA

Effective April 5, 2025, CSPV cells and modules originating in India, Indonesia, and Laos were subject to an additional 10 percent ad valorem duty as part of tariffs initiated in April 2025 under IEEPA. Effective April 9, 2025, the following individualized country duty rates were assigned: 26 percent for imports from India; 32 percent for imports from Indonesia; and 48 percent for imports from Laos. However, effective April 10, 2025, individualized country duties were suspended and the additional duty rate as part of tariffs initiated in April 2025 under IEEPA for CSPV cells and modules originating in India, Indonesia, and Laos was returned to 10

[27] 91 FR 9339, February 25, 2026. See also HTS heading 9903.03.01 and U.S. note 2(aa) to subchapter 3 of chapter 99 and related tariff provisions for this duty treatment. USITC, HTS (2026) Revision 19, Publication 5792, September 2026.

[28] Multiple tariffs were enacted under the authority of the International Emergency Economic Powers Act ("IEEPA"), including tariffs that applied to countries that may not be subject in this proceeding. Tariffs specific to Canada, China, and Mexico were initiated in February 2025. Tariffs initiated in April 2025 under IEEPA were applied globally. Tariffs specific to Brazil were initiated in July 2025. Tariffs specific to India were initiated in August 2025 and terminated effective February 7, 2026. Tariffs under IEEPA were amended over time. All tariffs initiated under IEEPA were terminated effective February 20, 2026. 91 FR 9437, February 25, 2026.

[29] 91 FR 9437, February 25, 2026.

[30] 90 FR 38701, August 11, 2025; 91 FR 6501, February 11, 2026. See also HTS headings 9903.01.84, 9903.01.85, 9903.01.86, 9903.01.87, 9903.01.88, and 9903.01.89 and U.S. note 2(z) to subchapter 3 of chapter 99 and related tariff provisions for this duty treatment. USITC, HTS (2026) Revision 19, Publication 5659, August 2026.

percent. Effective August 7, 2025, the following individualized country duty rates were assigned: 25 percent for imports from India; 19 percent for imports from Indonesia; and 40 percent for imports from Laos. As noted previously, effective February 20, 2026, tariffs initiated under IEEPA and the associated duties imposed under IEEPA were terminated.[31]

[31] Individualized country duties as part of tariffs initiated in April 2025 under IEEPA for countries other than China were suspended from April 10, 2025, until August 7, 2025. 90 FR 15041, April 7, 2025; 90 FR 15625, April 15, 2025; 90 FR 30823, July 10, 2025; 90 FR 37963, August 6, 2025; 91 FR 9437, February 25, 2026. See also HTS headings 9903.01.25, 9903.01.55, 9903.01.61, 9903.01.74 and U.S. note 2(v) to subchapter 3 of chapter 99 and related tariff provisions for this duty treatment. USITC, HTS (2026) Revision 19, Publication 5792, September 2026.

The product

Description and applications[32]

CSPV cells are the essential element in CSPV modules (also commonly referred to as panels), which in turn are the main components of CSPV systems. Solar CSPV systems convert sunlight into electricity for on-site use or for distribution through the electric grid.

CSPV cells

CSPV cells use crystalline silicon to convert sunlight to electricity and are the basic elements of a CSPV module. CSPV cells may be fully square or may have slightly rounded corners (figure 1.1).

[32] Unless otherwise noted, information in this section is based on Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules from Cambodia, Malaysia, Thailand, and Vietnam, Inv. Nos. 701-TA-722-725 and 731-TA-1690-1693 (Final), USITC Publication 5631, June 2025, pp. 1.20 to 1.29.

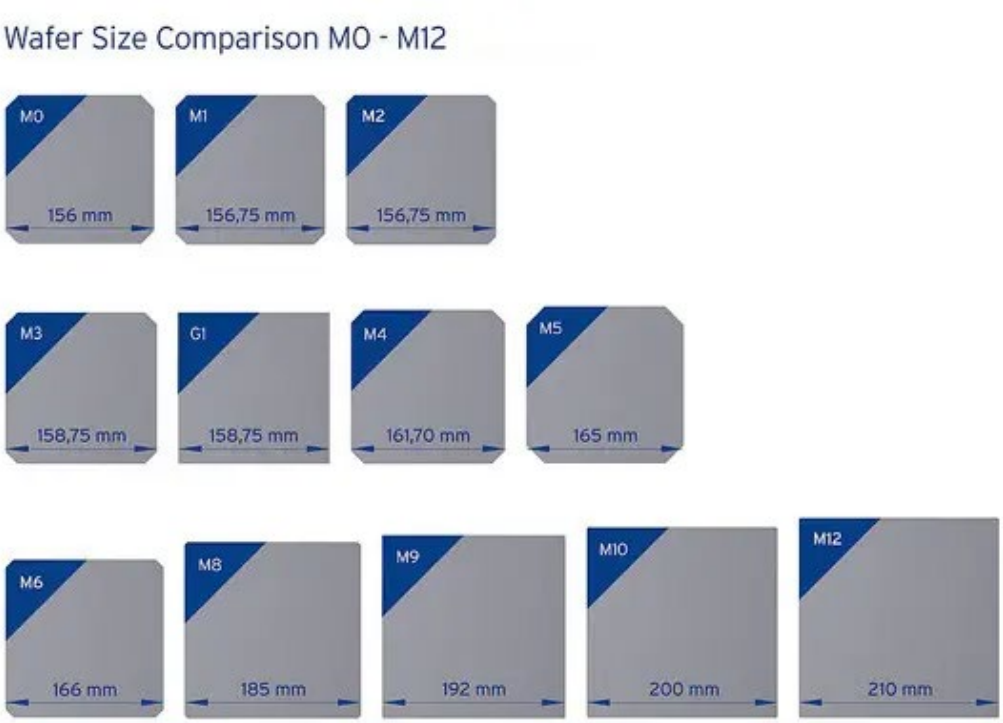
Figure 1.1 CSPV cells and modules: CSPV cells



Source: International Energy Agency website, https://www.iea.org/reports/solar-pv-global-supply-chains, accessed February 10, 2025.

Common sizes of CSPV cells, as measured by the side length of the cell, and the type of wafer used in producing cells of that size are shown in figure 1.2.

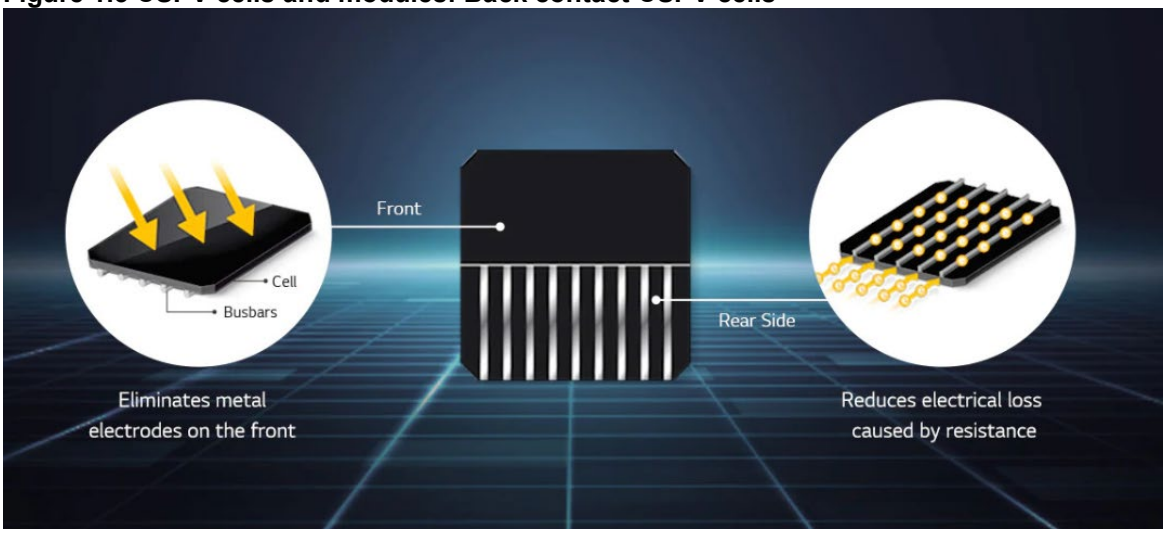
Figure 1.2 CSPV cells and modules: Examples of wafer sizes used in monocrystalline cell production



Source: Novergy, “Significance of increasing size of mono-crystalline wafers in modules,” September 28, 2020, https://www.novergysolar.com/significance-increasing-size-mono-crystalline-wafers-modules/.

CSPV cells have a positive layer, a negative layer, and a positive-negative junction (p/n junction). 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.[33] The number of busbars in cells varies, and has increased over time as more busbars improve efficiency and power output. Further, some cells contain no busbars, which can provide benefits such as reducing electrical losses and increasing the surface area of the CSPV cell that can absorb sunlight. Alternatively, some cells have metal contacts on the rear side of the CSPV cell, creating back (or rear contact) cells (including interdigitated back contact (IBC) cells) (figure 1.3). This provides several advantages such as reduced shading, improved cell interconnection, and better aesthetics.

Figure 1.3 CSPV cells and modules: Back contact CSPV cells

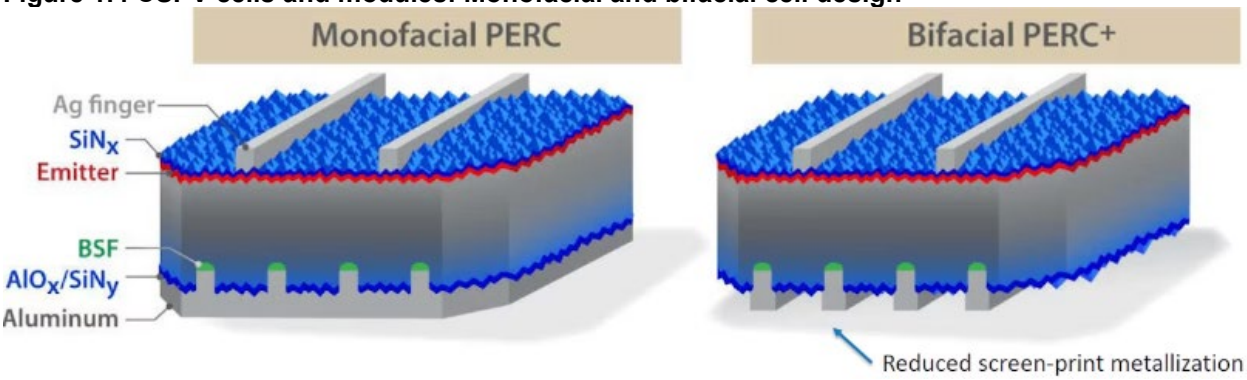


Source: Somos Electricos, "LG presenta sus nuevos y mas potentes paneles solares," accessed July 31, 2026, LG presenta sus nuevos y más potentes paneles solares.

CSPV cells can be monofacial or bifacial. Whereas monofacial CSPV cells have a metalized back layer, bifacial CSPV cells have a cell structure on the backside that allows it to convert light that hits both the front and back of the CSPV cell (figure 1.4). Different bifacial CSPV cell technologies, each with unique cell structures, have differing levels of bifaciality and efficiency. Bifaciality is the by-product of the cell technology, such as Passive Emitter Rear Contact ("PERC") or heterojunction technologies, discussed later in this section.

[33] Electricity is carried from the thin metal strips on solar cells to wider metal strips known as busbars. These busbars are interconnected during the manufacturing process so that electricity is carried from the cell to the junction box.

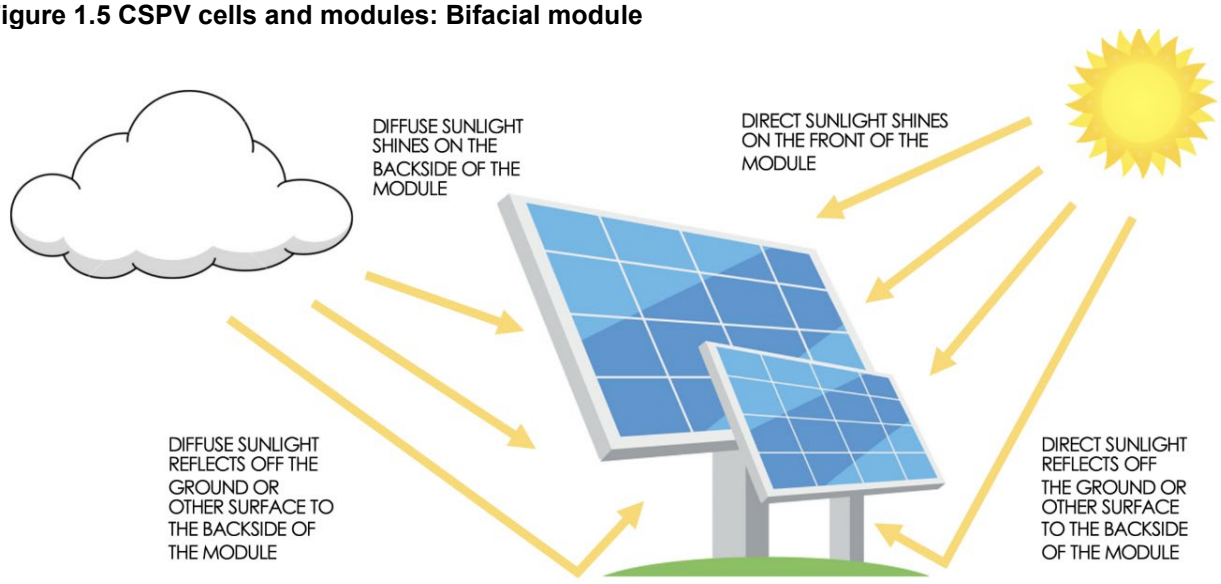
Figure 1.4 CSPV cells and modules: Monofacial and bifacial cell design



Source: RatedPower, "Bifacial modules," January 24, 2022, https://ratedpower.com/blog/bifacial-modules/.

When assembled into bifacial CSPV modules, the efficiency of CSPV bifacial cells and those with bifaciality characteristics is fully realized when encapsulated in a front and rear glass structure, or a front glass and a rear transparent back sheet layer to allow reflected sunlight on the rear of the CSPV cell (figure 1.5).

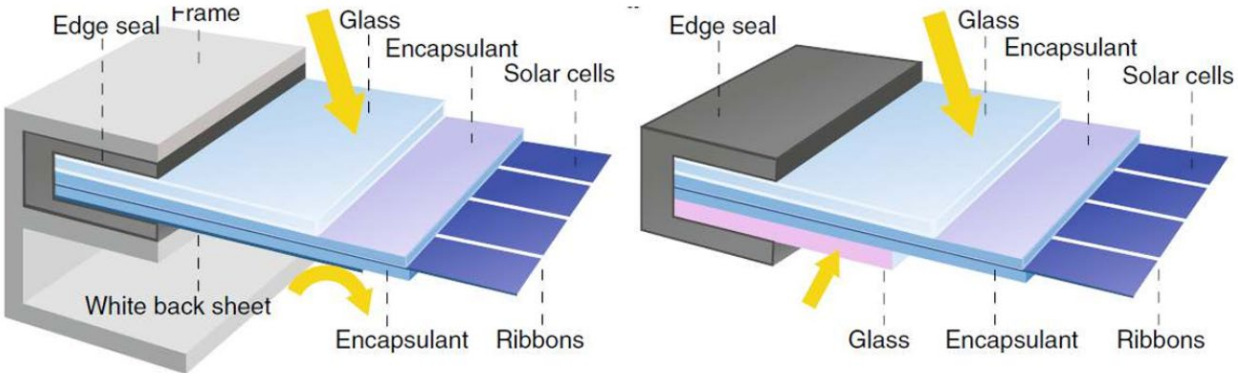
Figure 1.5 CSPV cells and modules: Bifacial module



Source: Kinect Solar, "Everything you need to know about bifacial modules," November 5, 2020, https://kinectsolar.com/everything-you-need-to-know-about-bifacial-modules/.

Figure 1.6 shows a monofacial module on the left with a traditional opaque back sheet, and a bifacial module on the right with a glass layer that allows light through the back side of the cell. The bifacial module's ability to absorb both direct and ground-reflected irradiance has several advantages over monofacial modules, including an increase in energy yield.

Figure 1.6 CSPV cells and modules: Assembly of monofacial module (left) and bifacial module (right)

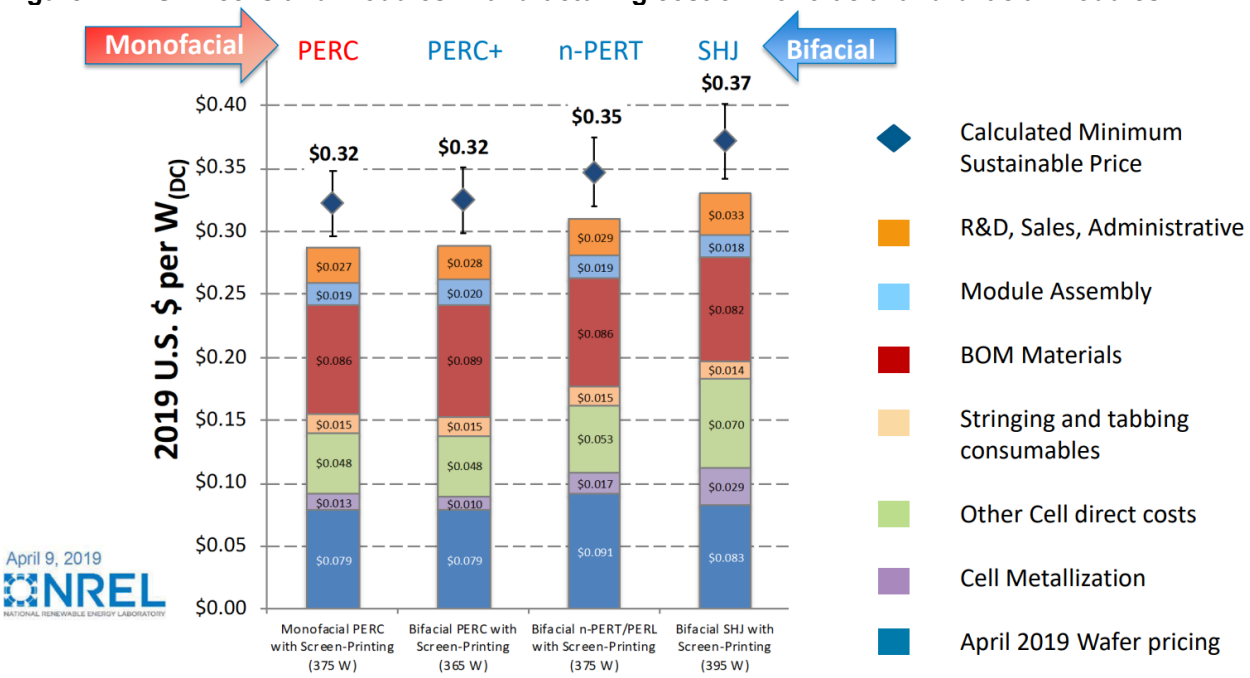


Source: IEA, Bifacial Photovoltaic Modules and Systems: Experience and Results from International Research and Pilot Applications, 2021, p. 28, https://iea-pvps.org/wp-content/uploads/2021/04/IEA-PVPS-T13-14_2021-Bifacial-Photovoltaic-Modules-and-Systems-report.pdf.

Monofacial and bifacial modules have moved closer to cost parity in recent years (figure 1.7), and manufacturers who have switched from assembling monofacial modules to bifacial modules have had to make a few adjustments to their production lines, such as replacing the traditional back sheet with glass and sourcing bifacial cells.[34] Figure 1.8 also presents the historical cost model results for solar PV module manufacturing in Asia in 2024 U.S. dollars per watt.

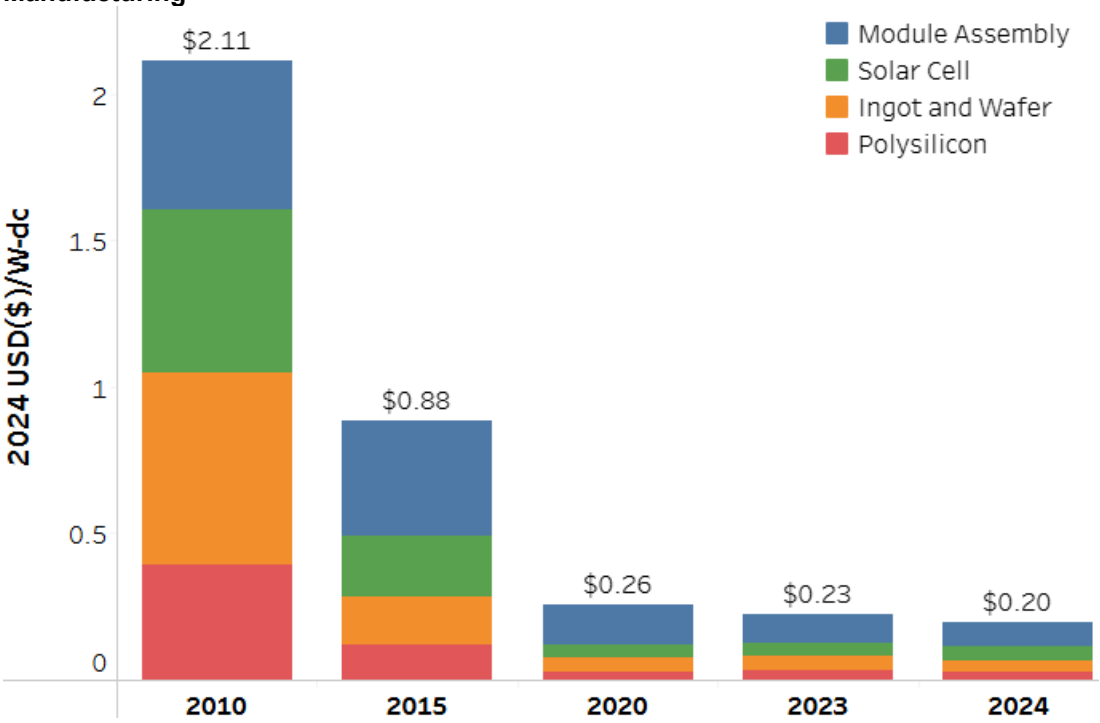
[34] While NREL does not have data comparing manufacturing costs between monofacial and bifacial modules more recent than 2019, domestic producers of CSPV products reported that monofacial and bifacial modules have reached cost parity since then. Producers use bifacial cells in a lot of cases for a monofacial module product, knowing that there's some capability being wasted by covering the back of the module with aluminum instead of glass, but forgoing the extra expense of making a different production line of monofacial cells. Conference transcript, pp. 73 to 78, 97 (Moskowitz).

Figure 1.7 CSPV cells and modules: Manufacturing cost of monofacial and bifacial modules



Source: NREL, Bifacial PV System Performance: Separating Fact from Fiction, 2019, p. 6, Bifacial PV System Performance: Separating Fact from Fiction - National Laboratory of the Rockies.

Figure 1.8 CSPV cells and modules: Historical Cost Model Results for Solar PV Module Manufacturing



Source: NREL, "Solar Manufacturing Cost Analysis," July 26, 2024, Solar and Storage Manufacturing Cost Analysis | Solar Market Research and Analysis | NLR.

Note: The calculated overall minimum sustainable price is based on factory gate minimum sustainable price for each subcomponent. Results reflect production in Asia.

The two main types of CSPV cells are monocrystalline and multicrystalline (or polycrystalline) silicon, though there are various subtypes within these two categories, as discussed below. Monocrystalline cells are made from a single grown crystal and tend to convert sunlight into electricity more efficiently. Multicrystalline cells have a random crystal structure and tend to have a lower conversion efficiency, though there are a range of conversion efficiencies for monocrystalline and multicrystalline CSPV modules.[35]

Monocrystalline and multicrystalline cells commonly use PERC and related technologies.[36] PERC cells incorporate an additional rear dielectric layer that reflects light that did not generate electricity as it initially passed through the CSPV cell back into the CSPV cell. There is, therefore, another opportunity for the CSPV cell to absorb this light. PERC cells have a higher efficiency and improved performance in certain conditions, such as low light and high heat conditions.

Monocrystalline cells can be either p-type or n-type. In the production of p-type of monocrystalline CSPV wafers, the silicon is doped with boron or gallium to create a positive electrical orientation. In the production of n-type mono wafers, the silicon is doped with phosphorous to create a negative electrical orientation. In the CSPV cell production process, a positive layer is added to create the p/n junction.

N-type CSPV cells can be more expensive to produce, but have a number of benefits, such as higher conversion efficiencies and no light-induced degradation. Heterojunction n-type CSPV cells (including heterojunction with intrinsic thin layer (HIT)) add thin layers of photosensitive semiconductor materials (such as amorphous silicon) on top of an n-type monocrystalline wafer. These additional layers increase the absorption of sunlight and the overall efficiencies of the CSPV cells, as well as improve performance in hot climates. Tunnel Oxide Passivated Contacts ("TOPCon") is another technology used for n-type cells. TOPCon cells are created by "depositing a nanometer scale layer of silicon oxide, followed by a thicker polycrystalline silicon layer, between the silicon wafer and metal contacts. The layers reduce charge recombination between the wafer and the contacts, increasing carrier lifetime and resulting in a conversion efficiency boost."

[35] Conversion efficiency is the percent of sunlight that is converted to electricity.

[36] Related technologies include Passivated Emitter Rear Totally Diffused (PERT) and Passivated Emitter Rear Locally Diffused (PERL).

CSPV laminates

CSPV laminates consist of CSPV cells that are connected, encapsulated (most commonly in an ethyl vinyl acetate ("EVA") film), and covered with a glass front layer and a back sheet or rear glass. The back sheet is most commonly a plastic film composite, though glass is also used in some applications such as bifacial CSPV modules. CSPV laminates can use full cells or cells cut in smaller pieces, such as half-cut cells. These are standard CSPV cells that are cut, such that a standard 60-cell CSPV module would instead have 120 half cells. Half-cut cells result in lower cell currents and, therefore, reduce power losses and increase cell efficiency and overall module output. Some products use shingling, paving, and other low or zero gap technologies to reduce the distance between cells.

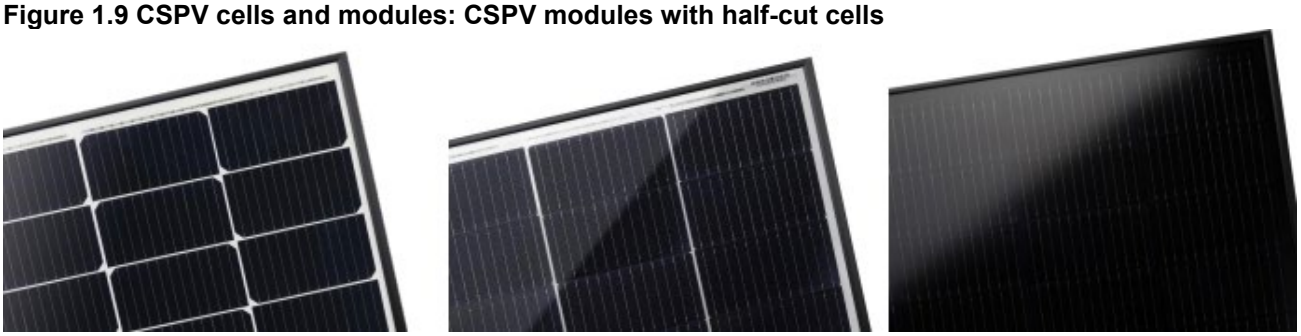
CSPV modules

CSPV modules typically consist of the laminate that is typically framed in aluminum, and then attached to one or more junction boxes (figure 1.9).[37] CSPV modules can be used in both ground-mounted and rooftop-mounted systems and in both the off-grid market segment and the three on-grid market segments—residential, nonresidential, and utility.[38] The junction box can be connected to other modules, an inverter (which converts the direct current generated by the system to alternating current), or a battery and a charge controller (which controls battery charging).

[37] Some CSPV modules do not use a frame, which reduces costs. These modules typically use glass as the rear layer to ensure mechanical stability.

[38] Photovoltaics ("PV") do not include solar water heat or concentrated solar power ("CSP"). While PV uses a photosensitive semiconductor material to convert sunlight directly to electricity, solar water heat uses sunlight to heat water and CSP uses reflected sunlight to generate steam or a vapor that turns a turbine to generate electricity.

Figure 1.9 CSPV cells and modules: CSPV modules with half-cut cells



Source: PV Magazine webinars, "Filling in the gaps: The evolution of high-density module design," June 25, 2020, https://shop.pv-magazine.com/webinars/filling-in-the-gaps-the-evolution-of-high-density-module-design/.

The most common on-grid CSPV modules have 60 cells (or 120 half-cut cells) or 72 cells (or 144 half-cut cells). In addition to standard size CSPV modules, CSPV cells can be used in building-integrated PV ("BIPV products"). BIPV products are materials integrated into the building envelope, such as the facade or roof, containing CSPV cells. These BIPV products replace conventional construction materials, such as glass or roof shingles, taking over the function that conventional materials would otherwise perform while also producing electricity.

CSPV modules are also used in off-grid applications. In many instances, CSPV modules typically used in on-grid applications may also be used in off-grid applications. For example, a house that is not connected to the electrical grid could use the same CSPV modules as a house that is grid-connected. However, there is a broad range of off-grid applications, such as power generation in remote locations, mobile power solutions, telecommunications power and lighting systems, and portable consumer goods (such as systems for recharging consumer electronics like tablets and phones). The CSPV modules used in some of these applications may be different from those typically used in on-grid applications. For example, these products are often designed for specific power and portability requirements, and some CSPV modules have different wattages than CSPV modules used in grid-connected applications.

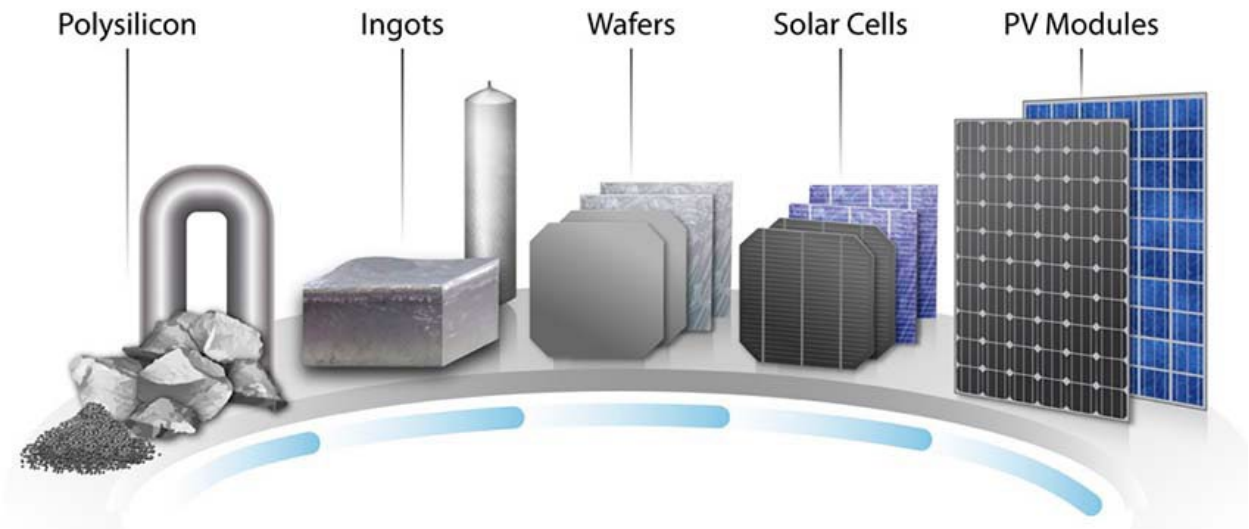
Manufacturing processes[39]

There are five principal stages involved in the manufacture of CSPV products. First, polysilicon is refined, then it is formed into ingots, which are sliced into wafers, converted to CSPV cells, and assembled into the finished product, modules (figure 1.10). These are discrete production steps that may be done in different plants or locations. Companies may source

[39] Unless otherwise noted, information in this section is based on Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules from Cambodia, Malaysia, Thailand, and Vietnam, Inv. Nos. 701-TA-722-725 and 731-TA-1690-1693 (Final), USITC Publication 5631, June 2025, pp. 1.29 to 1.34.

products at each stage of the value chain or produce the products in-house. CSPV cells are tested and inspected during the production process. The ingot and wafer production process differs for monocrystalline and multicrystalline cells, as discussed below.

Figure 1.10 CSPV cells and modules: Production process



Source: NREL, "The Crystalline Silicon Solar PV Supply Chain and U.S. Market Cost Scenarios," July 28, 2025, p. 38, https://docs.nlr.gov/docs/fy25osti/96077.pdf.

Note: For ingots, the cylindrical-shaped ingot is a crystal used in monocrystalline wafers, while the cube-shaped ingot is one used in making multicrystalline wafers.

Polysilicon

The first step in the CSPV value chain is refining polysilicon. There are multiple approaches to polysilicon refining. This discussion will focus on the Siemens method, which accounted for the majority of total global polysilicon production in 2024, and fluidized bed reactor ("FBR") technology, which accounts for most of the remaining market share.[40]

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.

[40] In China, which accounts for 93.2 percent of global polysilicon production, the Siemens method accounts for 86 percent of polysilicon output and the remaining 14 percent is produced using FBR method. IEA, Trends in Photovoltaic Applications 2025, retrieved July 24, 2026, p. 55, https://iea-pvps.org/wp-content/uploads/2025/10/IEA-PVPS_Trends_2025-.pdf.

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.

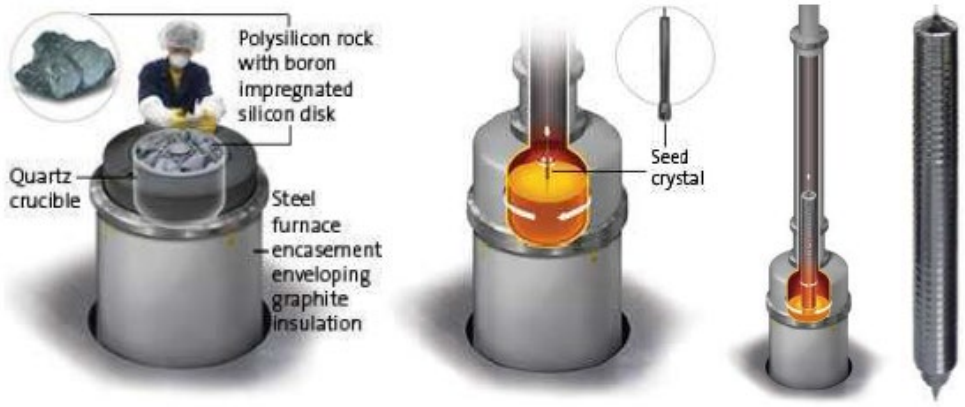
Instead of inserting rods, FBR uses seed granules of purified silicon. The seed granules are fed into a chamber that has heated silane gas entering from below and exiting above. The flow of gas 'fluidizes' the silicon granules, causing them to flow like a liquid, as the silane gas breaks down and deposits 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 production at low cost.

Ingots and wafers for monocrystalline cells

In the Czochralski process for producing crystals used in monocrystalline wafers, polysilicon rocks are first placed into a quartz crucible along with a small amount of boron, which is used to provide a positive electric orientation (figure 1.11). The crucible is then loaded into a Czochralski 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. The process of growing the crystal takes about 2.5 days.

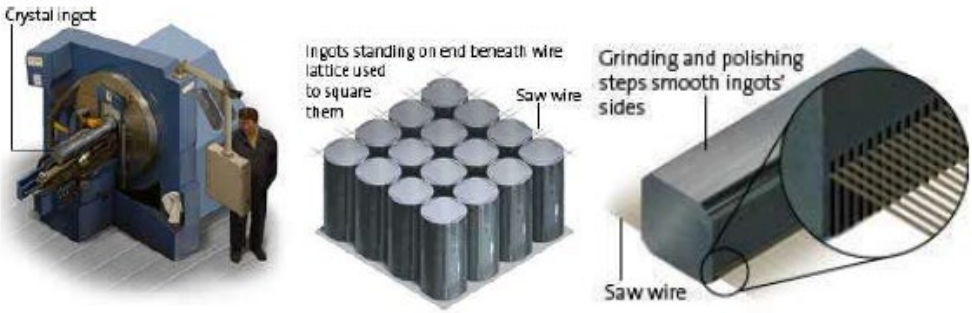
Once the crystal has cooled, it is processed into wafers. The top and tail (each end of the cylindrical crystal) are cut off (figure 1.12). The remaining portion of the crystal (or ingot) is cut into equal length pieces and then it is squared. In squaring, the rounded sides of the ingot are cut into four flat sides, leaving only rounded corners. A wire saw then slices the ingots into wafers. A majority of global manufacturers have switched to diamond wire saws for monocrystalline wafer slicing, which has several benefits including increasing the speed of the production process. The wafers are then cleaned, dried, and inspected.

Figure 1.11 Czochralski process, crucible loading/charging (left), seed crystal (second from left), crystal growing (second from right), and finished crystal (right)



Source: SolarWorld, "Energy for you and me", pp. 8 to 9, https://www.akamaienergyhawaii.com/dimages/17118/solar-101-eng-solar-photovoltaic.pdf.

Figure 1.12 Wafer production: Cutting off the top and tail (left), squaring (middle), and slicing into wafers (right)



Source: Source: SolarWorld, "Energy for you and me", pp. 10 to 11, https://www.akamaienergyhawaii.com/dimages/17118/solar-101-eng-solar-photovoltaic.pdf.

Ingots and wafers for multicrystalline cells

For multicrystalline ingots, the first step is also loading polysilicon into a crucible. This crucible is then loaded into a directional solidification systems (DSS) furnace, where it is cast into ingots. The ingot is then cut into blocks. These blocks are tested and any parts of the block that do not pass these tests are cropped off. The blocks are sliced into wafers using a wire saw. Finally, the wafers are cleaned, dried, and inspected. This process results in square wafers, while the monocrystalline process results in wafers with rounded corners.

CSPV cells

The monocrystalline and multicrystalline wafers, which are 180 to 200 micrometers thick, are next processed into CSPV cells.[41] CSPV cell production is capital intensive and requires

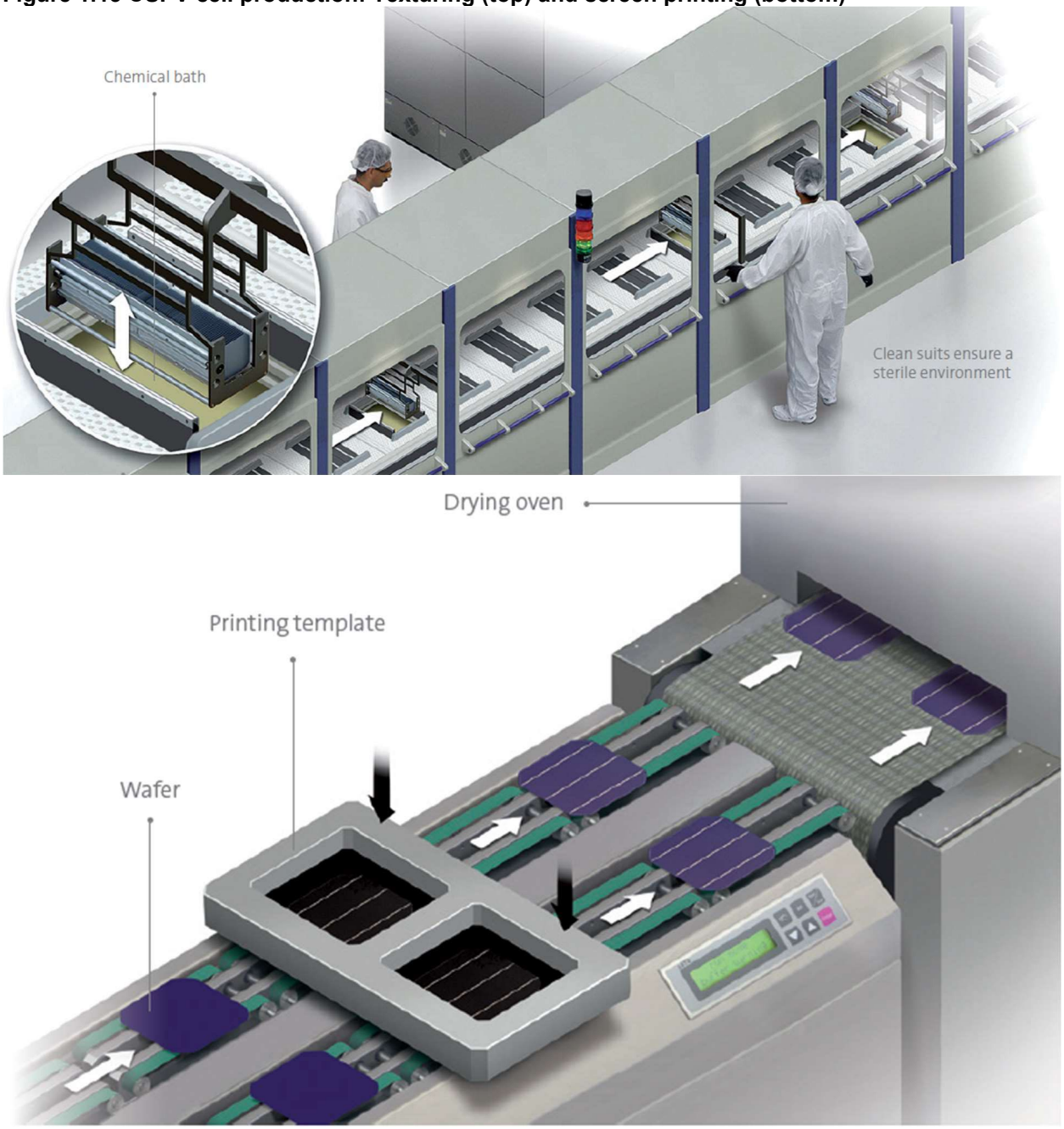
[41] The cell manufacturing process varies by company and technology.

a skilled workforce. Some firms use a highly automated manufacturing process, while others mix automation and manual labor in their production processes. The main steps in CSPV cell production are as follows:[42]

- **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 (figure 1.13).
- **Diffusion:** Wafers are then moved into oven-like chambers where phosphorous is diffused into a thin layer of the surface, which gives the surface a negative potential electrical orientation. The combination of this layer and the boron-doped layer below creates a p/n junction.
- **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 are then printed on the solar CSPV cell to collect the electricity. On the front of the CSPV cell, 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.
- **Testing and sorting:** The final step in the process is the testing and sorting of the CSPV cells based on their characteristics and efficiency.

[42] This section will discuss the general manufacturing process. There may be additional steps for certain technologies.

Figure 1.13 CSPV cell production: Texturing (top) and screen printing (bottom)



Source: SolarWorld, “Energy for you and me”, pp. 12 to 13, https://www.akamaienergyhawaii.com/dimages/17118/solar-101-eng-solar-photovoltaic.pdf.

CSPV modules

The CSPV cells are next assembled into modules. The extent of automation and manual labor involved in module assembly varies depending on the company, though it is generally the most labor-intensive part of the manufacturing process. First, a string of CSPV cells is soldered together. A piece of glass is placed on the production line, on top of which is added a piece of ethyl vinyl acetate ("EVA"). The CSPV cells are laid out in a rectangular matrix that will provide the appropriate wattage and power requirements. Typically, a sealant is added, often EVA, and a back sheet is added. The CSPV cells are then laminated in a vacuum and are cured. At this stage, the CSPV cells are referred to as a "laminate." Frames are then usually attached to the laminate, and a junction box is attached to the back. In the final step, modules are cleaned and inspected. CSPV modules are tested and inspected throughout the production process.

Domestic like product issues

The petitioner proposed that the Commission define a single like product coextensive with the scope, including both cells and modules.[43] Canadian Solar US Module Manufacturing Corporation ("Canadian Solar"), Heliene USA Inc. ("Heliene"), and Silfab, all U.S. producers of the domestic like product, argued that the Commission recognize that CSPV solar cells and modules constitute separate domestic like products because 1) CSPV solar cells and modules support distinct markets, 2) CSPV solar cells and modules have distinct physical characteristics and functionality, 3) the transformation of a CSPV cell into a module adds significant value, 4) creating CSPV modules is a transformative and capital-intensive process, and 5) CSPV solar cells are not entirely dedicated to in-scope CSPV solar modules and have other applications.[44]

In the preliminary phase, the Commission found that there is a single domestic like product consisting of CSPV cells and modules, coextensive with the scope.[45] For more information on U.S. producers' and importers' responses on factor comparisons, regarding differences and similarities between the intermediate and downstream products, see appendix D of the preliminary phase report.[46] In their comments on the draft final phase questionnaires, the petitioner and respondents did not request data or other information necessary for the analysis of the domestic like product.

[43] Petition, pp. 3 to 4, and 22 to 26 and petitioners' prehearing brief, pp. 3 to 7 and posthearing brief, pp. 3 to 4.

[44] Canadian Solar, Heliene, and Silfab's joint postconference comments, pp. 1 to 8.

[45] Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules from India, Indonesia, and Laos (Preliminary), USITC Publication 5665 ("Preliminary publication"), September 2025, p. 18.

[46] Preliminary publication, Appendix D.

Part 2: Conditions of competition in the U.S. market

U.S. market characteristics

There are three primary on-grid market segments for CSPV products: residential, nonresidential (commercial), and utility. These segments account for the vast majority of CSPV modules sold in the United States while the vast majority of CSPV cells ("cells") are used in the production of CSPV modules ("modules"). Modules vary in size, nominal power output, and output efficiency. Over the course of the safeguard, the solar industry has been in part characterized by regulations on imports, including the Withhold Release Order ("WRO") pursuant to the Uyghur Forced Labor Prevention Act ("UFLPA"); as well as the Section 301, Section 232, and AD/CVD tariffs on CSPV products and certain inputs. It has also been characterized by shifting regulatory incentives for domestic electricity generation and/or the use of domestic CSPV products in domestic electricity generation projects.[1]

As of 2025, the United States has the capacity to produce every major component of the solar supply chain.[2] While production capacity for modules is estimated to be large enough to meet domestic demand, upstream capacity is still underdeveloped, particularly with respect to ingots, wafers, and cells.[3] Production capacity in the United States is estimated to be: 25 GW for polysilicon, 5 GW for ingots, 5 GW for wafers, 3.2 GW for cells, and 70 GW for modules. An additional 25.3 GW of cell production capacity is currently under construction, as well as an additional 3.3 GW for ingots and 3.3 GW for wafers.[4]

Firms were asked to indicate whether the markets for cells and modules were subject to distinctive conditions of competition. With respect to cells, 8 of 11 U.S. producers, 23 of 38 importers, and 4 of 7 purchasers indicated that the market was subject to distinctive conditions of competition. With respect to modules, 10 of 13 U.S. producers, 21 of 40 importers, and 9 of 10 purchasers indicated that the market was subject to distinctive conditions of competition. Several firms generally indicated that the market was largely shaped by U.S. regulatory policies and trade measures, such as the UFLPA, AD/CVD orders, and section 201 measures. Firms also reported that U.S. government incentives have driven increased demand for U.S.-produced

[1] See Part 3 for more information.

[2] Solar Energy Industries Association (SEIA), https://seia.org/news/domestic-solar-manufacturing-booms-during-trump-administration-with-entire-solar-supply-chain-reshored/, retrieved May 20, 2026.

[3] SEIA, https://seia.org/news/manufacturers-highlight-importance-of-domestic-production/, retrieved May 21, 2026.

[4] SEIA Solar & Storage Supply Chain Dashboard, https://seia.org/research-resources/solar-storage-supply-chain-dashboard/, retrieved May 21, 2026.

CSPV products. Some firms highlighted the limited availability of U.S.-produced cells relative to domestic module production capacity, while other firms noted new domestic cell producers are increasingly coming online. Some firms also noted cost pressures have pushed the solar industry to continuously seek efficiencies through product innovation or other means such as vertical integration. U.S. producer and importer *** described the CSPV market as having six unique competitive conditions: fragmentation of technology pathways, patent barriers, strong supply-chain interdependence, rigid certification and compliance requirements, and extremely rapid technological iteration.

Apparent U.S. consumption of CSPV cells and modules, combined, increased by *** percent during 2023 to 2025 and was *** percent lower during January to March ("interim") 2026 compared to interim 2025.

U.S. purchasers

The Commission received ten usable questionnaire responses from firms that had purchased CSPV cells and modules during January 2023 to March 2026.[5] [6] [7] One responding purchaser identified themselves as a distributor, three identified themselves as module assemblers, one as a residential installer, one as a commercial installer, five as utility company/developers, and one as an Engineering, Procurement, and Construction ("EPC") contractor.

[5] The following firms provided purchaser questionnaire responses: ***, ***, ***, ***, ***, ***, ***, ***, ***, and ***.

[6] Of the ten responding purchasers, two purchased domestically produced cells, none purchased imports of cells from India, three purchased imports of cells from Indonesia, one purchased imports of cells from Laos, and three purchased imports of cells from nonsubject sources. With respect to modules, two purchased domestically produced modules, two purchased imports of modules from India, three purchased imports of modules from Indonesia, two purchased imports of modules from Laos, five purchased imports of modules from nonsubject sources, and one reported purchases of imports from unknown sources.

[7] Seven purchasers indicated they had marketing/pricing knowledge of domestic product, four of India product, seven of Indonesia product, five of Laos product, and seven of nonsubject countries.

Changes in government incentive programs

U.S. producers, importers, and purchasers were asked to report whether there were any changes in the level and/or availability of government incentives for CSPV cells and modules since 2023 (table 2.1). Firms that reported there have been changes are listed in Appendix D along with their responses noting which incentive programs have changed, the change in level or availability of the program, and the impact of those changes.

Table 2.1 CSPV cells and modules: Count of firms' responses regarding changes in level/availability of government incentive programs

Firm type	No	Yes
U.S. producers	1	14
Importers	9	34
Purchasers	2	8

Source: Compiled from data submitted in response to Commission questionnaires.

Impact of related trade measures

U.S. producers, importers, and purchasers were asked to report the impact of various trade remedy measures on overall demand, supply, prices, or raw material costs (tables 2.2 through 2.5). Most U.S. producers, importers, and purchasers indicated that the new or modified tariffs and section 201 measures impacted the U.S. market for CSPV cells and modules. While most U.S. producers and purchasers indicated the 301 tariffs and 232 tariffs impacted the U.S. market for CSPV products, only a plurality of importers reported this was the case for the 301 tariffs and a plurality of importers indicated they did not know whether the 232 tariffs have had an impact.

When discussing the new or modified tariffs, firms generally described the measures as increasing raw material costs and creating significant supply chain disruptions. Some firms noted IEEPA, Section 122, and Section 232 measures on polysilicon as examples of repeated policy changes creating supply chain uncertainty and procurement challenges. With respect to the 201 measures, most firms generally described the measures as leading to increased prices for CSPV products in the U.S. although some firms also noted the bifacial exclusion as undermining its effectiveness.

Table 2.2 CSPV cells and modules: Count of firms' responses regarding the impact of the 301 tariffs on Chinese origin products

Firm type	No	Yes	Don't know
U.S. producers	1	9	4
Importers	8	24	12
Purchasers	2	7	1

Source: Compiled from data submitted in response to Commission questionnaires.

Table 2.3 CSPV cells and modules: Count of firms' responses regarding the impact of the section 232 tariffs on steel and aluminum imports

Firm type	No	Yes	Don't know
U.S. producers	2	9	3
Importers	11	15	17
Purchasers	1	5	3

Source: Compiled from data submitted in response to Commission questionnaires.

Table 2.4 CSPV cells and modules: Count of firms' responses regarding the impact of new or modified tariffs since January 1, 2025

Firm type	No	Yes	Don't know
U.S. producers	0	9	5
Importers	0	33	11
Purchasers	0	8	2

Source: Compiled from data submitted in response to Commission questionnaires.

Table 2.5 CSPV cells and modules: Count of firms' responses regarding the impact of the section 201 measures

Firm type	No	Yes	Don't know
U.S. producers	1	11	2
Importers	4	30	12
Purchasers	0	9	1

Source: Compiled from data submitted in response to Commission questionnaires.

Channels of distribution

*** of U.S. producers' and importers' U.S. shipments of cells went to module assemblers.[8] As shown in table 2.6, most U.S. shipments of domestically produced modules went to distributors with substantial shares also going to residential installers, commercial installers, and utilities/developers. *** U.S. shipments of imports from subject sources went to utilities/developers during 2023 and 2024, while *** to distributors in 2025 and interim 2026.[9]

Table 2.6 CSPV modules: Share of U.S. shipments by source, channel of distribution, and period

Shares in percent; interim is January through March

Source	Channel	2023	2024	2025	Interim 2025	Interim 2026
United States	Distributors	***	***	***	***	***
United States	Module assemblers	***	***	***	***	***
United States	Residential installers	***	***	***	***	***
United States	Commercial installers	***	***	***	***	***
United States	Utilities/developers	***	***	***	***	***
India	Distributors	***	***	***	***	***
India	Module assemblers	***	***	***	***	***
India	Residential installers	***	***	***	***	***
India	Commercial installers	***	***	***	***	***
India	Utilities/developers	***	***	***	***	***
Indonesia	Distributors	***	***	***	***	***
Indonesia	Module assemblers	***	***	***	***	***
Indonesia	Residential installers	***	***	***	***	***
Indonesia	Commercial installers	***	***	***	***	***
Indonesia	Utilities/developers	***	***	***	***	***
Laos	Distributors	***	***	***	***	***
Laos	Module assemblers	***	***	***	***	***
Laos	Residential installers	***	***	***	***	***
Laos	Commercial installers	***	***	***	***	***
Laos	Utilities/developers	***	***	***	***	***
Subject	Distributors	***	***	***	***	***
Subject	Module assemblers	***	***	***	***	***
Subject	Residential installers	***	***	***	***	***
Subject	Commercial installers	***	***	***	***	***
Subject	Utilities/developers	***	***	***	***	***

Table continued.

[8] One U.S. importer (***) reported *** kilowatts of U.S. shipments of cells from Indonesia to distributors while two U.S. importers (*** and ***) reported a combined total of *** kilowatts of U.S. shipments of cells from nonsubject sources to utilities/developers.

[9] The number of importers reporting shipments of imports from subject sources to distributors increased from three firms in 2024 to 15 firms in 2025, with most of the increase driven by importers *** and ***.

Table 2.6 (Continued) CSPV modules: Share of U.S. shipments by source, channel of distribution, and period

Shares in percent; interim is January through March

Source	Channel	2023	2024	2025	Interim 2025	Interim 2026
Recent order sources	Distributors	***	***	***	***	***
Recent order sources	Module assemblers	***	***	***	***	***
Recent order sources	Residential installers	***	***	***	***	***
Recent order sources	Commercial installers	***	***	***	***	***
Recent order sources	Utilities/developers	***	***	***	***	***
All other sources	Distributors	***	***	***	***	***
All other sources	Module assemblers	***	***	***	***	***
All other sources	Residential installers	***	***	***	***	***
All other sources	Commercial installers	***	***	***	***	***
All other sources	Utilities/developers	***	***	***	***	***
Nonsubject sources	Distributors	***	***	***	***	***
Nonsubject sources	Module assemblers	***	***	***	***	***
Nonsubject sources	Residential installers	***	***	***	***	***
Nonsubject sources	Commercial installers	***	***	***	***	***
Nonsubject sources	Utilities/developers	***	***	***	***	***
All import sources	Distributors	***	***	***	***	***
All import sources	Module assemblers	***	***	***	***	***
All import sources	Residential installers	***	***	***	***	***
All import sources	Commercial installers	***	***	***	***	***
All import sources	Utilities/developers	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Recent order sources include Cambodia, Malaysia, Thailand, and Vietnam which were subject sources in the prior investigation on CSPV products; Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules from Cambodia, Malaysia, Thailand, and Vietnam, Inv. Nos. 701-TA-722-725 and 731-TA-1690-1693 (Final). Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “—“.

Geographic distribution

U.S. producers and importers reported selling CSPV cells and modules to all regions in the United States (table 2.7). For U.S. producers, 36.8 percent of sales were within 100 miles of their production facility, 31.6 percent were between 101 and 1,000 miles, and 31.7 percent were over 1,000 miles. Importers sold 16.9 percent within 100 miles of their U.S. point of shipment, 41.4 percent between 101 and 1,000 miles, and 41.7 percent over 1,000 miles.

Table 2.7 CSPV cells and modules: Count of U.S. producers' and U.S. importers' geographic markets

Region	U.S. producers	India	Indonesia	Laos	Subject sources
Northeast	10	6	8	5	13
Midwest	11	9	11	4	19
Southeast	12	7	12	5	17
Central Southwest	13	9	12	5	20
Mountain	11	6	10	4	15
Pacific Coast	11	6	12	6	17
Other	3	0	3	3	3
All regions (except Other)	10	4	6	4	10
Reporting firms	14	13	16	7	27

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Other U.S. markets include AK, HI, PR, and VI.

Supply and demand considerations

U.S. supply

Table 2.8 provides a summary of the supply factors regarding CSPV cells and modules from responding U.S. producers and foreign producers. During 2023 to 2025, reported U.S. production capacity for cells was restarted and totaled about one million kilowatts by the end of the period while subject suppliers' production capacity for cells increased from 4.2 million kilowatts to 37.1 million kilowatts. In 2025, total cell production capacity for each subject source ranged from *** kilowatts to *** kilowatts; however, while Indonesia and Laos were operating at *** capacity, responding producers in India reported a combined capacity utilization rate of *** percent. During the same year, *** shipments of cells in India were reported as home market shipments while *** shipments of cells in Indonesia and Laos were reported as export shipments.

During 2023 to 2025, reported U.S. production capacity for modules increased from 5.2 million to 30.8 million kilowatts, a 489.2 percent increase, while subject suppliers' combined production capacity for modules increased from 13.5 million kilowatts to 30.3 million kilowatts, a 124.2 percent increase. Similar to cells, *** shipments of modules in India were reported as home market shipments while *** shipments of modules in Indonesia and Laos were reported as export shipments.[10]

Table 2.8 CSPV cells and modules: Supply factors that affect the ability to increase shipments to the U.S. market, by country

Quantity in kilowatts; ratios and shares in percent

Factor	Measure	United States	India	Indonesia	Laos	Subject suppliers
Cells: Capacity 2023	Quantity	***	***	***	***	4,218,159
Cells: Capacity 2025	Quantity	***	***	***	***	37,105,707
Cells: Capacity utilization 2023	Ratio	***	***	***	***	68.5
Cells: Capacity utilization 2025	Ratio	***	***	***	***	86.2
Cells: Inventories to total shipments 2023	Ratio	***	***	***	***	53.5
Cells: Inventories to total shipments 2025	Ratio	***	***	***	***	7.0
Cells: Home market shipments 2025	Share	***	***	***	***	30.7
Cells: Non-US export market shipments 2025	Share	***	***	***	***	33.9
Cells: Ability to shift production	Count	***	***	***	***	***

Table continued.

[10] According to the Institute for Energy Economics and Financial Analysis (IEEFA), a think tank focused on energy markets and policies, exports from India of PV products increased between fiscal year 2022 to 2024, primarily driven by reduced home market demand following delayed implementation of India's Approved List of Models and Manufacturers, several countries looking to diversify their supply chains beyond China, and the ability to sell their products at a higher premium abroad. Institute for Energy Economics and Financial Analysis (IEEFA), https://ieefa.org/resources/indian-solar-pv-exports-surging, retrieved August 28, 2026. According to S&P Global, exports of solar modules from India to the U.S. declined in response to U.S. tariffs of 50 percent implemented in 2025 as well as these current investigations. S&P Global, https://www.spglobal.com/energy/en/news-research/podcasts/commodities-focus/041526-indias-solar-market-faces-export-hurdles-pivots-to-domestic-power, retrieved August 27, 2026.

Table 2.8 (Continued) CSPV cells and modules: Supply factors that affect the ability to increase shipments to the U.S. market, by country

Quantity in kilowatts; ratios and shares in percent

Factor	Measure	United States	India	Indonesia	Laos	Subject suppliers
Modules: Capacity 2023	Quantity	5,231,791	***	***	***	13,515,009
Modules: Capacity 2025	Quantity	30,828,207	***	***	***	30,302,905
Modules: Capacity utilization 2023	Ratio	61.0	***	***	***	66.7
Modules: Capacity utilization 2025	Ratio	73.9	***	***	***	78.5
Modules: Inventories to total shipments 2023	Ratio	***	***	***	***	15.4
Modules: Inventories to total shipments 2025	Ratio	***	***	***	***	10.0
Modules: Home market shipments 2025	Share	***	***	***	***	76.1
Modules: Non-US export market shipments 2025	Share	***	***	***	***	0.0
Modules: Ability to shift production	Count	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Responding U.S. producers accounted for *** U.S. production of CSPV cells and the vast majority of U.S. production of CSPV modules in 2025. Responding foreign producer/exporter firms accounted for less than half of CSPV cell and modules production in India and Indonesia, and *** production of CSPV cells and modules in Laos in 2025. For additional data on the number of responding firms and their share of U.S. production and of U.S. imports from each subject country, please refer to Parts 3 and 7.

Supply constraints

Three of 15 responding U.S. producers and 7 of 42 responding importers reported that they had experienced supply constraints since January 1, 2023. Of those that reported they had experienced supply constraints, four reported the constraints occurred during 2023, six reported they occurred during 2024, six during 2025, and seven during 2026 (table 2.9). Constraints reported by domestic producers included *** indicating that its capacity has been effectively fully allocated since 2024 and *** reporting limited availability of domestically produced cells. Constraints reported by importers included extended customs holds, including withhold release orders ("WROs") under the UFLPA. Importers also reported limited availability of domestically produced cells as a supply constraint. One importer, ***, indicated that it only imports modules produced by its affiliate company and is sometimes unable to meet customer demand due to limited supply. *** reported experiencing a fire at its overseas manufacturing plant in 2025 which negatively impacted production volumes for several months.

Four of ten responding purchasers reported that they had experienced supply constraints, with three firms reporting supply constraints from domestic producers and two firms reporting supply constraints from foreign producers or importers. One purchaser, ***, noted it faced supply constraints from both U.S. and foreign producers of CPSV cells due to "limited cell capacity globally and periodic capacity limitations." When discussing constraints experienced from domestic producers, purchasers noted limited U.S. capacity with one firm reporting "domestic demand together with the domestic content requirement created US capacity pressure." One purchaser reported constraints specific to foreign producers or importers, reporting they have "noted a general lack of module and cell availability due to increased market demand and increased constraints and delivery delays due to changes in US trade policy since 2023."

Table 2.9 CSPV cells and modules: Count of firms' responses regarding timing of supply constraints, by firm type and source

Reporting firm: Whose constraint(s)	2023	2024	2025	2026 to date
Producers: Indicating own constraints	0	1	2	2
Purchasers: Indicating producer constraints	1	2	1	2
Importers: Indicating own constraints	4	5	4	5
Purchasers: Indicating importer constraints	1	1	2	2

Source: Compiled from data submitted in response to Commission questionnaires.

New suppliers

Eight of ten purchasers indicated that new suppliers entered the U.S. market since January 1, 2023. Specific firms that were cited as new suppliers include ES Foundry, SolarSpace, Waaree, Fellow, Philadelphia Solar, Talon PV, T1 Energy, Illuminate, Silfab, NuVision Solar, Mate Solar Co., and DMEGC Solar. Purchaser *** reported "multiple new suppliers from the subject countries have entered the market since January 1, 2023, and existing suppliers from those countries have increased their exports here." Purchaser *** reported that "many firms identified in the PV Module Tech Bankability Reports have entered and left the US market since 2023."

U.S. demand

Based on available information, the overall demand for CSPV products is likely to experience moderate changes in response to changes in price. The main contributing factors are the somewhat limited range of substitute products and the moderate-to-large cost share of CSPV products in most of their end-use products.

Demand for CSPV products is derived from the demand for solar electricity, which is influenced by factors such as cost competitiveness with traditional energy sources, environmental concerns, a desire for national energy independence, total energy consumption, and the availability of federal, state, and local incentives. According to the Solar Energy Industries Association (SEIA), U.S. solar electricity-generating capacity increased by 43.2 GW in 2025, reaching a year-end total of 279 GW, and is projected to reach 769 GW in 2036.[11]

Electricity demand in the United States is supplied primarily by conventional sources, but the share of electricity generated from renewable energy sources steadily increased during 2023 to 2025. As shown in table 2.10, solar energy grew from 4.0 percent of utility-scale electricity generation in 2023 to 6.7 percent in 2025. The Electric Reliability Council of Texas (ERCOT) grid, which covers most of Texas, is expected to account for 40 percent of total solar capacity additions in the United States this year, and the U.S. Energy Information Administration (EIA) estimates that in 2026 annual electric power generation from utility-scale solar in this grid will surpass that from coal for the first time.[12]

Table 2.10 CSPV cells and modules: Share of net electricity generation in the United States, by type and year

Share in percent

Electricity generation type	2023	2024	2025
Natural gas	43.2	43.4	40.8
Nuclear	18.5	18.1	17.7
Coal	16.1	15.1	16.6
Wind	10.1	10.5	10.5
Solar	4.0	5.1	6.7
All other	8.1	7.7	7.7
All electricity generation types	100.0	100.0	100.0

Source: EIA, http://www.eia.gov/electricity/data/browser/, retrieved June 26, 2026.

[11] Solar accounted for 54 percent of all new electricity-generating capacity added to the US grid in 2025. U.S. Solar Market Insight, Wood Mckenzie and SEIA, https://seia.org/research-resources/solar-market-insight-report-2025-year-in-review/, retrieved May 19, 2026.

[12] U.S. Energy Information Administration (EIA), https://www.eia.gov/todayinenergy/detail.php?id=67685, retrieved May 20, 2026.

End uses and cost share

CSPV products account for a moderate share of the cost of the end-use products in which they are used. Reported cost shares for end uses were as follows:

- U.S. producers' reported cost shares for modules used in residential systems ranged from 13 percent to 30 percent;
- U.S. producers' reported cost shares for modules used in commercial systems ranged from 15 to 30 percent;
- U.S. producers' reported cost shares for modules used in utility systems ranged from 19 percent to 40 percent;
- U.S. importers' reported cost shares for modules used in residential systems ranged from 10 percent to 13 percent;
- U.S. importers' reported cost shares for modules used in commercials systems ranged from 15 percent to 20 percent,
- U.S. importers' reported cost shares for modules used in utility systems ranged from 19 to 40 percent.

Business cycles

Nine of 15 U.S. producers, 24 of 44 importers, and nine of ten purchasers indicated that the market was subject to business cycles.

Demand trends

Most firms reported an increase in both U.S. demand and foreign demand for CSPV cells and modules since January 1, 2023 (table 2.11).

Table 2.11 CSPV cells and modules: Count of firms' responses regarding overall domestic and foreign demand, by firm type

Market	Firm type	Steadily Increase	Fluctuate Up	No change	Fluctuate Down	Steadily Decrease
Domestic demand	U.S. producers	6	6	0	4	0
Domestic demand	Importers	20	15	4	5	1
Domestic demand	Purchasers	5	3	0	0	0
Foreign demand	U.S. producers	4	4	3	1	0
Foreign demand	Importers	14	14	4	2	0
Foreign demand	Purchasers	1	3	1	0	1
Demand for end use products	Purchasers	5	2	1	0	0

Source: Compiled from data submitted in response to Commission questionnaires.

Substitute products

Most responding U.S. producers (10 of 11) and importers (34 of 41) reported there were no substitutes for CSPV cells. Similarly, most U.S. producers (9 of 14) and importers (30 of 41) reported there were no substitutes for CSPV modules. Most responding purchasers (8 of 9) also indicated there were no substitutes for CSPV cells and modules. Reported substitutes for CSPV products include thin-film solar products with some firms specifically noting amorphous and copper indium gallium selenide ("CIGS") solar products.

Substitutability issues

This section assesses the degree to which U.S.-produced CSPV cells and modules and imports of CSPV cells and modules from subject countries can be substituted for one another by examining the importance of certain purchasing factors and the comparability of CSPV products from domestic and imported sources based on those factors. Based on available data, staff believes that there is a moderate-to-high degree of substitutability between domestically produced CSPV products and CSPV products imported from subject sources.[13] Factors contributing to the moderate-to-high level of substitutability include the high degree of interchangeability between domestic and subject sources as reported by U.S. producers, importers, and purchasers, as well as most purchasers reporting U.S.-produced CSPV products and CSPV products imported from subject sources as comparable with respect to quality meeting industry standards and reliability of supply. Factors reducing substitutability include differences in lead times with lead times for U.S. producers' produced-to-order sales averaging 70 days and lead times for U.S. importers' produced-to-order sales averaging 126 days.

Factors affecting purchasing decisions

Purchaser decisions based on source

As shown in table 2.12, a small majority of purchasers reported they always or usually make their purchasing decisions based on producer and country of origin; however, nearly all purchasers indicated their customers do not.

[13] The degree of substitution between domestic and imported CSPV cells and modules depends upon the extent of product differentiation between the domestic and imported products and reflects how easily purchasers can switch from domestically produced CSPV products to the CSPV products imported from subject countries (or vice versa) when prices change. The degree of substitution may include such factors as quality differences (e.g., grade standards, defect rates, etc.), and differences in sales conditions (e.g., lead times between order and delivery dates, reliability of supply, product services, etc.).

Table 2.12 CSPV cells and modules: Count of purchasers' responses regarding frequency of purchasing decisions based on producer and country of origin

Firm making decision	Decision based on	Always	Usually	Sometimes	Never
Purchaser	Producer	3	3	2	2
Customer	Producer	1	0	4	1
Purchaser	Country	3	3	3	1
Customer	Country	0	0	6	0

Source: Compiled from data submitted in response to Commission questionnaires.

Importance of purchasing domestic product

Eight of ten purchasers reported that their purchases did not require purchasing U.S.-produced product. One purchaser, ***, reported it was required by their customers (for 10 percent of their purchases) and one purchaser, ***, reported other preferences for domestic product (for 45 percent of their purchases) but did not specify what those preferences were.

Most important purchase factors

The most often cited top three factors firms consider in their purchasing decisions for CSPV cells and modules were price (10 firms), quality/technology (9 firms), and availability/delivery schedule (8 firms) as shown in table 2.13. Quality/technology was the most frequently cited first-most important factor (cited by 5 firms), followed by price (3 firms); availability/delivery schedule was the most frequently reported second-most important factor (6 firms); and price was the most frequently reported third-most important factor (5 firms).

Table 2.13 CSPV cells and modules: Count of ranking of factors used in purchasing decisions as reported by purchasers, by factor

Factor	First	Second	Third	Total
Price	3	2	5	10
Quality/Technology	5	1	3	9
Availability/Delivery Schedule	0	6	2	8
All other factors	2	1	0	3

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Other factors include bankability and compliance with U.S. trade/import requirements.

When asked how frequently they purchase the lowest-priced product, five purchasers reported they usually purchase the lowest-priced product while three firms indicated sometimes and two firms indicated never.

Importance of specified purchase factors

Purchasers were asked to rate the importance of 18 factors in their purchasing decisions (table 2.14). As shown in the table, nearly all responding purchasers ranked price, quality meeting industry standards, and reliability of supply as "very important" purchase factors.

Table 2.14 CSPV cells and modules: Count of purchasers' responses regarding importance of purchase factors, by factor

Factor	Very important	Somewhat important	Not important
Price	9	1	0
Quality meets industry standards	9	1	0
Reliability of supply	9	1	0
Availability	8	2	0
Delivery time	8	2	0
Delivery terms	7	3	0
Product consistency	6	4	0
Bankability	6	2	2
Government incentives	5	4	1
Technical support/service	4	6	0
Technological compatibility	4	6	0
Payment terms	3	6	1
Quality exceeds industry standards	2	8	0
Discounts offered	2	6	2
Packaging	2	6	2
Product range	2	6	2
U.S. transportation costs	1	7	2
Minimum quantity requirements	1	6	3

Source: Compiled from data submitted in response to Commission questionnaires.

Lead times

U.S. producers and importers were asked to report what share of their sales of CSPV cells and modules in 2025 were from inventory or produced to order. In addition, firms were asked to report the typical lead time between a customer's order and the date of delivery for their firm's sales of CSPV cells and modules. U.S. producers reported that 94.8 percent of their commercial shipments were produced-to-order, with lead times averaging 70 days. Importers reported that 83.5 percent of their commercial shipments were produced-to-order, with lead times averaging 126 days.[14]

[14] Importers were asked to report their share of sales that were from inventory or produced to order and typical lead times for sales of imports from all subject sources, collectively, and did not provide information by individual subject source.

Supplier certification

Eight of ten responding purchasers require their suppliers to become certified or qualified to sell CSPV products to their firm. Most purchasers (6 of 8) reported their time to qualify a new supplier between 90 to 180 days, with the remaining two firms reporting 30 to 90 days. Purchasers were asked to report whether any domestic or foreign producers failed in their attempts to certify or qualify their CSPV cells and modules with their firm or lost their approved status. Purchaser *** reported *** as a supplier that initially did not meet requirements but improved over time.

Minimum quality specifications

As can be seen in table 2.15, no purchasers reported that U.S.-produced product or product from subject sources rarely or only sometimes met minimum quality specifications.

Table 2.15 CSPV cells and modules: Count of purchasers' responses regarding suppliers' ability to meet minimum quality specifications, by source

Source of purchases	Always	Usually	Sometimes	Rarely or never	Don't Know
United States	1	5	0	0	3
India	2	2	0	0	6
Indonesia	3	5	0	0	2
Laos	2	3	0	0	5
All other sources	3	5	0	0	0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Purchasers were asked how often domestically produced or imported CSPV cells and modules meet minimum quality specifications for their own or their customers' uses.

Changes in purchasing patterns

Nine of ten purchasers reported that they had changed suppliers since January 1, 2023. Purchaser *** reported diversifying sourcing away from India-origin supply following the petitions for these investigations. Similarly, purchaser *** indicated it added a U.S. supplier and is negotiating with suppliers outside of Indonesia. Purchaser *** reported dropping *** because it could not deliver CSPV modules which comply with domestic content requirements and indicated it switched to ***. Purchaser *** reported adding *** as new suppliers for price and availability reasons. The remaining purchasers reported generally adding new suppliers to improve competition, meet volume needs, or diversify geographically.

Purchasers were also asked about changes in their purchasing patterns from different countries since January 1, 2023 (table 2.16). At least half of responding purchasers indicated that they did not purchase U.S.-produced CSPV products and/or products produced in India or Laos.

Table 2.16 CSPV cells and modules: Count of purchasers' responses regarding changes in purchase patterns from U.S., subject, and nonsubject countries

Source of purchases	Steadily Increase	Fluctuate Up	No change	Fluctuate Down	Steadily Decrease	Did not purchase
United States	3	1	0	0	1	5
India	1	0	1	2	0	6
Indonesia	2	1	0	3	1	3
Laos	1	1	1	1	1	6
All other sources	2	4	1	0	1	2
Sources unknown	1	1	1	1	0	5

Source: Compiled from data submitted in response to Commission questionnaires.

Purchase factor comparisons of domestic products, subject imports, and nonsubject imports

Purchasers were asked a number of questions comparing CSPV cells and modules produced in the United States, subject countries, and nonsubject countries. First, purchasers were asked for a country-by-country comparison on the same 18 factors (table 2.17) for which they were asked to rate the importance.

Most purchasers reported that U.S.-produced CSPV products and CSPV products imported from subject sources were comparable on quality meets industry standards, reliability of supply, delivery time and terms, bankability, technical support/service, payment terms, packaging, and minimum quantity requirements.

Table 2.17 CSPV cells and modules: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Price	U.S. vs India	0	0	4
Quality meets industry standards	U.S. vs India	0	4	0
Reliability of supply	U.S. vs India	0	4	0
Availability	U.S. vs India	0	1	3
Delivery time	U.S. vs India	0	3	0
Delivery terms	U.S. vs India	1	3	0
Product consistency	U.S. vs India	0	2	2
Bankability	U.S. vs India	0	4	0
Government incentives	U.S. vs India	2	2	0
Technical support/service	U.S. vs India	0	4	0
Technological compatibility	U.S. vs India	0	2	2
Payment terms	U.S. vs India	0	3	1
Quality exceeds industry standards	U.S. vs India	0	3	1
Discounts offered	U.S. vs India	1	2	1
Packaging	U.S. vs India	0	4	0
Product range	U.S. vs India	0	1	3
U.S. transportation costs	U.S. vs India	1	3	0
Minimum quantity requirements	U.S. vs India	0	4	0

Table continued.

Table 2.17 (Continued) CSPV cells and modules: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Price	U.S. vs Indonesia	0	1	7
Quality meets industry standards	U.S. vs Indonesia	0	5	2
Reliability of supply	U.S. vs Indonesia	1	5	1
Availability	U.S. vs Indonesia	1	3	4
Delivery time	U.S. vs Indonesia	1	6	0
Delivery terms	U.S. vs Indonesia	2	6	0
Product consistency	U.S. vs Indonesia	0	4	3
Bankability	U.S. vs Indonesia	2	5	1
Government incentives	U.S. vs Indonesia	4	2	0
Technical support/service	U.S. vs Indonesia	1	6	0
Technological compatibility	U.S. vs Indonesia	0	6	2
Payment terms	U.S. vs Indonesia	0	6	2
Quality exceeds industry standards	U.S. vs Indonesia	0	4	3
Discounts offered	U.S. vs Indonesia	1	3	2
Packaging	U.S. vs Indonesia	0	8	0
Product range	U.S. vs Indonesia	0	3	5
U.S. transportation costs	U.S. vs Indonesia	3	4	1
Minimum quantity requirements	U.S. vs Indonesia	0	7	0

Table continued.

Table 2.17 (Continued) CSPV cells and modules: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Price	U.S. vs Laos	0	1	5
Quality meets industry standards	U.S. vs Laos	0	4	2
Reliability of supply	U.S. vs Laos	0	5	1
Availability	U.S. vs Laos	1	2	3
Delivery time	U.S. vs Laos	2	4	0
Delivery terms	U.S. vs Laos	2	4	0
Product consistency	U.S. vs Laos	0	3	3
Bankability	U.S. vs Laos	0	5	1
Government incentives	U.S. vs Laos	3	2	0
Technical support/service	U.S. vs Laos	0	6	0
Technological compatibility	U.S. vs Laos	0	4	2
Payment terms	U.S. vs Laos	0	5	1
Quality exceeds industry standards	U.S. vs Laos	0	3	3
Discounts offered	U.S. vs Laos	0	3	2
Packaging	U.S. vs Laos	0	6	0
Product range	U.S. vs Laos	0	2	4
U.S. transportation costs	U.S. vs Laos	2	4	0
Minimum quantity requirements	U.S. vs Laos	0	5	0

Table continued.

Table 2.17 (Continued) CSPV cells and modules: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Price	U.S. vs Nonsubject sources	0	2	5
Quality meets industry standards	U.S. vs Nonsubject sources	0	5	1
Reliability of supply	U.S. vs Nonsubject sources	0	6	0
Availability	U.S. vs Nonsubject sources	0	3	4
Delivery time	U.S. vs Nonsubject sources	2	5	0
Delivery terms	U.S. vs Nonsubject sources	1	6	0
Product consistency	U.S. vs Nonsubject sources	0	4	2
Bankability	U.S. vs Nonsubject sources	1	5	1
Government incentives	U.S. vs Nonsubject sources	3	2	0
Technical support/service	U.S. vs Nonsubject sources	0	6	0
Technological compatibility	U.S. vs Nonsubject sources	0	5	2
Payment terms	U.S. vs Nonsubject sources	0	5	2
Quality exceeds industry standards	U.S. vs Nonsubject sources	0	4	2
Discounts offered	U.S. vs Nonsubject sources	0	3	2
Packaging	U.S. vs Nonsubject sources	0	7	0
Product range	U.S. vs Nonsubject sources	0	2	5
U.S. transportation costs	U.S. vs Nonsubject sources	2	4	1
Minimum quantity requirements	U.S. vs Nonsubject sources	1	5	0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: With respect to cost/price factors, a rating of superior means that the cost/price for the first source in the country pair is generally lower. For example, if a firm reported "U.S. superior," it meant that the U.S. product was generally priced lower than the imported product.

Comparison of U.S.-produced and imported CSPV cells and modules

In order to determine whether U.S.-produced CSPV cells and modules can generally be used in the same applications as imports from India, Indonesia, and Laos, U.S. producers, importers, and purchasers were asked whether the products can always, frequently, sometimes, or never be used interchangeably. As shown in tables 2.18 to 2.20, most U.S. producers, importers, and purchasers reported that U.S.-produced CSPV products are either always or frequently interchangeable with CSPV products from India, Indonesia, Laos, and nonsubject sources. Most U.S. producers, importers, and purchasers also reported CSPV products from subject countries were either always or frequently interchangeable with each other and with CSPV products from nonsubject sources.

Table 2.18 CSPV cells and modules: Count of U.S. producers reporting the interchangeability between product produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
United States vs. India	6	2	1	1
United States vs. Indonesia	6	4	2	1
United States vs. Laos	6	3	1	1
India vs. Indonesia	6	1	3	0
India vs. Laos	6	1	2	0
Indonesia vs. Laos	6	2	2	0
United States vs. Other	6	4	1	1
India vs. Other	6	1	2	0
Indonesia vs. Other	6	3	2	0
Laos vs. Other	6	2	2	0

Source: Compiled from data submitted in response to Commission questionnaires.

Table 2.19 CSPV cells and modules: Count of importers reporting the interchangeability between product produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
United States vs. India	9	9	4	2
United States vs. Indonesia	11	9	5	2
United States vs. Laos	9	8	4	2
India vs. Indonesia	11	7	5	0
India vs. Laos	10	5	6	0
Indonesia vs. Laos	9	9	5	0
United States vs. Other	12	9	8	2
India vs. Other	13	5	6	0
Indonesia vs. Other	13	9	6	0
Laos vs. Other	13	7	6	0

Source: Compiled from data submitted in response to Commission questionnaires.

Table 2.20 CSPV cells and modules: Count of purchasers reporting the interchangeability between product produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
United States vs. India	1	4	0	0
United States vs. Indonesia	1	5	1	0
United States vs. Laos	1	4	1	0
India vs. Indonesia	2	3	0	0
India vs. Laos	2	3	0	0
Indonesia vs. Laos	2	3	0	0
United States vs. Other	1	6	0	0
India vs. Other	1	4	0	0
Indonesia vs. Other	1	5	0	0
Laos vs. Other	1	4	0	0

Source: Compiled from data submitted in response to Commission questionnaires.

In addition, U.S. producers, importers, and purchasers were asked to assess how often differences other than price were significant in sales of CSPV cells and modules from the United States, subject, or nonsubject countries. As seen in tables 2.21 to 2.23, most U.S. producers reported that non-price factors were only sometimes or never significant when comparing U.S.-produced product to CSPV products from Indonesia and Laos, but only half reported this was the case when comparing U.S.-produced product and product from India. Most importers reported factors other than price were either always or frequently significant when comparing CSPV products from the United States to product from each subject source. Among purchasers, most firms indicated non-price factors were only sometimes or never significant when comparing U.S.-produced product to product from Indonesia, while a small majority reported this was the case when comparing U.S.-produced product to product from India and Laos.

Table 2.21 CSPV cells and modules: Count of U.S. producers reporting the significance of differences other than price between product produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
United States vs. India	3	2	3	2
United States vs. Indonesia	2	2	6	3
United States vs. Laos	2	2	5	2
India vs. Indonesia	3	1	3	3
India vs. Laos	3	1	2	2
Indonesia vs. Laos	2	1	4	2
United States vs. Other	2	3	4	3
India vs. Other	3	1	2	2
Indonesia vs. Other	2	1	4	3
Laos vs. Other	2	1	4	2

Source: Compiled from data submitted in response to Commission questionnaires.

Table 2.22 CSPV cells and modules: Count of importers reporting the significance of differences other than price between product produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
United States vs. India	7	11	2	5
United States vs. Indonesia	5	10	7	4
United States vs. Laos	5	8	5	4
India vs. Indonesia	5	7	6	5
India vs. Laos	5	5	6	5
Indonesia vs. Laos	3	2	12	5
United States vs. Other	5	12	7	6
India vs. Other	6	7	5	6
Indonesia vs. Other	3	4	11	7
Laos vs. Other	3	3	11	6

Source: Compiled from data submitted in response to Commission questionnaires.

Table 2.23 CSPV cells and modules: Count of purchasers reporting the significance of differences other than price between product produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
United States vs. India	2	0	2	1
United States vs. Indonesia	2	1	4	2
United States vs. Laos	2	1	3	1
India vs. Indonesia	1	0	2	1
India vs. Laos	1	0	2	1
Indonesia vs. Laos	1	0	3	1
United States vs. Other	2	0	4	2
India vs. Other	1	0	2	1
Indonesia vs. Other	1	0	3	2
Laos vs. Other	1	0	3	1

Source: Compiled from data submitted in response to Commission questionnaires.

Part 3: U.S. producers' production, shipments, and employment

The Commission analyzes a number of factors in making injury determinations (see 19 U.S.C. §§ 1677(7)(B) and 1677(7)(C)). Information on the subsidies and dumping margins was presented in Part 1 of this report and information on the volume and pricing of imports of the subject merchandise is presented in Part 4 and Part 5. Information on the other factors specified is presented in this section and/or Part 6 and (except as noted) is based on the questionnaire responses of two firms (Silfab Solar and Suniva) that accounted for *** U.S. production of CSPV cells during 2025[1] [2] and 15 firms that accounted for the vast majority of U.S. production of CSPV modules during 2025.

U.S. producers

The Commission issued a U.S. producer questionnaire to 23 firms based on information contained in the petition, and staff research. Sixteen firms provided usable data on their operations. Table 3.1 lists U.S. producers of CSPV cells and modules, their production locations, positions on the petition, and shares of total production.

[1] Domestic industry representatives testified that ES Foundry in Greenwood, South Carolina is also commercially active producing and shipping CSPV cells in the U.S., while several other cell factories are under construction. Conference transcript, p. 100 (Moskowitz).

[2] The Commission issued a U.S. producer questionnaire to (ES Foundry), the other known CSPV cell U.S. producer, but the firm did not provide a response. PV Magazine, https://www.solarpowerworldonline.com/2026/07/es-foundry-reaches-full-3-gw-production-capacity-at-cell-factory-in-sc/, July 7, 2026.

Table 3.1 CSPV cells and modules: U.S. producers, their positions on the petition, production locations, and shares of reported production, 2025

Shares in percent

Firm	Position on petition	Production location(s)	Share of cell production	Share of module production
AMPS	***	Tolleson, AZ	***	***
Canadian Solar	***	Mesquite, TX	***	***
Hanwha GA	Petitioner	Dalton, GA Cartersville, GA	***	***
Heliene	***	Mountain Iron, MN Rogers, MN	***	***
Hounen Solar	***	Orangeburg, SC	***	***
Illuminate	***	Pataskala, OH	***	***
Jinko Solar Industries	***	Jacksonville, FL	***	***
Mission Solar	Petitioner	San Antonio, TX	***	***
PowerFilm	***	Ames, IA	***	***
Runergy	***	Huntsville, AL	***	***
SEG Manufacturing	***	Houston, TX	***	***
Silfab Solar	***	Burlington WA Fort Mill, SC	***	***
Suniva	***	Norcross, GA	***	***
T1 Energy	***	Wilmer, TX	***	***
Tesla	***	Buffalo, NY	***	***
Waaree Solar	***	Brookshire, TX	***	***
All firms	Various	Various	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

As indicated in table 3.2, thirteen U.S. producers responded that they are owned by another firm and eight are related to a U.S. importer or exporter of subject merchandise, while seven firms are related to a foreign producer of the subject merchandise.

In addition, as discussed in greater detail below, ten[3] U.S. producers directly import CSPV cells and modules from subject sources and eleven purchase CSPV cells and three purchase CSPV modules from subject sources through U.S. importers.

[3] Ten of sixteen companies reported importing the in-scope merchandise. Of the ten U.S. importers, three reported importing only from subject sources, two reported importing from both subject and nonsubject sources, and four reported importing only from nonsubject sources. *** indicated it imports in its U.S. producer questionnaire, but did not provide a U.S. importer questionnaire response. U.S. producer's questionnaire, section 2.20.

Table 3.2 CSPV cells and modules: U.S. producers' ownership, related and/or affiliated firms

Reporting firm	Relationship type and related firm	Details of relationship
***	***	***
***	***	***
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Reporting firm	Relationship type and related firm	Details of relationship
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
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***	***	***
***	***	***
***	***	***
***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 3.3 presents events in the U.S. industry since January 1, 2023.

Table 3.3. CSPV products: Important industry events since 2023

Item	Firm	Event
Acquisition	T1 Energy (formerly FREYER Battery)	In December 2024, FREYR (now T1 Energy) completed the $380 million acquisition of Trina/T1 Solar's 5 GW solar module manufacturing facility located in Wilmer, Texas. The company renamed the factory T1 Dallas and the facility began production in late 2024 is now fully online and employs more than 1,000 people. T1 Energy also announced its plan to build an $850 million 5 GW solar cell facility in Texas. It is expected to begin producing cells by the end of 2026 and employ up to 1,800 workers. T1 plans to use TOPCon technology for the cell and module manufacturing.
Acquisition	Inox Clean Energy	In May 2026, India-based Inox Clean Energy announced the acquisition of Boviet Solar's North Carolina assets through its wholly owned subsidiary, Inox Solar Americas, LLC. The acquisition includes 3 GW of operational TOPCon solar module manufacturing capacity, along with an agreement to acquire another 3 GW of TOPCon cell manufacturing capacity expected to be commissioned by December 2026.
Funding	Silfab Solar	In November 2024, Silfab Solar announced it had secured $100 million in funding to scale its manufacturing facility in Fort Mill, South Carolina. Once operational, the facility will produce 1 GW of solar cells and 1.3 GW of solar modules.
Merger	Suniva and SUNation Energy	In June 2026, Suniva and SUNation Energy signed a merger agreement pursuant to which Suniva will merge with a wholly owned subsidiary of SUNation. The combined company is expected to operate under the Suniva name.
Plant closing	Meyer Burger	In May 2025, Meyer Burger ceased operations and laid off over 900 workers at its new module production facility in Goodyear, Arizona. Meyer Burger had planned to produce 1.4 GW of heterojunction solar modules in its Arizona facility.
Plant expansion	Hanwha Q Cells USA	In October 2023, Hanwha Q Cells completed the expansion of its plant in Dalton, Georgia. This expansion increased its solar capacity by 2 GW, bringing the plant's total capacity to 5.1 GW.
Plant expansion	Heliene	In late 2023, Heliene expanded its module production line in Mountain Iron, Minnesota, which increased capacity to 300 MW.
Plant opening	Canadian Solar	During Q4 of 2023, Canadian Solar began commercial production at its 5 GW module assembly plant located in Mesquite, Texas. This is Canadian Solar's first U.S. production facility.

Item	Firm	Event
Plant opening	Illuminate	In February 2024, Illuminate began commercial operations at its 5 GW solar panel manufacturing facility located in Pataskala, Ohio.
Plant opening	Elin Energy	In March 2024, Elin Energy began production at its 2 GW solar panel assembly facility located in Waller County, Texas.
Plant opening	Meyer Burger	In June 2024, Meyer Burger started production at its 2 GW module assembly plant located in Goodyear, Arizona.
Plant opening	SEG Solar	In August 2024, SEG Solar began production at its 2 GW solar module facility in Texas. The facility operates two production lines for 182 mm and 210 mm N-type modules.
Plant opening	First Solar	In September 2024, First Solar opened its 3.5 GW thin-film solar manufacturing facility in Lawrence County, Alabama.
Plant opening	Runergy	In October 2024, Runergy began commercial production at its 2 GW solar panel facility in Huntsville, Alabama.
Plant opening	Imperial Star Solar	In December 2024, Imperial Star Solar began production at its 2 GW module manufacturing facility in Tomball, Texas.
Plant opening	Waaree Energies	In January 2025, Waaree Energies started commercial production at its 1.6 GW module manufacturing facility in Brookshire, Texas.
Plant opening	ES Foundry	In early 2025, ES Foundry began production of PERC solar cells at its plant located in South Carolina. The plant is expected to reach shipment capacity of 3 GW by Q3 2025. ES Foundry completed 2 GW Greenwood factory expansion bringing total U.S. solar cell capacity to 3 GW.
Plant opening	Hanwha Q Cells USA	In June 2026, Hanwha Q Cells began cell production at its Cartersville, Georgia factory. The company expects to be at full production by the end of 2026. In addition, the Cartersville module plant reached its full capacity, producing 16,700 modules per day.
Plant opening	SEG Solar	In September 2026, SEG Solar started commercial-scale production at its 4 GW module manufacturing facility located in Tomball, Texas.
Production restart	Suniva	In late 2024, Suniva restarted solar cell production at its facility located in Gwinnett County, Georgia. The firm announced that the revamped facility has the capacity to produce 1 GW of solar cells annually, with plans to expand to 2.5 GW in the future.
Supply chain agreement	Suniva and Heliene	In March 2024, Heliene and Suniva announced a three-year sourcing contract, under which Heliene will produce solar modules using solar cells produced domestically by Suniva.

Item	Firm	Event
Supply chain agreement	Suniva and Heliene	In March 2025, Suniva and Heliene announced an agreement with chipmaker Corning to domestically produce solar modules using polysilicon, wafers, and cells manufactured in the United States.
Plant layoffs	Heliene	In August 2026, Heliene announced layoffs of 93 employees at its Mountain Iron, Minnesota, solar module assembly facility. According to Heliene, the layoffs are expected to be permanent, but the entire plant is not closing and will remain open with a reduced workforce.

Source: PV Magazine, Inox Clean buys U.S. PV manufacturing assets of Boviet Solar for $750 million – pv magazine International, May 15, 2026; PV Magazine, "Meyer Burger files for insolvency, lays off over 900 workers," June 2, 2025, https://pv-magazine-usa.com/2025/06/02/meyer-burger-files-for-insolvency-lays-off-over-900-workers/; Electrek, "T1 Energy's (FKA FREYR) new 5 GW US solar factory leaps forward," June 16, 2025 https://electrek.co/2025/06/16/t1-energy-freyr-5-gw-us-solar-factory; T1 Energy, "T1 Energy Advances $850 Million Planned 5G Solar Cell Plant," June 16, 2025, https://ir.t1energy.com/news-releases/news-release-details/t1-energy-advances-850-million-planned-5-gw-solar-cell-plant; Solar Power World, LG to exit solar panel manufacturing and close Alabama plant , February 23, 2022; Qcells, "Qcells North America Completes Dalton Factory Expansion," October 18, 2023, https://us.qcells.com/blog/qcells-north-america-completes-dalton-factory-expansion; PV Tech, "Canadian Solar launches 5GW TOPCon module assembly plant in Texas," June 12, 2024, https://www.pv-tech.org/canadian-solar-launches-5gw-topcon-module-assembly-plant-texas/; Power Technology, "First Solar opens $1.1bn solar facility, adds 3.5GW to US manufacturing capacity," September 27, 2024, https://www.power-technology.com/news/first-solar-opens-1-1bn-solar-facility-adds-3-5gw-to-us-manufacturing-capacity/?cf-view; Energy Tech, "Illuminate USA Begins Operations at Solar Panel Manufacturing Facility in Ohio," February 27, 2024, https://www.energytech.com/renewables/article/21283538/illuminate-usa-begins-operations-at-solar-panel-manufacturing-facility-in-ohio; Solar Builder, "Elin Energy opens U.S. solar module manufacturing facility," April 12, 2024, https://solarbuildermag.com/news/elin-energy-opens-u-s-solar-module-manufacturing-facility/; PV Tech, "Meyer Burger starts module production in Arizona, secures 600MW PV supply," June 25, 2024, https://www.pv-tech.org/meyer-burger-starts-module-production-in-arizona-secures-600mw-pv-supply/; Power Technology, "SEG Solar opens 2GW PV module plant in Texas," August 14, 2024, https://www.power-technology.com/news/seg-solar-opens-2gw-pv-module-plant-in-texas/?cf-view; PV Tech, "SEG Solar ships first N-Type modules from Houston factory," November 24, 2024, https://www.pv-tech.org/industry-updates/seg-solar-ships-first-n-type-modules-from-houston-factory/; Imperial Star, "Imperial Star Solar Kicks Off Domestic Production at New Houston Manufacturing Facility," December 20, 2024, https://www.imperialstar.com/post/imperial-star-kicks-off-domestic-production-at-houston; PV Tech, "ES Foundry begins producing PERC cells at US manufacturing plant," February 3, 2025, https://www.pv-tech.org/es-foundry-begins-producing-perc-cells-at-us-manufacturing-plant/; Qcells North America, "Qcells Begins Solar Cell Manufacturing at America's First and Only Vertically Integrated Solar Factory in Cartersville, Georgia," June 9, 2026, https://us.qcells.com/blog/qcells-begins-solar-cell-manufacturing-at-americas-first-and-only-vertically-integrated-solar-factory-in-cartersville-georgia/; Electrek, "The US's largest solar cell factory is now online in South Carolina," February 3, 2025, https://electrek.co/2025/02/03/us-largest-solar-cell-factory-south-carolina/; AJC News, "Once-shuttered solar factory resumes production outside Atlanta," November 13, 2024, https://www.ajc.com/news/business/suniva-once-filed-bankruptcy-its-producing-solar-panels-again/UVX5DKR6QJGHTLTTJEJJH2QHKE/; Utility Dive, "Corning, Suniva and Heliene form US solar supply chain," March 11, 2025, https://www.utilitydive.com/news/corning-suniva-heliene-hemlock-semiconductor-form-us-solar-supply-chain/742155/; Renewables Now, "Waaree Energies powers up 1.6-GW solar module line in Texas," January 27, 2025, https://renewablesnow.com/news/waaree-energies-powers-up-1-6-gw-solar-module-line-in-texas-1269854/; Solar Power World, "Runergy opens solar panel assembly factory in Alabama," October 3, 2024, https://www.solarpowerworldonline.com/2024/10/runergy-opens-solar-panel-assembly-factory-in-

alabama/; PV Tech, “Heliene expands Minnesota TOPCon module line to 300MW,” December 6, 2023, https://www.pv-tech.org/heliene-expands-minnesota-topcon-module-line-to-300mw/; PV Magazine, “Suniva, Heliene to jointly produce US-made solar modules,” March 28, 2024, https://www.pv-magazine.com/2024/03/28/suniva-heliene-to-jointly-produce-us-made-solar-modules/; Silfab Solar, “Silfab Solar Raises $100 million to Scale its Cell Manufacturing Facility in Fort Mill, S.C.,” November 21, 2024, https://silfabsolar.com/silfab-solar-raises-100-million-to-scale-its-cell-manufacturing-facility-in-fort-mill-s-c/’; Solar Power World, Heliene lays off nearly 100 workers at Mountain Iron solar panel assembly facility, August 6, 2026; SUNation Energy, “SUNation Energy and Suniva Enter Definitive Merger Agreement, Creating a Platform for American Solar Manufacturing and Services Leadership,” June 8, 2026, https://ir.sunation.com/news-events/press-releases/detail/124/sunation-energy-and-suniva-enter-definitive-merger; PV Tech, “SEG Solar starts HJT module production at second US factory”, September 17, 2026, https://www.pv-tech.org/seg-solar-starts-hjt-module-production-at-second-us-factory/?utm_source=eloqua&utm_medium=email&utm_content=NL_PVTINT_NL_09172026&sp_eh=c837ba0023e6af04694cee6b52e8f8b1521d89832e7b4810118d2f8a49dfc601.

Planned U.S. CSPV cell production

Table 3.4 presents planned U.S. CSPV cell production facilities that have been publicly announced since January 1, 2023.

Table 3.4 CSPV cells: New U.S. CSPV cell production facilities announced since 2023

n.a.= not available

Company	State	Planned start of production	Notes
Boviet Solar	NC	2026	Construction of a new 600,000-square-foot facility with an annual capacity of 3 GW of solar cells to be commissioned by December 2026. Inox Clean Energy agreed to acquire this cell manufacturing capacity as part of its announced acquisition of Boviet Solar’s North Carolina assets.
Mission Solar Energy	TX	2026	Plans to produce 1 GW of cells with room to grow to 2 GW. OCI Holdings, Mission Solar’s parent company, announced it would supply the polysilicon from its Malaysia subsidiary OCI TerraSus.
Silfab	SC	n.a.	In 2024, Silfab began construction of its cell manufacturing facility in Fort Mill, South Carolina. It is expected to have cell production capacity totaling 1 GW.
Suniva	SC	2027	Suniva announced it will open a second CSPV cell manufacturing facility in Laurens, South Carolina. The facility will have 4.5 GW of annual cell production capacity, bringing the company’s total U.S. cell manufacturing capacity to 5.5 GW annually.

Company	State	Planned start of production	Notes
T1 Energy	TX	2026	T1 Energy announced construction of a new cell manufacturing facility to begin production in 2026. T1 Energy announced it had secured a U.S. polysilicon supply with Hemlock for its eventual cell production. The facility is expected to have 2.1 GW of cell production.
Talon PV	TX	2027	Talon PV is preparing to manufacture TOPCon solar cells in Houston, Texas. It is expected to have annual production of 4 GW of cell manufacturing.

Source: PR Newswire, "Boviet Solar North Carolina Plan to Begin Module Production in Early 2025," October 9, 2024; PV Magazine, Inox Clean buys U.S. PV manufacturing assets of Boviet Solar for $750 million – pv magazine International, May 15, 2026; Solar Power World, OCI, Mission Solar to build 2-GW solar cell factory in Texas, March 20, 2025; Solar Power World, Qcells will manufacture every part of a silicon solar panel in the United States, January 11, 2023; Solar Power World, Silfab to start 1-GW solar cell manufacturing plant in the United States by 2024, March 8, 2023; Solar Power World, Suniva to open second solar cell manufacturing facility in the United States, April 14, 2026; Solar Power World, FREYR buys Trina solar panel factory in Texas for $340 million, November 6, 2024; PV Tech, How Talon PV plans to crack America's TOPCon solar cell challenge - PV Tech, October 6, 2025.

Note: This table is based on publicly available information. Information on changes in production capacity at existing plants is not included. For further discussion on U.S. production capacity, see part 3 of this report.

Producers in the United States were asked to report any change in the character of their operations or organization relating to the production of CSPV cells and modules since January 1, 2023. All producers indicated in their questionnaires that they had experienced such changes. Table 3.5 presents the changes identified by these producers.

Table 3.5 CSPV cells and modules: U.S. producers' reported changes in operations, since January 1, 2023

Item	Firm name and narrative response on changes in operations
Plant openings	***
Plant openings	***
Plant openings	***
Plant openings	***
Plant openings	***
Plant openings	***
Plant openings	***
Plant openings	***
Plant openings	***
Plant openings	***
Plant openings	***

Item	Firm name and narrative response on changes in operations
Plant closings	***
Prolonged shutdowns	***
Prolonged shutdowns	***
Prolonged shutdowns	***
Production curtailments	***
Relocations	***
Expansions	***
Expansions	***
Expansions	***
Expansions	***
Expansions	***
Expansions	***
Expansions	***

Item	Firm name and narrative response on changes in operations
Expansions	***
Expansions	***
Acquisitions	***
Acquisitions	***
Acquisitions	***
Other	***
Other	***
Other	***

Source: Compiled from data submitted in response to Commission questionnaires.

U.S. production, capacity, and capacity utilization

CSPV cells

Tables 3.6 through 3.8 and figure 3.1 present U.S. producers' output for installed and practical capacity, production, and capacity utilization for CSPV cells on the same equipment. Installed overall capacity increased continuously from 2023 to 2025, and by about a quarter between 2024 and 2025. Practical overall and practical capacity followed similar trends.[4] Only two firms reported producing cells in the United States in 2025, with *** reporting the higher installed and practical capacity.[5] *** reported CSPV cell production in 2023 and while Suniva began CSPV cell production in the fall of 2024,[6] Silfab Solar reported CSPV cell production in 2025.[7] However, while *** reported producing well below 50.0 percent its practical capacity in 2025, *** reached capacity utilization above 80.0 percent in the same year.[8] Combined capacity, production, and capacity utilization rates were higher in interim 2026, by nearly double compared to interim 2025.

[4] Only *** provided cell production data. Canadian Solar, which began trial CSPV cell production in 2026, did not provide cell production data.

[5] The other commercially active CSPV cell producer, ES Foundry, did not participate in these investigations.

[6] Suniva's CSPV cell manufacturing plant in Norcross, GA began commercially producing CSPV cells in October 2024. In April 2026, Suniva announced its intentions to commence construction on new, 4.5GW solar cell manufacturing facility in Laurens, South Carolina. The new factory is scheduled to begin commercial production in Q2 of 2027. Suniva's U.S. producer's questionnaire, section 2.2 and https://www.solarpowerworldonline.com/2026/04/suniva-to-open-second-solar-cell-manufacturing-facility-in-the-united-states/. Suniva began shipping its first cells from its Georgia facility to Canadian-American module producer Heliene in early 2025. See https://pv-magazine-usa.com/2026/04/14/suniva-to-build-4-5-gw-solar-cell-factory-in-south-carolina/, April 14, 2026.

[7] https://silfabsolarsc.com/2025/01/02/big-things-are-happening-for-silfab-solar-in-south-carolina-in-2025/.

[8] Silfab ***. Silfab's U.S. producer's questionnaire response, section 2.2. The firm also stated that it started production in November of 2025 and is ramping up to 1 GW cell capacity. See https://silfabsolar.com/silfab-solar-pivot-energy-announce-u-s-made-partnership/. See also https://silfabsolar.com/silfab-solar-nexamp-announce-u-s-made-solar-supply-agreement/, December 17, 2024.

Table 3.6 CSPV cells: U.S. producers' installed and practical capacity and production on the same equipment as in-scope production, by period

Capacity and production in kilowatts; utilization in percent; interim is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
Installed overall	Capacity	***	***	***	***	***
Installed overall	Production	***	***	***	***	***
Installed overall	Utilization	***	***	***	***	***
Practical overall	Capacity	***	***	***	***	***
Practical overall	Production	***	***	***	***	***
Practical overall	Utilization	***	***	***	***	***
Practical CSPV cells	Capacity	***	***	***	***	***
Practical CSPV cells	Production	***	***	***	***	***
Practical CSPV cells	Utilization	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 3.7 presents U.S. producers' reported narratives regarding practical capacity constraints.

Table 3.7 CSPV cells: U.S. producers' reported capacity constraints since January 1, 2023

Item	Firm name and narrative response on constraints to practical overall capacity
Production bottlenecks	***
Existing labor force	***
Supply of material inputs	***

Item	Firm name and narrative response on constraints to practical overall capacity
Supply of material inputs	***
Other constraints	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 3.8 and figure 3.1 present U.S. producers' production, capacity, and capacity utilization for CSPV cells.

Table 3.8 CSVP cells: U.S. producers' output: Practical capacity, by firm and period

Practical capacity

Capacity in kilowatts; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 3.8 Continued CSPV cells: U.S. producers' output, by firm and period

Production

Production in kilowatts; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 3.8 Continued CSPV cells: U.S. producers' output, by firm and period

Capacity utilization

Capacity utilization ratios in percent; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Note: Capacity utilization ratio represents the ratio of the U.S. producer's production to its production capacity.

Table 3.8 (Continued) CSPV cells: U.S. producers' output, by firm and period

Share of production

Share in percent; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
All firms	—	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Figure 3.1 presents U.S. producers' practical capacity, production, and capacity utilization pertaining to CSPV cells.

Figure 3.1: CSPV cells: U.S. producer's practical capacity, production, and capacity utilization, by period

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Alternative products

As shown in table 3.9, *** reported producing CSPV cells or other products during 2023 on the same equipment. From 2024 through interim 2026, U.S. producers produced *** on the same equipment used to produce CSPV cells.

Table 3.9 CSPV cells: U.S. producers' overall production on the same equipment as in-scope production, by period

Quantity in kilowatts; share in percent; interim is January through March

Product type	Measure	2023	2024	2025	Interim 2025	Interim 2026
CSPV cells	Quantity	***	***	***	***	***
Thin-film solar products	Quantity	***	***	***	***	***
Other products	Quantity	***	***	***	***	***
All out-of-scope products	Quantity	***	***	***	***	***
All products	Quantity	***	***	***	***	***
CSPV cells	Share	***	***	***	***	***
Thin-film solar products	Share	***	***	***	***	***
Other products	Share	***	***	***	***	***
All out-of-scope products	Share	***	***	***	***	***
All products	Share	—	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

CSPV modules

Tables 3.10 through 3.12 and figure 3.2 present U.S. producers' reported output for installed overall and practical capacity, production, and capacity utilization for CSPV modules on the same equipment as subject production, by period. Installed overall capacity roughly tripled between 2023 and 2024 and increased further in 2025. Practical overall and practical CSPV module capacity were the same and followed similar trends as installed overall capacity between 2023 and 2025. Twelve of the 15 responding U.S. producers of CSPV modules reported increased practical capacity for CSPV modules between 2023 and 2025. *** reported the largest increase in capacity, followed by ***, while *** reported the lowest decreasing capacity, followed by *** during 2023 to 2025. *** had stable capacity through full year 2025, but along with ***,[9] reported no CSPV module capacity in interim 2026. Two firms, (***), reported starting operations in 2025. Capacity, production, and capacity utilization were higher in interim 2026 than in interim 2025.

[9] *** did not produce during the period.

Aggregated production of CSPV modules increased year-on-year from 2023 to 2025 and were higher in interim 2026 than in interim 2025. *** reported the highest production levels of CSPV modules in 2025 and together accounted for *** percent of reported production of CSPV modules in 2025. Aggregate CSPV module capacity utilization rates steadily increased from 61.0 percent in 2023 to 73.9 percent in 2025. However, four firms, *** reported close to full capacity utilization rates of CSPV modules in 2025, while four other firms, ***, reported decreased capacity utilization rates between 2023 and 2025.[10]

Table 3.10 CSPV modules: U.S. producers' installed and practical capacity and production on the same equipment as subject production, by period

Capacity and production in kilowatts; utilization in percent; interim is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
Installed overall	Capacity	***	***	***	***	***
Installed overall	Production	***	***	***	***	***
Installed overall	Utilization	***	***	***	***	***
Practical overall	Capacity	***	***	***	***	***
Practical overall	Production	***	***	***	***	***
Practical overall	Utilization	***	***	***	***	***
Practical CSPV modules	Capacity	5,231,791	15,250,113	30,828,207	6,655,683	8,480,201
Practical CSPV modules	Production	3,188,820	10,552,020	22,779,446	5,000,512	7,377,432
Practical CSPV modules	Utilization	61.0	69.2	73.9	75.1	87.0

Source: Compiled from data submitted in response to Commission questionnaires.

Table 3.11 presents U.S. producers' reported narratives regarding practical capacity constraints.

Table 3.11 CSPV modules: U.S. producers' reported capacity constraints since January 1, 2023

Item	Firm name and narrative response on constraints to practical overall capacity
Production bottlenecks	***
Production bottlenecks	***
Production bottlenecks	***
Production bottlenecks	***

[10] *** paused module manufacturing as of February 2025. The firm stated that it continues to evaluate trade and other market conditions as it looks to resume cell and/or module manufacturing. ***'s U.S. producer's questionnaire response, section 2.2.

Item	Firm name and narrative response on constraints to practical overall capacity
Production bottlenecks	***
Existing labor force	***
Existing labor force	***
Existing labor force	***
Existing labor force	***
Existing labor force	***
Existing labor force	***
Existing labor force	***
Existing labor force	***
Supply of material inputs	***
Supply of material inputs	***
Supply of material inputs	***
Supply of material inputs	***
Supply of material inputs	***
Supply of material inputs	***
Supply of material inputs	***
Fuel or energy	***
Storage capacity	***
Logistics/transportation	***
Logistics/transportation	***

Item	Firm name and narrative response on constraints to practical overall capacity
Other constraints	***
Other constraints	***
Other constraints	***
Other constraints	***
Other constraints	***
Other constraints	***
Other constraints	***
Other constraints	***
Other constraints	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 3.12 CSPV modules: U.S. producers' output, by firm and period

Practical capacity

Capacity in kilowatts; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	5,231,791	15,250,113	30,828,207	6,655,683	8,480,201

Table continued.

Table 3.12 (Continued) CSPV modules: U.S. producers' output, by firm and period

Production

Production in kilowatts; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	3,188,820	10,552,020	22,779,446	5,000,512	7,377,432

Table continued.

Table 3.12 (Continued) CSPV modules: U.S. producers' output, by firm and period

Capacity utilization

Capacity utilization in percent; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	61.0	69.2	73.9	75.1	87.0

Table continued.

Note: Capacity utilization ratio represents the ratio of the U.S. producer's production to its production capacity.

Table 3.12 (Continued) CSPV modules: U.S. producers' output, by firm and period

Share of production

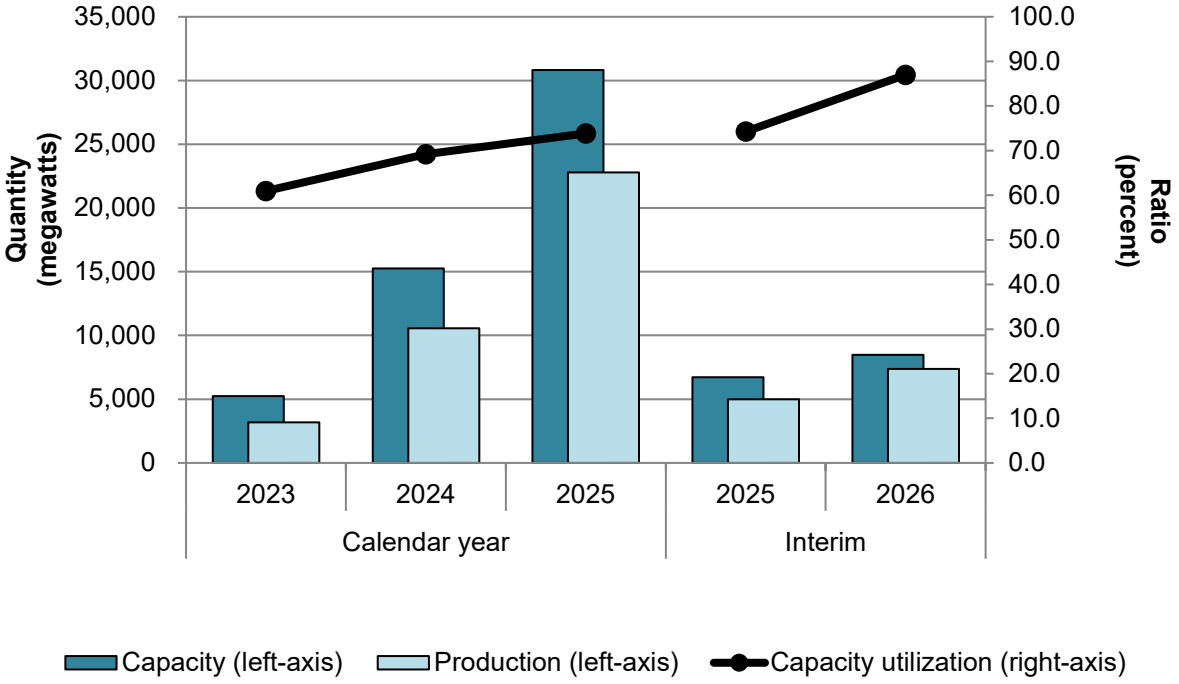
Share in percent; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Figure 3.2 CSPV modules: U.S. producers' capacity, production, and capacity utilization, by period



Source: Compiled from data submitted in response to Commission questionnaires.

Alternative products

As shown in table 3.13, nearly all the CSPV product produced from 2023 through interim 2026 by U.S. producers was CSPV modules. One firm, (***), reported producing thin-film solar products, which accounted for less than *** percent of overall production on the same equipment used to produce CSPV modules during the same period.

Table 3.13 CSPV modules: U.S. producers' overall production on the same equipment as subject production, by period

Quantity in kilowatts; share in percent; interim is January through March

Product type	Measure	2023	2024	2025	Interim 2025	Interim 2026
CSPV modules	Quantity	3,188,820	10,552,020	22,779,446	5,000,512	7,377,432
Thin-film solar products	Quantity	***	***	***	***	***
Other products	Quantity	***	***	***	***	***
All out-of-scope products	Quantity	***	***	***	***	***
All products	Quantity	***	***	***	***	***
CSPV modules	Share	***	***	***	***	***
Thin-film solar products	Share	***	***	***	***	***
Other products	Share	***	***	***	***	***
All out-of-scope products	Share	***	***	***	***	***
All products	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

U.S. producers' U.S. shipments and exports

Tables 3.14 presents U.S. producers' U.S. shipments, export shipments, and total shipments of CSPV cells. There were *** U.S. shipments or exports shipments in 2023 for CSPV cells. U.S. shipments, by quantity and value, accounted for *** total shipments in 2024 and 2025, since U.S. producers of CSPV cells *** report export shipments. The two U.S. producers of CSPV cells, *** accounted for approximately *** percent and *** percent respectively, of all U.S. shipments of CSPV cells in 2025. Except for U.S. shipments unit values which were lower in interim 2026 compared to interim 2025, all other items were higher in interim 2026 than in interim 2025.

Table 3.14 CSPV cells: U.S. producers' total shipments, by destination and period

Quantity in kilowatts; value in 1,000 dollars; unit values in dollars per kilowatt; shares in percent; interim is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
U.S. shipments	Quantity	***	***	***	***	***
Export shipments	Quantity	***	***	***	***	***
Total shipments	Quantity	***	***	***	***	***
U.S. shipments	Value	***	***	***	***	***
Export shipments	Value	***	***	***	***	***
Total shipments	Value	***	***	***	***	***
U.S. shipments	Unit value	***	***	***	***	***
Export shipments	Unit value	***	***	***	***	***
Total shipments	Unit value	***	***	***	***	***
U.S. shipments	Share of quantity	***	***	***	***	***
Export shipments	Share of quantity	***	***	***	***	***
Total shipments	Share of quantity	—	100.0	100.0	100.0	100.0
U.S. shipments	Share of value	***	***	***	***	***
Export shipments	Share of value	***	***	***	***	***
Total shipments	Share of value	—	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 3.15 presents U.S. producers' U.S. shipments of CSPV cells by type and period. Only one firm (***) reported commercial U.S. shipments of CSPV cells in 2024 and 2025 and interim periods. Commercial U.S. shipments accounted for the majority (over half, by quantity except in interim 2026) of U.S. shipments during 2025, followed by transfers to related firms. By value, U.S. commercial shipments of CSPV cells accounted for approximately three quarters of U.S. shipments in 2025. *** was the only firm to report transfers to related firms, and *** reported internal consumption.

Table 3.15 CSPV cells: U.S. producers' U.S. shipments, by type and period

Quantity in kilowatts; value in 1,000 dollars; unit value in dollars per kilowatt; shares in percent; interim is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
Commercial U.S. shipments	Quantity	***	***	***	***	***
Internal consumption	Quantity	***	***	***	***	***
Transfers to related firms	Quantity	***	***	***	***	***
U.S. shipments	Quantity	***	***	***	***	***
Commercial U.S. shipments	Value	***	***	***	***	***
Internal consumption	Value	***	***	***	***	***
Transfers to related firms	Value	***	***	***	***	***
U.S. shipments	Value	***	***	***	***	***
Commercial U.S. shipments	Unit value	***	***	***	***	***
Internal consumption	Unit value	***	***	***	***	***
Transfers to related firms	Unit value	***	***	***	***	***
U.S. shipments	Unit value	***	***	***	***	***
Commercial U.S. shipments	Share of quantity	***	***	***	***	***
Internal consumption	Share of quantity	***	***	***	***	***
Transfers to related firms	Share of quantity	***	***	***	***	***
U.S. shipments	Share of quantity	—	100.0	100.0	100.0	100.0
Commercial U.S. shipments	Share of value	***	***	***	***	***
Internal consumption	Share of value	***	***	***	***	***
Transfers to related firms	Share of value	***	***	***	***	***
U.S. shipments	Share of value	—	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 3.16 presents U.S. producers' U.S. shipments, export shipments, and total shipments of CSPV modules. U.S. shipments of CSPV modules increased more than seven-fold from 2023 to 2025 and accounted for *** total shipments since *** U.S. producers of CSPV modules reported export shipments. *** reported the largest quantities of U.S. shipments of CSPV modules in 2025, accounting for over two-thirds percent of the U.S. shipments of CSPV modules in that year. While U.S. shipments increased between 2023 and 2025 by quantity and value, U.S. shipment and total shipment unit values decreased irregularly during the same period. All shipment quantities and values were higher in interim 2026 than in interim 2025.

Table 3.16 CSPV modules: U.S. producers' total shipments, by destination and period

Quantity in kilowatts; value in 1,000 dollars; unit values in dollars per kilowatt; shares in percent; interim is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
U.S. shipments	Quantity	3,050,985	9,818,351	23,181,039	4,240,307	5,999,624
Export shipments	Quantity	***	***	***	***	***
Total shipments	Quantity	***	***	***	***	***
U.S. shipments	Value	1,222,282	2,684,158	6,502,603	1,190,839	1,752,927
Export shipments	Value	***	***	***	***	***
Total shipments	Value	***	***	***	***	***
U.S. shipments	Unit value	***	***	***	***	***
Export shipments	Unit value	***	***	***	***	***
Total shipments	Unit value	***	***	***	***	***
U.S. shipments	Share of quantity	***	***	***	***	***
Export shipments	Share of quantity	***	***	***	***	***
Total shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0
U.S. shipments	Share of value	***	***	***	***	***
Export shipments	Share of value	***	***	***	***	***
Total shipments	Share of value	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 3.17 presents U.S. producers' U.S. shipments of CSPV modules by type and period. Commercial U.S. shipments accounted for the majority of U.S. shipments of modules by quantity and value during 2023 to 2025, followed by transfers to related firms. Five firms reported transfers to related firms, one of which, ***, did not report commercial U.S. shipment during 2023 to 2025, and only two firms (***) reported small internal consumption quantities and values in 2025. Unit values were highest for internal consumption and lowest for transfers to related firms in 2025.[11]

Table 3.17 CSPV modules: U.S. producers' U.S. shipments, by type and period

Quantity in kilowatts; value in 1,000 dollars; unit value in dollars per kilowatt; shares in percent; interim is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
Commercial U.S. shipments	Quantity	***	***	***	***	***
Internal consumption	Quantity	***	***	***	***	***
Transfers to related firms	Quantity	***	***	***	***	***
U.S. shipments	Quantity	3,050,985	9,818,351	23,181,039	4,240,307	5,999,624
Commercial U.S. shipments	Value	***	***	***	***	***
Internal consumption	Value	***	***	***	***	***
Transfers to related firms	Value	***	***	***	***	***
U.S. shipments	Value	1,222,282	2,684,158	6,502,603	1,190,839	1,752,927
Commercial U.S. shipments	Unit value	***	***	***	***	***
Internal consumption	Unit value	***	***	***	***	***
Transfers to related firms	Unit value	***	***	***	***	***
U.S. shipments	Unit value	401	273	281	281	292
Commercial U.S. shipments	Share of quantity	***	***	***	***	***
Internal consumption	Share of quantity	***	***	***	***	***
Transfers to related firms	Share of quantity	***	***	***	***	***
U.S. shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0
Commercial U.S. shipments	Share of value	***	***	***	***	***
Internal consumption	Share of value	***	***	***	***	***
Transfers to related firms	Share of value	***	***	***	***	***
U.S. shipments	Share of value	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

[11] The high unit value for modules internal consumption is due to *** specialized, custom design market for solar which is different than standard grid solar panel." Therefore, the average cost per watt is about ***. ***'s U.S. producer's questionnaire response, section 2.11.

Table 3.18 presents U.S. producers' U.S. shipments of CSPV cells and modules for use in apparent consumption, by type and period.

Table 3.18 CSPV cells and modules: U.S. producers' U.S. shipments for use in apparent consumption, by period

Quantity in kilowatts; value in 1,000 dollars; interim is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
Cells: U.S. shipments	Quantity	***	***	***	***	***
Cells: U.S. shipments	Value	***	***	***	***	***
Modules: Value added to domestic cells	Value	***	***	***	***	***
Cells and modules: Fully domestic value	Value	***	***	***	***	***
Modules: Value added to imported cells	Value	***	***	***	***	***
Cells and modules: Total value from domestic operations	Value	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Zeroes, null values, and undefined calculations are suppressed and shown as "—". Quantity for U.S. producers' U.S. shipments only reflects domestically produced cells. Value for U.S. producers' U.S. shipments reflects domestically produced cells, the value added to domestically manufactured cells by responding U.S. module assemblers, and the value added to imported cells by responded U.S. module assemblers. In measuring consumption and market share this methodology avoids reclassifying and/or double counting merchandise already reported once as an import.

U.S. producers' inventories

Tables 3.19 and 3.20 present U.S. producers' end-of-period inventories and the ratio of these inventories to U.S. producers' production, U.S. shipments, and total shipments for CSPV cells and CSPV modules.

There were *** inventories reported in 2023 for CSPV cells and *** reported increased end-of-period inventories from 2024 to 2025.[12] In 2025, the ratios of end-of-period inventory quantities of CSPV cells to U.S. production, U.S. shipments, and total shipments were less than *** percent. *** reported the higher level of CSPV cell inventories in 2025 and interim periods.

Ending inventories for CSPV modules increased from 2023 to 2024 and then decreased in 2025, although ending higher than in 2023. Aggregate ending inventories were higher in interim 2026 than in interim 2025. Two firms (***) did not report any ending inventories during 2023 to 2025 for CSPV modules. Three firms (***) reported increased ending inventories of CSPV modules from 2023 to 2025. CSPV modules inventory ratios to U.S. production, U.S. shipments, and total shipments decreased irregularly and were less than *** percent in 2025. Thirteen firms reported end-of-period inventories of CSPV modules in 2025, while *** reported the highest levels of CSPV modules inventories in 2025, accounting for approximately *** percent of ending inventories that year.

Table 3.19 CSPV cells: U.S. producers' inventories and their ratio to select items, by period

Quantity in kilowatts; ratio in percent; interim is January through March

Item	2023	2024	2025	Interim 2025	Interim 2026
End-of-period inventory quantity	***	***	***	***	***
Inventory ratio to U.S. production	***	***	***	***	***
Inventory ratio to U.S. shipments	***	***	***	***	***
Inventory ratio to total shipments	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

[12] *** did not report ending inventories in 2024.

Table 3.20 CSPV modules: U.S. producers' inventories and their ratio to select items, by period

Quantity in kilowatts; ratio in percent; interim is January through March

Item	2023	2024	2025	Interim 2025	Interim 2026
End-of-period inventory quantity	258,382	992,051	604,712	1,752,886	1,982,519
Inventory ratio to U.S. production	***	***	***	***	***
Inventory ratio to U.S. shipments	***	***	***	***	***
Inventory ratio to total shipments	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

U.S. producers' imports from subject sources

U.S. producers' imports of CSPV cells and modules from subject sources are presented in tables 3.21 through 3.29, and reasons for these imports are presented in table 3.30. CSPV cells are used as inputs to produce CSPV modules and domestic U.S. CSPV cell production did not commence until 2024. Therefore, during the period of data collection, U.S. producers of CSPV modules generally relied on either imported or purchased imports of CSPV cells to assemble CSPV modules.[13] Nine firms reported importing CSPV products, *** reported imports from subject sources and the ratios of these firms' imports relative to their U.S. production ranged from *** to *** percent during the period of data collection.

Table 3.21 CSPV cells and modules: *'s U.S. production, subject imports, and ratio of subject imports to production, by source and period**

Quantity in kilowatts; ratio in percent; interim is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
U.S. production	Quantity	***	***	***	***	***
Imports from Indonesia	Quantity	***	***	***	***	***
Imports from Laos	Quantity	***	***	***	***	***
Imports from subject sources	Quantity	***	***	***	***	***
Imports from Indonesia to U.S. production	Ratio	***	***	***	***	***
Imports from Laos to U.S. production	Ratio	***	***	***	***	***
Imports from subject sources to U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

[13] In addition to imports of CSPV cells, *** reported imports of *** kilowatts of modules from Laos in interim 2025. *** reported imports of modules from India in all periods, and *** reported imports of *** kilowatts of modules in interim 2025.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 3.22 CSPV cells and modules: *'s U.S. production, subject imports, and ratio of subject imports to production, by source and period**

Quantity in kilowatts; ratio in percent; interim is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
U.S. production	Quantity	***	***	***	***	***
Imports from India	Quantity	***	***	***	***	***
Imports from Laos	Quantity	***	***	***	***	***
Imports from subject sources	Quantity	***	***	***	***	***
Imports from India to U.S. production	Ratio	***	***	***	***	***
Imports from Laos to U.S. production	Ratio	***	***	***	***	***
Imports from subject sources to U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 3.23 CSPV cells and modules: *'s U.S. production, subject imports, and ratio of subject imports to production, by source and period**

Quantity in kilowatts; ratio in percent; interim is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
U.S. production	Quantity	***	***	***	***	***
Imports from Indonesia	Quantity	***	***	***	***	***
Imports from Indonesia to U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 3.24 CSPV cells and modules: *'s U.S. production, subject imports, and ratio of subject imports to production, by source and period**

Quantity in kilowatts; ratio in percent; interim is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
U.S. production	Quantity	***	***	***	***	***
Imports from Indonesia	Quantity	***	***	***	***	***
Imports from Indonesia to U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 3.25 CSPV cells and modules: *'s U.S. production, subject imports, and ratio of subject imports to production, by source and period**

Quantity in kilowatts; ratio in percent; interim is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
U.S. production	Quantity	***	***	***	***	***
Imports from Indonesia	Quantity	***	***	***	***	***
Imports from Laos	Quantity	***	***	***	***	***
Imports from subject sources	Quantity	***	***	***	***	***
Imports from Indonesia to U.S. production	Ratio	***	***	***	***	***
Imports from Laos to U.S. production	Ratio	***	***	***	***	***
Imports from subject sources to U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 3.26 CSPV cells and modules: *'s U.S. production, subject imports, and ratio of subject imports to production, by source and period**

Quantity in kilowatts; ratio in percent; interim is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
U.S. production	Quantity	***	***	***	***	***
Imports from Indonesia	Quantity	***	***	***	***	***
Imports from Indonesia to U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 3.27 CSPV cells and modules: *'s U.S. production, subject imports, and ratio of subject imports to production, by source and period**

Quantity in kilowatts; ratio in percent; interim is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
U.S. production	Quantity	***	***	***	***	***
Imports from Indonesia	Quantity	***	***	***	***	***
Imports from Indonesia to U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 3.28 CSPV cells and modules: *'s U.S. production, subject imports, and ratio of subject imports to production, by source and period**

Quantity in kilowatts; ratio in percent; interim is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
U.S. production	Quantity	***	***	***	***	***
Imports from Indonesia	Quantity	***	***	***	***	***
Imports from Laos	Quantity	***	***	***	***	***
Imports from subject sources	Quantity	***	***	***	***	***
Imports from Indonesia to U.S. production	Ratio	***	***	***	***	***
Imports from Laos to U.S. production	Ratio	***	***	***	***	***
Imports from subject sources to U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 3.29 CSPV cells and modules: *'s U.S. production, subject imports, and ratio of subject imports to production, by source and period**

Quantity in kilowatts; ratio in percent; interim is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
U.S. production	Quantity	***	***	***	***	***
Imports from Indonesia	Quantity	***	***	***	***	***
Imports from Laos	Quantity	***	***	***	***	***
Imports from subject sources	Quantity	***	***	***	***	***
Imports from Indonesia to U.S. production	Ratio	***	***	***	***	***
Imports from Laos to U.S. production	Ratio	***	***	***	***	***
Imports from subject sources to U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 3.30 CSPV cells and modules: U.S. producers' reasons for importing, by firm

Item	Narrative response on reasons for importing
***'s reason for importing	***
***'s reason for importing	***
***'s reason for importing	***
***'s reason for importing	***
***'s reason for importing	***
***'s reason for importing	***
***'s reason for importing	***
***'s reason for importing	***
***'s reason for importing	***
***'s reason for importing	***
***'s reason for importing	***

Source: Compiled from data submitted in response to Commission questionnaires.

U.S. producers' purchases of imports from subject sources

U.S. producers' purchases of imports from subject sources are presented in tables 3.31 through 3.40 and reasons for these purchases are presented in table 3.41. Eleven firms reported purchasing CSPV cells and three firms reported purchasing CSPV modules.[14] [15]

Table 3.31 CSPV cells and modules: *'s purchases of imports from subject sources, by source, importer of record, and period**Quantity in kilowatts; ratio in percent; interim is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
***'s U.S. production (modules)	Quantity	***	***	***	***	***
***'s purchases of U.S. imports from Indonesia and Laos imported by ***	Quantity	***	***	***	***	***
***'s U.S. imports from Indonesia and Laos	Quantity	***	***	***	***	***
Ratio 1: ***'s purchases of U.S. imports from Indonesia and Laos imported by *** relative to ***'s U.S. imports from Indonesia and Laos	Ratio	***	***	***	***	***
Overall U.S. imports from Indonesia and Laos	Quantity	***	***	***	***	***
Ratio 2: ***'s U.S. imports from Indonesia and Laos relative to overall U.S. imports from Indonesia and Laos	Ratio	***	***	***	***	***
Ratio 3: ***'s U.S. imports from Indonesia and Laos relative to ***'s U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

[14] *** reported purchasing CSPV cells in question 2.16 of the U.S. producer questionnaire but did not report any related data. Staff followed up but was not able to obtain clarification for this report. See also staff email to ***, August 17, 2026.

[15] *** reported purchasing CSPV modules; however, only *** reported purchasing from subject sources. *** reported purchasing ***. ***'s U.S. producer's questionnaire, sections 2.18 and 2.19.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included in overall U.S. imports from Indonesia and Laos.

Table 3.32 CSPV cells and modules: *'s purchases of imports from subject sources, by source, importer of record, and period**

Quantity in kilowatts; ratio in percent; interim is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
***'s U.S. production	Quantity	***	***	***	***	***
***'s purchases of U.S. imports from Indonesia and Laos imported by ***	Quantity	***	***	***	***	***
***'s U.S. imports from Indonesia and Laos	Quantity	***	***	***	***	***
Ratio 1: ***'s purchases of U.S. imports from Indonesia and Laos imported by *** relative to ***'s U.S. imports from Indonesia and Laos	Ratio	***	***	***	***	***
Overall U.S. imports from Indonesia and Laos	Quantity	***	***	***	***	***
Ratio 2: ***'s U.S. imports from Indonesia and Laos relative to overall U.S. imports from Indonesia and Laos	Ratio	***	***	***	***	***
Ratio 3: ***'s U.S. imports from Indonesia and Laos relative to ***'s U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included in overall U.S. imports from Indonesia and Laos.

Table 3.33 CSPV cells and modules: *'s purchases of imports from subject sources, by source, importer of record, and period**

Quantity in kilowatts; ratio in percent; interim is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
***'s U.S. production	Quantity	***	***	***	***	***
***'s purchases of U.S. imports from Indonesia imported by ***	Quantity	***	***	***	***	***
***'s U.S. imports from Indonesia	Quantity	***	***	***	***	***
Ratio 1: ***'s purchases of U.S. imports from Indonesia imported by *** relative to ***'s U.S. imports from Indonesia	Ratio	***	***	***	***	***
Overall U.S. imports from Indonesia	Quantity	***	***	***	***	***
Ratio 2: ***'s U.S. imports from Indonesia relative to overall U.S. imports from Indonesia	Ratio	***	***	***	***	***
Ratio 3: ***'s U.S. imports from Indonesia relative to ***'s U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included in overall U.S. imports from Indonesia.

Table 3.34 CSPV cells and modules: *'s purchases of imports from subject sources, by source, importer of record, and period**

Quantity in kilowatts; ratio in percent; interim is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
***'s U.S. production	Quantity	***	***	***	***	***
***'s purchases of U.S. imports from Indonesia and Laos imported by ***	Quantity	***	***	***	***	***
***'s U.S. imports from Indonesia and Laos	Quantity	***	***	***	***	***
Ratio 1: ***'s purchases of U.S. imports from Indonesia and Laos imported by *** relative to ***'s U.S. imports from Indonesia and Laos	Ratio	***	***	***	***	***
Overall U.S. imports from Indonesia and Laos	Quantity	***	***	***	***	***
Ratio 2: ***'s U.S. imports from Indonesia and Laos relative to overall U.S. imports from Indonesia and Laos	Ratio	***	***	***	***	***
Ratio 3: ***'s U.S. imports from Indonesia and Laos relative to ***'s U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included in overall U.S. imports from Indonesia and Laos.

Table 3.35 CSPV cells and modules: *'s purchases of imports from subject sources, by source, importer of record, and period**

Quantity in kilowatts; Ratios in percent; Interim period is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
***'s U.S. production	Quantity	***	***	***	***	***
***'s purchases of U.S. imports from Indonesia and Laos imported by ***	Quantity	***	***	***	***	***
Overall U.S. imports from Indonesia and Laos	Quantity	***	***	***	***	***
Ratio 1: ***'s purchases of U.S. imports from Indonesia and Laos imported by *** relative to overall U.S. imports from Indonesia and Laos	Ratio	***	***	***	***	***
Ratio 2: ***'s purchases of U.S. imports from Indonesia and Laos imported by *** relative to ***'s U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included in overall U.S. imports from Indonesia and Laos. ***.

Table 3.36 CSPV cells and modules: *'s purchases of imports from subject sources, by source, importer of record, and period**

Quantity in kilowatts; Ratios in percent; Interim period is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
***'s U.S. production	Quantity	***	***	***	***	***
***'s purchases of U.S. imports from Indonesia imported by ***	Quantity	***	***	***	***	***
***'s U.S. imports from Indonesia	Quantity	***	***	***	***	***
Ratio 1: ***'s purchases of U.S. imports from Indonesia imported by *** relative to ***'s U.S. imports from Indonesia	Ratio	***	***	***	***	***
Overall U.S. imports from Indonesia	Quantity	***	***	***	***	***
Ratio 2: ***'s U.S. imports from Indonesia relative to overall U.S. imports from Indonesia	Ratio	***	***	***	***	***
Ratio 3: ***'s U.S. imports from Indonesia relative to ***'s U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included in overall U.S. imports from Indonesia.

Table 3.37 CSPV cells and modules: *'s purchases of imports from subject sources, by source, importer of record, and period**

Quantity in kilowatts; Ratios in percent; Interim period is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
***'s U.S. production	Quantity	***	***	***	***	***
***'s purchases of U.S. imports from Indonesia imported by ***	Quantity	***	***	***	***	***
***'s U.S. imports from Indonesia	Quantity	***	***	***	***	***
Ratio 1: ***'s purchases of U.S. imports from Indonesia imported by *** relative to ***'s U.S. imports from Indonesia	Ratio	***	***	***	***	***
Overall U.S. imports from Indonesia	Quantity	***	***	***	***	***
Ratio 2: ***'s U.S. imports from Indonesia relative to overall U.S. imports from Indonesia	Ratio	***	***	***	***	***
Ratio 3: ***'s U.S. imports from Indonesia relative to ***'s U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included in overall U.S. imports from Indonesia.

Table 3.38 CSPV cells and modules: *'s purchases of imports from subject sources, by source, importer of record, and period**

Quantity in kilowatts; Ratios in percent; Interim period is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
***'s U.S. production	Quantity	***	***	***	***	***
***'s purchases of U.S. imports from Indonesia and Laos imported by ***	Quantity	***	***	***	***	***
***'s U.S. imports from Indonesia and Laos	Quantity	***	***	***	***	***
Ratio 1: ***'s purchases of U.S. imports from Indonesia and Laos imported by *** relative to ***'s U.S. imports from Indonesia and Laos	Ratio	***	***	***	***	***
Overall U.S. imports from Indonesia and Laos	Quantity	***	***	***	***	***
Ratio 2: ***'s U.S. imports from Indonesia and Laos relative to overall U.S. imports from Indonesia and Laos	Ratio	***	***	***	***	***
Ratio 3: ***'s U.S. imports from Indonesia and Laos relative to ***'s U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included in overall U.S. imports from Indonesia and Laos.

Table 3.39 CSPV cells and modules: *'s purchases of imports from subject sources, by source, importer of record, and period**

Quantity in kilowatts; Ratios in percent; Interim period is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
***'s U.S. production	Quantity	***	***	***	***	***
***'s purchases of U.S. imports from Indonesia imported by ***	Quantity	***	***	***	***	***
***'s U.S. imports from Indonesia	Quantity	***	***	***	***	***
Ratio 1: ***'s purchases of U.S. imports from Indonesia imported by *** relative to ***'s U.S. imports from Indonesia	Ratio	***	***	***	***	***
Overall U.S. imports from Indonesia	Quantity	***	***	***	***	***
Ratio 2: ***'s U.S. imports from Indonesia relative to overall U.S. imports from Indonesia	Ratio	***	***	***	***	***
Ratio 3: ***'s U.S. imports from Indonesia relative to ***'s U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included in overall U.S. imports from Indonesia.

Table 3.40 CSPV cells and modules: *'s purchases of imports from subject sources, by source, importer of record, and period**

Quantity in kilowatts; ratio in percent; interim is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
***'s U.S. production	Quantity	***	***	***	***	***
***'s purchases of U.S. imports from Indonesia imported by ***	Quantity	***	***	***	***	***
***'s U.S. imports from Indonesia	Quantity	***	***	***	***	***
Ratio 1: ***'s purchases of U.S. imports from Indonesia imported by *** relative to ***'s U.S. imports from Indonesia	Ratio	***	***	***	***	***
Overall U.S. imports from Indonesia	Quantity	***	***	***	***	***
Ratio 2: ***'s U.S. imports from Indonesia relative to overall U.S. imports from Indonesia	Ratio	***	***	***	***	***
Ratio 3: ***'s U.S. imports from Indonesia relative to ***'s U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included in overall U.S. imports from Indonesia.

Table 3.41 CSPV cells and modules: U.S. producers' reasons for purchasing, by firm

Item	Narrative response on reasons for importing
***'s reason for purchasing	***
***'s reason for purchasing	***
***'s reason for purchasing	***
***'s reason for purchasing	***
***'s reason for purchasing	***
***'s reason for purchasing	***
***'s reason for purchasing	***
***'s reason for purchasing	***
***'s reason for purchasing	***
***'s reason for purchasing	***

Source: Compiled from data submitted in response to Commission questionnaires.

U.S. employment, wages, and productivity

Tables 3.42 to 3.44. show U.S. producers' employment-related data for CSPV cells and CSPV modules.

All aggregate labor indicators for CSPV cells, except for hourly wages (dollars per hour) and unit labor costs (dollars per kilowatt), increased between 2024 and 2025.[16] *** reported no employment data related to U.S. production of CSPV cells in 2023, while ***. Labor indicators for interim periods also were higher in interim 2026 than in interim 2025, except for hourly wages and productivity.

Similarly, all aggregate labor indicators for CSPV modules increased between 2023 and 2025, except for hourly wages (dollars per hour) and unit labor costs (dollars per kilowatt). Fifteen firms reported employment data related to U.S. production of CSPV modules in 2025. Three firms (***) accounted for the highest average number of PRWs in 2025, while ***[17] had the highest PRW average wages. *** had the highest unit labor costs in dollars per kilowatt in the same period. In general, employment related indicators for interim 2026 were higher than in interim 2025, except for hourly wages and unit labor costs.

Table 3.42 CSPV cells: U.S. producers' employment related information, by item and period

Interim is January through March

Item	2023	2024	2025	Interim 2025	Interim 2026
Production and related workers (PRWs) (number)	***	***	***	***	***
Total hours worked (1,000 hours)	***	***	***	***	***
Hours worked per PRW (hours)	***	***	***	***	***
Wages paid ($1,000)	***	***	***	***	***
Hourly wages (dollars per hour)	***	***	***	***	***
Productivity (kilowatts per 1,000 hours)	***	***	***	***	***
Unit labor costs (dollars per kilowatt)	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

[16] There are *** for CSPV cells in 2023 since the two firms began operations in late 2024 and 2025.

[17] *** reported that subject imports caused its production to drop in 2023, so the firm could not rehire workers lost due to attrition. The firm reported they were also forced to make a cut in hours worked. It then reduced its workforce by 20 workers on January 6, 2025. In February 2025, *** and further reduce our workforce as it continues to monitor market conditions and reevaluate when to resume production. ***'s U.S. producer's questionnaire, section 2.14.

Table 3.43 CSPV modules: U.S. producers' employment related information, by item and period

Interim is January through March

Item	2023	2024	2025	Interim 2025	Interim 2026
Production and related workers (PRWs) (number)	2,026	6,200	7,799	6,670	8,241
Total hours worked (1,000 hours)	3,773	9,036	18,017	3,366	5,091
Hours worked per PRW (hours)	1,862	1,457	2,310	505	618
Wages paid ($1,000)	94,640	240,463	432,323	87,103	121,694
Hourly wages (dollars per hour)	$25.08	$26.61	$24.00	$25.88	$23.90
Productivity (kilowatts per 1,000 hours)	845.2	1,167.8	1,264.3	1,485.6	1,449.1
Unit labor costs (dollars per kilowatt)	$30	$23	$19	$17	$16

Source: Compiled from data submitted in response to Commission questionnaires.

Table 3.44 CSPV cells and modules: U.S. producers' employment related information, by item and period

Interim is January through March

Item	2023	2024	2025	Interim 2025	Interim 2026
Production and related workers (PRWs) (number)	***	***	***	***	***
Total hours worked (1,000 hours)	***	***	***	***	***
Hours worked per PRW (hours)	***	***	***	***	***
Wages paid ($1,000)	***	***	***	***	***
Hourly wages (dollars per hour)	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Part 4: U.S. imports, apparent U.S. consumption, and market shares

U.S. importers

The Commission issued importer questionnaires to 170 firms believed to be importers of subject CSPV cells and modules, as well as to all U.S. producers of CSPV cells and modules.[1] Usable questionnaire responses were received from 48 companies, representing *** percent of U.S. imports from India, *** percent of U.S. imports from Indonesia, *** percent of U.S. imports from Laos, *** percent of U.S. imports from aggregate subject sources, and *** percent of U.S. imports from nonsubject sources, in 2025[2] under HTS subheadings 8541.42.00 and 8541.43.00.[3] [4]

[1] The Commission issued questionnaires to those firms identified in the petitions; staff research; and proprietary, Census-edited Customs' import records. Petitioners' counsel stated that the majority of CSPV cells and modules are being imported under the two main statistical reporting numbers, 8541.42.0010 and 8541.43.0010, and that they are representative of imports in the CSPV cells and modules marketplace. Conference transcript, p. 44 (Brightbill).

[2] Data supplemented by Census-edited records represents *** percent of U.S. imports from India, *** percent of U.S. imports from Indonesia, *** percent of U.S. imports from Laos, *** percent of U.S. imports from aggregate subject sources, and *** percent of U.S. imports from nonsubject sources, in 2025 under HTS subheadings 8541.42.00 and 8541.43.00.

[3] Importer questionnaire data is supplemented throughout part 4 using proprietary, Census-edited Customs' import records, (except for cumulation consideration tables), to account for non-responding firms.

Staff made several attempts to obtain responses from U.S. importers *** which together account for approximately *** percent of imports from Indonesia in 2025, but the firms did not respond. See also Staff telephone log of August 5, 2025. *** a U.S. importer from Laos, confirmed receipt of the Commission questionnaire but did not provide a response. Email from ***, August 3, 2025. *** headquartered in Cambodia, reported that the firm has ceased operations and will not participate in the investigations. Email from ***, July 31, 2025.

[4] Moreover, the following firms submitted responses certifying that they had not imported CSPV cells and modules since January 1, 2023: ***. Also, *** reported that the firm was unable to provide a response due to bankruptcy proceedings in its headquarters in Singapore. Voice message from ***, Advisor for ***, April 22, 2026 stated that they did not import the in-scope product during the period of data collection.

Table 4.1 lists all responding U.S. importers of CSPV cells and modules from India, Indonesia, Laos, and other sources, their locations, and their shares of U.S. imports, in 2025.

Table 4.1 CSPV cells and modules: U.S. importers, their headquarters, and share of imports within each source, 2025

Share in percent

Firm	Headquarters	India	Indonesia	Laos
Acciona	Chicago, IL	***	***	***
Bintan Cellular	Riau Islands Province, Indonesia	***	***	***
BYD	Pasadena, CA	***	***	***
CS Power Systems	Walnut Creek, CA	***	***	***
Energon	Houston, TX	***	***	***
First Solar	Phoenix, AZ	***	***	***
Hanwha America	Irvine, CA	***	***	***
Hanwha Dalton	Dalton, GA	***	***	***
Hanwha USA	Irvine, CA	***	***	***
Hanwha White	White, GA	***	***	***
Heliene	Sault Ste. Marie, ON	***	***	***
Hounen SC	Orangeburg, SC	***	***	***
Hounen Solar CA	Chino, CA	***	***	***
Hyundai	Seongnam-Si, Korea	***	***	***
Illuminate	Pataskala, OH	***	***	***
Independent Pump	Farmington, NM	***	***	***
Invenergy	Chicago, IL	***	***	***
JA Solar	San Jose, CA	***	***	***
JA Solar USA	San Jose, CA	***	***	***
JerryP	Albany, OR	***	***	***
Jinko Solar Industries	Jacksonville, FL	***	***	***
Jinko Solar US	Campbell, CA	***	***	***
LONGi	San Ramon, CA	***	***	***
Merlin	San Jose, CA	***	***	***
Mundra Solar Energy	Taluka Mundra, India	***	***	***
Mundra Solar PV	Ahmadabad, India	***	***	***

Table continued.

Table 4.1 (Continued), CSPV cells and modules: U.S. importers, their headquarters, and share of imports within each source, 2025

Share in percent

Firm	Headquarters	India	Indonesia	Laos
New Energy	Houston, TX	***	***	***
NextEra	Juno Beach, FL	***	***	***
Omni Pro	Addison, TX	***	***	***
Origis	Miami, FL	***	***	***
Orsini	Hong Kong, HK	***	***	***
PowerFilm	Ames, IA	***	***	***
Premier Energies	Hyderabad, TS, India	***	***	***
REC Americas	San Luis Obispo, CA	***	***	***
Recurrent Energy	Austin, TX	***	***	***
Runergy USA Trading	City of Industry, CA	***	***	***
SEG Manufacturing	Houston, TX	***	***	***
Solarmax	Riverside, CA	***	***	***
T1 Energy	Austin, TX	***	***	***
Talesun	Pluakdaeng, Thailand	***	***	***
Tech-Seal	Houston, TX	***	***	***
Tesla	Austin, TX	***	***	***
Trina Solar	Fremont, CA	***	***	***
TXAM Pumps	Houston, TX	***	***	***
Vietnam Sunergy	Bac Ninh, Vietnam	***	***	***
Waaree Energies	Navsari, GJ, India	***	***	***
Worksport	West Seneca, NY	***	***	***
ZY International	Greenville, SC	***	***	***
All other firms	Various	***	***	***
All firms	Various	100.0	100.0	100.0

Table continued.

Table 4.1 (Continued) CSPV cells and modules: U.S. importers, their headquarters, and share of imports within each source, 2025

Share in percent

Firm	Headquarters	Subject sources	Recent order sources	All other sources	Nonsubject sources	All import sources
Acciona	Chicago, IL	***	***	***	***	***
Bintan Cellular	Riau Islands Province, Indonesia	***	***	***	***	***
BYD	Pasadena, CA	***	***	***	***	***
CS Power Systems	Walnut Creek, CA	***	***	***	***	***
Energon	Houston, TX	***	***	***	***	***
First Solar	Phoenix, AZ	***	***	***	***	***
Hanwha America	Irvine, CA	***	***	***	***	***
Hanwha Dalton	Dalton, GA	***	***	***	***	***
Hanwha USA	Irvine, CA	***	***	***	***	***
Hanwha White	White, GA	***	***	***	***	***
Heliene	Sault Ste. Marie, ON	***	***	***	***	***
Hounen SC	Orangeburg, SC	***	***	***	***	***
Hounen Solar CA	Chino, CA	***	***	***	***	***
Hyundai	Seongnam-Si, Korea	***	***	***	***	***
Illuminate	Pataskala, OH	***	***	***	***	***
Independent Pump	Farmington, NM	***	***	***	***	***
Invenergy	Chicago, IL	***	***	***	***	***
JA Solar	San Jose, CA	***	***	***	***	***
JA Solar USA	San Jose, CA	***	***	***	***	***
JerryP	Albany, OR	***	***	***	***	***
Jinko Solar Industries	Jacksonville, FL	***	***	***	***	***
Jinko Solar US	Campbell, CA	***	***	***	***	***
LONGi	San Ramon, CA	***	***	***	***	***
Merlin	San Jose, CA	***	***	***	***	***
Mundra Solar Energy	Taluka Mundra, India	***	***	***	***	***
Mundra Solar PV	Ahmadabad, India	***	***	***	***	***

Table continued.

Table 4.1 (Continued), CSPV cells and modules: U.S. importers, their headquarters, and share of imports within each source, 2025

Share in percent

Firm	Headquarters	Subject sources	Recent order sources	All other sources	Nonsubject sources	All import sources
New Energy	Houston, TX	***	***	***	***	***
NextEra	Juno Beach, FL	***	***	***	***	***
Omni Pro	Addison, TX	***	***	***	***	***
Origis	Miami, FL	***	***	***	***	***
Orsini	Hong Kong, HK	***	***	***	***	***
PowerFilm	Ames, IA	***	***	***	***	***
Premier Energies	Hyderabad, TS, India	***	***	***	***	***
REC Americas	San Luis Obispo, CA	***	***	***	***	***
Recurrent Energy	Austin, TX	***	***	***	***	***
Runergy USA Trading	City of Industry, CA	***	***	***	***	***
SEG Manufacturing	Houston, TX	***	***	***	***	***
Solarmax	Riverside, CA	***	***	***	***	***
T1 Energy	Austin, TX	***	***	***	***	***
Talesun	Pluakdaeng, Thailand	***	***	***	***	***
Tech-Seal	Houston, TX	***	***	***	***	***
Tesla	Austin, TX	***	***	***	***	***
Trina Solar	Fremont, CA	***	***	***	***	***
TXAM Pumps	Houston, TX	***	***	***	***	***
Vietnam Sunergy	Bac Ninh, Vietnam	***	***	***	***	***
Waaree Energies	Navsari, GJ, India	***	***	***	***	***
Worksport	West Seneca, NY	***	***	***	***	***
ZY International	Greenville, SC	***	***	***	***	***
All other firms	Various	***	***	***	***	***
All firms	Various	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “—“. Data for all other firms are related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire.

Note: Recent order sources include Cambodia, Malaysia, Thailand, and Vietnam.

U.S. imports

Tables 4.2 through 4.5 and figure 4.1 present data for U.S. imports of CSPV cells and modules from India, Indonesia, and Laos and all other sources. Between 2023 and 2025, imports of CSPV cells and modules from aggregated subject sources increased overall by *** percent by quantity, with most of the combined growth occurring from 2024 to 2025, and were lower in interim 2026 by *** percent compared to interim 2025. By quantity, subject imports accounted for *** percent of total CSPV cells and modules imports in 2025, with Indonesia accounting for the largest share, followed by Laos and a *** percentage by India. While U.S. imports from India steadily decreased from 2023 to 2025 and were lower in interim 2026 than in interim 2025, imports from Indonesia increased from 2023 to 2025 by *** percent with the largest increase from 2024 to 2025[5]. Imports from Indonesia were also higher in interim 2026 than in interim 2025. Laos entered the market after the first quarter of 2024 and also increased every year, peaking in 2025, but were lower in interim 2026 than in interim 2025. Imports of CSPV cells and modules from combined subject sources by value had similar trends, except values for Indonesia decreased from 2023 to 2024. Overall, U.S. imports of CSPV cells and modules from nonsubject sources, primarily Vietnam, Thailand, and Malaysia, increased from 2023 to 2024, then decreased in 2025 by quantity. Imports from nonsubject sources were lower in interim 2026 than in interim 2025, although they remained the largest source during interim periods. Nonsubject imports decreased by value from 2023 to 2025 but were higher in interim 2026 than in interim 2025.

The unit values of imports of CSPV cells and modules from subject sources decreased overall between 2023 and 2025 and were lower in interim 2026 than in interim 2025. Unit values for nonsubject sources also decreased from 2023 to 2025 but were higher in interim 2026 than in interim 2025. The unit value for imports of CSPV cells and modules from all sources were similar to those of nonsubject sources. India had the highest unit values in all periods.

The ratio of combined subject imports to U.S. production decreased irregularly from *** percent in 2023 to *** percent in 2025, and was lower in interim 2026 than in interim 2025. The ratio of nonsubject imports to U.S. production decreased from *** percent in 2023 to *** percent in 2025, and was lower in interim 2026 than in interim 2025.

[5] *** had the largest increase in import quantities from combined subject sources from 2024 and 2025, accounting for approximately *** percent of the increase in quantity during that period.

Table 4.2 CSPV cells and modules: U.S. imports by source and period

Quantity in kilowatts; value in 1,000 dollars; unit value in dollars per kilowatts; interim is January through March

Source	Measure	2023	2024	2025	Interim 2025	Interim 2026
India	Quantity	***	***	***	***	***
Indonesia	Quantity	***	***	***	***	***
Laos	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Recent order sources	Quantity	***	***	***	***	***
All other sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
India	Value	***	***	***	***	***
Indonesia	Value	***	***	***	***	***
Laos	Value	***	***	***	***	***
Subject sources	Value	***	***	***	***	***
Recent order sources	Value	***	***	***	***	***
All other sources	Value	***	***	***	***	***
Nonsubject sources	Value	***	***	***	***	***
All import sources	Value	***	***	***	***	***
India	Unit value	***	***	***	***	***
Indonesia	Unit value	***	***	***	***	***
Laos	Unit value	***	***	***	***	***
Subject sources	Unit value	***	***	***	***	***
Recent order sources	Unit value	***	***	***	***	***
All other sources	Unit value	***	***	***	***	***
Nonsubject sources	Unit value	***	***	***	***	***
All import sources	Unit value	***	***	***	***	***

Table continued.

Table 4.2 (Continued) CSPV cells and modules: Share of U.S. imports by source and period

Shares and ratio in percent; interim is January through March

Source	Measure	2023	2024	2025	Interim 2025	Interim 2026
India	Share of quantity	***	***	***	***	***
Indonesia	Share of quantity	***	***	***	***	***
Laos	Share of quantity	***	***	***	***	***
Subject sources	Share of quantity	***	***	***	***	***
Recent order sources	Share of quantity	***	***	***	***	***
All other sources	Share of quantity	***	***	***	***	***
Nonsubject sources	Share of quantity	***	***	***	***	***
All import sources	Share of quantity	100.0	100.0	100.0	100.0	100.0
India	Share of value	***	***	***	***	***
Indonesia	Share of value	***	***	***	***	***
Laos	Share of value	***	***	***	***	***
Subject sources	Share of value	***	***	***	***	***
Recent order sources	Share of value	***	***	***	***	***
All other sources	Share of value	***	***	***	***	***
Nonsubject sources	Share of value	***	***	***	***	***
All import sources	Share of value	100.0	100.0	100.0	100.0	100.0
India	Ratio	***	***	***	***	***
Indonesia	Ratio	***	***	***	***	***
Laos	Ratio	***	***	***	***	***
Subject sources	Ratio	***	***	***	***	***
Recent order sources	Ratio	***	***	***	***	***
All other sources	Ratio	***	***	***	***	***
Nonsubject sources	Ratio	***	***	***	***	***
All import sources	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records, using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “—“. Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included.

Note: Share of quantity is the share of U.S. imports by quantity; share of value is the share of U.S. imports by value; ratio are U.S. imports to production.

Note: Recent order sources include Cambodia, Malaysia, Thailand, and Vietnam.

Note: To correct minor reporting inconsistencies, data were adjusted for the following firms: ***.

Figure 4.1 CSPV cells and modules: U.S. import quantities and average unit values, by source and period

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included.

Figure 4.2 CSPV cells and modules: U.S. import quantities, by source and period

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included.

Note: Recent order sources include Cambodia, Malaysia, Thailand, and Vietnam.

Table 4.3 CSPV cells and modules: Changes in U.S. imports, by source and period

Changes (Δ) in percent (%)

Source	Measure	2023 to 2025	2023 to 2024	2024 to 2025	Interim 2025 to 2026
India	%Δ Quantity	▼***	▼***	▼***	▼***
Indonesia	%Δ Quantity	▲***	▲***	▲***	▲***
Laos	%Δ Quantity	▲***	▲***	▲***	▼***
Subject sources	%Δ Quantity	▲***	▲***	▲***	▼***
Recent order sources	%Δ Quantity	▼***	▲***	▼***	▼***
All other sources	%Δ Quantity	▼***	▼***	▼***	▲***
Nonsubject sources	%Δ Quantity	▼***	▲***	▼***	▼***
All import sources	%Δ Quantity	▼***	▲***	▼***	▼***
India	%Δ Value	▼***	▼***	▼***	▼***
Indonesia	%Δ Value	▲***	▼***	▲***	▲***
Laos	%Δ Value	▲***	▲***	▲***	▼***
Subject sources	%Δ Value	▲***	▼***	▲***	▼***
Recent order sources	%Δ Value	▼***	▼***	▼***	▼***
All other sources	%Δ Value	▼***	▼***	▼***	▲***
Nonsubject sources	%Δ Value	▼***	▼***	▼***	▲***
All import sources	%Δ Value	▼***	▼***	▼***	▼***
India	%Δ Unit value	▼***	▼***	▼***	▲***
Indonesia	%Δ Unit value	▼***	▼***	▼***	▼***
Laos	%Δ Unit value	▲***	▲***	▼***	▼***
Subject sources	%Δ Unit value	▼***	▼***	▼***	▼***
Recent order sources	%Δ Unit value	▼***	▼***	▼***	▲***
All other sources	%Δ Unit value	▼***	▼***	▼***	▲***
Nonsubject sources	%Δ Unit value	▼***	▼***	▼***	▲***
All import sources	%Δ Unit value	▼***	▼***	▼***	▲***

Table continued.

Table 4.3 (Continued) CSPV cells and modules: Changes in U.S. imports, by source and period

Changes (Δ) in percentage point

Source	Measure	2023 to 2025	2023 to 2024	2024 to 2025	Interim 2025 to 2026
India	ppt Δ Quantity	▼***	▼***	▼***	▼***
Indonesia	ppt Δ Quantity	▲***	▲***	▲***	▲***
Laos	ppt Δ Quantity	▲***	▲***	▲***	▼***
Subject sources	ppt Δ Quantity	▲***	▲***	▲***	▼***
Recent order sources	ppt Δ Quantity	▼***	▲***	▼***	▼***
All other sources	ppt Δ Quantity	▼***	▼***	▼***	▲***
Nonsubject sources	ppt Δ Quantity	▼***	▼***	▼***	▲***
All import sources	ppt Δ Quantity	***	***	***	***
India	ppt Δ Value	▼***	▼***	▼***	▼***
Indonesia	ppt Δ Value	▲***	▲***	▲***	▲***
Laos	ppt Δ Value	▲***	▲***	▲***	▼***
Subject sources	ppt Δ Value	▲***	▲***	▲***	▼***
Recent order sources	ppt Δ Value	▼***	▲***	▼***	▼***
All other sources	ppt Δ Value	▼***	▼***	▲***	▲***
Nonsubject sources	ppt Δ Value	▼***	▼***	▼***	▲***
All import sources	ppt Δ Value	***	***	***	***
India	ppt Δ Ratio	▼***	▼***	▼***	▼***
Indonesia	ppt Δ Ratio	▲***	▼***	▲***	▲***
Laos	ppt Δ Ratio	▲***	▲***	▲***	▼***
Subject sources	ppt Δ Ratio	▼***	▼***	▲***	▼***
Recent order sources	ppt Δ Ratio	▼***	▼***	▼***	▼***
All other sources	ppt Δ Ratio	▼***	▼***	▼***	▲***
Nonsubject sources	ppt Δ Ratio	▼***	▼***	▼***	▼***
All import sources	ppt Δ Ratio	▼***	▼***	▼***	▼***

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Changes shown as “0.0” percent represent non-zero values less than “0.05” percent (if positive) and greater than “(0.05)” percent (if negative). Zeroes, null values, and undefined calculations are suppressed and shown as “—“. Period changes preceded by a “▲” represent an increase, while period changes preceded by a “▼” represent a decrease. Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included. The percent changes for Laos off of 2023 as a base year have been suppressed ("Supp") due to the small quantity and value imported in that year resulting in non-meaningful percent changes.

Table 4.4 CSPV cells and modules: U.S. imports from nonsubject sources, by source and period

Quantity in kilowatts; value in 1,000 dollars; unit values in dollars per kilowatt; share in percent; interim period is January to March

Source	Measure	2023	2024	2025	Interim 2025	Interim 2026
Recent order sources	Quantity	***	***	***	***	***
China and/or Taiwan (including circumventing merchandise)	Quantity	***	***	***	***	***
South Korea	Quantity	***	***	***	***	***
All other sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
Recent order sources	Value	***	***	***	***	***
China and/or Taiwan (including circumventing merchandise)	Value	***	***	***	***	***
South Korea	Value	***	***	***	***	***
All other sources	Value	***	***	***	***	***
Nonsubject sources	Value	***	***	***	***	***
Recent order sources	Unit value	***	***	***	***	***
China and/or Taiwan (including circumventing merchandise)	Unit value	***	***	***	***	***
South Korea	Unit value	***	***	***	***	***
All other sources	Unit value	***	***	***	***	***
Nonsubject sources	Unit value	***	***	***	***	***
Recent order sources	Share of quantity	***	***	***	***	***
China and/or Taiwan (including circumventing merchandise)	Share of quantity	***	***	***	***	***
South Korea	Share of quantity	***	***	***	***	***
All other sources	Share of quantity	***	***	***	***	***
Nonsubject sources	Share of quantity	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Share of quantity is out of U.S. imports as shown in table 4.2. Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included.

Table 4.5 CSPV cells and modules: U.S. imports from nonsubject sources, by source and period

Quantity in kilowatts; ratio in percent; interim period is January to March

Source	Measure	2023	2024	2025	Interim 2025	Interim 2026
India	Quantity	***	***	***	***	***
Indonesia	Quantity	***	***	***	***	***
Laos	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Recent order sources	Quantity	***	***	***	***	***
All other sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
India	Ratio	***	***	***	***	***
Indonesia	Ratio	***	***	***	***	***
Laos	Ratio	***	***	***	***	***
Subject sources	Ratio	***	***	***	***	***
Recent order sources	Ratio	***	***	***	***	***
All other sources	Ratio	***	***	***	***	***
Nonsubject sources	Ratio	***	***	***	***	***
All import sources	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Ratios are calculated as the quantity of imports by U.S. producers and their affiliates relative to U.S. imports as shown in table 4.2. Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included in table 4.2.

Negligibility

The statute requires that an investigation be terminated without an injury determination if imports of the subject merchandise are found to be negligible.[6] Negligible imports are generally defined in the Act, as amended, as imports from a country of merchandise corresponding to a domestic like product where such imports account for less than 3 percent of the volume of all such merchandise imported into the United States in the most recent 12-month period for which data are available that precedes the filing of the petition or the initiation of the investigation. However, if there are imports of such merchandise from a number of countries subject to investigations initiated on the same day that individually account for less than 3 percent of the total volume of the subject merchandise, and if the imports from those countries collectively account for more than 7 percent of the volume of all such merchandise imported into the United States during the applicable 12-month period, then imports from such countries are deemed not to be negligible.[7] Imports from India, Indonesia, and Laos accounted for *** percent, *** percent, and *** percent respectively of total imports of CSPV cells and modules by quantity from July 2024 through June 2025.[8] [9]

[6] Sections 703(a)(1), 705(b)(1), 733(a)(1), and 735(b)(1) of the Act (19 U.S.C. §§ 1671b(a)(1), 1671d(b)(1), 1673b(a)(1), and 1673d(b)(1)).

[7] Section 771 (24) of the Act (19 U.S.C § 1677(24)).

[8] These data include the proprietary Census-edited Customs records from firms that did not respond to Commission's questionnaires.

[9] Based on data submitted in response to Commission questionnaires without the supplemental data compiled from proprietary Census-edited Customs data from non-responding firms, the share of quantity for imports were 2.99 percent for India, 10.6 percent for Indonesia, and 15.4 percent for Laos. These data are likely understated because they do not include imports of CSPV cells and modules from importers that did not provide a questionnaire response. As shown in table 4.1, the quantity of imports compiled from Census-edited Customs records for "all other firms" from which the Commission did not receive a questionnaire response, ranged from approximately one tenth to a quarter of the imports from any individual source in 2025.

Based on official Commerce statistics adjusted to (1) remove data for firms that certified that they had not imported CSPV cells and modules since January 1, 2023 and (2) to reclassify one U.S. importer's (***) imports from India to Indonesia to reflect their questionnaire response, the share of the quantity of imports were *** percent for India, *** percent for Indonesia, and *** percent for Laos.

Table 4.6 CSPV cells and modules: U.S. imports in the twelve-month period preceding the filing of the petition, July 2024 through June 2025

Quantity in kilowatts; share in percent

Source of imports	Quantity	Share of quantity
India	***	***
Indonesia	***	***
Laos	***	***
Nonsubject sources	***	***
All import sources	***	100.0

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Critical circumstances

On February 26, 2026 and April 28, 2026, Commerce issued its preliminary affirmative determinations that "critical circumstances" exist with regard to subsidized and LTFV imports of subject merchandise from India and Indonesia, LTFV imports of subject merchandise from Laos but do not exist for subsidized imports of subject merchandise from Laos.[10] On September 16, 2026, Commerce issued its final affirmative determinations that critical circumstances exist for subsidized and LTFV imports of subject merchandise from India, Indonesia, and Laos.[11]

Specifically, on February 26, 2026, Commerce preliminarily determined that critical circumstances exist with respect to subsidized imports of CSPV products from India for Mundra Solar Energy Limited (Mundra Solar Energy) and Mundra Solar PV Limited (Mundra Solar PV), but that critical circumstances do not exist for all other producers and/or exporters.[12] On September 16, 2026, Commerce continued to find that critical circumstances exist for Mundra Solar Energy and Mundra Solar PV, and that critical circumstances do not exist for all other producers and/or exporters of CSPV products from India. In this investigation, if both Commerce and the Commission make affirmative final critical circumstances determinations, certain subject imports may be subject to countervailing duties retroactive by 90 days from February 26, 2026, the effective date of Commerce's preliminary affirmative CVD determination.

On April 28, 2026, Commerce issued its preliminary determination that critical circumstances exist in regard to imports of subject merchandise sold at LTFV from India for Mundra Solar Energy, Mundra Solar PV, Kowa, and Premier Energies, and that critical circumstances do not exist for all other exporters and producers of the subject merchandise.[13] On September 16, 2026, Commerce continued to find that critical circumstances exist for imports of CSPV products from India produced and/or exported by Mundra Solar Energy,

[10] 91 FR 9555, February 26, 2026; 91 FR 22798, April 28, 2026; 91 FR 9564, February 26, 2026; 91 FR 22802, April 28, 2026; 91 FR 9568, February 26, 2026; and 91 FR 22794, April 28, 2026. When petitioners file timely allegations of critical circumstances, Commerce examines whether there is a reasonable basis to believe or suspect that (1) either there is a history of dumping and material injury by reason of dumped imports in the United States or elsewhere of the subject merchandise, or the person by whom, or for whose account, the merchandise was imported knew or should have known that the exporter was selling the subject merchandise at LTFV and that there was likely to be material injury by reason of such sales; and (2) there have been massive imports of the subject merchandise over a relatively short period.

[11] 91 FR 58643, 91 FR 58647, 91 FR 58638, 91 FR 58658, 91 FR 58651, and 91 FR 58633, September 16, 2026.

[12] 91 FR 9555, February 26, 2026.

[13] 91 FR 22798, April 28, 2026.

Mundra Solar PV, Kowa, and Premier Energies, and that critical circumstances do not exist for all other exporters and producers of CSPV products. In this investigation, if both Commerce and the Commission make affirmative final critical circumstances determinations, certain subject imports may be subject to antidumping duties retroactive by 90 days from April 28, 2026, the effective date of Commerce's preliminary affirmative LTFV determination.[14]

On February 26, 2026, Commerce issued its preliminary determination, in part, as facts available with adverse inferences, that critical circumstances exist with respect to subsidized imports from Indonesia of CSPV products for PT Blue Sky Solar Indonesia (Blue Sky) and all other exporters and/or producers not individually examined but do not exist with respect to PT REC Solar Energy Indonesia (REC Solar).[15] On September 16, 2026, Commerce continued to find that critical circumstances exist for imports of CSPV products from Blue Sky and all other producers and/or exporters of CSPV products from Indonesia, except for REC Solar, for which critical circumstances do not exist. In this investigation, if both Commerce and the Commission make affirmative final critical circumstances determinations, certain subject imports may be subject to countervailing duties retroactive by 90 days from February 26, 2026, the effective date of Commerce's preliminary affirmative CVD determination.

On April 28, 2026, Commerce preliminarily determined that critical circumstances do not exist for Blue Sky and PT REC Solar Energy Indonesia (REC Solar), and that critical circumstances exist for all other producers and/or exporters of LTFV CSPV products from Indonesia.[16] On September 16, 2026, Commerce found that critical circumstances exist for imports of CSPV products from Indonesia produced and/or exported by Blue Sky and REC Solar. In addition, Commerce continued to find that critical circumstances exist for imports of the subject merchandise from Indonesia produced and/or exported by all other producers and/or exporters. In this investigation, if both Commerce and the Commission make affirmative final critical circumstances determinations, certain subject imports may be subject to antidumping duties retroactive by 90 days from April 28, 2026, the effective date of Commerce's preliminary affirmative LTFV determination.

On February 26, 2026, Commerce issued its preliminary determination that critical circumstances did not exist with respect to imports of subject merchandise from mandatory respondent Vietnam Sunergy Joint Stock Company (VSUN), Solarspace Laos, and all other producers and/or exporters not individually examined. On September 16, 2026, Commerce continued to find that critical circumstances do not exist for Solarspace Laos. However,

[14] 91 FR 22798, April 28, 2026.
[15] 91 FR 9564, February 26, 2026.
[16] 91 FR 22802, April 28, 2026.

Commerce found that critical circumstances exist with respect to imports from VSUN and all other producers and/or exporters.

On April 28, 2026 Commerce preliminarily determined that critical circumstances exist with respect to LTFV imports of CSPV products from Laos for the separate-rate companies and the Laos wide entity, but do not exist for Solarspace Technology (Laos) Sole Co., Ltd (Solarspace).[17] On September 16, 2026 Commerce's final determination was unchanged, except that it determined to treat Solarspace and SolarSpace Technology (Hong Kong) Limited (SolarSpace Hong Kong) as a single entity. As a result, Commerce is no longer treating SolarSpace Hong Kong individually as a separate-rate company, but as part of a single entity with Solarspace (Solarspace/SolarSpace Hong Kong). Therefore, Commerce continued to find that critical circumstances exist for the separate-rate companies and the Laoswide entity, but do not exist for Solarspace/SolarSpace Hong Kong. In this investigation, if both Commerce and the Commission make affirmative final critical circumstances determinations, certain subject imports may be subject to antidumping duties retroactive by 90 days from April 28, 2026, the effective date of Commerce's preliminary affirmative LTFV determination.[18]

Tables 4.7 through 4.16 and figures 4.3 through 4.7 present this data.

[17] 91 FR 22794, April 28, 2026.

[18] On February 26, 2026, Commerce preliminarily determined that critical circumstances do not exist with respect to subsidized imports of CSPV products from Laos. 91 FR 9568, February 26, 2026.

Table 4.7 CSPV cells and modules: U.S. imports from India subject to affirmative Commerce critical circumstances final determination in the AD investigation, by month

Quantity in kilowatts

Month	Relation to petition	Cells quantity	Modules quantity	Cells and modules quantity
February 2025	Before	***	***	***
March 2025	Before	***	***	***
April 2025	Before	***	***	***
May 2025	Before	***	***	***
June 2025	Before	***	***	***
July 2025	Before	***	***	***
August 2025	After	***	***	***
September 2025	After	***	***	***
October 2025	After	***	***	***
November 2025	After	***	***	***
December 2025	After	***	***	***
January 2026	After	***	***	***

Table continued.

Table 4.7 (Continued) CSPV cells and modules: U.S. imports from India subject to affirmative Commerce critical circumstances final determination in the AD investigation, by differing number of months before and after the filing of the petition

Quantity in kilowatts

Comparison pre-post petition period	Product	Cumulative before period quantity	Cumulative after period quantity	Difference in percent
1 month	CSPV cells	***	***	***
2 months	CSPV cells	***	***	***
3 months	CSPV cells	***	***	***
4 months	CSPV cells	***	***	***
5 months	CSPV cells	***	***	***
6 months	CSPV cells	***	***	***
1 month	CSPV modules	***	***	***
2 months	CSPV modules	***	***	***
3 months	CSPV modules	***	***	***
4 months	CSPV modules	***	***	***
5 months	CSPV modules	***	***	***
6 months	CSPV modules	***	***	***
1 month	CSPV cells and modules	***	***	***
2 months	CSPV cells and modules	***	***	***
3 months	CSPV cells and modules	***	***	***
4 months	CSPV cells and modules	***	***	***
5 months	CSPV cells and modules	***	***	***
6 months	CSPV cells and modules	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary,

Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Imports from Mundra Solar Energy, Mundra Solar PV, Kowa, and Premier Energies from India in the AD investigations are subject to the affirmative preliminary Commerce critical circumstances determinations. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included.

Figure 4.3 CSPV cells and modules: U.S. imports from India subject to affirmative Commerce critical circumstances final determination in the AD investigation, by month

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Imports from Mundra Solar Energy, Mundra Solar PV, Kowa, and Premier Energies from India in the AD investigations are subject to the affirmative final Commerce critical circumstances determinations. Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included.

Table 4.8 CSPV cells and modules: U.S. importers' U.S. inventories of imports from India for analysis in relation to affirmative Commerce critical circumstances determination in the AD investigation, by date

Quantity in kilowatts; Index in percent where July 31, 2025 = 100.0 percent

Date	Cells quantity	Modules quantity	Cells and modules quantity	Cells and modules index
July 31, 2025	***	***	***	100.0
August 31, 2025	***	***	***	***
September 30, 2025	***	***	***	***
October 31, 2025	***	***	***	***
November 30, 2025	***	***	***	***
December 31, 2025	***	***	***	***
January 31, 2026	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Imports from Mundra Solar Energy, Mundra Solar PV, Kowa, and Premier Energies from India in the AD investigations are subject to the affirmative final Commerce critical circumstances determinations. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 4.9 CSPV cells and modules: U.S. imports from India subject to affirmative Commerce critical circumstances final determination in the CVD investigation, by month

Quantity in kilowatts

Month	Relation to petition	Cells quantity	Modules quantity	Cells and modules quantity
February 2025	Before	***	***	***
March 2025	Before	***	***	***
April 2025	Before	***	***	***
May 2025	Before	***	***	***
June 2025	Before	***	***	***
July 2025	Before	***	***	***
August 2025	After	***	***	***
September 2025	After	***	***	***
October 2025	After	***	***	***
November 2025	After	***	***	***
December 2025	After	***	***	***
January 2026	After	***	***	***

Table continued.

Table 4.9 (Continued) CSPV cells and modules: U.S. imports from India subject to affirmative Commerce critical circumstances final determination in the CVD investigation, by differing number of months before and after the filing of the petition

Quantity in kilowatts

Comparison pre-post petition period	Product	Cumulative before period quantity	Cumulative after period quantity	Difference in percent
1 month	CSPV cells	***	***	***
2 months	CSPV cells	***	***	***
3 months	CSPV cells	***	***	***
4 months	CSPV cells	***	***	***
5 months	CSPV cells	***	***	***
6 months	CSPV cells	***	***	***
1 month	CSPV modules	***	***	***
2 months	CSPV modules	***	***	***
3 months	CSPV modules	***	***	***
4 months	CSPV modules	***	***	***
5 months	CSPV modules	***	***	***
6 months	CSPV modules	***	***	***
1 month	CSPV cells and modules	***	***	***
2 months	CSPV cells and modules	***	***	***
3 months	CSPV cells and modules	***	***	***
4 months	CSPV cells and modules	***	***	***
5 months	CSPV cells and modules	***	***	***
6 months	CSPV cells and modules	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Imports from Mundra Solar Energy and Mundra Solar PV from India in the CVD investigations are subject to the affirmative final Commerce critical circumstances determinations. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “—“. Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included.

Figure 4.4 CSPV cells and modules: U.S. imports from India subject to affirmative Commerce critical circumstances preliminary determinations in the CVD investigation, by month

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Imports from Mundra Solar Energy and Mundra Solar PV from India in the CVD investigations are subject to the affirmative final Commerce critical circumstances determinations. Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included.

Table 4.10 CSPV cells and modules: U.S. importers' U.S. inventories of imports from India for analysis in relation to affirmative Commerce critical circumstances determination in the CVD investigation, by date

Quantity in kilowatts; Index in percent where July 31, 2025 = 100.0 percent

Date	Cells quantity	Modules quantity	Cells and modules quantity	Cells and modules index
July 31, 2025	***	***	***	100.0
August 31, 2025	***	***	***	***
September 30, 2025	***	***	***	***
October 31, 2025	***	***	***	***
November 30, 2025	***	***	***	***
December 31, 2025	***	***	***	***
January 31, 2026	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Imports from Mundra Solar Energy and Mundra Solar PV from India in the CVD investigations are subject to the affirmative final Commerce critical circumstances determinations. Shares and ratios shown

as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “—“.

Table 4.11 CSPV cells and modules: U.S. imports from Indonesia subject to affirmative Commerce critical circumstances final determination in the AD investigation, by month

Quantity in kilowatts

Month	Relation to petition	Cells quantity	Modules quantity	Cells and modules quantity
February 2025	Before	***	***	***
March 2025	Before	***	***	***
April 2025	Before	***	***	***
May 2025	Before	***	***	***
June 2025	Before	***	***	***
July 2025	Before	***	***	***
August 2025	After	***	***	***
September 2025	After	***	***	***
October 2025	After	***	***	***
November 2025	After	***	***	***
December 2025	After	***	***	***
January 2026	After	***	***	***

Table continued.

Table 4.11 (Continued) CSPV cells and modules: U.S. imports from Indonesia subject to affirmative Commerce critical circumstances final determination in the AD investigation, by differing number of months before and after the filing of the petition

Quantity in kilowatts

Comparison pre-post petition period	Product	Cumulative before period quantity	Cumulative after period quantity	Difference in percent
1 month	CSPV cells	***	***	***
2 months	CSPV cells	***	***	***
3 months	CSPV cells	***	***	***
4 months	CSPV cells	***	***	***
5 months	CSPV cells	***	***	***
6 months	CSPV cells	***	***	***
1 month	CSPV modules	***	***	***
2 months	CSPV modules	***	***	***
3 months	CSPV modules	***	***	***
4 months	CSPV modules	***	***	***
5 months	CSPV modules	***	***	***
6 months	CSPV modules	***	***	***
1 month	CSPV cells and modules	***	***	***
2 months	CSPV cells and modules	***	***	***
3 months	CSPV cells and modules	***	***	***
4 months	CSPV cells and modules	***	***	***
5 months	CSPV cells and modules	***	***	***
6 months	CSPV cells and modules	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Imports from all suppliers, including Blue Sky and REC Solar from Indonesia in the AD investigations are subject to the final preliminary Commerce critical circumstances determinations. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included.

Figure 4.5 CSPV cells and modules: U.S. imports from Indonesia subject to affirmative Commerce critical circumstances

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Imports from all suppliers, including Blue Sky and REC Solar from Indonesia in the AD investigations are subject to the affirmative final Commerce critical circumstances determinations. Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included.

Table 4.12 CSPV cells and modules: U.S. importers' U.S. inventories of imports from Indonesia for analysis in relation to affirmative Commerce critical circumstances determination in the AD investigation, by date

Quantity in kilowatts; Index in percent where July 31, 2025 = 100.0 percent

Date	Cells quantity	Modules quantity	Cells and modules quantity	Cells and modules index
July 31, 2025	***	***	***	100.0
August 31, 2025	***	***	***	***
September 30, 2025	***	***	***	***
October 31, 2025	***	***	***	***
November 30, 2025	***	***	***	***
December 31, 2025	***	***	***	***
January 31, 2026	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Imports from all suppliers, including Blue Sky and REC Solar from Indonesia in the AD investigations are subject to the affirmative preliminary Commerce critical circumstances determinations. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “—“.

Table 4.13 CSPV cells and modules: U.S. imports from Indonesia subject to affirmative Commerce critical circumstances final determination in the CVD investigation, by month

Quantity in kilowatts

Month	Relation to petition	Cells quantity	Modules quantity	Cells and modules quantity
February 2025	Before	***	***	***
March 2025	Before	***	***	***
April 2025	Before	***	***	***
May 2025	Before	***	***	***
June 2025	Before	***	***	***
July 2025	Before	***	***	***
August 2025	After	***	***	***
September 2025	After	***	***	***
October 2025	After	***	***	***
November 2025	After	***	***	***
December 2025	After	***	***	***
January 2026	After	***	***	***

Table continued.

Table 4.13 (Continued) CSPV cells and modules: U.S. imports from Indonesia subject to affirmative Commerce critical circumstances final determination in the CVD investigation, by differing number of months before and after the filing of the petition

Quantity in kilowatts

Comparison pre-post petition period	Product	Cumulative before period quantity	Cumulative after period quantity	Difference in percent
1 month	CSPV cells	***	***	***
2 months	CSPV cells	***	***	***
3 months	CSPV cells	***	***	***
4 months	CSPV cells	***	***	***
5 months	CSPV cells	***	***	***
6 months	CSPV cells	***	***	***
1 month	CSPV modules	***	***	***
2 months	CSPV modules	***	***	***
3 months	CSPV modules	***	***	***
4 months	CSPV modules	***	***	***
5 months	CSPV modules	***	***	***
6 months	CSPV modules	***	***	***
1 month	CSPV cells and modules	***	***	***
2 months	CSPV cells and modules	***	***	***
3 months	CSPV cells and modules	***	***	***
4 months	CSPV cells and modules	***	***	***
5 months	CSPV cells and modules	***	***	***
6 months	CSPV cells and modules	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Imports from all suppliers except REC Solar from Indonesia in the CVD investigations are subject to the affirmative final Commerce critical circumstances determinations. Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included.

Figure 4.6 CSPV cells and modules: U.S. imports from Indonesia subject to affirmative Commerce critical circumstances final determination in the CVD investigation, by month

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Imports from all suppliers except REC Solar from Indonesia in the CVD investigations are subject to the affirmative preliminary Commerce critical circumstances determinations. Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included.

Table 4.14 CSPV cells and modules: U.S. importers' U.S. inventories of imports from Indonesia for analysis in relation to affirmative Commerce critical circumstances determination in the CVD investigation, by date

Quantity in kilowatts; Index in percent where July 31, 2025 = 100.0 percent

Date	Cells quantity	Modules quantity	Cells and modules quantity	Cells and modules index
July 31, 2025	***	***	***	100.0
August 31, 2025	***	***	***	***
September 30, 2025	***	***	***	***
October 31, 2025	***	***	***	***
November 30, 2025	***	***	***	***
December 31, 2025	***	***	***	***
January 31, 2026	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Imports from all suppliers except REC Solar from Indonesia in the CVD investigations are subject to the affirmative final Commerce critical circumstances determinations. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 4.15 CSPV cells and modules: U.S. imports from Laos subject to affirmative Commerce critical circumstances final determination in the AD and CVD investigations, by month

Quantity in kilowatts

Month	Relation to petition	Cells quantity	Modules quantity	Cells and modules quantity
February 2025	Before	***	***	***
March 2025	Before	***	***	***
April 2025	Before	***	***	***
May 2025	Before	***	***	***
June 2025	Before	***	***	***
July 2025	Before	***	***	***
August 2025	After	***	***	***
September 2025	After	***	***	***
October 2025	After	***	***	***
November 2025	After	***	***	***
December 2025	After	***	***	***
January 2026	After	***	***	***

Table continued.

Table 4.15 (Continued) CSPV cells and modules: U.S. imports from Laos subject to affirmative Commerce critical circumstances final determination in the AD and CVD investigations, by differing number of months before and after the filing of the petition

Quantity in kilowatts

Comparison pre-post petition period	Product	Cumulative before period quantity	Cumulative after period quantity	Difference in percent
1 month	CSPV cells	***	***	***
2 months	CSPV cells	***	***	***
3 months	CSPV cells	***	***	***
4 months	CSPV cells	***	***	***
5 months	CSPV cells	***	***	***
6 months	CSPV cells	***	***	***
1 month	CSPV modules	***	***	***
2 months	CSPV modules	***	***	***
3 months	CSPV modules	***	***	***
4 months	CSPV modules	***	***	***
5 months	CSPV modules	***	***	***
6 months	CSPV modules	***	***	***
1 month	CSPV cells and modules	***	***	***
2 months	CSPV cells and modules	***	***	***
3 months	CSPV cells and modules	***	***	***
4 months	CSPV cells and modules	***	***	***
5 months	CSPV cells and modules	***	***	***
6 months	CSPV cells and modules	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Imports from all suppliers except Solarspace from Laos in the AD and CVD investigations are subject to the affirmative final Commerce critical circumstances determinations. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “—“. Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included.

Figure 4.7 CSPV cells and modules: U.S. imports from Laos subject to affirmative Commerce critical circumstances final determination in the AD and CVD investigations, by month

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Imports from all suppliers except Solarspace from Laos in both the AD and CVD investigations are subject to the affirmative final Commerce critical circumstances determinations. Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included.

Table 4.16 CSPV cells and modules: U.S. importers' U.S. inventories of imports from Laos for analysis in relation to affirmative Commerce critical circumstances determination in the AD and CVD investigations, by date

Quantity in kilowatts; Index in percent where July 31, 2025 = 100.0 percent

Date	Cells quantity	Modules quantity	Cells and modules quantity	Cells and modules index
July 31, 2025	***	***	***	100.0
August 31, 2025	***	***	***	***
September 30, 2025	***	***	***	***
October 31, 2025	***	***	***	***
November 30, 2025	***	***	***	***
December 31, 2025	***	***	***	***
January 31, 2026	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Imports from all suppliers except Solarspace from Laos in both the AD and CVD investigations are subject to the affirmative final Commerce critical circumstances determinations. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “—“.

Cumulation considerations

In assessing whether imports should be cumulated, the Commission determines whether U.S. imports from the subject countries compete with each other and with the domestic like product and has generally considered four factors: (1) fungibility, (2) presence of sales or offers to sell in the same geographical markets, (3) common or similar channels of distribution, and (4) simultaneous presence in the market. Information regarding channels of distribution, market areas, and interchangeability appears in Part 2. Additional information concerning fungibility, geographical markets, and simultaneous presence in the market is presented below.

Fungibility

Table 4.17 and figure 4.8 present U.S. producers' and U.S. importers' U.S. shipments of CSPV cells by type (bifacial and non-bifacial) and CSPV modules by type (non-bifacial using bifacial cells, non-bifacial using non-bifacial cells, and bifacial using bifacial cells) in 2025.[19] [20] In 2025, the vast majority of U.S. producers' U.S. shipments, U.S. importers' U.S. shipments from individual and aggregate subject sources, were bifacial modules using bifacial cells. Nonsubject sources and countries under recent orders accounted for the majority of importers' U.S. shipments of ***. Nonsubject sources accounted for *** U.S. importers' U.S. shipments of ***. U.S. producers' U.S. shipments and U.S. importers' U.S. shipments from aggregate subject sources nonsubject sources included all three module categories in 2025, ***.

[19] Respondents Mundra Solar PV Limited, Mundra Solar Energy Limited, Waaree Energies Ltd, and Waaree Solar Americas (collectively, Indian Joint Respondents), argued there is no reasonable overlap of competition among subject imports from India and those from Laos and Indonesia explained by (1) the lack of Chinese ownership of Indian entities; (2) the levels of imports on the basis of quantity and value; (3) the pricing trends of the imports; and (4) the existence of a vibrant and growing home market. Indian joint respondents' postconference brief, p. 3. See also Mundra Solar Energy Limited and Mundra Solar PV Limited prehearing brief, pp. 15 through 31.

[20] To correct minor reporting inconsistencies, ***'s U.S. commercial shipment data for CSPV modules from India were based on the firm's responses to U.S. shipments by type and channels of distribution. ***'s U.S. commercial shipment data for CSPV modules from all other sources were based on the firm's reported U.S. import quantities. ***'s U.S. importer questionnaire, sections 2.6a and 2.14a. ***'s channels and U.S. shipments of CSPV cells from Cambodia, Malaysia, Thailand, and Vietnam were based on the firm's reported data for internal consumption. ***'s data for U.S. shipments by type from Cambodia, Malaysia, Thailand, and Vietnam were removed since the firm did not import modules. ***'s U.S. importer questionnaire, sections 2.11a through 2.11c, and 2.12c.

Table 4.17 CSPV cells and modules: U.S. producers' and U.S. importers' U.S. shipments, by source and type, 2025

Quantity in kilowatts

Source	Cells: Non-bifacial cells	Cells: Bifacial cells	Modules: Non-bifacial using bifacial cells	Modules: Non-bifacial using non-bifacial cells	Modules: Bifacial using bifacial cells	All cells and modules
U.S. producers	***	***	***	***	***	***
India	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***
Laos	***	***	***	***	***	***
Subject sources	***	***	***	***	***	***
Recent order sources	***	***	***	***	***	***
All other sources	***	***	***	***	***	***
Nonsubject sources	***	***	***	***	***	***
All import sources	***	***	***	***	***	***
All sources	***	***	***	***	***	***

Table continued.

Table 4.17 (Continued) CSPV cells and modules: U.S. producers' and U.S. importers' U.S. shipments, by source and type, 2025

Share across in percent

Source	Cells: Non-bifacial cells	Cells: Bifacial cells	Modules: Non-bifacial using bifacial cells	Modules: Non-bifacial using non-bifacial cells	Modules: Bifacial using bifacial cells	All cells and modules
U.S. producers	***	***	***	***	***	100.0
India	***	***	***	***	***	100.0
Indonesia	***	***	***	***	***	100.0
Laos	***	***	***	***	***	100.0
Subject sources	***	***	***	***	***	100.0
Recent order sources	***	***	***	***	***	100.0
All other sources	***	***	***	***	***	100.0
Nonsubject sources	***	***	***	***	***	100.0
All import sources	***	***	***	***	***	100.0
All sources	***	***	***	***	***	100.0

Table continued.

Table 4.17 (Continued)CSPV cells and modules: U.S. producers' and U.S. importers' U.S. shipments, by source and type, 2025

Share down in percent

Source	Cells: Non-bifacial cells	Cells: Bifacial cells	Modules: Non-bifacial using bifacial cells	Modules: Non-bifacial using non-bifacial cells	Modules: Bifacial using bifacial cells	All cells and modules
U.S. producers	***	***	***	***	***	***
India	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***
Laos	***	***	***	***	***	***
Subject sources	***	***	***	***	***	***
Recent order sources	***	***	***	***	***	***
All other sources	***	***	***	***	***	***
Nonsubject sources	***	***	***	***	***	***
All import sources	***	***	***	***	***	***
All sources	100.0	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Figure 4.8 CSPV cells and modules: U.S. producers' and U.S. importers' U.S. shipments, by source and type, 2025

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Geographical markets

Table 4.18 presents U.S. imports by source and border of entry in 2025. In 2025, U.S. imports of CSPV cells and modules from India, Indonesia, Laos, and nonsubject sources entered the United States through ports located in all four regions. The largest share of CSPV cells and modules from India entered the United States through ports in the South. Most of CSPV cells and modules from Indonesia, Laos, and combined subject sources entered the United States through ports in the West. The majority of imports of CSPV cells and modules from nonsubject sources entered the United States through ports in the East and the South.

Table 4.18 CSPV cells and modules: U.S. imports, by source and border of entry, 2025

Quantity in kilowatts

Source	East	North	South	West	All borders
India	116,422	374,243	761,778	7,328	1,259,772
Indonesia	3,212,272	1,865,446	4,734,926	8,490,335	18,302,980
Laos	2,324,383	957,487	2,540,308	3,928,460	9,750,638
Subject sources	5,653,077	3,197,177	8,037,012	12,426,123	29,313,389
Nonsubject sources	4,949,339	2,805,770	4,736,018	4,597,961	17,089,088
All import sources	10,602,416	6,002,947	12,773,030	17,024,084	46,402,477

Table continued.

Table 4.18 (Continued) CSPV cells ad modules: U.S. imports, by source and border of entry, 2025

Share across in percent

Source	East	North	South	West	All borders
India	9.2	29.7	60.5	0.6	100.0
Indonesia	17.6	10.2	25.9	46.4	100.0
Laos	23.8	9.8	26.1	40.3	100.0
Subject sources	19.3	10.9	27.4	42.4	100.0
Nonsubject sources	29.0	16.4	27.7	26.9	100.0
All import sources	22.8	12.9	27.5	36.7	100.0

Table continued.

Table 4.18 (Continued) CSPV cells and modules: U.S. imports, by source and border of entry, 2025

Share down in percent

Source	East	North	South	West	All borders
India	1.1	6.2	6.0	0.0	2.7
Indonesia	30.3	31.1	37.1	49.9	39.4
Laos	21.9	16.0	19.9	23.1	21.0
Subject sources	53.3	53.3	62.9	73.0	63.2
Nonsubject sources	46.7	46.7	37.1	27.0	36.8
All import sources	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Presence in the market

Table 4.19 and figures 4.9 and 4.10 present monthly official U.S. import statistics for CSPV cells and modules and subject and nonsubject sources. Imports of CSPV cells and modules from Indonesia, and nonsubject sources were present in every month during January 2023 through March 2026. India's imports of CSPV cells and modules were present in every month, except November 2025. Imports of CSPV cells and modules from Laos started in December 2023 and were present in 27 months of 39 months, during January 2023 through March 2026.

Table 4.19 CSPV cells and modules: U.S. imports from individual subject sources, by month

Quantity in kilowatts

Year	Month	India	Indonesia	Laos
2023	January	71,766	102,902	—
2023	February	55,991	34,762	—
2023	March	119,672	71,793	—
2023	April	108,872	44,700	—
2023	May	132,227	34,154	—
2023	June	162,905	46,742	—
2023	July	208,259	1,723	—
2023	August	293,467	28,737	—
2023	September	386,826	18,381	—
2023	October	283,312	10,298	—
2023	November	132,184	46,323	—
2023	December	93,487	81,338	45
2024	January	100,886	64,652	6,070
2024	February	93,480	126,265	5,174
2024	March	59,794	116,706	1,552
2024	April	179,888	148,078	818
2024	May	573,536	134,404	—
2024	June	329,521	108,660	95
2024	July	184,715	143,302	30,664
2024	August	199,860	86,790	201,326
2024	September	234,925	199,500	262,203
2024	October	76,648	251,888	333,966
2024	November	162,469	232,892	644,476
2024	December	87,707	183,114	447,482

Table continued.

Table 4.19 (Continued) CSPV cells and modules: U.S. imports from individual subject sources, by month

Quantity in kilowatts

Year	Month	India	Indonesia	Laos
2025	January	52,702	346,342	202,717
2025	February	95,993	383,432	404,802
2025	March	123,656	624,833	989,648
2025	April	83,754	869,015	1,107,384
2025	May	287,580	1,531,062	1,593,675
2025	June	355,294	2,126,904	2,263,899
2025	July	194,360	1,777,936	1,280,576
2025	August	62,174	1,214,491	769,606
2025	September	1,027	1,646,398	381,332
2025	October	1,740	1,879,940	261,935
2025	November	—	3,576,156	346,542
2025	December	1,491	2,326,473	148,521
2026	January	572	1,260,903	196,556
2026	February	158	669,499	147,795
2026	March	172	55,003	6,673
2026	April	1,593	34,834	5,290
2026	May	1,350	51,138	9,239

Table continued.

Table 4.19 (Continued) CSPV cells and modules: U.S. imports from aggregated subject and nonsubject sources, by month

Quantity in kilowatts

Year	Month	Subject sources	Nonsubject sources	All import sources
2023	January	174,668	3,382,214	3,556,882
2023	February	90,753	2,926,311	3,017,063
2023	March	191,465	4,012,364	4,203,829
2023	April	153,573	2,824,963	2,978,536
2023	May	166,381	3,515,921	3,682,301
2023	June	209,648	3,486,970	3,696,617
2023	July	209,982	4,219,693	4,429,675
2023	August	322,204	3,915,378	4,237,582
2023	September	405,207	3,780,445	4,185,652
2023	October	293,610	4,423,840	4,717,450
2023	November	178,507	3,518,037	3,696,544
2023	December	174,869	3,658,944	3,833,813
2024	January	171,607	3,953,888	4,125,495
2024	February	224,919	3,937,586	4,162,504
2024	March	178,052	5,364,641	5,542,693
2024	April	328,785	5,219,054	5,547,839
2024	May	707,940	5,093,481	5,801,422
2024	June	438,275	5,534,897	5,973,172
2024	July	358,681	5,574,270	5,932,950
2024	August	487,976	4,798,321	5,286,297
2024	September	696,628	4,465,654	5,162,282
2024	October	662,501	3,517,304	4,179,805
2024	November	1,039,837	3,036,571	4,076,408
2024	December	718,303	1,130,383	1,848,686

Table continued.

Table 4.19 (Continued) CSPV cells and modules: U.S. imports from aggregated subject and nonsubject sources, by month

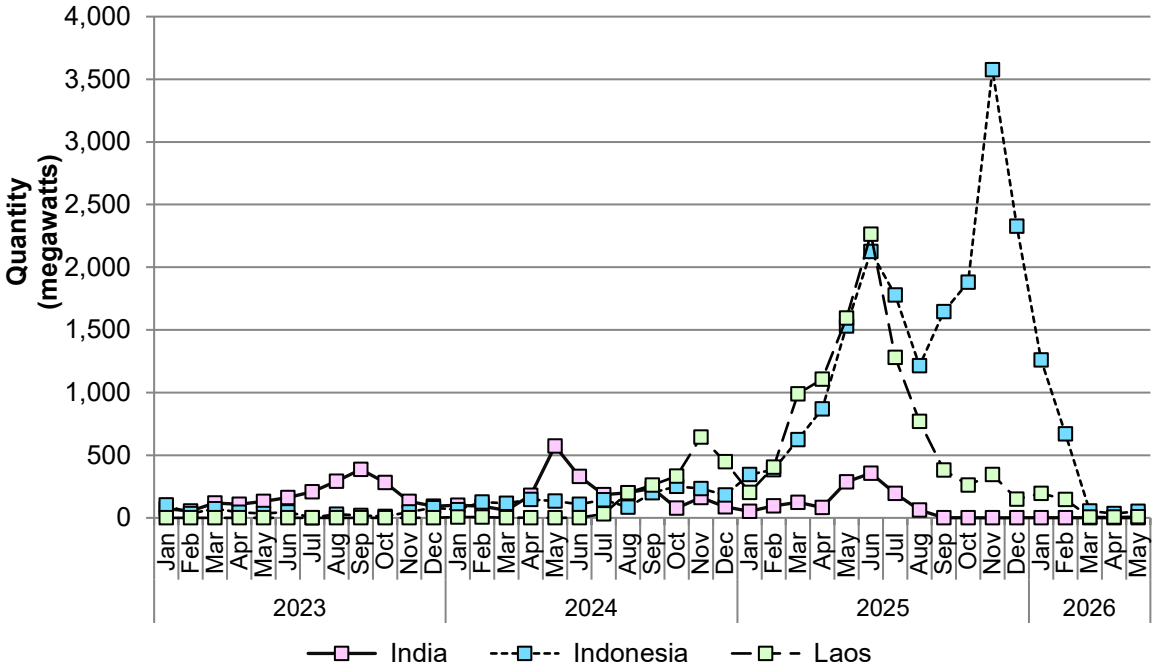
Quantity in kilowatts

Year	Month	Subject sources	Nonsubject sources	All import sources
2025	January	601,761	910,278	1,512,039
2025	February	884,228	2,516,627	3,400,854
2025	March	1,738,138	1,901,425	3,639,562
2025	April	2,060,153	2,306,528	4,366,681
2025	May	3,412,316	3,188,799	6,601,115
2025	June	4,746,096	1,828,589	6,574,685
2025	July	3,252,871	525,564	3,778,435
2025	August	2,046,270	292,093	2,338,363
2025	September	2,028,758	475,423	2,504,181
2025	October	2,143,615	463,126	2,606,741
2025	November	3,922,698	1,861,016	5,783,714
2025	December	2,476,485	819,622	3,296,107
2026	January	1,458,031	877,526	2,335,558
2026	February	817,452	1,915,208	2,732,660
2026	March	61,848	2,333,913	2,395,761
2026	April	41,716	2,930,587	2,972,303
2026	May	61,726	2,920,240	2,981,966

Source: Compiled from official U.S. import statistics of the U.S. Department of Commerce Census Bureau using statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed August 3, 2026. Imports are based on the imports for consumption data series.

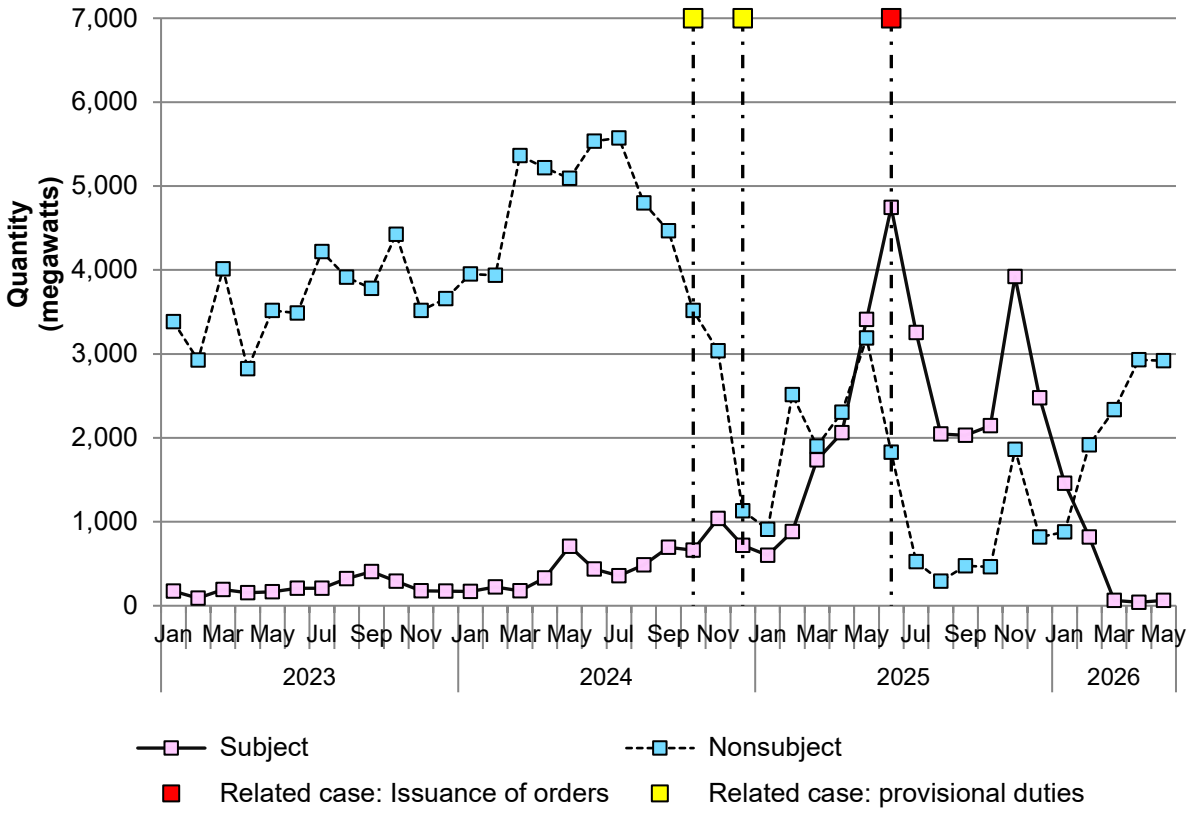
Note: Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Figure 4.9 CSPV cells and modules: U.S. imports from individual subject sources, by month



Source: Compiled from official U.S. import statistics of the U.S. Department of Commerce Census Bureau using statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed August 3, 2026. Imports are based on the imports for consumption data series.

Figure 4.10 CSPV cells and modules: U.S. imports from aggregate subject and nonsubject sources, by month



Source: Compiled from official U.S. import statistics of the U.S. Department of Commerce Census Bureau using statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed August 3, 2026. Imports are based on the imports for consumption data series.

Note: Provisional duties were applied to imports from select suppliers in Cambodia, Malaysia, Thailand, and Vietnam as a result of preliminary findings of sales at less than fair value and subsidization in the previous solar investigations December 4, 2024 for AD investigations and October 4, 2024 for CVD investigations ("provisional duties" in the figure); Antidumping duty and countervailing duty orders were issues for select suppliers in Cambodia, Malaysia, Thailand, and Vietnam as a result of final findings of sales at less than fair value and subsidization and injury (or threat of injury) to a U.S. industry June 24, 2025 ("issuance of orders" in the figure).

Apparent U.S. consumption and market shares

Quantity

Table 4.20 and figure 4.11 present data on apparent U.S. consumption and U.S. market shares by quantity for CSPV cells and modules. By quantity, apparent U.S. consumption increased by *** percent between 2023 and 2025 and was lower by *** percent in interim 2026, than in interim 2025. The market share of subject imports, by quantity, increased between 2023 and 2025 by *** percentage points from *** percent in 2023 to *** percent in 2025 and were higher in interim 2026 by *** percentage points, than in interim 2025. In contrast, the share of quantity of nonsubject sources decreased by *** percentage points between 2023 and 2025 and was lower in interim 2026 by *** percentage points, than in interim 2025.[21]

[21] U.S. producers' share increased from *** to *** percent from 2023 to 2025 due to availability of domestic cells to produce modules.

Table 4.20 CSPV cells and modules: Apparent U.S. consumption and market shares based on quantity, by source and period

Quantity in kilowatts; shares in percent; interim is January through March

Source	Measure	2023	2024	2025	Interim 2025	Interim 2026
U.S. producers	Quantity	***	***	***	***	***
India	Quantity	***	***	***	***	***
Indonesia	Quantity	***	***	***	***	***
Laos	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Recent order sources	Quantity	***	***	***	***	***
All other sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	45,645,041	48,680,065	49,855,222	8,500,279	7,594,994
All sources	Quantity	***	***	***	***	***
U.S. producers	Share	***	***	***	***	***
India	Share	***	***	***	***	***
Indonesia	Share	***	***	***	***	***
Laos	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Recent order sources	Share	***	***	***	***	***
All other sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “—“. Quantity for U.S. producers' U.S. shipments only reflects domestically produced cells to assemble into modules. In measuring consumption and market share this methodology avoids reclassifying and/or double counting merchandise already reported as an import. Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included.

Figure 4.11 CSPV cells and modules: Apparent U.S. consumption based on quantity, by source and period

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Quantity for U.S. producers' U.S. shipments only reflects domestically produced cells to assemble into modules. In measuring consumption and market share this methodology avoids reclassifying and/or double counting merchandise already reported as an import. Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included.

Value

Table 4.21 and figure 4.12 present data on apparent U.S. consumption and U.S. market shares by value for CSPV cells and modules. By value, apparent U.S. consumption decreased by *** percent between 2023 and 2025 and was higher by *** percent in interim 2026, than in interim 2025. The market share of subject imports steadily increased by value between 2023 and 2025 by *** percentage points from *** percent in 2023 to *** percent in 2025 and were lower in interim 2026 by *** percentage points, than in interim 2025. The share of quantity of nonsubject sources decreased by *** percentage points between 2023 and 2025 and was lower in interim 2026 by *** percentage points, than in interim 2025.

Table 4.21 CSPV cells and modules: Apparent U.S. consumption and market shares based on value, by source and period

Value in 1,000 dollars; shares in percent; interim is January through March

Source	Measure	2023	2024	2025	Interim 2025	Interim 2026
U.S. producers: Fully domestic value	Value	***	***	***	***	***
U.S. producers: Value added to imports	Value	***	***	***	***	***
U.S. producers: Overall value	Value	***	***	***	***	***
India	Value	***	***	***	***	***
Indonesia	Value	***	***	***	***	***
Laos	Value	***	***	***	***	***
Subject sources	Value	***	***	***	***	***
Recent order sources	Value	***	***	***	***	***
All other sources	Value	***	***	***	***	***
Nonsubject sources	Value	***	***	***	***	***
All import sources	Value	15,495,646	12,712,264	9,520,420	1,546,428	1,584,774
All sources	Value	***	***	***	***	***
U.S. producers: Fully domestic value	Share	***	***	***	***	***
U.S. producers: Value added to imports	Share	***	***	***	***	***
U.S. producers: Overall value	Share	***	***	***	***	***
India	Share	***	***	***	***	***
Indonesia	Share	***	***	***	***	***
Laos	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Recent order sources	Share	***	***	***	***	***
All other sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Value for U.S. producers' U.S. shipments reflects domestically produced cells to assemble into modules and the incremental value added by U.S. module producers to imported CSPV cells. In measuring consumption and market share this methodology avoids reclassifying and/or double counting merchandise already reported as an import. Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included.

Figure 4.12 CSPV cells and modules: Apparent U.S. consumption based on value, by source and period

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026.

Note: Value for U.S. producers' U.S. shipments reflects domestically produced cells to assemble into modules and the incremental value added by U.S. module producers to imported CSPV cells. In measuring consumption and market share this methodology avoids reclassifying and/or double counting merchandise already reported as an import. Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included.

Part 5: Pricing data

Factors affecting prices

Raw material costs

The main underlying raw material input for CSPV cells is polysilicon, which is used to make ingots and wafers. These cells are then assembled, along with other components, including solar glass, aluminum frames, junction boxes, and backsheets, into CSPV modules. Raw material costs are the largest component of the total cost of goods sold ("COGS") for CSPV modules, and crystalline silicon is the largest individual component.[1] Raw materials, as a share of U.S. producers' COGS, declined from *** percent in 2023 to *** percent in 2025, and were *** percent in interim 2026. According to the China Photovoltaic Industry Association (CPIA), in 2024, China produced 93.2 percent of the world's polysilicon, 96.6 percent of wafers, 92.3 percent of photovoltaic (PV) cells, and 86.4 percent of PV modules.[2] During the same time period, global PV manufacturing capacity is estimated to be more than twice the modules actually installed.[3]

The global average price for polysilicon fluctuated downwards during 2023 through 2026, decreasing overall by *** and *** percent for polysilicon and second grade polysilicon, respectively (figure 5.1 and table 5.1). Polysilicon prices largely declined at the beginning of this period following large increases in global capacity due to new polysilicon factories coming online in China.[4] Prices recovered modestly beginning in July 2025. During this period, the Chinese Ministry of Industry and Information Technology (MIIT) met with solar manufacturers to discuss government efforts to curb oversupply, and polysilicon output is estimated to have fallen by 43.8 percent in the first half of 2025.[5] Prices have once again started fluctuating downwards after January 2026 as oversupply of polysilicon has persisted.[6]

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[1] Emmvee PV, https://www.emmveepv.com/blogs/raw-materials-are-used-in-pv-solar-panel-manufacturing, retrieved May 18, 2026.

[2] Center for Strategic and International Studies (CSIS), https://www.csis.org/analysis/chinas-solar-industry-upheaval-effects-will-be-global, retrieved May 18, 2026.

[3] International Energy Agency, https://www.iea.org/reports/world-energy-outlook-2025, retrieved May 18, 2026.

[4] Monitoring 2 publication, p. I-47.

[5] PV Tech, https://www.pv-tech.org/chinese-polysilicon-producers-to-shut-down-one-third-of-production-capacity-reports-say/, retrieved May 28, 2026.

[6] PV Magazine, https://www.pv-magazine.com/2026/04/09/polysilicon-prices-sliding-toward-historical-lows/, retrieved May 18, 2026.

Figure 5.1 Polysilicon prices: Average prices for polysilicon by month, January 2023 to May 2026

* * * * * * *

Source: ***, accessed May 16, 2026.

Table 5.1 Polysilicon prices: Average prices for polysilicon by month, January 2023 to May 2026

Prices in dollars per kilogram

Year	Month	Polysilicon	2nd Grade Polysilicon
2023	January	***	***
2023	February	***	***
2023	March	***	***
2023	April	***	***
2023	May	***	***
2023	June	***	***
2023	July	***	***
2023	August	***	***
2023	September	***	***
2023	October	***	***
2023	November	***	***
2023	December	***	***

Table continued.

Table 5.1 (Continued) Polysilicon prices: Average prices for polysilicon by month, January 2023 to May 2026

Prices in dollars per kilogram

Year	Month	Polysilicon	2nd Grade Polysilicon
2024	January	***	***
2024	February	***	***
2024	March	***	***
2024	April	***	***
2024	May	***	***
2024	June	***	***
2024	July	***	***
2024	August	***	***
2024	September	***	***
2024	October	***	***
2024	November	***	***
2024	December	***	***
2025	January	***	***
2025	February	***	***
2025	March	***	***
2025	April	***	***
2025	May	***	***
2025	June	***	***
2025	July	***	***
2025	August	***	***
2025	September	***	***
2025	October	***	***
2025	November	***	***
2025	December	***	***
2026	January	***	***
2026	February	***	***
2026	March	***	***
2026	April	***	***
2026	May	***	***

Source: ***, accessed May 16, 2026.

Global average prices for monocrystalline cells, shown in figure 5.2 and table 5.2, followed a similar trend to polysilicon prices, primarily declining in 2023 and then experiencing a modest recovery at the start of 2026. During this period, cell prices declined overall by *** percent, *** percent, and *** percent for mono cells, N-type mono cells, and PERC mono cells, respectively.

Figure 5.2 Cell prices: Average prices for monocrystalline cells by month, January 2023 to May 2026

* * * * * * *

Source: ***, accessed May 16, 2026.

Table 5.2 Cell prices: Average prices for monocrystalline cells by month, January 2023 to May 2026

Prices in dollars per kilowatt

Year	Month	Mono cell	N-type mono cell	PERC mono cell
2023	January	***	***	***
2023	February	***	***	***
2023	March	***	***	***
2023	April	***	***	***
2023	May	***	***	***
2023	June	***	***	***
2023	July	***	***	***
2023	August	***	***	***
2023	September	***	***	***
2023	October	***	***	***
2023	November	***	***	***
2023	December	***	***	***
2024	January	***	***	***
2024	February	***	***	***
2024	March	***	***	***
2024	April	***	***	***
2024	May	***	***	***
2024	June	***	***	***
2024	July	***	***	***
2024	August	***	***	***
2024	September	***	***	***
2024	October	***	***	***
2024	November	***	***	***
2024	December	***	***	***
2025	January	***	***	***
2025	February	***	***	***
2025	March	***	***	***
2025	April	***	***	***
2025	May	***	***	***
2025	June	***	***	***
2025	July	***	***	***
2025	August	***	***	***
2025	September	***	***	***
2025	October	***	***	***
2025	November	***	***	***
2025	December	***	***	***
2026	January	***	***	***
2026	February	***	***	***
2026	March	***	***	***
2026	April	***	***	***
2026	May	***	***	***

Source: ***, accessed May 16, 2026.

Transportation costs to the U.S. market

Transportation costs for CSPV cells and modules shipped from subject countries to the United States averaged 5.6 percent for India, 4.1 percent for Indonesia, and 2.5 percent for Laos during 2025. These estimates were derived from official import data and represent the transportation and other charges on imports.[7]

U.S. inland transportation costs

Among responding firms, 9 of 14 U.S. producers and 31 of 37 importers reported that they typically arrange transportation to their customers. Most U.S. producers reported that their U.S. inland transportation costs ranged from 1.0 to 5.0 percent while about half of responding importers reported costs of 1.0 to 6.0 percent and the remaining importers reported costs under 1.0 percent.

Pricing practices

Pricing methods

Most U.S. producers and importers reported setting prices using transaction-by-transaction negotiations or contracts (table 5.3).

Table 5.3 CSPV cells and modules: Count of U.S. producers' and importers' reported price setting methods

Method	U.S. producers	U.S. importers
Transaction-by-transaction	10	22
Contract	10	28
Set price list	3	9
Other	1	3
Responding firms	15	41

Source: Compiled from data submitted in response to Commission questionnaires.

Note: The sum of responses down may not add up to the total number of responding firms as each firm was instructed to check all applicable price setting methods employed.

[7] The estimated transportation costs were obtained by subtracting the customs value from the c.i.f. value of the imports for 2025 and then dividing by the customs value based on the HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 5, 2026.

The majority of U.S. producers' and importers' reported sales of CSPV products were under short-term or long-term contracts (table 5.4). Most U.S. producers and importers reported their short-term contracts do not allow for price renegotiation, fix both price and quantity, and are not indexed to raw materials. With respect to long-term contracts, most U.S. producers reported they allow for price renegotiation and are indexed to raw materials while half of responding firms reported they fix quantity. Most U.S. importers reported their long-term contracts fix both price and quantity and are not indexed to raw materials.

Table 5.4 CSPV cells and modules: U.S. producers' and importers' shares of commercial U.S. shipments by type of sale, 2025

Share in percent

Sale type	U.S. producers	Subject U.S. importers
Long-term contracts	***	***
Annual contract	***	***
Short-term contracts	***	***
Spot sales	***	***
All sales types	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Because of rounding, figures may not add to the totals shown. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

No responding purchasers reported purchasing product daily, one reported purchasing weekly, three reported monthly, none reported purchasing quarterly, and two reported purchasing annually. Four purchasers reported a purchasing frequency of "other" with three of those firms indicating they purchased product as needed or on a project-based timeline and the remaining firm reported purchasing about two times per year. Most responding purchasers (7 of 10) reported that their purchasing frequency had changed since 2023 with four of those firms indicating an increase in purchases, one reporting a decline in purchases, specifically of cells, and the remaining two firms not specifying.

Sales terms and discounts

A majority of responding U.S. producers and importers reported quoting prices on a delivered basis however several firms also reported quoting prices on an f.o.b. basis. Most responding U.S. producers (12 of 15) and importers (28 of 41) indicated they had no discount policy.

Price leadership

Most purchasers (7 of 10) did not report a price leader in the CSPV cells and modules market, while one firm reported Hanwha Q Cells and Elite Solar as price leaders, one firm reported New East Power Energy as a price leader, and the remaining firm reported all subject producers as price leaders.

Price data

The Commission requested U.S. producers and importers to provide quarterly data for the total quantity and f.o.b. value of the following CSPV module products shipped to unrelated U.S. customers during January 2023 to March 2026.

Product 1.-- Monocrystalline silicon module with front-side area of less than 2.2 square meters and a peak power wattage between 380w and 450w, inclusive, P-max or Wp as measured under Standard Test Conditions (STC), excluding bifacial and flexible modules.

Product 2.-- Monocrystalline silicon module with front-side area of greater than or equal to 2.2 square meters and a peak power wattage between 320w and 440w, inclusive, P-max or Wp as measured under STC, excluding bifacial and flexible modules.

Product 3.-- Monocrystalline silicon bifacial module that generates power on both sides of the panel with a front-side area of greater than or equal to 1.9 square meters and a peak power wattage between 320w and 450w, inclusive, P-max or Wp as measured under STC, excluding flexible modules.

Product 4.-- Monocrystalline silicon bifacial module that generates power on both sides of the panel with front-side area of greater than or equal to 1.9 square meters and a peak power wattage between 485w and 585w, inclusive, P-max or Wp as measured under STC, excluding flexible modules.

Ten U.S. producers and 19 importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.[8] [9] Pricing data reported by these firms accounted for approximately 43.4 percent of U.S. producers' U.S. shipments of CSPV modules, 75.3 percent of U.S. shipments of subject imports from India, 75.3 percent of U.S. shipments of subject imports from Indonesia, and 33.1 percent of U.S. shipments of subject imports from Laos in 2025.[10] Price data for products 1 to 4 are presented in tables 5.5 to 5.8 and figures 5.3 to 5.6. Price data for imports from nonsubject sources are presented in Appendix E.

Table 5.5 CSPV modules: Weighted-average f.o.b. prices and quantities of domestic and imported product 1 and margins of underselling/(overselling), by source and quarter

Price in dollars per kilowatt, quantity in kilowatts, margin in percent.

Period	U.S. price	U.S. quantity	India price	India quantity	India margin	Indonesia price	Indonesia quantity	Indonesia margin
2023 Q1	***	***	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***	***	***
2024 Q4	***	***	***	***	***	***	***	***
2025 Q1	***	***	***	***	***	***	***	***
2025 Q2	***	***	***	***	***	***	***	***
2025 Q3	***	***	***	***	***	***	***	***
2025 Q4	***	***	***	***	***	***	***	***
2026 Q1	***	***	***	***	***	***	***	***

[8] Per-unit pricing data are calculated from total quantity and total value data provided by U.S. producers and importers. The precision and variation of these figures may be affected by rounding, limited quantities, and producer or importer estimates.

[9] U.S. producer *** transfers all CSPV modules it produces to its affiliate U.S. importer ***. *** then sells the U.S.-produced CSPV modules to unrelated U.S. customers. Staff requested price data for these sales and have included them in the pricing data set. Email from ***, September 14, 2026.

[10] Pricing coverage is based on U.S. shipments reported in questionnaires.

Table 5.5 CSPV modules (Continued): Weighted-average f.o.b. prices and quantities of domestic and imported product 1 and margins of underselling/(overselling), by source and quarter

Price in dollars per kilowatt, quantity in kilowatts, margin in percent.

Period	U.S. price	U.S. quantity	Laos price	Laos quantity	Laos margin
2023 Q1	***	***	***	***	***
2023 Q2	***	***	***	***	***
2023 Q3	***	***	***	***	***
2023 Q4	***	***	***	***	***
2024 Q1	***	***	***	***	***
2024 Q2	***	***	***	***	***
2024 Q3	***	***	***	***	***
2024 Q4	***	***	***	***	***
2025 Q1	***	***	***	***	***
2025 Q2	***	***	***	***	***
2025 Q3	***	***	***	***	***
2025 Q4	***	***	***	***	***
2026 Q1	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 1: Monocrystalline silicon module with front-side area of less than 2.2 square meters and a peak power wattage between 380w and 450w, inclusive, P-max or Wp as measured under Standard Test Conditions (STC), excluding bifacial and flexible modules.

Figure 5.3 CSPV modules: Weighted-average f.o.b. prices and quantities of domestic and imported product 1, by source and quarter

Price of product 1

* * * * * * *

Volume of product 1

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 1: Monocrystalline silicon module with front-side area of less than 2.2 square meters and a peak power wattage between 380w and 450w, inclusive, P-max or Wp as measured under Standard Test Conditions (STC), excluding bifacial and flexible modules.

Table 5.6 CSPV modules: Weighted-average f.o.b. prices and quantities of domestic and imported product 2 and margins of underselling/(overselling), by source and quarter

Price in dollars per kilowatt, quantity in kilowatts, margin in percent.

Period	U.S. price	U.S. quantity	India price	India quantity	India margin	Indonesia price	Indonesia quantity	Indonesia margin
2023 Q1	***	***	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***	***	***
2024 Q4	***	***	***	***	***	***	***	***
2025 Q1	***	***	***	***	***	***	***	***
2025 Q2	***	***	***	***	***	***	***	***
2025 Q3	***	***	***	***	***	***	***	***
2025 Q4	***	***	***	***	***	***	***	***
2026 Q1	***	***	***	***	***	***	***	***

Period	U.S. price	U.S. quantity	Laos price	Laos quantity	Laos margin
2023 Q1	***	***	***	***	***
2023 Q2	***	***	***	***	***
2023 Q3	***	***	***	***	***
2023 Q4	***	***	***	***	***
2024 Q1	***	***	***	***	***
2024 Q2	***	***	***	***	***
2024 Q3	***	***	***	***	***
2024 Q4	***	***	***	***	***
2025 Q1	***	***	***	***	***
2025 Q2	***	***	***	***	***
2025 Q3	***	***	***	***	***
2025 Q4	***	***	***	***	***
2026 Q1	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 2: Monocrystalline silicon module with front-side area of greater than or equal to 2.2 square meters and a peak power wattage between 320w and 440w, inclusive, P-max or Wp as measured under STC, excluding bifacial and flexible modules.

Figure 5.4 CSPV modules: Weighted-average f.o.b. prices and quantities of domestic and imported product 2, by source and quarter

Price of product 2

* * * * * * *

Volume of product 2

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 2: Monocrystalline silicon module with front-side area of greater than or equal to 2.2 square meters and a peak power wattage between 320w and 440w, inclusive, P-max or Wp as measured under STC, excluding bifacial and flexible modules.

Table 5.7 CSPV modules: Weighted-average f.o.b. prices and quantities of domestic and imported product 3 and margins of underselling/(overselling), by source and quarter

Price in dollars per kilowatt, quantity in kilowatts, margin in percent.

Period	U.S. price	U.S. quantity	India price	India quantity	India margin	Indonesia price	Indonesia quantity	Indonesia margin
2023 Q1	***	***	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***	***	***
2024 Q4	***	***	***	***	***	***	***	***
2025 Q1	***	***	***	***	***	***	***	***
2025 Q2	***	***	***	***	***	***	***	***
2025 Q3	***	***	***	***	***	***	***	***
2025 Q4	***	***	***	***	***	***	***	***
2026 Q1	***	***	***	***	***	***	***	***

Period	U.S. price	U.S. quantity	Laos price	Laos quantity	Laos margin
2023 Q1	***	***	***	***	***
2023 Q2	***	***	***	***	***
2023 Q3	***	***	***	***	***
2023 Q4	***	***	***	***	***
2024 Q1	***	***	***	***	***
2024 Q2	***	***	***	***	***
2024 Q3	***	***	***	***	***
2024 Q4	***	***	***	***	***
2025 Q1	***	***	***	***	***
2025 Q2	***	***	***	***	***
2025 Q3	***	***	***	***	***
2025 Q4	***	***	***	***	***
2026 Q1	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 3: Monocrystalline silicon bifacial module that generates power on both sides of the panel with a front-side area of greater than or equal to 1.9 square meters and a peak power wattage between 320w and 450w, inclusive, P-max or Wp as measured under STC, excluding flexible modules.

Figure 5.5 CSPV modules: Weighted-average f.o.b. prices and quantities of domestic and imported product 3, by source and quarter

Price of product 3

* * * * * * *

Volume of product 3

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 3: Monocrystalline silicon bifacial module that generates power on both sides of the panel with a front-side area of greater than or equal to 1.9 square meters and a peak power wattage between 320w and 450w, inclusive, P-max or Wp as measured under STC, excluding flexible modules.

Table 5.8 CSPV modules: Weighted-average f.o.b. prices and quantities of domestic and imported product 4 and margins of underselling/(overselling), by source and quarter

Price in dollars per kilowatt, quantity in kilowatts, margin in percent.

Period	U.S. price	U.S. quantity	India price	India quantity	India margin	Indonesia price	Indonesia quantity	Indonesia margin
2023 Q1	***	***	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***	***	***
2024 Q4	***	***	***	***	***	***	***	***
2025 Q1	***	***	***	***	***	***	***	***
2025 Q2	***	***	***	***	***	***	***	***
2025 Q3	***	***	***	***	***	***	***	***
2025 Q4	***	***	***	***	***	***	***	***
2026 Q1	***	***	***	***	***	***	***	***

Period	U.S. price	U.S. quantity	Laos price	Laos quantity	Laos margin
2023 Q1	***	***	***	***	***
2023 Q2	***	***	***	***	***
2023 Q3	***	***	***	***	***
2023 Q4	***	***	***	***	***
2024 Q1	***	***	***	***	***
2024 Q2	***	***	***	***	***
2024 Q3	***	***	***	***	***
2024 Q4	***	***	***	***	***
2025 Q1	***	***	***	***	***
2025 Q2	***	***	***	***	***
2025 Q3	***	***	***	***	***
2025 Q4	***	***	***	***	***
2026 Q1	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 4: Monocrystalline silicon bifacial module that generates power on both sides of the panel with front-side area of greater than or equal to 1.9 square meters and a peak power wattage between 485w and 585w, inclusive, P-max or Wp as measured under STC, excluding flexible modules.

Figure 5.6 CSPV modules: Weighted-average f.o.b. prices and quantities of domestic and imported product 4, by source and quarter

Price of product 4

* * * * * * *

Volume of product 4

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 4: Monocrystalline silicon bifacial module that generates power on both sides of the panel with front-side area of greater than or equal to 1.9 square meters and a peak power wattage between 485w and 585w, inclusive, P-max or Wp as measured under STC, excluding flexible modules.

Price trends

Prices generally decreased during the January 2023 to March 2026 time period. Table 5.9 summarizes price trends by country and product while tables 5.10 and 5.11 and figures 5.7 and 5.8 show indexed U.S. producer and importer prices.

Table 5.9 CSPV modules: Summary of price data, by product and source, January 2023 to March 2026

Quantity in kilowatts, price in dollars per kilowatt

Product	Source	Number of quarters	Quantity	Low price	High price	First quarter price	Last quarter price	Change over period
Product 1	United States	13	***	***	***	***	***	***
Product 1	India	—	***	***	***	***	***	***
Product 1	Indonesia	6	***	***	***	***	***	***
Product 1	Laos	5	***	***	***	***	***	***
Product 2	United States	7	***	***	***	***	***	***
Product 2	India	—	***	***	***	***	***	***
Product 2	Indonesia	—	***	***	***	***	***	***
Product 2	Laos	—	***	***	***	***	***	***
Product 3	United States	12	***	***	***	***	***	***
Product 3	India	—	***	***	***	***	***	***
Product 3	Indonesia	5	***	***	***	***	***	***
Product 3	Laos	—	***	***	***	***	***	***
Product 4	United States	11	***	***	***	***	***	***
Product 4	India	11	***	***	***	***	***	***
Product 4	Indonesia	10	***	***	***	***	***	***
Product 4	Laos	7	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Percent change column is percentage change from the first quarter 2023 to the first quarter in 2026.

Table 5.10 CSPV modules: Indexed U.S. producer prices, by quarter

Index in percent, 2023 Q1=100.0 percent

Period	Product 1	Product 2	Product 3	Product 4
2023 Q1	100.0	100.0	100.0	—
2023 Q2	***	***	***	—
2023 Q3	***	***	***	100.0
2023 Q4	***	***	***	***
2024 Q1	***	***	***	***
2024 Q2	***	***	***	***
2024 Q3	***	***	***	***
2024 Q4	***	***	***	***
2025 Q1	***	***	***	***
2025 Q2	***	***	***	***
2025 Q3	***	***	***	***
2025 Q4	***	***	***	***
2026 Q1	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 5.11 CSPV modules: Indexed U.S. importer prices, by quarter

Index in percent, 2023 Q1=100.0 percent

Period	Product 1	Product 2	Product 3	Product 4
2023 Q1	100.0	—	—	100.0
2023 Q2	***	***	***	***
2023 Q3	***	***	***	***
2023 Q4	***	***	***	***
2024 Q1	***	***	***	***
2024 Q2	***	***	***	***
2024 Q3	***	***	***	***
2024 Q4	***	***	***	***
2025 Q1	***	***	***	***
2025 Q2	***	***	***	***
2025 Q3	***	***	***	***
2025 Q4	***	***	***	***
2026 Q1	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Figure 5.7 CSPV modules: Indexed U.S. producer prices, by quarter

Index in percent, 2023 Q1=100.0 percent

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Figure 5.8 CSPV modules: Indexed U.S. importer prices, by quarter

Index in percent, 2023 Q1=100.0 percent

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Price comparisons

As shown in table 5.13, prices for product imported from India were below those for U.S.-produced product in 2 of 9 instances (*** kilowatts); margins of underselling ranged from *** to *** percent. In the remaining seven instances (*** kilowatts), prices for product from India were between *** and *** percent above prices for the domestic product. Prices for product imported from Indonesia were below those for U.S.-produced product in 14 of 20 instances (*** kilowatts); margins of underselling ranged from *** to *** percent. In the remaining six instances (*** kilowatts), prices for product from Indonesia were between *** and *** percent above prices for the domestic product. Prices for product imported from Laos were below those for U.S.-produced product in 5 of 12 instances (*** kilowatts); margins of underselling ranged from *** to *** percent. In the remaining seven instances (*** kilowatts), prices for product from Laos were between *** and *** percent above prices for the domestic product.

Table 5.12 CSPV modules: Instances of underselling and overselling and the range and average of margins, by product

Quantity in kilowatts; margin in percent

Products	Type	Number of instances	Quantity	Average margin	Min margin	Max margin
Product 1	Underselling	10	***	***	***	***
Product 2	Underselling	—	***	***	***	***
Product 3	Underselling	4	***	***	***	***
Product 4	Underselling	7	***	***	***	***
All products	Underselling	21	***	***	***	***
Product 1	Overselling	1	***	***	***	***
Product 2	Overselling	—	***	***	***	***
Product 3	Overselling	—	***	***	***	***
Product 4	Overselling	19	***	***	***	***
All products	Overselling	20	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: These data include only quarters in which there is a comparison between the U.S. and subject product.

Table 5.13 CSPV modules: Instances of underselling and overselling and the range and average of margins, by source

Quantity in kilowatts; margin in percent

Sources	Type	Number of instances	Quantity	Average margin	Min margin	Max margin
India	Underselling	2	***	***	***	***
Indonesia	Underselling	14	***	***	***	***
Laos	Underselling	5	***	***	***	***
All subject sources	Underselling	21	***	***	***	***
India	Overselling	7	***	***	***	***
Indonesia	Overselling	6	***	***	***	***
Laos	Overselling	7	***	***	***	***
All subject sources	Overselling	20	***	***	***	***

Source**:** Compiled from data submitted in response to Commission questionnaires.

Note: These data include only quarters in which there is a comparison between the U.S. and subject product.

Table 5.14 CSPV modules: Instances of underselling and overselling and the range and average of margins, by year

Quantity in kilowatts; margin in percent

Period	Type	Number of instances	Quantity	Average margin	Min margin	Max margin
2023	Underselling	4	***	***	***	***
2024	Underselling	1	***	***	***	***
2025	Underselling	12	***	***	***	***
January through March 2026	Underselling	4	***	***	***	***
All periods	Underselling	21	***	***	***	***
2023	Overselling	—	***	***	***	***
2024	Overselling	9	***	***	***	***
2025	Overselling	11	***	***	***	***
January through March 2026	Overselling	—	***	***	***	***
All periods	Overselling	20	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: These data include only quarters in which there is a comparison between the U.S. and subject product.

Lost sales and lost revenue

In the preliminary phase of these investigations, the Commission requested that U.S. producers of CSPV cells and modules report purchasers with which they experienced instances of lost sales or revenue due to competition from imports of CSPV products from India, Indonesia, and Laos during January 2022 through March 2025. Two U.S. producers submitted lost sales and lost revenue allegations. The two responding U.S. producers identified five firms with which they lost sales or revenue (three consisting lost sales allegations, none consisting of lost revenue allegations, and two consisting of both types of allegations).

In the final phase of the investigation, of the 16 responding U.S. producers, six reported that they had to reduce prices, three reported that they had to roll back announced price increases, and five firms reported that they had lost sales.

Staff contacted 34 purchasers and received responses from 10 purchasers. Responding purchasers reported purchasing 38.0 million kilowatts of CSPV cells and modules during January 2023 to March 2026 (table 5.15).

Of the ten responding purchasers, eight reported that, since 2023, they had purchased imported CSPV cells and modules from subject sources instead of U.S.-produced product (tables 5.16 and 5.17). Seven of these purchasers reported that subject import prices were lower than U.S.-produced product, and three of these purchasers reported that price was a primary reason for the decision to purchase imported product rather than U.S.-produced product, specifically with respect to purchases of CSPV products from Indonesia (table 5.16). Two purchasers estimated the quantity of CSPV cells and modules from Indonesia that were purchased instead of domestic product; the quantities reported were *** kilowatts and *** kilowatts (table 5.17). With respect to cells, purchasers identified limited availability as non-price reasons for purchasing imported rather than U.S.-produced product. While some purchasers reported availability as a non-price reason for purchasing imported modules rather than U.S.-produced product, firms also identified other issues such as quality concerns and risk mitigation as non-price factors for those purchases.

Table 5.15 CSPV cells and modules: Purchasers' reported purchases and imports, by firm and source

Quantity in kilowatts, share in percent

Firm	Domestic quantity	Subject quantity	All other quantity	Change in domestic share	Change in subject share	Change in all other share
***	***	***	***	***	***	***
***	***	***	***	***	***	***
***	***	***	***	***	***	***
***	***	***	***	***	***	***
***	***	***	***	***	***	***
***	***	***	***	***	***	***
***	***	***	***	***	***	***
***	***	***	***	***	***	***
***	***	***	***	***	***	***
***	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: All other includes all other sources and unknown sources. Change is the percentage point change in the share of the firm's total purchases of domestic and/or subject country imports between first and last years.

Table 5.16 CSPV cells and modules: Purchasers' responses to purchasing subject imports instead of domestic product, by source

Count in number of firms reporting; Quantity in kilowatts

Source	Purchased subject imports instead of domestic	Imports priced lower	Choice based on price	Quantity
India	2	2	0	***
Indonesia	6	6	3	***
Laos	3	2	0	***
Subject sources	8	7	3	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 5.17 CSPV cells and modules: Purchasers' responses to purchasing subject imports instead of domestic product, by firm

Quantity in kilowatts

Firm	Purchased subject imports instead of domestic	Imports priced lower	Choice based on price	Quantity	Narrative on reasons for purchasing imports
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
All firms	Yes: 8; No: 2	Yes: 7; No: 1	Yes: 3; No: 5	***	NA

Source: Compiled from data submitted in response to Commission questionnaires.

Of the ten responding purchasers, two reported that U.S. producers had reduced prices in order to compete with lower-priced imports from subject sources, specifically Indonesia, five reported that they did not know, and one did not provide a response (tables 5.18 and 5.19). The reported estimated price reductions were *** and *** percent.

Table 5.18 CSPV cells and modules: Purchasers' responses to U.S. producer price reductions, by source

Price reduction in percent

Source	Producers lowered prices	Average price reduction	Range of price reductions
India	0	***	***
Indonesia	2	***	***
Laos	0	***	***
Subject sources	2	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 5.19 CSPV cells and modules: Purchasers' responses to U.S. producer price reductions, by firm

Price reduction in percent

Firm	Producers lowered prices	Price reduction	Narrative on producer price reductions
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
All firms	Yes: 2; No: 2	***	NA

Source: Compiled from data submitted in response to Commission questionnaires.

Part 6: Financial experience of U.S. producers

Background[1]

Sixteen U.S. producers provided usable financial results on their CSPV cells and modules operations.[2] [3] [4] All but *** of the responding U.S. producers provided their financial data on the basis of GAAP.[5] Net sales consisted of commercial sales, internal consumption, and transfers to related firms. Internal consumption and transfers, together accounting for *** percent of the total net sales quantity in 2025.[6]

Figure 6.1 presents the shares of total net sales quantity in 2025 held by the seven largest responding firms and all other firms.

[1] The following abbreviations are used in the tables and/or text of this section: generally accepted accounting principles ("GAAP"), fiscal year ("FY"), net sales ("NS"), cost of goods sold ("COGS"), selling, general, and administrative expenses ("SG&A expenses"), average unit values ("AUVs"), research and development expenses ("R&D expenses"), return on assets ("ROA"), and fair market value ("FMV").

[2] Seven firms, *** provided data for all reporting periods.

[3] ***.

[4] ***. Email from ***, June 24, 2026.

[5] *** reported their financial results on an International Financial Reporting Standards basis. *** U.S. producers' questionnaire responses, section 1.2b, section 3.2.B.4.

[6] Staff conducted a verification of *** financial data and all adjustments that resulted from the verification were incorporated into this report.

Figure 6.1 CSPV cells and modules: U.S. producers' share of net sales quantity in 2025, by firm

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Operations on CSPV cells and modules

Table 6.1 presents aggregated data on U.S. producers' operations in relation to CSPV cells and modules, while table 6.2 presents corresponding changes in AUVs. Table 6.3 presents U.S. producers' net sales by origin of cells used to produce modules while figure 6.2 presents U.S. producers' net sales quantity by origin of contained cells and period. Table 6.4 presents selected company-specific financial data. Appendix F presents data on the operations of U.S. producers for CSPV cell production and, separately, for CSPV module production.

Table 6.1 CSPV cells and modules: U.S. producers' results of operations, by item and period

Quantity in kilowatts; value in 1,000 dollars; ratio in percent; interim is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
Commercial sales	Quantity	***	***	***	***	***
Internal consumption	Quantity	***	***	***	***	***
Transfers to related firms	Quantity	***	***	***	***	***
Total net sales	Quantity	***	***	***	***	***
Commercial sales	Value	***	***	***	***	***
Internal consumption	Value	***	***	***	***	***
Transfers to related firms	Value	***	***	***	***	***
Total net sales	Value	***	***	***	***	***
COGS: Raw material costs	Value	***	***	***	***	***
COGS: Direct labor costs	Value	***	***	***	***	***
COGS: Other factory costs	Value	***	***	***	***	***
COGS: Total costs	Value	***	***	***	***	***
Gross profit or (loss)	Value	***	***	***	***	***
SG&A expenses	Value	***	***	***	***	***
Operating income or (loss)	Value	***	***	***	***	***
45X MPTC/IRA income	Value	***	***	***	***	***
All other expense/(income)	Value	***	***	***	***	***
Net income or (loss)	Value	***	***	***	***	***
Depreciation/amortization	Value	***	***	***	***	***
Cash flow	Value	***	***	***	***	***
COGS: Raw material costs	Ratio to NS	***	***	***	***	***
COGS: Direct labor costs	Ratio to NS	***	***	***	***	***
COGS: Other factory costs	Ratio to NS	***	***	***	***	***
COGS: Total costs	Ratio to NS	***	***	***	***	***
Gross profit	Ratio to NS	***	***	***	***	***
SG&A expense	Ratio to NS	***	***	***	***	***
Operating income or (loss)	Ratio to NS	***	***	***	***	***
Net income or (loss)	Ratio to NS	***	***	***	***	***

Table continued.

Table 6.1 (Continued) CSPV cells and modules: U.S. producers' results of operations, by item and period

Share in percent; unit value in dollars per kilowatt; count in number of firms reporting; interim is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
NS: Commercial sales	Share	***	***	***	***	***
NS: Internal consumption	Share	***	***	***	***	***
NS: Transfers to related firms	Share	***	***	***	***	***
NS: Total net sales	Share	***	***	***	***	***
COGS: Raw material costs	Share	***	***	***	***	***
COGS: Direct labor costs	Share	***	***	***	***	***
COGS: Other factory costs	Share	***	***	***	***	***
COGS: Total costs	Share	***	***	***	***	***
Commercial sales	Unit value	***	***	***	***	***
Internal consumption	Unit value	***	***	***	***	***
Transfers to related firms	Unit value	***	***	***	***	***
Total net sales	Unit value	***	***	***	***	***
COGS: Raw material costs	Unit value	***	***	***	***	***
COGS: Direct labor costs	Unit value	***	***	***	***	***
COGS: Other factory costs	Unit value	***	***	***	***	***
COGS: Total costs	Unit value	***	***	***	***	***
Gross profit or (loss)	Unit value	***	***	***	***	***
SG&A expenses	Unit value	***	***	***	***	***
Operating income or (loss)	Unit value	***	***	***	***	***
Net income or (loss)	Unit value	***	***	***	***	***
Operating losses	Count	7	12	11	13	10
Net losses	Count	6	7	9	8	7
Data	Count	8	13	16	15	15

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares represent the share of COGS. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". The share of net sales is based on quantity data.

Table 6.2 CSPV cells and modules: Changes in AUVs between comparison periods

Change in percent; interim is January through March

Item	2023 to 2025	2023 to 2024	2024 to 2025	Interim 2025 to interim 2026
Commercial sales	***	***	***	***
Internal consumption	***	***	***	***
Transfers to related firms	***	***	***	***
Total net sales	***	***	***	***
COGS: Raw material costs	***	***	***	***
COGS: Direct labor costs	***	***	***	***
COGS: Other factory costs	***	***	***	***
COGS: Total costs	***	***	***	***

Table continued.

Table 6.2 (Continued) CSPV cells and modules: Changes in AUVs between comparison periods

Change in dollars per kilowatt; interim is January through March

Item	2023 to 2025	2023 to 2024	2024 to 2025	Interim 2025 to interim 2026
Commercial sales	***	***	***	***
Internal consumption	***	***	***	***
Transfers to related firms	***	***	***	***
Total net sales	***	***	***	***
COGS: Raw material costs	***	***	***	***
COGS: Direct labor costs	***	***	***	***
COGS: Other factory costs	***	***	***	***
COGS: Total costs	***	***	***	***
Gross profit or (loss)	***	***	***	***
SG&A expense	***	***	***	***
Operating income or (loss)	***	***	***	***
Net income or (loss)	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Percentages and unit values shown as “0.0” or “0.00” represent values greater than zero, but less than “0.05” or “0.005,” respectively. Zeroes, null values, and undefined calculations are suppressed and shown as “—”. Period changes preceded by a “▲” represent an increase, while period changes preceded by a “▼” represent a decrease.

Table 6.3 CSPV modules: U.S. producers' net sales, by origin of contained cells and period

Quantity in kilowatts; value in 1,000 dollars; unit values in dollars per kilowatt; shares in percent; interim period is January to March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
Domestic-origin cells	Quantity	***	***	***	***	***
Subject foreign-origin cells	Quantity	***	***	***	***	***
Nonsubject foreign-origin cells	Quantity	***	***	***	***	***
All cell origins	Quantity	***	***	***	***	***
Domestic-origin cells	Value	***	***	***	***	***
Subject foreign-origin cells	Value	***	***	***	***	***
Nonsubject foreign-origin cells	Value	***	***	***	***	***
All cell origins	Value	***	***	***	***	***
Domestic-origin cells	Unit value	***	***	***	***	***
Subject foreign-origin cells	Unit value	***	***	***	***	***
Nonsubject foreign-origin cells	Unit value	***	***	***	***	***
All cell origins	Unit value	***	***	***	***	***
Domestic-origin cells	Share of quantity	***	***	***	***	***
Subject foreign-origin cells	Share of quantity	***	***	***	***	***
Nonsubject foreign-origin cells	Share of quantity	***	***	***	***	***
All cell origins	Share of quantity	***	***	***	***	***
Domestic-origin cells	Share of value	***	***	***	***	***
Subject foreign-origin cells	Share of value	***	***	***	***	***
Nonsubject foreign-origin cells	Share of value	***	***	***	***	***
All cell origins	Share of value	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Figure 6.2 CSPV modules: U.S. producers' net sales, by origin of contained cells and period

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires

Table 6.4 CSPV cells and modules: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Net sales quantity

Quantity in kilowatts; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) CSPV cells and modules: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Net sales value

Value in 1,000 dollars; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) CSPV cells and modules: U.S. producers' sales, costs/expenses, and profitability, by firm and period

COGS

Value in 1,000 dollars; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) CSPV cells and modules: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Gross profit or (loss)

Value in 1,000 dollars; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued)CSPV cells and modules: U.S. producers' sales, costs/expenses, and profitability, by firm and period

SG&A expenses

Value in 1,000 dollars; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) CSPV cells and modules: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Operating income or (loss)

Value in 1,000 dollars; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) CSPV cells and modules: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Net income or (loss)

Value in 1,000 dollars; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) CSPV cells and modules: U.S. producers' sales, costs/expenses, and profitability, by firm and period

COGS to net sales ratio

Ratio in percent; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) CSPV cells and modules: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Gross profit or (loss) to net sales ratio

Ratio in percent; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) CSPV cells and modules: U.S. producers' sales, costs/expenses, and profitability, by firm and period

SG&A expenses to net sales ratio

Ratio in percent; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) CSPV cells and modules: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Operating income or (loss) to net sales ratio

Ratio in percent; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) CSPV cells and modules: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Net income or (loss) to net sales ratio

Ratio in percent; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) CSPV cells and modules: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit net sales value

Unit value in dollars per kilowatt; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) CSPV cells and modules: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit raw material costs

Unit value in dollars per kilowatt; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) CSPV cells and modules: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit direct labor costs

Unit value in dollars per kilowatt; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) CSPV cells and modules: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit other factory costs

Unit value in dollars per kilowatt; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) CSPV cells and modules: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit COGS

Unit value in dollars per kilowatt; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) CSPV cells and modules: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit gross profit or (loss)

Unit value in dollars per kilowatt; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) CSPV cells and modules: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit SG&A expenses

Unit value in dollars per kilowatt; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) CSPV cells and modules: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit operating income or (loss)

Unit value in dollars per kilowatt; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) CSPV cells and modules: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit net income or (loss)

Unit value in dollars per kilowatt; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Net sales

As shown in table 6.1, the industry's total net sales quantity and value increased from 2023 to 2025 and were higher in interim 2026 than in interim 2025. This increase is largely attributable to the entry of several new producers—five firms (Canadian Solar, Illuminate, Runergy, SEG Manufacturing, and Suniva) that began CSPV cells and/or modules production in 2024 and three additional firms (AMPS, T1 Energy, and Waaree Solar) that started production in 2025—which expanded overall industry output and contributed new sales volume.[7] On a company-by-company basis as shown in table 6.4, of the seven firms that provided data during all reporting periods, all but *** reported an overall increase in net sales quantity and value

[7] ***. *** U.S. producers' questionnaire response, sections 2.8 and 2.11.

from 2023 to 2025 and *** reported a higher net sales quantity and value in interim 2026 than in interim 2025.[8] [9]

The average unit sales value declined notably from 2023 to 2024 due to firms starting production in 2024 with lower unit sales values, then somewhat increased through 2025. It was somewhat higher in interim 2026 than interim 2025. As shown in table 6.4, of the seven firms that provided data during all reporting periods, all except *** reported an overall decline in unit sales values from 2023 to 2025 and all but *** reported higher unit sales value in interim 2026 than in interim 2025. *** which manufacture cells only, reported the lowest net sales AUVs among the U.S. producers in 2025 only and *** reported the highest net sales AUVs during the reporting periods.[10]

Cost of goods sold and gross profit or loss

As presented in table 6.1, raw material costs represented the single largest component of total COGS. Raw material costs per unit declined from 2023 to 2025 but were higher in interim 2026 than in interim 2025. Table 6.4 above presents company-specific raw material cost AUVs, with variations partially attributable to the type of CSPV products sold, the volume of sales, and different raw material sourcing practices among U.S. producers. Of the seven firms that provided data during all reporting periods, all except *** reported an overall decline in raw material costs per unit from 2023 to 2025 and *** reported higher raw material costs per unit in interim 2026 than in interim 2025. As a ratio to

[8] ***. *** U.S. producer questionnaire response, section 2.2.

[9] ***. Email from ***, June 18, 2026.

[10] ***. Email from ***, May 14, 2026. ***. A practical national benchmark puts Solar Roof much higher than conventional panels, with public estimates around $16 per watt for Solar Roof compared with roughly $2.50 to $3.30 per watt for standard rooftop panels before local adders. *Tesla Solar Roof Cost vs. Solar Panels*, https://solarpaneldigest.com/cost/tesla-solar-roof-cost-vs-panels/, retrieved July 23, 2026.

net sales, raw material costs declined irregularly from 2023 to 2025 but were higher in interim 2026 than in interim 2025.

Table 6.5 presents raw material costs for CSPV cell and module production, by type.[11] As shown in the table, imported CSPV cells from nonsubject foreign countries made up the majority of total raw material costs of module production during the period examined while imported CSPV cells from subject foreign countries increased constantly.

Table 6.5 CSPV cells and modules: U.S. producers' raw material costs, by major material inputs

Value in 1,000 dollars; interim period is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
Cells: Wafers	Value	***	***	***	***	***
Cells: Other material inputs	Value	***	***	***	***	***
Cells: Raw materials, total	Value	***	***	***	***	***
Modules: Purchased cells: Domestic	Value	***	***	***	***	***
Modules: Purchased cells: Subject	Value	***	***	***	***	***
Modules: Purchased cells: Nonsubject	Value	***	***	***	***	***
Modules: Cell costs, total	Value	***	***	***	***	***
Modules: Backsheet costs	Value	***	***	***	***	***
Modules: Encapsulant costs	Value	***	***	***	***	***
Modules: Framing costs	Value	***	***	***	***	***
Modules: Junction box	Value	***	***	***	***	***
Modules: Solar glass costs	Value	***	***	***	***	***
Modules: Other material input costs	Value	***	***	***	***	***
Modules: Non-cell costs	Value	***	***	***	***	***
Modules: Raw materials, total	Value	***	***	***	***	***
Cells and modules: Raw materials, total	Value	***	***	***	***	***

Table continued.

[11] Seven U.S. producers purchased inputs from related firms in 2024. ***. *** producer questionnaire responses, sections 3.6 and 3.7a.

Table 6.5 (Continued) CSPV cells and modules: U.S. producers' raw material costs, by major material inputs

Share of value in percent; interim period is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
Cells: Wafers	Share	***	***	***	***	***
Cells: Other material inputs	Share	***	***	***	***	***
Cells: Raw materials, total	Share	***	***	***	***	***
Modules: Purchased cells: Domestic	Share	***	***	***	***	***
Modules: Purchased cells: Subject	Share	***	***	***	***	***
Modules: Purchased cells: Nonsubject	Share	***	***	***	***	***
Modules: Cell costs, total	Share	***	***	***	***	***
Modules: Backsheet costs	Share	***	***	***	***	***
Modules: Encapsulant costs	Share	***	***	***	***	***
Modules: Framing costs	Share	***	***	***	***	***
Modules: Junction box	Share	***	***	***	***	***
Modules: Solar glass costs	Share	***	***	***	***	***
Modules: Other material input costs	Share	***	***	***	***	***
Modules: Non-cell costs	Share	***	***	***	***	***
Modules: Raw materials, total	Share	***	***	***	***	***
Cells and modules: Raw materials, total	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Four firms, *** purchased domestically produced cells. Eleven firms, *** purchased cells from subject countries. Twelve firm, *** purchased cells from nonsubject countries.

Other factory costs accounted for the second largest share of total COGS and consistently increased in total value from 2023 to 2025 and were higher in interim 2026 compared to interim 2025. On an average per unit basis, other factory costs irregularly declined from 2023 to 2025 but were higher in interim 2026 compared to interim 2025 while other factory costs as a ratio to net sales increased from 2023 to 2025 and were higher in interim 2026 compared to interim 2025. The increase in total other factory costs from 2023 to 2025 is driven by increased sales *** while the decreases per unit is attributable to fixed costs spread over larger sales volume (the more products sold, the lower the fixed cost per unit). As shown in table 6.4, of the seven firms that provided data during all reporting periods, *** reported an overall decline in other factory costs per unit from 2023 to 2025, and all but ***

*** reported higher other factory costs per unit in interim 2026 than in interim 2025.[12] [13] [14]

Industry's total direct labor costs which accounted for the smallest share of total COGS and increased from 2023 to 2025 and were higher in interim 2026 than interim 2025. Direct labor costs on a per-unit value basis and as a ratio to net sales overall increased from 2023 to 2025 but were lower in interim 2026 than interim 2025. As shown in table 6.4, of the seven firms that provided data during all reporting periods, all but *** reported an overall increase in direct labor costs per unit from 2023 to 2025 and all but *** reported lower direct labor costs per unit in interim 2026 than in interim 2025.[15] [16]

As presented in table 6.1, total COGS increased from 2023 to 2025 and was higher in interim 2026 than interim 2025. The industry's COGS per unit consistently decreased from 2023 to 2025, reflecting the previously discussed decreases in per-unit raw materials and other factory costs, but was higher in interim 2026 than in interim 2025. The ratio of COGS to net sales irregularly increased from 2023 to 2025 due to selling prices per unit declining faster than COGS per unit with the increased sales quantity. It was higher in interim 2026 than in interim

[12] Several firms reported notable variations in per-unit other factory costs. This can be attributed to fixed costs, which are incorporated into other factory costs. While fixed costs remain unchanged in total, they are distributed among a varying quantity of sales units.

[13] ***. Email from ***, June 18, 2026.

[14] ***. U.S. producers' questionnaire responses of ***, question 3.11a and 3.11b.

[15] ***. *** U.S. producers' questionnaire response, section 3.10f.

[16] ***. U.S. producers' questionnaire responses of ***, question 3.11a and 3.11b.

2025 because both selling price per unit and COGS per unit were higher in interim 2026, and the difference in COGS per unit was greater than the difference in selling price per unit. As shown in table 6.4, of the seven firms which reported data in all periods, all but *** reported an overall decline in COGS per unit from 2023 to 2025 and all but *** reported higher COGS per unit in interim 2026 than in interim 2025.

Table 6.1 shows that the increase in COGS from 2023 to 2025 exceeded the corresponding increase in net sales value, thus gross loss worsened irregularly from 2023 to 2025. The industry reported a gross loss in interim 2026 compared with a gross profit in interim 2025 because both net sales value and COGS were higher in interim 2026, but the difference in COGS between interim periods was greater than the difference in net sales value. As shown in table 6.4, of the seven firms which reported data in all periods, *** reported an overall decline in gross profit from 2023 to 2025 and all but *** reported lower gross profit in interim 2026 than in interim 2025.

SG&A expenses and operating income or loss

As presented in table 6.1, U.S. producers' total SG&A expenses increased from 2023 to 2025 and were higher in interim 2026 than interim 2025 (mostly a result of increases in net sales), while SG&A expense ratio (i.e., total SG&A expenses divided by net sales) irregularly increased from 2023 to 2025 but was lower in interim 2026 than interim 2025. As shown in table 6.4, of the seven firms which reported data in all periods, all but *** reported an overall increase in SG&A expense ratio from 2023 to 2025 and all but *** reported lower SG&A expense ratio in interim 2026 than in interim 2025. *** reported a higher SG&A expense ratio due in part to ***.[17] The industry's SG&A expenses per unit remain same from 2023 to 2025 and were lower in interim 2026 than interim 2025.

Table 6.1 shows that operating loss worsened from 2023 to 2025 and was higher in interim 2026 than interim 2025. As shown in table 6.4, of the seven firms which reported data in all periods, all but *** reported an overall worsening operating loss from 2023 to 2025 and all but *** reported lower operating income or higher operating loss in interim 2026 than in interim 2025.

[17] ***.

All other expenses and net income or loss

Classified below the operating income level are interest expenses, other expenses, and other income. In table 6.1, these items are aggregated, and only the net amount is shown. The all other expenses increased from 2023 to 2025 and were higher in interim 2026 than in interim 2025. 45X MPTC/IRA income (government incentives) increased from 2023 to 2025 and were higher in interim 2026 than in interim 2025.[18]

Table 6.1 shows that U.S. producers' net income irregularly declined from 2023 to 2025 and was lower in interim 2026 compared to interim 2025. The industry reported net income compared to operating loss primarily due to government incentives during all reporting periods. As presented in table 6.4, of the seven firms which reported data in all periods, all but *** reported an overall declining net income or worsening net loss from 2023 to 2025 and all but *** reported lower net income or higher net loss in interim 2026 than in interim 2025.[19]

[18] ***. *** U.S. producers' questionnaire response, section 3.11a. ***. *** U.S. producers' questionnaire response, section 3.11a.

[19] A variance analysis is not shown due to U.S. producers exiting and entering the market, large operational changes of individual U.S. producers, and different cost structures among the reporting firms.

Capital expenditures and research and development expenses

Table 6.6 presents capital expenditures, by firm, and table 6.8 presents R&D expenses, by firm. Tables 6.7 and 6.9 present the firms' narrative explanations of the nature, focus, and significance of their capital expenditures and R&D expenses, respectively. Aggregated capital expenditures irregularly increased from 2023 to 2025 as new facilities started producing CSPV products and were lower in interim 2026 than in interim 2025. The industry's R&D expenses irregularly declined from 2023 to 2025 but were higher in interim 2026 than interim 2025.

Table 6.6 CSPV cells and modules: U.S. producers' capital expenditures, by firm and period

Value in 1,000 dollars; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko Solar Industries	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 6.7 CSPV cells and modules: U.S. producers' narrative descriptions of their capital expenditures, by firm

Firm	Narrative on capital expenditures
AMPS	***
Canadian Solar	***
Hanwha GA	***
Heliene	***
Hounen Solar	***
Illuminate	***
Jinko Solar Industries	***
Mission Solar	***
PowerFilm	***
Runergy	***
SEG Manufacturing	***
Silfab Solar	***
Suniva	***
T1 Energy	***
Tesla	***
Waaree Solar	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 6.8 CSPV cells and modules: U.S. producers' R&D expenses, by firm and period

Value in 1,000 dollars; interim is January through March

Firm	2023	2024	2025	Interim 2025	Interim 2026
AMPS	***	***	***	***	***
Canadian Solar	***	***	***	***	***
Hanwha GA	***	***	***	***	***
Heliene	***	***	***	***	***
Hounen Solar	***	***	***	***	***
Illuminate	***	***	***	***	***
Jinko	***	***	***	***	***
Mission Solar	***	***	***	***	***
PowerFilm	***	***	***	***	***
Runergy	***	***	***	***	***
SEG Manufacturing	***	***	***	***	***
Silfab Solar	***	***	***	***	***
Suniva	***	***	***	***	***
T1 Energy	***	***	***	***	***
Tesla	***	***	***	***	***
Waaree Solar	***	***	***	***	***
All firms	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 6.9 CSPV cells and modules: U.S. producers' narrative descriptions of their R&D expenses, by firm

Firm	Narrative on R&D expenses
AMPS	***
Canadian Solar	***
Hanwha GA	***
Heliene	***
Hounen Solar	***
Illuminate	***
Jinko	***
Mission Solar	***
PowerFilm	***
Runergy	***
SEG Manufacturing	***
Silfab Solar	***
Suniva	***
T1 Energy	***
Tesla	***
Waaree Solar	***

Source: Compiled from data submitted in response to Commission questionnaires.

Assets and return on assets

Table 6.10 presents data on the U.S. producers' total assets while table 6.11 presents their operating ROA.[20] Table 6.12 presents U.S. producers' narrative responses explaining their major asset categories and any significant changes in asset levels over time. The industry's total asset value increased from 2023 to 2025 while its ROA declined.

Table 6.10 CSPV cells and modules: U.S. producers' total net assets, by firm and period

Value in 1,000 dollars

Firm	2023	2024	2025
AMPS	***	***	***
Canadian Solar	***	***	***
Hanwha GA	***	***	***
Heliene	***	***	***
Hounen Solar	***	***	***
Illuminate	***	***	***
Jinko Solar Industries	***	***	***
Mission Solar	***	***	***
PowerFilm	***	***	***
Runergy	***	***	***
SEG Manufacturing	***	***	***
Silfab Solar	***	***	***
Suniva	***	***	***
T1 Energy	***	***	***
Tesla	***	***	***
Waaree Solar	***	***	***
All firms	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

[20] The operating ROA is calculated as operating income divided by total assets. With respect to a firm's overall operations, the total asset value reflects an aggregation of a number of assets which are generally not product specific. Thus, high-level allocations are generally required in order to report a total asset value on a product-specific basis.

Table 6.11 CSPV cells and modules: U.S. producers' ROA, by firm and period

Ratio in percent

Firm	2023	2024	2025
AMPS	***	***	***
Canadian Solar	***	***	***
Hanwha GA	***	***	***
Heliene	***	***	***
Hounen Solar	***	***	***
Illuminate	***	***	***
Jinko Solar Industries	***	***	***
Mission Solar	***	***	***
PowerFilm	***	***	***
Runergy	***	***	***
SEG Manufacturing	***	***	***
Silfab Solar	***	***	***
Suniva	***	***	***
T1 Energy	***	***	***
Tesla	***	***	***
Waaree Solar	***	***	***
All firms	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 6.12 CSPV cells and modules: U.S. producers' narrative descriptions of their total net assets, by firm

Firm	Narrative on assets
AMPS	***
Canadian Solar	***
Hanwha GA	***
Heliene	***
Hounen Solar	***
Illuminate	***
Jinko Solar Industries	***
Mission Solar	***
PowerFilm	***
Runergy	***
SEG Manufacturing	***
Silfab Solar	***
Suniva	***
T1 Energy	***
Tesla	***
Waaree Solar	***

Source: Compiled from data submitted in response to Commission questionnaires.

Capital and investment

The Commission requested U.S. producers of CSPV cells and modules to describe any actual or potential negative effects of imports of CSPV cells and modules from India, Indonesia, and Laos on their firms' growth, investment, ability to raise capital, development and production efforts, or the scale of capital investments. Table 6.13 presents the number of firms reporting an impact in each category and table 6.14 provides the U.S. producers' narrative responses.

Table 6.13 CSPV cells and modules: Count of firms indicating actual and anticipated negative effects of imports from subject sources on investment, growth, and development since January 1, 2023, by effect

Count in number of firms reporting effect

Effect	Category	Count
Cancellation, postponement, or rejection of expansion projects	Investment	3
Denial or rejection of investment proposal	Investment	2
Reduction in the size of capital investments	Investment	2
Return on specific investments negatively impacted	Investment	5
Other investment effects	Investment	2
Any negative effects on investment	Investment	9
Rejection of bank loans	Growth	2
Lowering of credit rating	Growth	0
Problem related to the issue of stocks or bonds	Growth	1
Ability to service debt	Growth	3
Other growth and development effects	Growth	4
Any negative effects on growth and development	Growth	7
Anticipated negative effects of imports	Future	8

Source: Compiled from data submitted in response to Commission questionnaires.

Table 6.14 CSPV cells and modules: U.S. producers' narratives relating to actual and anticipated negative effects of imports on investment, growth, and development, since January 1, 2023, by firm and effect

Item	Firm name and narrative on impact of imports
Cancellation, postponement, or rejection of expansion projects	***
Cancellation, postponement, or rejection of expansion projects	***
Cancellation, postponement, or rejection of expansion projects	***
Denial or rejection of investment proposal	***
Denial or rejection of investment proposal	***
Reduction in the size of capital investments	***
Reduction in the size of capital investments	***
Return on specific investments negatively impacted	***
Return on specific investments negatively impacted	***

Item	Firm name and narrative on impact of imports
Return on specific investments negatively impacted	***
Return on specific investments negatively impacted	***
Return on specific investments negatively impacted	***
Other negative effects on investments	***
Other negative effects on investments	***
Rejection of bank loans	***

Item	Firm name and narrative on impact of imports
Rejection of bank loans	***
Problem related to the issue of stocks or bonds	***
Ability to service debt	***
Ability to service debt	***
Ability to service debt	***
Other effects on growth and development	***
Other effects on growth and development	***
Other effects on growth and development	***
Other effects on growth and development	***
Anticipated effects of imports	***

Item	Firm name and narrative on impact of imports
Anticipated effects of imports	***
Anticipated effects of imports	***
Anticipated effects of imports	***
Anticipated effects of imports	***
Anticipated effects of imports	***
Anticipated effects of imports	***
Anticipated effects of imports	***
Anticipated effects of imports	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 6.15 CSPV cells and modules: U.S. producers' narratives on the anticipated impact of the One Big Beautiful Bill Act, by firm

Firm	Narrative on anticipated impact
AMPS	***
Canadian Solar	***
Hanwha GA	***
Heliene	***
Hounen Solar	***
Illuminate	***
Jinko Solar Industries	***
Mission Solar	***
PowerFilm	***
Runergy	***
SEG Manufacturing	***
Silfab Solar	***

Firm	Narrative on anticipated impact
Suniva	***
T1 Energy	***
Tesla	***
Waaree Solar	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 6.16 CSPV cells and modules: U.S. producers' narrative descriptions of the impact of filing of the petition on April 23, 2024 and/or the investigations by the U.S. Department of Commerce and the U.S. International Trade Commission concerning imports of CSPV cells and/or modules imported from Cambodia, Malaysia, Thailand, and/or Vietnam on income statement data, by firm

Firm	Narrative on anticipated impact
***	***
***	***
***	***
***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Part 7: Threat considerations and information on nonsubject countries

Section 771(7)(F)(i) of the Act (19 U.S.C. § 1677(7)(F)(i)) provides that—

> In determining whether an industry in the United States is threatened with material injury by reason of imports (or sales for importation) of the subject merchandise, the Commission shall consider, among other relevant economic factors[1]--
>
> (I) if a countervailable subsidy is involved, such information as may be presented to it by the administering authority as to the nature of the subsidy (particularly as to whether the countervailable subsidy is a subsidy described in Article 3 or 6.1 of the Subsidies Agreement), and whether imports of the subject merchandise are likely to increase,
>
> (II) any existing unused production capacity or imminent, substantial increase in production capacity in the exporting country indicating the likelihood of substantially increased imports of the subject merchandise into the United States, taking into account the availability of other export markets to absorb any additional exports,
>
> (III) a significant rate of increase of the volume or market penetration of imports of the subject merchandise indicating the likelihood of substantially increased imports,
>
> (IV) whether imports of the subject merchandise are entering at prices that are likely to have a significant depressing or suppressing effect on domestic prices, and are likely to increase demand for further imports,
>
> (V) inventories of the subject merchandise,

[1] Section 771(7)(F)(ii) of the Act (19 U.S.C. § 1677(7)(F)(ii)) provides that "The Commission shall consider {these factors} . . . as a whole in making a determination of whether further dumped or subsidized imports are imminent and whether material injury by reason of imports would occur unless an order is issued or a suspension agreement is accepted under this title. The presence or absence of any factor which the Commission is required to consider . . . shall not necessarily give decisive guidance with respect to the determination. Such a determination may not be made on the basis of mere conjecture or supposition."

(VI) the potential for product-shifting if production facilities in the foreign country, which can be used to produce the subject merchandise, are currently being used to produce other products,

(VII) in any investigation under this title which involves imports of both a raw agricultural product (within the meaning of paragraph (4)(E)(iv)) and any product processed from such raw agricultural product, the likelihood that there will be increased imports, by reason of product shifting, if there is an affirmative determination by the Commission under section 705(b)(1) or 735(b)(1) with respect to either the raw agricultural product or the processed agricultural product (but not both),

(VIII) the actual and potential negative effects on the existing development and production efforts of the domestic industry, including efforts to develop a derivative or more advanced version of the domestic like product, and

(IX) any other demonstrable adverse trends that indicate the probability that there is likely to be material injury by reason of imports (or sale for importation) of the subject merchandise (whether or not it is actually being imported at the time).[2]

Information on the nature of the subsidies was presented earlier in this report; information on the volume and pricing of imports of the subject merchandise is presented in Parts 4 and 5; and information on the effects of imports of the subject merchandise on U.S. producers' existing development and production efforts is presented in Part 6. Information on inventories of the subject merchandise; foreign producers' operations, including the potential for "product-shifting;" any other threat indicators, if applicable; and any dumping in third-country markets, follows. Also presented in this section of the report is information obtained for consideration by the Commission on nonsubject countries.

[2] Section 771(7)(F)(iii) of the Act (19 U.S.C. § 1677(7)(F)(iii)) further provides that, in antidumping investigations, ". . . the Commission shall consider whether dumping in the markets of foreign countries (as evidenced by dumping findings or antidumping remedies in other WTO member markets against the same class or kind of merchandise manufactured or exported by the same party as under investigation) suggests a threat of material injury to the domestic industry."

Subject countries

The Commission issued foreign producers' or exporters' questionnaires to 102 firms believed to produce and/or export CSPV cells and modules from India, Indonesia, and Laos.[3] Usable responses to the Commission's questionnaire were received from 13 firms in total.

Table 7.1 presents the number of producers/exporters that responded to the Commission's questionnaire, their estimated share of total production of CSPV cells and modules, and their exports to the United States as a share of U.S. imports, by each subject country in 2025.

Table 7.1 CSPV cells and modules: Number of responding producers/exporters, approximate share of production, and exports to the United States as a share of U.S. imports, by subject foreign industry, 2025

Subject foreign industry	Number of responding firms	Approximate share of cell production (percent)	Cell exports as a share of U.S. imports from subject country (percent)	Approximate share of module production (percent)	Module exports as a share of U.S. imports from subject country (percent)
India	6	***	***	***	***
Indonesia	6	***	***	***	***
Laos	1	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records, using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed July 17, 2026.

Note: "Approximate share of production" reflects the responding firms' estimates of their production as a share of total country production of CSPV cells and modules in 2025. Since not all firms have perfect knowledge of the industry in their home market, different firms might use different denominators in estimating their firm's share of the total requested. For countries in which more than one firm responded, the average denominator for reasonably reported estimates is used in the share presented. Approximate shares are rounded to the nearest whole number.

Note: "Exports as a share of U.S. imports" reflects a comparison of export data reported by firms in response to the Commission's foreign producer/exporter questionnaire with official Commerce import statistics using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed July 17, 2026, adjusted using proprietary, Census-edited Customs import records.

[3] These firms were identified through a review of information submitted in the petition and presented in third-party sources. *** certified they had not produced or exported CSPV cells and modules to the United States since January 1, 2023.

Table 7.2 presents information on the CSPV cells operations of the responding producers in India, Indonesia, and Laos (or the responding subject producers, by firm).

Table 7.2 CSPV cells: Summary data on responding subject foreign producers in 2025, by firm

Subject foreign industry and producer name	Production (kilowatts)	Share of reported production (percent)	Exports to the United States (kilowatts)	Share of reported exports to the United States (percent)	Total shipments (kilowatts)	Share of firm's total shipments exported to the United States (percent)
India: Mundra Solar Energy	***	***	***	***	***	***
India: Mundra Solar PV	***	***	***	***	***	***
India: Premier Energies	***	***	***	***	***	***
India: Rayzon Solar	***	***	***	***	***	***
India: Waaree Energies	***	***	***	***	***	***
Indonesia: Bintan Cellular	***	***	***	***	***	***
Indonesia: Nusa Solar	***	***	***	***	***	***
Indonesia: SEG Solar	***	***	***	***	***	***
Indonesia: Trina Mas Agra	***	***	***	***	***	***
Laos: Solarspace	***	***	***	***	***	***
All individual producers	31,977,453	100.0	***	100.0	***	35.4

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". ***.

Table 7.3 CSPV cells: Summary data for subject foreign producers, by subject foreign industry, 2025

Subject foreign industry	Production (kilowatts)	Share of reported production (percent)	Exports to the United States (kilowatts)	Share of reported exports to the United States (percent)	Total shipments (kilowatts)	Share of firm's total shipments exported to the United States (percent)
India	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***
Laos	***	***	***	***	***	***
All subject foreign industries	31,977,453	100.0	***	100.0	***	35.4

Source: Compiled from data submitted in response to Commission questionnaires.

Table 7.4 presents information on the CSPV modules operations of the responding producers in India, Indonesia, and Laos (or the responding subject producers, by firm) and table 7.5 presents summary information on responding resellers of subject CSPV cells in 2025.

Table 7.4 CSPV modules: Summary data for subject foreign producers, by subject foreign industry, 2025

Subject foreign industry and producer name	Production (kilowatts)	Share of reported production (percent)	Exports to the United States (kilowatts)	Share of reported exports to the United States (percent)	Total shipments (kilowatts)	Share of firm's total shipments exported to the United States (percent)
India: Ecosol Power	***	***	***	***	***	***
India: Mundra Solar Energy	***	***	***	***	***	***
India: Mundra Solar PV	***	***	***	***	***	***
India: Premier Energies	***	***	***	***	***	***
India: Rayzon Solar	***	***	***	***	***	***
India: Waaree Energies	***	***	***	***	***	***
Indonesia: Atelier Solar	***	***	***	***	***	***
Indonesia: Jaya Electrical	***	***	***	***	***	***
Indonesia: Trina Mas Agra	***	***	***	***	***	***
Laos: Solarspace	***	***	***	***	***	***
All individual producers	23,787,267	100.0	***	100.0	***	23.9

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 7.5 CSPV modules: Summary data for subject foreign resellers, by firm, 2025

Subject foreign industry and reseller name	Resales exported to the United States (kilowatts)	Share of resales exported to the United States (percent)
Indonesia: Nusa Solar	***	***
All individual resellers	***	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Table 7.6 CSPV modules: Summary data for subject foreign producers, by firm, 2025

Subject foreign industry	Production (kilowatts)	Share of reported production (percent)	Exports to the United States (kilowatts)	Share of reported exports to the United States (percent)	Total shipments (kilowatts)	Share of firm's total shipments exported to the United States (percent)
India	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***
Laos	***	***	***	***	***	***
All subject foreign industries	23,787,267	100.0	***	100.0	***	23.9

Source: Compiled from data submitted in response to Commission questionnaires.

After China, countries in Southeast Asia have the next largest share of global PV cell production in 2024: Malaysia (2.5 percent), Vietnam (2.1 percent), Thailand (2.0 percent), and India (0.7 percent). In India, cell production capacity was reported to have reached 27 GW in 2025, and annual capacity is forecasted to grow to 120 GW by 2030.[4] In 2024, India produced 24 GW of PV modules. In 2025, India added approximately 119 GW of solar module capacity, bringing its total cumulative module production capacity to about 210 GW.[5]

Table 7.7 presents events in CSPV industries in Southeast Asia since 2023.

Table 7.7 CSPV cells and modules: Important industry events in Southeast Asia since 2023

Item	Firm	Event
Plant expansion (India)	Waaree Energies	In March 2023, Waaree Energies added 3 GW of additional module manufacturing capacity, bringing its total solar module manufacturing capacity to 12 GW.
Plant expansion (India)	Goldi Solar	In March 2025, Goldi Solar launched an AI-powered solar manufacturing line at its new facility in Kosamba, Surat, Gujarat. The planned production capacity for this facility is 14 GW.
Plant expansion (India)	Waaree Energies	In August 2025, Waaree Energies commissioned a new 1.8 GW solar module manufacturing line at its facility in Chikhli, Navsari district, Gujarat.
Plant opening (India)	Emmvee	In June 2024, Emmvee began production of TOPCon solar cells at its 1.5 GW manufacturing facility in the Indian state of Karnataka.

[4] PV Magazine, India's PV module manufacturing capacity tops 210 GW – pv magazine International, March 18, 2026; IEA, *Trends in Photovoltaic Applications 2025*, accessed May 19, 2026, p. 57, IEA-PVPS_Trends_2025-.pdf.

[5] PV Magazine, India's PV module manufacturing capacity tops 210 GW – pv magazine International, March 18, 2026.

Item	Firm	Event
Plant opening (India)	Indosolar	In July 2024, Indosolar, a subsidiary of Indian solar company Waaree Energies, began production at its 1.3 GW module assembly facility in Noida, in the northern Indian state of Uttar Pradesh.
Plant opening (India)	TP Solar	In February 2025, TP Solar, a subsidiary of Indian company TATA Power, commission a 4.3 GW solar cell and module manufacturing plant in the state of Tamil Nadu. TP Solar noted that the facility would produce 1.4 GW PERC and TOPCon products but did not specify relative capacity for each technology.
Plant opening (India)	Waaree Energies	In February 2025, Waaree Energies commissioned the first phase of its 5.4 GW solar cell manufacturing plant in the state of Gujarat. In the first phase, the facility will produce 1.4 GW of PERC cells, with the remaining 4.0 GW of TOPCon cell production capacity to be added in fiscal year 2026.
Plant opening (India)	Gautam Solar	In February 2025, one year after acquiring the land on which to build the facility, Gautam Solar commissioned the first phase of a 3.2 GW module assembly plant in the state of Haryana. The facility will produce TOPCon modules.
Plant opening (India)	Avaada Electro	In March 2025, Avaada Electro commissioned a 1.5 GW module assembly plant in Noida, in the northern Indian state of Uttar Pradesh. The facility, built in three and a half months, will produce bifacial TOPCon modules.
Plant opening (India)	Emmvee	In April 2025, Emmvee began production at a new 2 GW solar module manufacturing facility in Sulibele, Karnataka. This brings Emmvee's cumulative manufacturing capacity to 6.6 GW for modules, as well as 2.5 GW for cells.
Plant opening (India)	Eastman Auto & Power	In March 2026, Solarium Green Energy began production at its 800 MW manufacturing plant in the Indian state of Haryana.
Plant opening (India)	Solarium Green Energy	In March 2026, Solarium Green Energy commissioned a fully automated 1 GW module manufacturing plant in the Indian state of Gujarat. It will produce TOPCon modules of up to 725 W.
Plant opening (India)	RenewSys India	In March, 2026 RenewSys opened a 3 GW module production plant in the Indian state of Maharashtra, bringing the manufacturer's total annual capacity to 5.6 GW.
Plant opening (India)	Premier Energies Ltd	In March 2026, Premier Energies Ltd began trial production at its 5.6 GW module manufacturing facility in the Indian state of Telangana. The facility produces TOPCon modules and brings the company's total solar module production capacity to 10GW.
Plant opening (India)	Aroma Solar	In April 2026, Aroma Solar, opened a 1.2 GW TOPCon module facility in the northern Indian state of Haryana. The facility will produce modules rated at 620 W to 635 W.

Item	Firm	Event
Plant opening (Indonesia)	Apollo Solar Indonesia	In February 2023, Apollo Solar completed construction of its 500 MW solar module manufacturing facility.
Plant opening (Indonesia)	New East Solar	In August 2023, New East Solar completed construction of its 3.5 GW factory in Indonesia to produce solar modules.
Plant opening (Indonesia)	PT Bintan Cellular Indonesia (BCI)	In the fourth quarter of 2024, BCI, a subsidiary of China's Sichuan Yingfa Ruineng Technology, began production of N-type TOPCon cells at its 7GW manufacturing facility in the Bintan Special Economic Zone, Riau Islands Provice.
Plant opening (Indonesia)	Thornova Solar	In November 2024, Thornova Solar, a U.S.-based solar manufacturer, began production at its new 2.5 GW module manufacturing facility on the island of Batam. With 2.5 GW of capacity, the facility can produce both n-type and PERC technologies.
Plant opening (Indonesia)	EliTe Solar	In December 2024, EliTe Solar opened a solar cell production facility in Indonesia, eight months after selecting the site of the facility.
Plant opening (Indonesia)	SEG Solar	In May 2025, SEG Solar, a U.S.-based PV module manufacturer, commissioned a new cell manufacturing plant on the island of Java, with a manufacturing capacity of 2 GW. SEG Solar noted the first product manufactured at this facility is an n-type solar cell.
Plant opening (Indonesia)	Trina Solar Indonesia	In June 2025, Trina Solar Indonesia, a joint venture between China's Trina Solar and state-owned utilities in Indonesia, commissioned an integrated manufacturing plant with an annual production capacity of 1 GW. The plant plans to produce TOPCon solar modules.
Plant opening (Laos)	Solarspace	In September 2023, Solarspace started manufacturing activities at a new 5 GW factory in the Saysettha Development Zone in Laos, near the Thai border.

Source: PV Magazine, "Saatvik Solar doubles module capacity to 1GW with new fab," February 8, 2022, https://www.pv-magazine-india.com/2022/02/08/saatvik-solar-expands-module-capacity-to-1-gw-with-new-500-mw-facility/; PV Magazine, "Waaree ramping up solar module capacity to 12 GW," December 22, 2022, https://www.pv-magazine-india.com/2022/12/20/waaree-ramping-up-solar-module-capacity-to-12-gw/; PV Tech, "Waaree commissions 1.8GW solar module line in Gujarat," August 4, 2025, https://www.pv-tech.org/waaree-commissions-1-8gw-solar-module-line-in-gujarat/; PV Magazine India, "Emmvee expands solar module capacity to 6.6 GW," April 16, 2025, https://www.pv-magazine-india.com/2025/04/16/emmvee-expands-solar-module-capacity-to-6-6-gw/; PV Magazine, "Emmvee to start TOPCon solar cell production from June," February 21, 2024, https://www.pv-magazine-india.com/2024/02/21/emmvee-to-start-topcon-solar-cell-production-from-june/; PV Tech, "Avaada commissions 1.5 GW TOPCon module assembly plant in India," March 10, 2025, https://www.pv-tech.org/avaada-commissions-1-5gw-topcon-module-manufacturing-plant-india/; PV Magazine, "Goldi Solar launches AI-powered solar manufacturing line," March 4, 2025, https://www.pv-magazine.com/2025/03/04/goldi-solar-launches-ai-powered-solar-manufacturing-line/; PV Tech, "INDIA ROUND-UP: Gautam Solar and Waaree advance module and cell plants, India reaches 100GW of installed PV capacity," February 11, 2025, https://www.pv-tech.org/india-round-up-gautam-solar-waaree-module-cell-facilities-100gw-installed-capacity/; PV Tech, "Tata Power subsidiary commissions 4.3GW solar cell and module plat in India," February 7, 2025, https://www.pv-tech.org/tata-power-subsidiary-commissions-4-3gw-solar-cell-module-plant-india/; PV Tech, "Waaree subsidiary starts operations at 1.3GW module assembly plant in India," July 15, 2024, https://www.pv-tech.org/waaree-subsidiary-starts-

operations-at-1-3gw-module-assembly-plant-in-india/; PV Magazine, Eastman launches 800 MW solar module plant in India – pv magazine International, March 12, 2026; PV Magazine, Solarium commissions 1 GW solar module plant in India – pv magazine International, March 19, 2026; PV Magazine, RenewSys inaugurates 3 GW solar module plant in India – pv magazine International, March 17, 2026; PV Magazine, Premier Energies commissions 5.6 GW solar module facility in India – pv magazine International, March 31, 2026; PV Magazine, Aroma Solar launches 1.2 GW module factory in India – pv magazine International, April 7, 2026; NE Solar, "NE Solar Indonesian factory will be completed in August 2023," May 9, 2023, http://www.nesolar.com.kh/?content/176; Petromindo, Yingfa Ruineng Technology expands solar cell production capacity in Indonesia - Yingfa Ruineng Technology expands solar cell production capacity in Indonesia, August 21, 2025; Energy Trend, "Trina's New Overseas Moves," June 23, 2025, https://www.energytrend.com/news/20250623-49780.html; PV Magazine, "US-based SEG Solar launches cell production in Indonesia," May 12, 2025, https://www.pv-magazine.com/2025/05/12/us-based-seg-solar-launches-cell-production-in-indonesia/; PV Magazine, "EliTe Solar opens solar cell production facility in Indonesia," December 10, 2024, https://www.pv-magazine.com/2024/12/10/elite-solar-opens-solar-cell-production-facility-in-indonesia/; PV Tech, "Thornova Solar begins solar module production in Indonesia," November 19, 2024, https://www.pv-tech.org/thornova-solar-begins-solar-module-production-in-indonesia/; Apollo Solar Indonesia, "About Us," accessed May 19, 2026, https://apollosolarindonesia.com/about; PV Tech, "SolarSpace begins cell production at first Laos manufacturing plant," September 28, 2023, https://www.pv-tech.org/solarspace-begins-cell-production-at-first-laos-manufacturing-plant/.

Note: See Description and applications in Part 1 of this report for a description of TOPCon, n-type, and PERC cell technologies.

Table 7.8 presents information on reported changes in operations in subject CSPV cells and modules foreign industries since January 1, 2023, by item and firm. Table 7.9 presents anticipated changes in operations in CSPV cells and modules subject foreign industries, by firm.

Table 7.8 CSPV cells and modules: Reported changes in operations in subject foreign industries since January 1, 2023, by reported change category and firm

Item	Subject foreign industry, firm name, and accompanying narrative response regarding changes in operations
Plant openings	***
Plant openings	***
Plant openings	***
Plant openings	***
Plant openings	***
Plant openings	***
Plant openings	***

Item	Subject foreign industry, firm name, and accompanying narrative response regarding changes in operations
Plant openings	***
Plant closings	***
Prolonged shutdowns	***
Expansions	***
Expansions	***
Expansions	***
Expansions	***
Expansions	***
Expansions	***
Weather-related or force majeure events	***
Weather-related or force majeure events	***
Other	***
Other	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 7.9 CSPV cells and modules: Anticipated changes in operations in subject foreign industries, by firm

Item	Subject foreign industry, firm name, and accompanying narrative response regarding anticipated changes in operations
***	***
***	***
***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Figures 7.1 and 7.2 present solar supply chain maps for major cells and modules factories in Southeast Asia as of June 2025, their current manufacturing capacity, and planned manufacturing capacity projections through 2027, respectively.

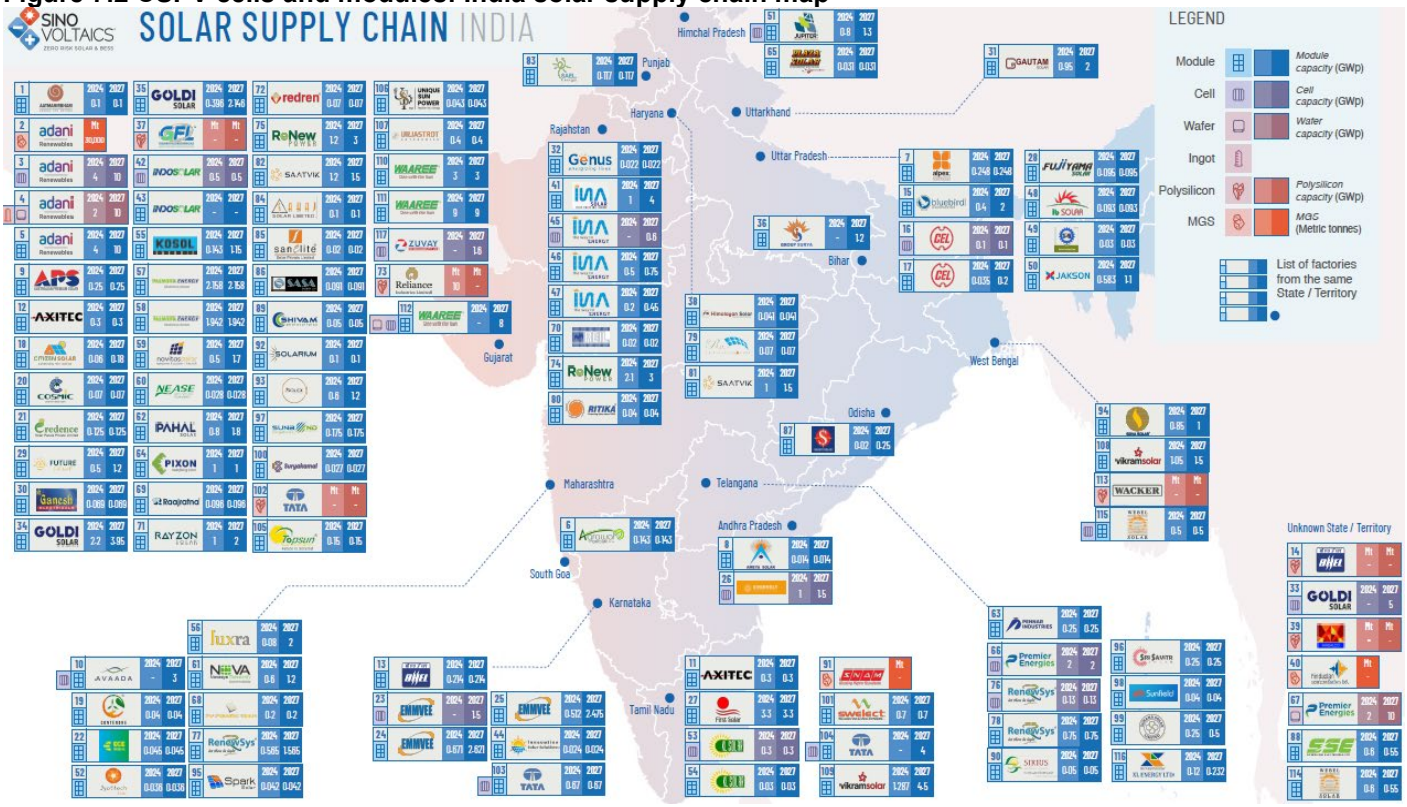
Figure 7.1 CSPV cells and modules: Southeast Asia solar supply chain map



Source: Sinovoltaics, "Southeast Asian Solar Supply Chain Edition 1 - 2025," June 2025, https://sinovoltaics.com/sinovoltaics-southeast-asia-sea-solar-energy-supply-chain-map/.

Note: Production capacity figures in gigawatts (GW). This map includes production facilities across the solar supply chain: modules (blue), cells (darker purple), wafers (lighter purple), polysilicon (red), and metallurgical-grade silicon (orange). Production capacity figures in gigawatts (GW) for modules, cells, and wafers, and metric tons (mt) for polysilicon and metallurgical-grade silicon.

Figure 7.2 CSPV cells and modules: India solar supply chain map



Source: Sinovoltaics, "India Solar Supply Chain Map Edition 1 - 2025," July 2025, https://sinovoltaics.com/sinovoltaics-india-solar-energy-supply-chain-map/.

Note: Production capacity figures in gigawatts (GW). This map includes production facilities across the solar supply chain: modules (blue), cells (darker purple), wafers (lighter purple), polysilicon (red), and metallurgical-grade silicon (orange). Production capacity figures in gigawatts (GW) for modules, cells, and wafers, and metric tons (mt) for polysilicon and metallurgical-grade silicon.

Changes in operations

Subject producers were asked to report any change in the character of their operations or organization relating to the production of CSPV cells and modules since 2023. Eleven of 13 producers indicated in their questionnaires that they had experienced such changes. Table 7.10 presents the changes identified by these producers.

Table 7.10 CSPV cells and modules: Count of reported changes in operations since January 1, 2023, by change and subject foreign industry

Count in number of firms reporting

Item	India	Indonesia	Laos	Subject producers
Plant openings	2	5	1	8
Plant closings	1	0	0	1
Prolonged shutdowns	0	1	0	1
Production curtailments	0	0	0	0
Relocations	0	0	0	0
Expansions	3	2	1	6
Acquisitions	0	0	0	0
Consolidations	0	0	0	0
Weather-related or force majeure events	2	0	0	2
Other	2	0	0	2
Any change	5	5	1	11

Source: Compiled from data submitted in response to Commission questionnaires.

Installed and practical overall capacity

Table 7.11 presents data on subject producers' installed capacity, practical overall capacity, and practical for CSPV cells capacity and production on the same equipment and table 7.12 presents data on subject producers' installed capacity, practical overall capacity, and practical for CSPV modules capacity and production on the same equipment.

From 2023 to 2025, subject cell producers' installed overall capacity, practical overall capacity, and practical CSPV cells capacity increased annually more than threefold year-on-year from 2023 to 2025 and was higher in interim 2026 than in interim 2025. Practical CSPV cell production grew by more than ten-fold from 2023 to 2025 and was higher in interim 2026 than in interim 2025. Practical CSPV cell capacity utilization increased overall by 17.7 percentage points from 2023 to 2025 and was higher in interim 2026 than in interim 2025.

From 2023 to 2025, subject module producers' installed overall capacity, practical overall capacity, and practical CSPV modules capacity more than doubled and was higher in interim 2026 than in interim 2025. Practical CSPV module production increased every year during 2023 to 2025, with an overall increase of 163.9 percent during the period, and was higher in interim 2026 than in interim 2025. Practical CSPV module capacity utilization increased by 11.8 percentage points from 2023 to 2025 and was higher in interim 2026 than in interim 2025.

Table 7.11 CSPV cells: Subject foreign producers' installed and practical capacity and production on the same equipment as in-scope production, by period

Capacity and production in kilowatts; utilization in percent; interim period is January to March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
Installed overall	Capacity	***	***	***	***	***
Installed overall	Production	***	***	***	***	***
Installed overall	Utilization	***	***	***	***	***
Practical overall	Capacity	***	***	***	***	***
Practical overall	Production	***	***	***	***	***
Practical overall	Utilization	***	***	***	***	***
Practical CSPV cells	Capacity	4,218,159	12,875,694	37,105,707	7,929,837	10,078,762
Practical CSPV cells	Production	2,888,477	10,615,149	31,977,453	6,248,515	9,179,932
Practical CSPV cells	Utilization	68.5	82.4	86.2	78.8	91.1

Source: Compiled from data submitted in response to Commission questionnaires.

Table 7.12 CSPV modules: Subject foreign producers' installed and practical capacity and production on the same equipment as in-scope production, by period

Capacity and production in kilowatts; utilization in percent; interim period is January to March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
Installed overall	Capacity	***	***	***	***	***
Installed overall	Production	***	***	***	***	***
Installed overall	Utilization	***	***	***	***	***
Practical overall	Capacity	***	***	***	***	***
Practical overall	Production	***	***	***	***	***
Practical overall	Utilization	***	***	***	***	***
Practical CSPV modules	Capacity	13,515,009	21,418,619	30,302,905	6,381,356	10,454,800
Practical CSPV modules	Production	9,013,938	14,661,377	23,787,267	4,516,705	7,726,665
Practical CSPV modules	Utilization	66.7	68.5	78.5	70.8	73.9

Source: Compiled from data submitted in response to Commission questionnaires.

Constraints on capacity

Tables 7.13 and 7.14 present subject producers' reported production and capacity constraints for CSPV cells and CSPV modules since January 1, 2023. Three of 13 subject foreign producers of CSPV cells reported production bottlenecks and supply of material inputs as constraints. Only one subject foreign producer of CSPV cells reported existing labor force, fuel or energy, storage capacity, and logistics constraints. Six of 13 subject foreign producers of CSPV cells reported other constraints.

Two of 13 subject foreign producers of CSPV modules reported production bottlenecks. One subject foreign producer of CSPV modules reported existing labor force, fuel or energy, and logistics constraints. Four reported supply of material inputs, while three subject foreign producers of CSPV modules reported storage capacity and five reported other constraints.

Table 7.13 CSPV cells: Constraints on practical overall capacity, by subject foreign industry

Count in number of firms reporting

Type of constraint	India	Indonesia	Laos	Subject producers
Production bottlenecks	0	3	0	3
Existing labor force	0	0	1	1
Supply of material inputs	1	2	0	3
Fuel or energy	0	0	1	1
Storage capacity	0	0	1	1
Logistics/transportation	0	0	1	1
Other constraints	4	2	0	6

Source: Compiled from data submitted in response to Commission questionnaires.

Table 7.14 CSPV modules: Constraints on practical overall capacity, by subject foreign industry

Count in number of firms reporting

Type of constraint	India	Indonesia	Laos	Subject producers
Production bottlenecks	0	2	0	2
Existing labor force	0	0	1	1
Supply of material inputs	4	0	0	4
Fuel or energy	0	0	1	1
Storage capacity	2	0	1	3
Logistics/transportation	0	0	1	1
Other constraints	4	1	0	5

Source: Compiled from data submitted in response to Commission questionnaires.

Table 7.15 CSPV cells: Producers' in subject foreign industries reported constraints to practical overall capacity since January 1, 2023, by type of constraint, subject foreign industry, and firm

Type of constraint	Subject foreign industry, firm name, and narrative response on constraints to practical overall capacity
Production bottlenecks	***
Production bottlenecks	***
Production bottlenecks	***
Existing labor force	***
Supply of material inputs	***
Supply of material inputs	***
Supply of material inputs	***
Fuel or energy	***
Storage capacity	***
Logistics/transportation	***
Other constraints	***
Other constraints	***
Other constraints	***
Other constraints	***
Other constraints	***
Other constraints	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 7.16 CSPV modules: Producers' in subject foreign industries reported constraints to practical overall capacity since January 1, 2023, by type of constraint, subject foreign industry, and firm

Type of constraint	Subject foreign industry, firm name, and narrative response on constraints to practical overall capacity
Production bottlenecks	***
Production bottlenecks	***
Existing labor force	***
Supply of material inputs	***
Supply of material inputs	***
Supply of material inputs	***
Supply of material inputs	***
Fuel or energy	***
Storage capacity	***
Storage capacity	***
Storage capacity	***
Logistics/transportation	***
Other constraints	***
Other constraints	***
Other constraints	***
Other constraints	***
Other constraints	***

Source: Compiled from data submitted in response to Commission questionnaires.

Operations on CSPV cells

Aggregate CSPV cells operations in the subject countries

Table 7.17 presents information on the CSPV cells operations of the responding producers/exporters (aggregate data for all subject foreign industries). During 2023 through 2025, subject producers' CSPV cell capacity increased by 779.7 percent and is projected to increase by 10.6 percent in 2026 and 22.2 percent in 2027. Subject producers' CSPV cell production increased by 1,007.1 percent during 2023 to 2025. Subject producers' production is projected to decrease in 2026 by 1.1 percent but expected to increase in 2027 by 27.9 percent. Overall, from 2025 to 2027, subject producers project increased CSPV cell capacity, internal consumption, and home market shipments. CSPV cells production is expected to decrease in 2026 and then increase in 2027. End-of-period inventories are projected to decrease between 2025 and 2027 as well as exports to the United States, with no exports projected for 2027. The vast majority over the period was of home market shipments, but with an increasing share to export markets. Exports to all other markets are also expected to increase.

Table 7.17 CSPV cells: Data on subject foreign industries, by item and period

Quantity in kilowatts; interim period is January to March

Item	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
Capacity	4,218,159	12,875,694	37,105,707	7,929,837	10,078,762	41,030,799	50,128,610
Production	2,888,477	10,615,149	31,977,453	6,248,515	9,179,932	31,627,915	40,441,454
End-of-period inventories	1,020,089	2,625,322	2,268,680	2,541,167	2,068,936	1,935,550	1,577,466
Internal consumption	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Home market shipments	***	***	***	***	***	***	***
Exports to the United States	***	***	***	***	***	***	***
Exports to all other markets	***	***	***	***	***	***	***
Export shipments	***	***	***	***	***	***	***
Total shipments	***	***	***	***	***	***	***

Table continued.

Table 7.17 Continued CSPV cells: Data on subject foreign industries, by period

Shares and ratios in percent; interim period is January to March

Item	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
Capacity utilization ratio	68.5	82.4	86.2	78.8	91.1	77.1	80.7
Inventory ratio to production	35.3	24.7	7.1	40.7	22.5	6.1	3.9
Inventory ratio to total shipments	***	***	***	***	***	***	***
Internal consumption share	***	***	***	***	***	***	***
Commercial home market shipments share	***	***	***	***	***	***	***
Home market shipments share	***	***	***	***	***	***	***
Exports to the United States share	***	***	***	***	***	***	***
Exports to all other markets share	***	***	***	***	***	***	***
Export shipments share	***	***	***	***	***	***	***
Total shipments share	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “—“.

Practical CSPV cell capacity and production by subject foreign industry

Table 7.18 presents information on subject producers' production, capacity, and capacity utilization by subject country.

Table 7.18 CSPV cell: Subject producers' output: Practical capacity, by source and period

Practical capacity

Capacity in kilowatts, interim period is January to March

Subject foreign industry	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
India	***	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***	***
Laos	***	***	***	***	***	***	***
All subject foreign industries	4,218,159	12,875,694	37,105,707	7,929,837	10,078,762	41,030,799	50,128,610

Table continued.

Table 7.18 Continued CSPV cells: Subject producers' output: Production, by source and period

Production

Production in kilowatts; interim period is January to March

Subject foreign industry	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
India	***	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***	***
Laos	***	***	***	***	***	***	***
All subject foreign industries	2,888,477	10,615,149	31,977,453	6,248,515	9,179,932	31,627,915	40,441,454

Table continued.

Table 7.18 Continued CSPV cells: Subject producers' output, by country and period

Capacity utilization

Capacity utilization in percent

Subject foreign industry	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
India	***	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***	***
Laos	***	***	***	***	***	***	***
All subject foreign industries	68.5	82.4	86.2	78.8	91.1	77.1	80.7

Table continued.

Note: Capacity utilization ratio represents the ratio of the subject producer's production to its production capacity.

Table 7.18 Continued CSPV cells: Subject producers' output, by country and period

Share of production

Share in percent; interim period is January to March

Subject foreign industry	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
India	***	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***	***
Laos	***	***	***	***	***	***	***
All subject foreign industries	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

CSPV cells exports, by subject country

Table 7.19 presents information on subject producers' (and resellers) exports of CSPV cells by subject country. In 2025, Laos accounted for *** percent of total shipments exported to the United States by subject foreign industry, while Indonesia accounted for *** percent, and India *** percent, in the same year. All subject foreign industries accounted for more than two-thirds of total shipments exported to the United States in 2025.

Table 7.19 CSPV cells: Subject foreign industries' exports: Exports to the United States, by subject foreign industry and period

Share in percent; interim period is January to March

Subject foreign industry	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
India	***	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***	***
Laos	***	***	***	***	***	***	***
All subject foreign industries	***	***	***	***	***	***	***

Table continued.

Table 7.19 Continued CSPV cells: Subject foreign industries' exports: Share of total shipments exported to the United States, by subject foreign industry and period

Share in percent; interim period is January to March

Subject foreign industry	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
India	***	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***	***
Laos	***	***	***	***	***	***	***
All subject foreign industries	***	***	***	***	***	***	***

Table continued.

Table 7.19 Continued CSPV cells: Subject foreign industries' exports: Total exports, by subject foreign industry and period

Share in percent; interim period is January to March

Subject foreign industry	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
India	***	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***	***
Laos	***	***	***	***	***	***	***
All subject foreign industries	***	***	***	***	***	***	***

Table continued.

Table 7.19 Continued CSPV cells: Subject foreign industries' exports: share of total shipments exported, by subject foreign industry and period

Share in percent; interim period is January to March

Subject foreign industry	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
India	***	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***	***
Laos	***	***	***	***	***	***	***
All subject foreign industries	***	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

CSPV cells inventories, by subject foreign industry

Table 7.20 presents information on ending inventory of the responding producers by subject foreign country.

Table 7.20 CSPV cells: Subject foreign industries' inventories: End of period inventories, by subject foreign industry and period

Quantity in kilowatts; Interim period is January through March

Subject foreign industry	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
India	***	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***	***
Laos	***	***	***	***	***	***	***
All subject foreign industries	1,020,089	2,625,322	2,268,680	2,541,167	2,068,936	1,935,550	1,577,466

Table continued.

Table 7.20 Continued CSPV cells: Subject foreign industries' inventories: Ratio of inventories to total shipments, by subject foreign industry and period

Ratio in percent; Interim period is January through March

Subject foreign industry	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
India	***	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***	***
Laos	***	***	***	***	***	***	***
All subject foreign industries	***	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “—“.

Aggregate CSPV module operations in the subject countries

Table 7.21 presents information on the CSPV cells operations of the responding producers/exporters (aggregate data for all subject foreign industries).

Table 7.21 CSPV modules: Data on subject foreign industries, by item and period

Quantity in kilowatts; Interim period is January through March

Item	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
Capacity	13,515,009	21,418,619	30,302,905	6,381,356	10,454,800	49,478,921	51,563,527
Production	9,013,938	14,661,377	23,787,267	4,516,705	7,726,665	30,315,422	34,549,729
End-of-period inventories	1,217,429	1,287,489	2,313,351	1,098,213	1,468,939	1,623,326	1,586,542
Internal consumption	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Home market shipments	***	***	***	***	***	***	***
Exports to the United States	***	***	***	***	***	***	***
Exports to all other markets	***	***	***	***	***	***	***
Export shipments	***	***	***	***	***	***	***
Total shipments	7,907,915	14,586,226	23,209,865	4,817,467	8,650,152	30,299,270	34,586,200
Resales exported to the United States	***	***	***	***	***	***	***
Total exports to the United States	4,427,343	3,465,410	5,557,934	1,030,020	676,554	3,670,986	2,794,794

Table continued.

Table 7.21 Continued CSPV modules: Data on subject foreign industries, by item and period

Shares and ratios in percent; Interim period is January through March

Item	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
Capacity utilization ratio	***	***	***	***	***	***	***
Inventory ratio to production	***	***	***	***	***	***	***
Inventory ratio to total shipments	***	***	***	***	***	***	***
Internal consumption share	***	***	***	***	***	***	***
Commercial home market shipments share	***	***	***	***	***	***	***
Home market shipments share	***	***	***	***	***	***	***
Exports to the United States share	***	***	***	***	***	***	***
Exports to all other markets share	***	***	***	***	***	***	***
Export shipments share	***	***	***	***	***	***	***
Total shipments share	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Producers' share of total exports to the United States	***	***	***	***	***	***	***
Resellers' share of total exports to the United States	***	***	***	***	***	***	***
Adjusted share of total shipments exported to the United States	***	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “—“.

Practical CSPV module capacity and production by subject foreign industry

Table 7.22 presents information on subject producers' production, capacity, and capacity utilization by subject country

Table 7.22 CSPV modules: Subject foreign industries' output: Practical capacity, by subject foreign industry and period

Quantity in kilowatts; Interim period is January through March

Subject foreign industry	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
India	***	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***	***
Laos	***	***	***	***	***	***	***
All subject foreign industries	13,515,009	21,418,619	30,302,905	6,381,356	10,454,800	49,478,921	51,563,527

Table continued.

Table 7.22 Continued CSPV modules: Subject foreign industries' output: Production, by subject foreign industry and period

Quantity in kilowatts; Interim period is January through March

Subject foreign industry	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
India	***	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***	***
Laos	***	***	***	***	***	***	***
All subject foreign industries	9,013,938	14,661,377	23,787,267	4,516,705	7,726,665	30,315,422	34,549,729

Table continued.

Table 7.22 Continued CSPV modules: Subject foreign industries' output: Capacity utilization ratio, by subject foreign industry and period

Ratio in percent; Interim period is January through March

Subject foreign industry	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
India	***	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***	***
Laos	***	***	***	***	***	***	***
All subject foreign industries	***	***	***	***	***	***	***

Table continued.

Table 7.22 Continued CSPV modules: Subject foreign industries' output: Share of production, by subject foreign industry and period

Share in percent; Interim period is January through March

Subject foreign industry	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
India	***	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***	***
Laos	***	***	***	***	***	***	***
All subject foreign industries	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

CSPV module exports, by subject country

Table 7.23 presents information on subject producers' (and resellers) exports of CSPV cells by subject country

Table 7.23 CSPV modules: Subject foreign producers' exports: Exports to the United States, by subject foreign industry and period

Quantity in kilowatts; Interim period is January through March

Subject foreign industry	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
India	***	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***	***
Laos	***	***	***	***	***	***	***
All subject foreign industries	4,427,343	3,465,410	5,551,286	1,025,640	676,554	3,670,986	2,794,794

Table continued.

Table 7.23 Continued CSPV modules: Subject foreign producers' exports: Share of total shipments exported to the United States, by subject foreign industry and period

Share in percent; Interim period is January through March

Subject foreign industry	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
India	***	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***	***
Laos	***	***	***	***	***	***	***
All subject foreign industries	56.0	23.8	23.9	21.3	7.8	12.1	8.1

Table continued.

Table 7.23 Continued CSPV modules: Subject foreign producers' exports: Total exports, by subject foreign industry and period

Quantity in kilowatts; Interim period is January through March

Subject foreign industry	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
India	***	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***	***
Laos	***	***	***	***	***	***	***
All subject foreign industries	***	***	***	***	***	***	***

Table continued.

Table 7.23 Continued CSPV modules: Subject foreign producers' exports: Share of total shipments exported, by subject foreign industry and period

Share in percent; Interim period is January through March

Subject foreign industry	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
India	***	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***	***
Laos	***	***	***	***	***	***	***
All subject foreign industries	***	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

CSPV module inventories, by subject foreign industry

Table 7.24 presents information on ending inventory of the responding producers by subject foreign country.

Table 7.24 CSPV modules: Subject foreign industries' inventories: End of period inventories, by subject foreign industry and period

Quantity in kilowatts; Interim period is January through March

Subject foreign industry	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
India	***	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***	***
Laos	***	***	***	***	***	***	***
All subject foreign industries	1,217,429	1,287,489	2,313,351	1,098,213	1,468,939	1,623,326	1,586,542

Table continued.

Table 7.24 Continued CSPV modules: Subject foreign industries' inventories: Ratio of inventories to total shipments, by subject foreign industry and period

Ratio in percent; Interim period is January through March

Subject foreign industry	2023	2024	2025	Interim 2025	Interim 2026	Projection 2026	Projection 2027
India	***	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***	***
Laos	***	***	***	***	***	***	***
All subject foreign industries	15.4	8.8	10.0	22.8	17.0	5.4	4.6

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Alternative products

The responding producers in India, Indonesia, and Laos did not report any production of alternative products using the same equipment and/or labor as those used to produce CSPV cells and/or modules during the period of investigations.

Exports

Tables 7.25, 7.26, and 7.27 present Global Trade Atlas ("GTA") data for exports of CSPV cells and modules from subject countries to the United States and to all destination markets.

Table 7.25 PV cells and modules: Global exports from India, by period

Value n 1,000 dollars; share of value in percent

Destination market	Measure	2023	2024	2025
United States	Value	1,787,556	1,513,782	1,224,778
Bangladesh	Value	12	19,829	18,232
United Arab Emirates	Value	2,006	256	11,413
Kenya	Value	516	411	2,099
Iran	Value	107	—	438
Canada	Value	1,245	3,443	404
Tanzania	Value	813	541	336
Libya	Value	13	—	302
Singapore	Value	401	245	271
All other destination markets	Value	43,764	13,471	3,197
Non-U.S. destination markets	Value	48,877	38,197	36,692
All destination markets	Value	1,836,433	1,551,978	1,261,470
United States	Share	97.3	97.5	97.1
Bangladesh	Share	0.0	1.3	1.4
United Arab Emirates	Share	0.1	0.0	0.9
Kenya	Share	0.0	0.0	0.2
Iran	Share	0.0	—	0.0
Canada	Share	0.1	0.2	0.0
Tanzania	Share	0.0	0.0	0.0
Libya	Share	0.0	—	0.0
Singapore	Share	0.0	0.0	0.0
All other destination markets	Share	2.4	0.9	0.3
Non-U.S. destination markets	Share	2.7	2.5	2.9
All destination markets	Share	100.0	100.0	100.0

Source: Official exports statistics under HS subheadings 8541.42 and 8541.43 as reported by national statistical authorities in the Global Trade Atlas Suite database, accessed July 17, 2026.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". United States is shown at the top followed by the top exporting countries in descending order of 2025 data.

Table 7.26 PV cells and modules: Global exports from Indonesia, by period

Value n 1,000 dollars; share of value in percent

Destination market	Measure	2023	2024	2025
United States	Value	245,089	591,577	2,149,451
India	Value	1,355	21,643	373,123
Vietnam	Value	—	16,887	237,766
Singapore	Value	2,882	8,170	186,256
Thailand	Value	—	393	113,882
China	Value	3,120	1,390	59,844
Malaysia	Value	—	1	20,410
Canada	Value	—	1,385	7,589
Philippines	Value	20	4	1,991
All other destination markets	Value	1,839	3,053	5,414
Non-U.S. destination markets	Value	9,216	52,926	1,006,275
All destination markets	Value	254,305	644,503	3,155,727
United States	Share	96.4	91.8	68.1
India	Share	0.5	3.4	11.8
Vietnam	Share	—	2.6	7.5
Singapore	Share	1.1	1.3	5.9
Thailand	Share	—	0.1	3.6
China	Share	1.2	0.2	1.9
Malaysia	Share	—	0.0	0.6
Canada	Share	—	0.2	0.2
Philippines	Share	0.0	0.0	0.1
All other destination markets	Share	0.7	0.5	0.2
Non-U.S. destination markets	Share	3.6	8.2	31.9
All destination markets	Share	100.0	100.0	100.0

Source: Official exports statistics under HS subheadings 8541.42 and 8541.43 as reported by national statistical authorities in the Global Trade Atlas Suite database, accessed July 17, 2026.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “—“. United States is shown at the top followed by the top exporting countries in descending order of 2025 data.

Table 7.27 PV cells and modules: Global exports from Laos, by period

Value n 1,000 dollars; share of value in percent

Destination market	Measure	2023	2024	2025
United States	Value	7	351,303	1,579,000
Thailand	Value	2,339	6,117	152,949
Singapore	Value	—	4,536	53,480
Malaysia	Value	—	2,131	37,770
China	Value	2	4,238	33,183
India	Value	1	4,777	23,402
Jordan	Value	2,123	6,727	8,900
Indonesia	Value	—	3,232	5,345
Taiwan	Value	—	428	753
All other destination markets	Value	62	705	460
Non-U.S. destination markets	Value	4,526	32,890	316,241
All destination markets	Value	4,532	384,194	1,895,241
United States	Share	0.1	91.4	83.3
Thailand	Share	51.6	1.6	8.1
Singapore	Share	—	1.2	2.8
Malaysia	Share	—	0.6	2.0
China	Share	0.0	1.1	1.8
India	Share	0.0	1.2	1.2
Jordan	Share	46.8	1.8	0.5
Indonesia	Share	—	0.8	0.3
Taiwan	Share	—	0.1	0.0
All other destination markets	Share	1.4	0.2	0.0
Non-U.S. destination markets	Share	99.9	8.6	16.7
All destination markets	Share	100.0	100.0	100.0

Source: Official global imports statistics from Laos (constructed exports) under HS subheadings 8541.42 and 8541.43 as reported by various national statistical authorities in the Global Trade Atlas Suite database, accessed July 17, 2026.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “—“. United States is shown at the top followed by the top exporting countries in descending order of 2025 data.

Table 7.28 presents GTA data for exports of CSPV cells and modules from subject countries to the United States and to all destination markets.

Table 7.28 CSPV cells and modules: Global exports from subject exporters: Exports to the United States, by exporter and period

Value in 1,000 dollars

Exporter	Measure	2023	2024	2025
India	Value	1,787,556	1,513,782	1,224,778
Indonesia	Value	245,089	591,577	2,149,451
Laos	Value	7	351,303	1,579,000
Subject exporters	Value	2,032,651	2,456,661	4,953,229

Table continued.

Table 7.28 Continued CSPV cells and modules: Global exports from subject exporters: Exports to all destination markets, by exporter and period

Value in 1,000 dollars

Exporter	Measure	2023	2024	2025
India	Value	1,836,433	1,551,978	1,261,470
Indonesia	Value	254,305	644,503	3,155,727
Laos	Value	4,532	384,194	1,895,241
Subject exporters	Value	2,095,270	2,580,675	6,312,438

Table continued.

Table 7.28 Continued CSPV cells and modules: Global exports from subject exporters: Share of exports exported to the United States, by exporter and period

Shares in percent

Exporter	Measure	2023	2024	2025
India	Share	97.3	97.5	97.1
Indonesia	Share	96.4	91.8	68.1
Laos	Share	0.1	91.4	83.3
Subject exporters	Share	97.0	95.2	78.5

Source: Official exports statistics and official global imports statistics from Laos (constructed exports) under HS subheadings 8541.42 and 8541.43 as reported by various national statistical authorities in the Global Trade Atlas Suite database, accessed July 17, 2026.

Note: Shares represent the shares of value exported to the United States out of all destination markets. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “—“.

U.S. inventories of imported merchandise

Table 7.29 presents data on U.S. importers' reported inventories of CSPV cells and modules. While inventory quantities from all import sources decreased irregularly from 2023 to 2025, and were lower in interim 2026 than in interim 2025, inventories from subject sources increased from 2023 to 2025 and were also lower in interim 2026 compared to interim 2025. *** accounted for nearly half of the share of total increase of inventories from subject sources between 2023 and 2025. Inventories from India were present and declined throughout the period. Inventories from Indonesia were present after 2023 and increased through interim 2026. Inventories from Laos were also present after 2023, decreasing from 2024 to 2025 and were lower in interim 2026 than in interim 2025. Inventories from nonsubject sources held the largest share during the period and were present every year, although they declined in 2025 and were lower in interim 2026 than in interim 2025.

Table 7.29 CSPV cells and modules: U.S. importers' inventories and ratio to select items, by source and period

Quantity in kilowatts; Ratio in percent; Interim period is January through March

Measure	Source	2023	2024	2025	Interim 2025	Interim 2026
Inventories quantity	India	***	***	***	***	***
Ratio to imports	India	***	***	***	***	***
Ratio to U.S. shipments of imports	India	***	***	***	***	***
Ratio to total shipments of imports	India	***	***	***	***	***
Inventories quantity	Indonesia	***	***	***	***	***
Ratio to imports	Indonesia	***	***	***	***	***
Ratio to U.S. shipments of imports	Indonesia	***	***	***	***	***
Ratio to total shipments of imports	Indonesia	***	***	***	***	***
Inventories quantity	Laos	***	***	***	***	***
Ratio to imports	Laos	***	***	***	***	***
Ratio to U.S. shipments of imports	Laos	***	***	***	***	***
Ratio to total shipments of imports	Laos	***	***	***	***	***

Table continued.

Table 7.29 CSPV (Continued) cells and modules: U.S. importers' inventories and ratio to select items, by source and period

Quantity in kilowatts; Ratio in percent; Interim period is January through March

Measure	Source	2023	2024	2025	Interim 2025	Interim 2026
Inventories quantity	Subject sources	***	***	***	***	***
Ratio to imports	Subject sources	***	***	***	***	***
Ratio to U.S. shipments of imports	Subject sources	***	***	***	***	***
Ratio to total shipments of imports	Subject sources	***	***	***	***	***
Inventories quantity	Recent order sources	***	***	***	***	***
Ratio to imports	Recent order sources	***	***	***	***	***
Ratio to U.S. shipments of imports	Recent order sources	***	***	***	***	***
Ratio to total shipments of imports	Recent order sources	***	***	***	***	***
Inventories quantity	All other sources	***	***	***	***	***
Ratio to imports	All other sources	***	***	***	***	***
Ratio to U.S. shipments of imports	All other sources	***	***	***	***	***
Ratio to total shipments of imports	All other sources	***	***	***	***	***
Inventories quantity	Nonsubject sources	***	***	***	***	***
Ratio to imports	Nonsubject sources	***	***	***	***	***
Ratio to U.S. shipments of imports	Nonsubject sources	***	***	***	***	***
Ratio to total shipments of imports	Nonsubject sources	***	***	***	***	***
Inventories quantity	All import sources	***	***	***	***	***
Ratio to imports	All import sources	***	***	***	***	***
Ratio to U.S. shipments of imports	All import sources	***	***	***	***	***
Ratio to total shipments of imports	All import sources	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “—“.

U.S. importers' outstanding orders

The Commission requested importers to indicate whether they imported or arranged for the importation of CSPV cells and modules from India, Indonesia, and Laos after March 31, 2025. Thirty-one of 45 firms indicated they arranged imports from subject and nonsubject sources. Subject sources' arranged imports decreased between the second and fourth quarters in 2026 but increased in the first quarter of 2027 compared to the previous quarter. Arranged imports from nonsubject sources were higher in three of the four quarters. Their reported data are presented in table 7.30.

Table 7.30 CSPV cells and modules: Arranged imports, by source and by period

Quantity in kilowatts

Source	Q2 2026	Q3 2026	Q4 2026	Q1 2027	Total
India	***	***	***	***	***
Indonesia	***	***	***	***	***
Laos	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Third-country trade actions

Table 7.31 provides information on trade remedy actions on CSPV cells and modules and related products in third-country markets.

Table 7.31 CSPV cells and modules: Third-country trade remedy actions, 2014-25

Date	Trade remedy action
January 2014	China imposed antidumping duties on solar-grade polysilicon from the United States and South Korea and countervailing duties on solar-grade polysilicon from the United States, all of which were later extended in January 2020.
May 2014	The European Union imposed antidumping and countervailing duties on solar glass from China, which were later extended in July 2020.
July 2015	Canada imposed antidumping and countervailing duties on certain photovoltaic modules and laminates from China, which were later extended in March 2021.
January 2016	Canada imposed AD/CVD duties on CSPV modules from China
January 2016	EU imposed antidumping (AD) duties on CSPV cells and modules from China.
January 2016	China imposed AD and countervailing (CVD) duties on polysilicon (HTS 2804.61) from the EU, Korea, and the United States.
February 2016	Conclusion of EU anti-circumvention investigation and extension of duties to certain companies in Malaysia and Taiwan.
October 2016	Australia terminated an AD investigation on module imports from China.
April 2017	Turkey imposed AD duties on modules from China, with rates ranging from $20 - $25 per square meter.
April 2017	Korea imposed AD duties on PET film (HTS 3920.90) from Chinese Taipei, Thailand, and the United Emirates.
August 2017	India imposed duties on glass for PV modules from China.
September 2017	EU announced that it would progressively reduce minimum import prices.
November 2017	China adjusts AD duties on polysilicon (HTS 2804.61) from Korea from 4.4 percent to 113.8 percent.
December 2017	Indonesia initiated a sunset review on biaxially oriented polypropylene (BOPP) (HS 3920.20.10, 3920.20.91, 3920.20) from Thailand and Vietnam. Quota limits were placed on Biaxially Oriented Polypropylene from Thailand.
February 2018	Brazil initiated anti-dumping investigations on polyethylene terephthalate films from the Kingdom of Bahrain and Peru. AD duties of $480.15/ton on imports from the Kingdom of Bahrain and $123.20/ton on imports from Peru were effective January 7, 2019.
March 2018	Indian Solar Manufacturers Association withdrew an AD petition.
April 2018	India initiated an AD investigation on ethyl vinyl acetate sheet for solar modules (HTS 3901, 3920, 3921) from China. Anti-dumping duties on China were enforced March 29, 2019.
May 2018	The EU initiated an AD investigation on solar glass (HS 7007.19) from Malaysia.
June 2018	India initiated AD and CVD investigations on textured tempered coated and uncoated glass (7007.19) from Malaysia. On February 26, 2019, India imposed duties of $114.58 per MT.
July 2018	India imposed safeguard duties on solar cells and modules. Developing countries except China and Malaysia, were exempt. The duties include 25 percent in the first year, 20 percent for the first six months of the second year and 15 percent thereafter.
September 2018	EU terminated measures on cells and modules from China.

Table continued.

Table 7.31 Continued CSPV cells and modules: Third-country trade remedy actions, 2014-25

Date	Trade remedy action
November 2018	China duties on polysilicon (HS 2804.61) imports from the EU expired.
January 2019	China initiated a sunset review of polysilicon (HTS 2804.61) imports from Korea and the United States. AD/CVD measures against Korea and the United States were continued.
March 2019	India imposed antidumping duties on imports of ethyl vinyl acetate sheet for solar modules from China. India also imposed antidumping duties on ethyl vinyl acetate sheet for solar modules from Malaysia, Saudi Arabia, and Thailand on March 29, 2019, which were later terminated on March 28, 2024.
August 2019	Indonesia initiated AD investigations on BOPP (HTS 3920.20.10, 3920.20.91, 3920.20) from China and Malaysia.
January 2020	China imposed a 5-year extension on AD duties on imports of solar-grade polysilicon from Korea and the United States.
July 2020	India reviewed the safeguard duty on PV solar cells and modules and granted a one-year extension for products imported from China, Thailand, and Vietnam. Malaysian products were exempted from the safeguard duties.
July 2020	EU extended AD duties on imports of solar glass from China.
March 2021	India announced that it would impose a basic customs duty of 25 percent on PV cells and 40 percent on PV modules, effective April 1, 2022.
September 2022	India announced that no measure would be imposed on solar cells from China, Thailand, Vietnam, as the investigation was terminated.
September 2024	Turkey imposed antidumping duties on imports of solar panels on Croatia, Jordan, Malaysia, Thailand, and Vietnam. Imports from these countries were found to be circumventing the $20 per square meter duty imposed on Chinese solar modules.
September 2024	India imposed antidumping duties on imports of aluminum frames for solar panels from China in September 2024.
September 2024	India initiated an antidumping investigation into imports of solar cells and modules from China on September 30, 2024.
May 2025	India imposed antidumping duties on imports of textured tempered coated and uncoated glass, otherwise known as solar glass, from China and Vietnam in May 2025.

Source: Second Monitoring publication, pp. I-61—I-62; World Trade Organization, Trade Remedies Data Portal, accessed May 19, 2026, https://trade-remedies.wto.org/en; World Trade Organization, Semi-annual Report Under Article 16.4 of the Agreement, March 4, 2026, p. 46; Ministry of Finance, No. 11/2025-CSTOMS(ADD), May 8, 2025, https://taxguru.in/custom-duty/india-imposes-anti-dumping-duty-solar-glass-imports.html.

Information on nonsubject countries

Global exports of PV cells and modules (including out-of-scope thin film products) decreased by 35.2 percent during 2023 to 2025, from $70.2 billion in 2023 to $45.5 billion in 2025. China was the largest global exporter of CSPV cells and modules in 2025, with exports totaling $28.2 billion, or 62.0 percent of total exports by value (table 7.32). After China, the next largest global exporters in 2025 were Indonesia (with exports totaling $3.2 billion, or 6.9 percent of total exports), the Netherlands (with exports totaling $3.1 billion, or 6.8 percent of total exports), and Thailand (with exports totaling $1.4 billion, or 3.0 percent of total exports).[1]

[1] Official exports statistics from Vietnam under HS subheadings 8541.42 and 8541.43 are not available for 2025. However, in 2023 Vietnam was the second largest global exporter after China, with exports totaling $8.2 billion. The Netherlands is the largest global importer of CSPV modules, the vast majority of which come from China. The Netherlands re-exports approximately 60 percent of those imports, primarily to other countries within the European Union. Statistics Netherlands, "The Netherlands largest importer of Chinese solar panels," September 8, 2023, https://www.cbs.nl/en-gb/news/2023/36/the-netherlands-largest-importer-of-chinese-solar-panels.

Table 7.32 PV cells and modules: Global exports, by reporting country and by period

Value n 1,000 dollars; share of value in percent

Exporting country	Measure	2023	2024	2025
United States	Value	93,436	67,335	86,895
India	Value	1,836,433	1,551,978	1,261,470
Indonesia	Value	254,305	644,503	3,155,727
Laos	Value	4,532	384,194	1,895,241
Subject exporters	Value	2,095,270	2,580,675	6,312,438
China	Value	43,681,408	30,598,704	28,199,518
Netherlands	Value	8,042,436	4,436,174	3,096,759
Thailand	Value	4,237,808	2,664,564	1,357,330
Malaysia	Value	4,165,078	2,423,175	969,303
Singapore	Value	520,433	331,176	796,711
Slovenia	Value	546,566	585,665	631,821
Belgium	Value	859,194	551,527	622,730
All other exporters	Value	5,965,253	3,829,240	3,398,843
All reporting exporters	Value	70,206,881	48,068,236	45,472,348
United States	Share	0.1	0.1	0.2
India	Share	2.6	3.2	2.8
Indonesia	Share	0.4	1.3	6.9
Laos	Share	0.0	0.8	4.2
Subject exporters	Share	3.0	5.4	13.9
China	Share	62.2	63.7	62.0
Netherlands	Share	11.5	9.2	6.8
Thailand	Share	6.0	5.5	3.0
Malaysia	Share	5.9	5.0	2.1
Singapore	Share	0.7	0.7	1.8
Slovenia	Share	0.8	1.2	1.4
Belgium	Share	1.2	1.1	1.4
All other exporters	Share	8.5	8.0	7.5
All reporting exporters	Share	100.0	100.0	100.0

Source: Official exports statistics under HS subheadings 8541.42 and 8541.43 as reported by various national statistical authorities in the Global Trade Atlas Suite database, accessed July 17, 2026.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “—“. United States is shown at the top followed by the top exporting countries in descending order of 2025 data.

China

China is the largest global producer of PV cells and modules (including out-of-scope thin film products) by a wide margin, accounting for the large majority of total production in both sectors. China's capacity to produce PV cells increased from 930 GW in 2023 to approximately 1,302 GW in 2024, or approximately 91 percent of the global total.[2] During 2023 to 2024, Chinese PV module capacity increased from 920 GW to 1,156 GW, and Chinese PV module production increased from 510 GW to 627 GW.[3]

In 2025, Chinese exports of PV cells (including out-of-scope thin film) were valued at approximately $4.5 billion, while exports of PV modules (including out-of-scope thin film) were valued at $23.7 billion.[4] The top five export destinations in 2025, by value, for PV cells were India (44.0 percent), Indonesia (22.8 percent), Turkey (8.3 percent), Philippines (3.6 percent), and Laos (2.7 percent).[5] The top five export destinations in 2025, by value, for PV modules were the Netherlands (13.4 percent), Pakistan (6.8 percent), Brazil (5.5 percent), India (4.0 percent), and the United Arab Emirates (3.9 percent).[6]

[2] IEA, *Trends in Photovoltaic Applications 2025*, accessed May 19, 2026, p. 57, IEA-PVPS_Trends_2025-.pdf.

[3] IEA, *Trends in Photovoltaic Applications 2025*, accessed May 19, 2026, p. 58, IEA-PVPS_Trends_2025-.pdf.

[4] Official exports statistics under HS subheadings 8541.42 and 8541.43 for China from China's customs as reported in the Global Trade Atlas Suite database, accessed May 20, 2026.

[5] Official exports statistics under HS subheading 8541.42 for China from China's customs as reported in the Global Trade Atlas Suite database, accessed May 20, 2026.

[6] Official exports statistics under HS subheading 8541.43 for China from China's customs as reported in the Global Trade Atlas Suite database, accessed May 20, 2026.

APPENDIX A

FEDERAL REGISTER NOTICES

The Commission makes available notices relevant to its investigations and reviews on its website, www.usitc.gov. In addition, the following tabulation presents, in chronological order, Federal Register notices issued by the Commission and Commerce during the current proceeding.

Citation	Title	Link
90 FR 34518, July 22, 2025	Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From India, Indonesia, and Laos; Institution of Antidumping and Countervailing Duty Investigations and Scheduling of Preliminary Phase Investigations	https://www.govinfo.gov/content/pkg/FR-2025-07-22/pdf/2025-13756.pdf
90 FR 38736, August 12, 2025	Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From India, Indonesia, and the Lao People's Democratic Republic: Initiation of Less-Than-Fair-Value Investigations	https://www.govinfo.gov/content/pkg/FR-2025-08-12/pdf/2025-15250.pdf
90 FR 38745 August 12, 2025	Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From India, Indonesia, and the Lao People's Democratic Republic: Initiation of Countervailing Duty Investigations	https://www.govinfo.gov/content/pkg/FR-2025-08-12/pdf/2025-15251.pdf
90 FR 42983 September 5, 2025	Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules From India, Indonesia, and Laos; Determinations	https://www.govinfo.gov/content/pkg/FR-2025-09-05/pdf/2025-16986.pdf
91 FR 7960 February 19, 2026	Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From India, Indonesia, and the Lao People's Democratic Republic: Postponement of Preliminary Determinations in the Less-Than-Fair-Value Investigations	https://www.govinfo.gov/content/pkg/FR-2026-02-19/pdf/2026-03288.pdf
91 FR 9555 February 26, 2026	Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From India: Preliminary Affirmative Countervailing Duty Determination, Preliminary Affirmative Critical Circumstances Determination, in Part, and Alignment of Final Determination With Final Antidumping Duty Determination	https://www.govinfo.gov/content/pkg/FR-2026-02-26/pdf/2026-03895.pdf

Citation	Title	Link
91 FR 9564 February 26, 2026	Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules From Indonesia: Preliminary Affirmative Countervailing Duty Determination, Preliminary Affirmative Critical Circumstances Determination, in Part, and Alignment of Final Determination With Antidumping Duty Determination	https://www.govinfo.gov/content/pkg/FR-2026-02-26/pdf/2026-03896.pdf
91 FR 9568 February 26, 2026	Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules From the Lao People's Democratic Republic: Preliminary Affirmative Countervailing Duty Determination, Preliminary Negative Critical Circumstances Determination, and Alignment of Final Determination With Final Antidumping Duty Determination	https://www.govinfo.gov/content/pkg/FR-2026-02-26/pdf/2026-03897.pdf
91 FR 22798 April 28, 2026	Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules From India: Preliminary Affirmative Determination of Sales at Less Than Fair Value, and Preliminary Affirmative Determination of Critical Circumstances, in Part	https://www.govinfo.gov/content/pkg/FR-2026-04-28/pdf/2026-08194.pdf
91 FR 22802 April 28, 2026	Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From Indonesia: Preliminary Affirmative Determination of Sales at Less Than Fair Value, Preliminary Affirmative Determination of Critical Circumstances, in Part	https://www.govinfo.gov/content/pkg/FR-2026-04-28/pdf/2026-08193.pdf
91 FR 22794 April 28, 2026	Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From the Lao People's Democratic Republic: Preliminary Affirmative Determination of Sales at Less Than Fair Value, Preliminary Affirmative Determination of Critical Circumstances, in Part, and Postponement of Final Determination and Extension of Provisional Measures	https://www.govinfo.gov/content/pkg/FR-2026-04-28/pdf/2026-08192.pdf

Citation	Title	Link
91 FR 27078 May 13, 2026	Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From India, Indonesia, and Laos; Scheduling of the Final Phase of Antidumping and Countervailing Duty Investigations	https://www.govinfo.gov/content/pkg/FR-2026-05-13/pdf/2026-09531.pdf
91 FR 58643 September 16, 2026	Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From India: Final Affirmative Countervailing Duty Determination and the Final Affirmative Critical Circumstances Determination, in Part	https://www.govinfo.gov/content/pkg/FR-2026-09-16/pdf/2026-18947.pdf
91 FR 58658 September 16, 2026	Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules From India: Final Affirmative Determination of Sales at Less Than Fair Value, and Final Affirmative Determination of Critical Circumstances, In Part	https://www.govinfo.gov/content/pkg/FR-2026-09-16/pdf/2026-18945.pdf
91 FR 58647 September 16, 2026	Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules From Indonesia: Final Affirmative Countervailing Duty Determination and Final Affirmative Determination of Critical Circumstances, in Part	https://www.govinfo.gov/content/pkg/FR-2026-09-16/pdf/2026-18940.pdf
91 FR 58651 September 16, 2026	Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From Indonesia: Final Affirmative Determination of Sales at Less Than Fair Value and Final Affirmative Determination of Critical Circumstances	https://www.govinfo.gov/content/pkg/FR-2026-09-16/pdf/2026-18939.pdf
91 FR 58638 September 16, 2026	Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules From the Lao People's Democratic Republic: Final Affirmative Countervailing Duty Determination and Final Affirmative Determination of Critical Circumstances, in Part	https://www.govinfo.gov/content/pkg/FR-2026-09-16/pdf/2026-18942.pdf
91 FR 58633 September 16, 2026	Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From the Lao People's Democratic Republic: Final Affirmative Determination of Sales at Less Than Fair Value and Final Affirmative Determination of Critical Circumstances, in Part	https://www.govinfo.gov/content/pkg/FR-2026-09-16/pdf/2026-18941.pdf

APPENDIX B

LIST OF HEARING WITNESSES

CALENDAR OF PUBLIC HEARING

Those listed below appeared as witnesses at the United States International Trade Commission's hearing:

Subject: Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules, from India, Indonesia, and Laos

Inv. Nos.: 701-TA-772-774 and 731-TA-1756-1758 (Final)

Date and Time: September 9, 2026 – 9:30 a.m.

Sessions were held in connection with these investigations in the Main Hearing Room (Room 101), 500 E Street, SW., Washington, DC.

OPENING REMARKS:

In Support of Imposition (**Laura El-Sabaawi**, Wiley Rein LLP)
In Opposition of Imposition (**Justin R. Becker**, Sidley Austin LLP)

In Support of the Imposition of the Antidumping and Countervailing Duty Orders:

Wiley Rein LLP
Washington, D.C.
on behalf of

Alliance for American Solar Manufacturing and Trade (the "Alliance")

Jack Groarke, Director of Government Relations, Hanwha Q CELLS USA

Scott Moskowitz, Senior Director of Market Strategy and Public Affairs, Hanwha Q CELLS USA

Sam Martens, President, Mission Solar

Matt Card, President and Chief Operating Officer, Suniva

Adam Tesanovich (remote), Co-Founder and Chief Executive Officer, Talon PV

Seth Kaplan, President, International Economic Research LLC

In Support of the Imposition of the
Antidumping and Countervailing Duty Orders (continued):

Andrew Szamosszegi, Principal, Capital Trade

Nathan Smith, Research Analyst, Capital Trade

Timothy Brightbill)
) – OF COUNSEL
Laura El-Sabaawi)

In Opposition to the Imposition of the
Antidumping and Countervailing Duty Orders:

Sidley Austin LLP
Washington, D.C.
on behalf of

Mundra Solar Energy Limited ("MSEL")
Mundra Solar PV Limited ("MSPVL")
Premier Energies Photovoltaic Private Limited ("Premier")
LaBalbo Enterprises
(collectively, "Mundra Solar")

Mark Joseph LaBalbo, President, LaBalbo Enterprises

Rishabh Sharma (remote), Global Head – Sales & Marketing, Mundra Solar Energy Limited and Mundra Solar PV Limited, Adani Group

Srini Adapa (remote), Chief Growth Officer, Premier Energies Photovoltaic Private Limited

Justin R. Becker)
Rajib Pal) – OF COUNSEL
Allison Reading)

In Opposition to the Imposition of the
Antidumping and Countervailing Duty Orders (continued):

Hogan Lovells Cadwalader US LLP
Washington, D.C.
on behalf of

BYD America LLC ("BYD")

Craig A. Lewis)
) – OF COUNSEL
Nicholas W. Laneville)

REBUTTAL/CLOSING REMARKS:

In Support of Imposition (**Timothy Brightbill,** Wiley Rein LLP)
In Opposition of Imposition (**Craig A. Lewis**, Hogan Lovells Cadwalader US LLP *and*
Justin R. Becker, Sidley Austin LLP)

APPENDIX C

SUMMARY DATA

Table C.1: CSPV Cells and Modules: Summary data concerning the U.S. market C.3
Table C.2: CSPV Cells: Summary data concerning the U.S. market C.5
Table C.3: CSPV Modules: Summary data concerning the U.S. market..... C.7

Single like product: Co-extensive

Table C.1
CSPV cells and modules: Summary data concerning the U.S. market, by item and period
Quantity=kilowatts; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per kilowatt; Period changes=percent--exceptions noted; Interim period is January through March

	Reported data					Period change comparisons			
	Calendar year			Interim		Calendar year			Interim
Item	2023	2024	2025	2025	2026	2023–25	2023–24	2024–25	2025–26
U.S. consumption quantity:									
Amount	***	***	***	***	***	▲***	▲***	▲***	▼***
Producers' share (fn1)	***	***	***	***	***	▲***	▲***	▲***	▲***
Importers' share (fn1):									
India	***	***	***	***	***	▼***	▼***	▼***	▼***
Indonesia	***	***	***	***	***	▲***	▲***	▲***	▲***
Laos	***	***	***	***	***	▲***	▲***	▲***	▼***
Subject sources	***	***	***	***	***	▲***	▼***	▲***	▲***
Recent order sources	***	***	***	***	***	▼***	▲***	▼***	▼***
All other sources	***	***	***	***	***	▼***	▼***	▼***	▲***
Nonsubject sources	***	***	***	***	***	▼***	▲***	▼***	▼***
All import sources	***	***	***	***	***	▼***	▼***	▼***	▼***
U.S. consumption value:									
Amount	***	***	***	***	***	▼***	▼***	▼***	▲***
Producers' share (fn1):									
Fully domestic value	***	***	***	***	***	▲***	▲***	▲***	▲***
Value added to imports	***	***	***	***	***	▲***	▲***	▲***	▲***
Overall value for U.S. producers	***	***	***	***	***	▲***	▲***	▲***	▲***
Importers' share (fn1):									
India	***	***	***	***	***	▼***	▼***	▼***	▼***
Indonesia	***	***	***	***	***	▲***	▲***	▲***	▲***
Laos	***	***	***	***	***	▲***	▲***	▲***	▼***
Subject sources	***	***	***	***	***	▲***	▼***	▲***	▼***
Recent order sources	***	***	***	***	***	▼***	▲***	▼***	▼***
All other sources	***	***	***	***	***	▼***	▼***	▼***	▲***
Nonsubject sources	***	***	***	***	***	▼***	▼***	▼***	▼***
All import sources	***	***	***	***	***	▼***	▼***	▼***	▼***
U.S. importers' U.S. shipments of imports from:									
India:									
Quantity	***	***	***	***	***	▼***	▼***	▼***	▼***
Value	***	***	***	***	***	▼***	▼***	▼***	▼***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▼***	▼***	▼***	▼***
Indonesia:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Value	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Laos:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▼***
Value	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit value	***	***	***	***	***	▲***	▲***	▼***	▼***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▼***	▼***
Subject sources:									
Quantity	***	***	***	***	***	▲***	▼***	▲***	▲***
Value	***	***	***	***	***	▲***	▼***	▲***	▼***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▼***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▼***
Recent order sources:									
Quantity	***	***	***	***	***	▼***	▲***	▼***	▼***
Value	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▼***	▲***	▼***	▼***
All other sources:									
Quantity	***	***	***	***	***	▼***	▼***	▼***	▲***
Value	***	***	***	***	***	▼***	▼***	▼***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▼***	▼***	▼***	▲***
Nonsubject sources:									
Quantity	***	***	***	***	***	▼***	▲***	▼***	▼***
Value	***	***	***	***	***	▼***	▼***	▼***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▼***	▲***	▼***	▼***
All import sources:									
Quantity	45,645,041	48,680,065	49,855,222	8,500,279	7,594,994	▲9.2	▲6.6	▲2.4	▼(10.7)
Value	15,495,646	12,712,264	9,520,420	1,546,428	1,584,774	▼(38.6)	▼(18.0)	▼(25.1)	▲2.5
Unit value	$339	$261	$191	$182	$209	▼(43.7)	▼(23.1)	▼(26.9)	▲14.7
Ending inventory quantity	6,189,051	7,479,462	4,645,032	7,203,876	3,279,531	▼(24.9)	▲20.8	▼(37.9)	▼(54.5)

Table continued.

Table C.1 Continued
CSPV cells and modules: Summary data concerning the U.S. market, by item and period

Quantity=kilowatts; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per kilowatt; Period changes=percent--exceptions noted; Interim period is January through March

	Reported data					Period change comparisons			
	Calendar year			Interim		Calendar year			Interim
Item	2023	2024	2025	2025	2026	2023–25	2023–24	2024–25	2025–26
U.S. producers':									
Cells: Practical capacity quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Cells: Production quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Cells: Capacity utilization (fn1)	***	***	***	***	***	▲***	▲***	▲***	▲***
Modules: Practical capacity quantity	5,231,791	15,250,113	30,828,207	6,655,683	8,480,201	▲489.2	▲191.5	▲102.2	▲27.4
Modules: Production quantity	3,188,820	10,552,020	22,779,446	5,000,512	7,377,432	▲614.4	▲230.9	▲115.9	▲47.5
Modules: Capacity utilization (fn1)	61.0	69.2	73.9	75.1	87.0	▲12.9	▲8.2	▲4.7	▲11.9
Modules: U.S. shipments:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Value	***	***	***	***	***	▲***	▲***	▲***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▲***	▲***
Ratio to consumption, quantity (fn1)	***	***	***	***	***	▲***	▲***	▲***	▲***
Ratio to consumption, value (fn1)	***	***	***	***	***	▲***	▲***	▲***	▲***
Cells and modules: U.S. shipments for use in apparent consumption (fn3):									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Value:									
Fully domestic value	***	***	***	***	***	▲***	▲***	▲***	▲***
Value added to imports	***	***	***	***	***	▲***	▲***	▲***	▲***
Overall value for U.S. producers	***	***	***	***	***	▲***	▲***	▲***	▲***
Cells and modules: Export shipments:									
Quantity	***	***	***	***	***	***	***	***	▲***
Value	***	***	***	***	***	***	***	***	▲***
Unit value	***	***	***	***	***	***	***	***	▲***
Cells: Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Cells: Inventories/total shipments (fn1)	***	***	***	***	***	▲***	▲***	▼***	▼***
Modules: Ending inventory quantity	***	***	***	***	***	▲***	▲***	▼***	▲***
Modules: Inventories/total shipments (fn1)	***	***	***	***	***	▼***	▲***	▼***	▼***
Production workers	***	***	***	***	***	▲***	▲***	▲***	▲***
Hours worked (1,000s)	***	***	***	***	***	▲***	▲***	▲***	▲***
Wages paid ($1,000)	***	***	***	***	***	▲***	▲***	▲***	▲***
Hourly wages (dollars per hour)	***	***	***	***	***	▼***	▲***	▼***	▼***
Cells: Productivity (kilowatts per 1,000 hours)	***	***	***	***	***	▲***	▲***	▲***	▼***
Modules: Productivity (kilowatts per 1,000 hours	***	***	***	***	***	▲***	▲***	▲***	▼***
Cells: Unit labor costs	***	***	***	***	***	▲***	▲***	▼***	▲***
Modules: Unit labor costs	***	***	***	***	***	▼***	▼***	▼***	▼***
Cells and modules:									
Net sales:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Value	***	***	***	***	***	▲***	▲***	▲***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▲***	▲***
Cost of goods sold (COGS)	***	***	***	***	***	▲***	▲***	▲***	▲***
Gross profit or (loss) (fn4)	***	***	***	***	***	▼***	▼***	▲***	▼***
SG&A expenses	***	***	***	***	***	▲***	▲***	▲***	▲***
Operating income or (loss) (fn4)	***	***	***	***	***	▼***	▼***	▼***	▼***
Net income or (loss) (fn4)	***	***	***	***	***	▼***	▼***	▼***	▼***
Unit COGS	***	***	***	***	***	▼***	▼***	▼***	▲***
Unit SG&A expenses	***	***	***	***	***	▼***	▼***	▲***	▼***
Unit operating income or (loss) (fn4)	***	***	***	***	***	▼***	▼***	▲***	▼***
Unit net income or (loss) (fn4)	***	***	***	***	***	▼***	▼***	▼***	▼***
COGS/sales (fn1)	***	***	***	***	***	▲***	▲***	▼***	▲***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▼***	▲***	▼***
Net income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▼***	▼***	▼***
Capital expenditures	***	***	***	***	***	▲***	▲***	▼***	▼***
Research and development expenses	***	***	***	***	***	▼***	▲***	▼***	▲***
Total assets	***	***	***	***	***	▲***	▲***	▲***	***

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026. 508-compliant tables for these data are contained in parts 3, 4, 6, and 7 of this report.

Note.--Shares and ratios shown as "0.0" percent represent non-zero values less than "0.05" percent (if positive) and greater than "(0.05)" percent (if negative). Zeroes, null values, and undefined calculations are suppressed and shown as "—". Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease. Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included.

fn1.--Reported data are in percent and period changes are in percentage points.
fn2.--Percent changes suppressed because they are not meaningful due to having a small base starting year.
fn3.--Quantity for U.S. producers' U.S. shipments only reflects domestically produced cells to assemble into modules. Value for U.S. producers' U.S. shipments reflects domestically produced cells to assemble into modules and the incremental value added by U.S. module producers to imported CSPV cells. In measuring consumption and market share this methodology avoids reclassifying and/or double counting merchandise already reported as an import.
fn4.--Percent changes only calculated when both comparison values represent profits; the directional change in profitability provided when one or both comparison values represent a loss.

Split like product: Cells only

Table C.2
CSPV cells: Summary data concerning the U.S. market, by item and period
Quantity=kilowatts; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per kilowatt; Period changes=percent--exceptions noted; Interim period is January through March

	Reported data					Period change comparisons			
	Calendar year			Interim		Calendar year			Interim
Item	2023	2024	2025	2025	2026	2023–25	2023–24	2024–25	2025–26
U.S. consumption quantity:									
Amount	***	***	***	***	***	▲***	▲***	▲***	▼***
Producers' share (fn1)	***	***	***	***	***	▲***	▲***	▲***	▲***
Importers' share (fn1):									
India	***	***	***	***	***	▼***	▼***	▼***	▼***
Indonesia	***	***	***	***	***	▲***	▼***	▲***	▲***
Laos	***	***	***	***	***	▲***	▲***	▲***	▼***
Subject sources	***	***	***	***	***	▲***	▼***	▲***	▲***
Recent order sources	***	***	***	***	***	▼***	▲***	▼***	▼***
All other sources	***	***	***	***	***	▼***	▼***	▼***	▲***
Nonsubject sources	***	***	***	***	***	▼***	▲***	▼***	▼***
All import sources	***	***	***	***	***	▼***	▼***	▼***	▼***
U.S. consumption value:									
Amount	***	***	***	***	***	▲***	▲***	▲***	▼***
Producers' share (fn1)	***	***	***	***	***	▲***	▲***	▲***	▲***
Importers' share (fn1):									
India	***	***	***	***	***	▼***	▼***	▼***	▼***
Indonesia	***	***	***	***	***	▲***	▼***	▲***	▲***
Laos	***	***	***	***	***	▲***	▲***	▲***	▼***
Subject sources	***	***	***	***	***	▲***	▼***	▲***	▲***
Recent order sources	***	***	***	***	***	▼***	▼***	▼***	▼***
All other sources	***	***	***	***	***	▼***	▲***	▼***	▲***
Nonsubject sources	***	***	***	***	***	▼***	▲***	▼***	▼***
All import sources	***	***	***	***	***	▼***	▼***	▼***	▼***
U.S. importers' U.S. shipments of imports from:									
India:									
Quantity	***	***	***	***	***	▼***	▲***	▼***	▼***
Value	***	***	***	***	***	▼***	▼***	▼***	▼***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▼***	▼***	▼***	▼***
Indonesia:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Value	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Laos:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▼***
Value	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▼***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▼***	▼***
Subject sources:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Value	***	***	***	***	***	▲***	▲***	▲***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▼***
Recent order sources:									
Quantity	***	***	***	***	***	▲***	▲***	▼***	▼***
Value	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▼***	▲***	▼***	▼***
All other sources:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Value	***	***	***	***	***	▲***	▲***	▲***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▲***	▲***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▼***
Value	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit value	***	***	***	***	***	▼***	▼***	▲***	▲***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▼***	▼***
All import sources:									
Quantity	3,657,078	11,425,866	23,624,253	4,834,305	3,265,867	▲546.0	▲212.4	▲106.8	▼(32.4)
Value	698,950	1,425,104	2,713,413	614,630	541,179	▲288.2	▲103.9	▲90.4	▼(12.0)
Unit value	$191	$125	$115	$127	$166	▼(39.9)	▼(34.7)	▼(7.9)	▲30.3
Ending inventory quantity	1,069,504	3,024,423	2,104,158	2,429,684	1,027,414	▲96.7	▲182.8	▼(30.4)	▼(57.7)

Table continued.

Table C.2 Continued
CSPV cells: Summary data concerning the U.S. market, by item and period
Quantity=kilowatts; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per kilowatt; Period changes=percent--exceptions noted; Interim period is January through March

	Reported data					Period change comparisons			
	Calendar year			Interim		Calendar year			Interim
Item	2023	2024	2025	2025	2026	2023–25	2023–24	2024–25	2025–26
U.S. producers':									
Practical capacity quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Production quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Capacity utilization (fn1)	***	***	***	***	***	▲***	▲***	▲***	▲***
U.S. shipments:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Value	***	***	***	***	***	▲***	▲***	▲***	▲***
Unit value	***	***	***	***	***	▲***	▲***	▼***	▼***
Export shipments:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Inventories/total shipments (fn1)	***	***	***	***	***	▲***	▲***	▼***	▼***
Production workers	***	***	***	***	***	▲***	▲***	▲***	▲***
Hours worked (1,000s)	***	***	***	***	***	▲***	▲***	▲***	▲***
Wages paid ($1,000)	***	***	***	***	***	▲***	▲***	▲***	▲***
Hourly wages (dollars per hour)	***	***	***	***	***	▲***	▲***	▼***	▼***
Productivity (kilowatts per 1,000 hours)	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit labor costs	***	***	***	***	***	▲***	▲***	▼***	▲***
Net sales:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Value	***	***	***	***	***	▲***	▲***	▲***	▲***
Unit value	***	***	***	***	***	▲***	▲***	▼***	▼***
Cost of goods sold (COGS)	***	***	***	***	***	▲***	▲***	▲***	▲***
Gross profit or (loss) (fn3)	***	***	***	***	***	▼***	▲***	▼***	▼***
SG&A expenses	***	***	***	***	***	▲***	▲***	▲***	▲***
Operating income or (loss) (fn3)	***	***	***	***	***	▼***	▼***	▼***	▼***
Net income or (loss) (fn3)	***	***	***	***	***	▼***	▼***	▼***	▼***
Unit COGS	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit SG&A expenses	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit operating income or (loss) (fn3)	***	***	***	***	***	▼***	▼***	▲***	▲***
Unit net income or (loss) (fn3)	***	***	***	***	***	▼***	▼***	▲***	▲***
COGS/sales (fn1)	***	***	***	***	***	▲***	▲***	▲***	▼***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▼***	▲***	▲***
Net income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▼***	▲***	▲***
Capital expenditures	***	***	***	***	***	▲***	▲***	▼***	▲***
Research and development expenses	***	***	***	***	***	***	***	***	***
Total assets	***	***	***	***	***	▲***	▲***	▲***	***

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026. 508-compliant tables for these data are contained in parts 3, 4, 6, and 7 and appendix F of this report.

Note.--Shares and ratios shown as "0.0" percent represent non-zero values less than "0.05" percent (if positive) and greater than "(0.05)" percent (if negative). Zeroes, null values, and undefined calculations are suppressed and shown as "—". Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease. Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included.

fn1.--Reported data are in percent and period changes are in percentage points.
fn2.--Percent changes suppressed because they are not meaningful due to having a small base starting year.
fn3.--Percent changes only calculated when both comparison values represent profits; the directional change in profitability provided when one or both comparison values represent a loss.

Split like product: Modules only

Table C.3
CSPV modules: Summary data concerning the U.S. market, by item and period

Quantity=kilowatts; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per kilowatt; Period changes=percent--exceptions noted; Interim period is January through March

	Reported data					Period change comparisons			
	Calendar year			Interim		Calendar year			Interim
Item	2023	2024	2025	2025	2026	2023–25	2023–24	2024–25	2025–26
U.S. consumption quantity:									
Amount	***	***	***	***	***	▲***	▲***	▲***	▲***
Producers' share (fn1)	***	***	***	***	***	▲***	▲***	▲***	▲***
Importers' share (fn1):									
India	***	***	***	***	***	▼***	▼***	▼***	▼***
Indonesia	***	***	***	***	***	▲***	▲***	▲***	▲***
Laos	***	***	***	***	***	▲***	▲***	▲***	▼***
Subject sources	***	***	***	***	***	▲***	▼***	▲***	▼***
Recent order sources	***	***	***	***	***	▼***	▲***	▼***	▼***
All other sources	***	***	***	***	***	▼***	▼***	▼***	▲***
Nonsubject sources	***	***	***	***	***	▼***	▼***	▼***	▼***
All import sources	***	***	***	***	***	▼***	▼***	▼***	▼***
U.S. consumption value:									
Amount	***	***	***	***	***	▼***	▼***	▼***	▲***
Producers' share (fn1)	***	***	***	***	***	▲***	▲***	▲***	▲***
Importers' share (fn1):									
India	***	***	***	***	***	▼***	▼***	▼***	▼***
Indonesia	***	***	***	***	***	▲***	▲***	▲***	▲***
Laos	***	***	***	***	***	▲***	▲***	▲***	▼***
Subject sources	***	***	***	***	***	▲***	▼***	▲***	▼***
Recent order sources	***	***	***	***	***	▼***	▲***	▼***	▼***
All other sources	***	***	***	***	***	▼***	▼***	▼***	▲***
Nonsubject sources	***	***	***	***	***	▼***	▼***	▼***	▲***
All import sources	***	***	***	***	***	▼***	▼***	▼***	▼***
U.S. importers' U.S. shipments of imports from:									
India:									
Quantity	***	***	***	***	***	▼***	▼***	▼***	▼***
Value	***	***	***	***	***	▼***	▼***	▼***	▼***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▼***	▼***
Indonesia:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Value	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▼***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Laos:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▼***
Value	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit value	***	***	***	***	***	▲***	▲***	▼***	▼***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▼***	▼***
Subject sources:									
Quantity	4,211,111	3,529,751	16,099,149	1,693,872	1,756,727	▲282.3	▼(16.2)	▲356.1	▲3.7
Value	1,550,481	1,140,520	4,137,627	444,079	388,853	▲166.9	▼(26.4)	▲262.8	▼(12.4)
Unit value	$368	$323	$257	$262	$221	▼(30.2)	▼(12.2)	▼(20.5)	▼(15.6)
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▼***
Recent order sources:									
Quantity	***	***	***	***	***	▼***	▲***	▼***	▼***
Value	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▼***	▼***	▼***	▼***
All other sources:									
Quantity	***	***	***	***	***	▼***	▼***	▼***	▲***
Value	***	***	***	***	***	▼***	▼***	▼***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▼***
Ending inventory quantity	***	***	***	***	***	▼***	▼***	▼***	▼***
Nonsubject sources:									
Quantity	37,776,852	33,724,448	10,131,820	1,972,102	2,572,400	▼(73.2)	▼(10.7)	▼(70.0)	▲30.4
Value	13,246,215	10,146,640	2,669,380	487,719	654,742	▼(79.8)	▼(23.4)	▼(73.7)	▲34.2
Unit value	$351	$301	$263	$247	$255	▼(24.9)	▼(14.2)	▼(12.4)	▲2.9
Ending inventory quantity	***	***	***	***	***	▼***	▼***	▼***	▼***
All import sources:									
Quantity	41,987,963	37,254,199	26,230,969	3,665,974	4,329,127	▼(37.5)	▼(11.3)	▼(29.6)	▲18.1
Value	14,796,696	11,287,160	6,807,007	931,798	1,043,595	▼(54.0)	▼(23.7)	▼(39.7)	▲12.0
Unit value	$352	$303	$260	$254	$241	▼(26.4)	▼(14.0)	▼(14.3)	▼(5.2)
Ending inventory quantity	5,119,547	4,455,039	2,540,874	4,774,192	2,252,117	▼(50.4)	▼(13.0)	▼(43.0)	▼(52.8)

Table continued.

Table C.3 Continued
CSPV modules: Summary data concerning the U.S. market, by item and period

Quantity=kilowatts; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per kilowatt; Period changes=percent--exceptions noted; Interim period is January through March

	Reported data					Period change comparisons			
	Calendar year			Interim		Calendar year			Interim
Item	2023	2024	2025	2025	2026	2023–25	2023–24	2024–25	2025–26
U.S. producers':									
Practical capacity quantity	5,231,791	15,250,113	30,828,207	6,655,683	8,480,201	▲489.2	▲191.5	▲102.2	▲27.4
Production quantity	3,188,820	10,552,020	22,779,446	5,000,512	7,377,432	▲614.4	▲230.9	▲115.9	▲47.5
Capacity utilization (fn1)	61.0	69.2	73.9	75.1	87.0	▲12.9	▲8.2	▲4.7	▲11.9
U.S. shipments:									
Quantity	3,050,985	9,818,351	23,181,039	4,240,307	5,999,624	▲659.8	▲221.8	▲136.1	▲41.5
Value	1,222,282	2,684,158	6,502,603	1,190,839	1,752,927	▲432.0	▲119.6	▲142.3	▲47.2
Unit value	$401	$273	$281	$281	$292	▼(30.0)	▼(31.8)	▲2.6	▲4.0
Export shipments:									
Quantity	***	***	***	***	***	***	***	***	▲***
Value	***	***	***	***	***	***	***	***	▲***
Unit value	***	***	***	***	***	***	***	***	▲***
Ending inventory quantity	258,382	992,051	604,712	1,752,886	1,982,519	▲134.0	▲283.9	▼(39.0)	▲13.1
Inventories/total shipments (fn1)	***	***	***	***	***	▼***	▲***	▼***	▼***
Production workers	2,026	6,200	7,799	6,670	8,241	▲284.9	▲206.0	▲25.8	▲23.6
Hours worked (1,000s)	3,773	9,036	18,017	3,366	5,091	▲377.5	▲139.5	▲99.4	▲51.2
Wages paid ($1,000)	94,640	240,463	432,323	87,103	121,694	▲356.8	▲154.1	▲79.8	▲39.7
Hourly wages (dollars per hour)	$25.08	$26.61	$24.00	$25.88	$23.90	▼(4.3)	▲6.1	▼(9.8)	▼(7.6)
Productivity (kilowatts per 1,000 hours)	845.2	1,167.8	1,264.3	1,485.6	1,449.1	▲49.6	▲38.2	▲8.3	▼(2.5)
Unit labor costs	$30	$23	$19	$17	$16	▼(36.1)	▼(23.2)	▼(16.7)	▼(5.3)
Net sales:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Value	***	***	***	***	***	▲***	▲***	▲***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▲***	▲***
Cost of goods sold (COGS)	***	***	***	***	***	▲***	▲***	▲***	▲***
Gross profit or (loss) (fn3)	***	***	***	***	***	▼***	▼***	▲***	▼***
SG&A expenses	***	***	***	***	***	▲***	▲***	▲***	▲***
Operating income or (loss) (fn3)	***	***	***	***	***	▼***	▼***	▼***	▼***
Net income or (loss) (fn3)	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit COGS	***	***	***	***	***	▼***	▼***	▼***	▲***
Unit SG&A expenses	***	***	***	***	***	▼***	▼***	▲***	▼***
Unit operating income or (loss) (fn3)	***	***	***	***	***	▼***	▼***	▲***	▼***
Unit net income or (loss) (fn3)	***	***	***	***	***	▼***	▼***	▼***	▼***
COGS/sales (fn1)	***	***	***	***	***	▲***	▲***	▼***	▲***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▼***	▲***	▼***
Net income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▼***	▼***	▼***
Capital expenditures	***	***	***	***	***	▲***	▲***	▼***	▼***
Research and development expenses	***	***	***	***	***	▼***	▲***	▼***	▲***
Total assets	***	***	***	***	***	▲***	▲***	▲***	***

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting numbers 8541.42.0010 and 8541.43.0010, accessed June 22, 2026. 508-compliant tables for these data are contained in parts 3, 4, 6, and 7 and appendix F of this report.

Note.--Shares and ratios shown as "0.0" percent represent non-zero values less than "0.05" percent (if positive) and greater than "(0.05)" percent (if negative). Zeroes, null values, and undefined calculations are suppressed and shown as "—". Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease. Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included.

fn1.--Reported data are in percent and period changes are in percentage points.
fn2.--Percent changes suppressed because they are not meaningful due to having a small base starting year.
fn3.--Percent changes only calculated when both comparison values represent profits; the directional change in profitability provided when one or both comparison values represent a loss.

APPENDIX D

NARRATIVES ON GOVERNMENT INCENTIVE PROGRAMS

Table D.1 CSPV cells and modules: U.S. producers' narrative responses regarding changes in level/availability of government incentive programs

Firm	Program	Narrative on changes in level and/or availability	Narrative on impact of changes
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***

Table continued

Table D.1 (Continued) CSPV cells and modules: U.S. producers' narrative responses regarding changes in level/availability of government incentive programs

Firm	Program	Narrative on changes in level and/or availability	Narrative on impact of changes
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***

Table continued

Table D.1 (Continued) CSPV cells and modules: U.S. producers' narrative responses regarding changes in level/availability of government incentive programs

Firm	Program	Narrative on changes in level and/or availability	Narrative on impact of changes
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***

Table continued

Table D.1 (Continued) CSPV cells and modules: U.S. producers' narrative responses regarding changes in level/availability of government incentive programs

Firm	Program	Narrative on changes in level and/or availability	Narrative on impact of changes
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table D.2 CSPV cells and modules: U.S. importers' narrative responses regarding changes in level/availability of government incentive programs

Firm	Program	Narrative on changes in level and/or availability	Narrative on impact of changes
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***

Table continued

Table D.2 (Continued) CSPV cells and modules: U.S. importers' narrative responses regarding changes in level/availability of government incentive programs

Firm	Program	Narrative on changes in level and/or availability	Narrative on impact of changes
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***

Table continued

Table D.2 (Continued) CSPV cells and modules: U.S. importers' narrative responses regarding changes in level/availability of government incentive programs

Firm	Program	Narrative on changes in level and/or availability	Narrative on impact of changes
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***

Table continued.

Table D.2 (Continued) CSPV cells and modules: U.S. importers' narrative responses regarding changes in level/availability of government incentive programs

Firm	Program	Narrative on changes in level and/or availability	Narrative on impact of changes
***	***	***	***
***	***	***	***
***	***	***	***

Table continued.

Table D.2 (Continued) CSPV cells and modules: U.S. importers' narrative responses regarding changes in level/availability of government incentive programs

Firm	Program	Narrative on changes in level and/or availability	Narrative on impact of changes
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***

Table continued.

Table D.2 (Continued) CSPV cells and modules: U.S. importers' narrative responses regarding changes in level/availability of government incentive programs

Firm	Program	Narrative on changes in level and/or availability	Narrative on impact of changes
***	***	***	***
***	***	***	***

Table continued.

Table D.2 (Continued) CSPV cells and modules: U.S. importers' narrative responses regarding changes in level/availability of government incentive programs

Firm	Program	Narrative on changes in level and/or availability	Narrative on impact of changes
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***

Table continued.

Table D.2 (Continued) CSPV cells and modules: U.S. importers' narrative responses regarding changes in level/availability of government incentive programs

Firm	Program	Narrative on changes in level and/or availability	Narrative on impact of changes
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***

Table continued.

Table D.2 (Continued) CSPV cells and modules: U.S. importers' narrative responses regarding changes in level/availability of government incentive programs

Firm	Program	Narrative on changes in level and/or availability	Narrative on impact of changes
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***

Table continued.

Table D.2 (Continued) CSPV cells and modules: U.S. importers' narrative responses regarding changes in level/availability of government incentive programs

Firm	Program	Narrative on changes in level and/or availability	Narrative on impact of changes
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***

Table continued.

Table D.2 (Continued) CSPV cells and modules: U.S. importers' narrative responses regarding changes in level/availability of government incentive programs

Firm	Program	Narrative on changes in level and/or availability	Narrative on impact of changes
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table D.3 CSPV cells and modules: U.S. purchasers' narrative responses regarding changes in level/availability of government incentive programs

Firm	Program	Narrative on changes in level and/or availability	Narrative on impact of changes
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

APPENDIX E

NONSUBJECT COUNTRY PRICE DATA

In addition to providing price data for imports from subject sources, U.S. importers were requested to provide price data for imports from recent order sources as well price data for imports from nonsubject sources, excluding recent order sources ("all other sources").[1] Ten importers reported price data for sales of CSPV module imports from recent order sources while 11 importers reported price data for sales of imports from all other sources. Overall, 15 importers reported price data for sales of CSPV module imports from nonsubject sources. Price data reported by these firms accounted for 19.1 percent of U.S. shipments from recent order sources and 74.4 percent of U.S. shipments from all other sources, accounting overall for 32.6 percent of reported U.S. shipments from nonsubject sources in 2025. These price items and accompanying data are comparable to those presented in tables 5.5 to 5.8. Price and quantity data for nonsubject sources are shown in tables E.1 to E.4 and in figures E.1 to E.4 (with domestic sources).

In comparing nonsubject country pricing data with U.S. producer pricing data, prices for product imported from nonsubject sources were lower than prices for U.S.-produced product in 46 instances and higher in 21 instances. A summary of price differentials is presented in table E.6.

[1] Recent order sources include Cambodia, Malaysia, Thailand, and Vietnam which were subject sources in the prior investigation on CSPV products; Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules from Cambodia, Malaysia, Thailand, and Vietnam, Inv. Nos. 701-TA-722-725 and 731-TA-1690-1693 (Final).

Table E.1 CSPV modules: Weighted-average f.o.b. prices and quantities of domestic and imported product 1 from nonsubject sources, by quarter

Price in dollars per kilowatt, quantity in kilowatts.

Period	U.S. price	U.S. quantity	Recent order sources price	Recent order sources quantity	Recent order sources margin	All other sources price	All other sources quantity	All other sources margin
2023 Q1	***	***	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***	***	***
2024 Q4	***	***	***	***	***	***	***	***
2025 Q1	***	***	***	***	***	***	***	***
2025 Q2	***	***	***	***	***	***	***	***
2025 Q3	***	***	***	***	***	***	***	***
2025 Q4	***	***	***	***	***	***	***	***
2026 Q1	***	***	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 1: Monocrystalline silicon module with front-side area of less than 2.2 square meters and a peak power wattage between 380w and 450w, inclusive, P-max or Wp as measured under Standard Test Conditions (STC), excluding bifacial and flexible modules.

Figure E.1 Product: Weighted-average prices and quantities of domestic and imported product 1, by quarter

Price of product 1

* * * * * * *

Volume of product 1

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 1: Monocrystalline silicon module with front-side area of less than 2.2 square meters and a peak power wattage between 380w and 450w, inclusive, P-max or Wp as measured under Standard Test Conditions (STC), excluding bifacial and flexible modules.

Table E.2 CSPV modules: Weighted-average f.o.b. prices and quantities of domestic and imported product 2 from nonsubject sources, by quarter

Price in dollars per kilowatt, quantity in kilowatts.

Period	U.S. price	U.S. quantity	Recent order sources price	Recent order sources quantity	Recent order sources margin	All other sources price	All other sources quantity	All other sources margin
2023 Q1	***	***	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***	***	***
2024 Q4	***	***	***	***	***	***	***	***
2025 Q1	***	***	***	***	***	***	***	***
2025 Q2	***	***	***	***	***	***	***	***
2025 Q3	***	***	***	***	***	***	***	***
2025 Q4	***	***	***	***	***	***	***	***
2026 Q1	***	***	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 2: Monocrystalline silicon module with front-side area of greater than or equal to 2.2 square meters and a peak power wattage between 320w and 440w, inclusive, P-max or Wp as measured under STC, excluding bifacial and flexible modules.

Figure E.2 Product: Weighted-average prices and quantities of domestic and imported product 2, by quarter

Price of product 2

* * * * * * *

Volume of product 2

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 2: Monocrystalline silicon module with front-side area of greater than or equal to 2.2 square meters and a peak power wattage between 320w and 440w, inclusive, P-max or Wp as measured under STC, excluding bifacial and flexible modules.

Table E.3 CSPV modules: Weighted-average f.o.b. prices and quantities of domestic and imported product 3 from nonsubject sources, by quarter

Price in dollars per kilowatt, quantity in kilowatts.

Period	U.S. price	U.S. quantity	Recent order sources price	Recent order sources quantity	Recent order sources margin	All other sources price	All other sources quantity	All other sources margin
2023 Q1	***	***	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***	***	***
2024 Q4	***	***	***	***	***	***	***	***
2025 Q1	***	***	***	***	***	***	***	***
2025 Q2	***	***	***	***	***	***	***	***
2025 Q3	***	***	***	***	***	***	***	***
2025 Q4	***	***	***	***	***	***	***	***
2026 Q1	***	***	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 3: Monocrystalline silicon bifacial module that generates power on both sides of the panel with a front-side area of greater than or equal to 1.9 square meters and a peak power wattage between 320w and 450w, inclusive, P-max or Wp as measured under STC, excluding flexible modules.

Figure E.3 Product: Weighted-average prices and quantities of domestic and imported product 3, by quarter

Price of product 3

* * * * * * *

Volume of product 3

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 3: Monocrystalline silicon bifacial module that generates power on both sides of the panel with a front-side area of greater than or equal to 1.9 square meters and a peak power wattage between 320w and 450w, inclusive, P-max or Wp as measured under STC, excluding flexible modules.

Table E.4 CSPV modules: Weighted-average f.o.b. prices and quantities of domestic and imported product 4 from nonsubject sources, by quarter

Price in dollars per kilowatt, quantity in kilowatts.

Period	U.S. price	U.S. quantity	Recent order sources price	Recent order sources quantity	Recent order sources margin	All other sources price	All other sources quantity	All other sources margin
2023 Q1	***	***	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***	***	***
2024 Q4	***	***	***	***	***	***	***	***
2025 Q1	***	***	***	***	***	***	***	***
2025 Q2	***	***	***	***	***	***	***	***
2025 Q3	***	***	***	***	***	***	***	***
2025 Q4	***	***	***	***	***	***	***	***
2026 Q1	***	***	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 4: Monocrystalline silicon bifacial module that generates power on both sides of the panel with front-side area of greater than or equal to 1.9 square meters and a peak power wattage between 485w and 585w, inclusive, P-max or Wp as measured under STC, excluding flexible modules.

Figure E.4 Product: Weighted-average prices and quantities of domestic and imported product 4, by quarter

Price of product 4

* * * * * * *

Volume of product 4

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 4: Monocrystalline silicon bifacial module that generates power on both sides of the panel with front-side area of greater than or equal to 1.9 square meters and a peak power wattage between 485w and 585w, inclusive, P-max or Wp as measured under STC, excluding flexible modules.

Table E.5 CSPV modules: Summary of higher/(lower) unit values, by source, January 2023 to March 2026

Quantity in kilowatts

Comparison source	Benchmark source	Number of quarters lower	Quantity lower	Number of quarters higher	Quantity higher
Recent order sources	United States	***	***	***	***
Recent order sources	India	***	***	***	***
Recent order sources	Indonesia	***	***	***	***
Recent order sources	Laos	***	***	***	***
All other sources	United States	***	***	***	***
All other sources	India	***	***	***	***
All other sources	Indonesia	***	***	***	***
All other sources	Laos	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table E.6 CSPV modules: Instances and quantities of underselling/overselling and the range and average of margins, comparing domestic and nonsubject sources, by period

Quantity in kilowatts, Margins in percent.

Period	Type	Number of instances	Quantity	Average margin	Min margin	Max margin
2023	Underselling	18	***	***	***	***
2024	Underselling	17	***	***	***	***
2025	Underselling	8	***	***	***	***
January through March 2026	Underselling	3	***	***	***	***
All periods	Underselling	46	***	***	***	***
2023	Overselling	4	***	***	***	***
2024	Overselling	8	***	***	***	***
2025	Overselling	9	***	***	***	***
January through March 2026	Overselling	—	***	***	***	***
All periods	Overselling	21	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Margins shown as “0.0” percent represent non-zero values less than “0.05” percent (if positive, underselling) and greater than “(0.05)” percent (if negative, overselling). Zeroes, null values, and undefined calculations are suppressed and shown as “—“.

APPENDIX F

U.S. PRODUCERS' FINANCIAL DATA FOR CELL AND MODULE PRODUCTION

Table F.1 CSPV cells: U.S. producers' results of operations, by item and period

Quantity in kilowatts; value in 1,000 dollars; ratio in percent; interim period is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
Commercial sales	Quantity	***	***	***	***	***
Transfers to related firms	Quantity	***	***	***	***	***
Total net sales	Quantity	***	***	***	***	***
Commercial sales	Value	***	***	***	***	***
Transfers to related firms	Value	***	***	***	***	***
Total net sales	Value	***	***	***	***	***
COGS: Wafer costs	Value	***	***	***	***	***
COGS: Other material input costs	Value	***	***	***	***	***
COGS: Raw material costs	Value	***	***	***	***	***
COGS: Direct labor costs	Value	***	***	***	***	***
COGS: Other factory costs	Value	***	***	***	***	***
COGS: Total costs	Value	***	***	***	***	***
Gross profit or (loss)	Value	***	***	***	***	***
SG&A expenses	Value	***	***	***	***	***
Operating income or (loss)	Value	***	***	***	***	***
45X MPTC/IRA income	Value	***	***	***	***	***
All other expense/(income)	Value	***	***	***	***	***
Net income or (loss)	Value	***	***	***	***	***
Depreciation/amortization	Value	***	***	***	***	***
Cash flow	Value	***	***	***	***	***
COGS: Wafer costs	Ratio to NS	***	***	***	***	***
COGS: Other material input costs	Ratio to NS	***	***	***	***	***
COGS: Raw material costs	Ratio to NS	***	***	***	***	***
COGS: Direct labor costs	Ratio to NS	***	***	***	***	***
COGS: Other factory costs	Ratio to NS	***	***	***	***	***
COGS: Total costs	Ratio to NS	***	***	***	***	***
Gross profit	Ratio to NS	***	***	***	***	***
SG&A expense	Ratio to NS	***	***	***	***	***
Operating income or (loss)	Ratio to NS	***	***	***	***	***
Net income or (loss)	Ratio to NS	***	***	***	***	***

Table continued.

Table F.1 (Continued) CSPV cells: U.S. producers' results of operations, by item and period

Shares in percent; unit values in dollars per kilowatt; count in number of firms reporting; interim period is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
COGS: Wafer costs	Share	***	***	***	***	***
COGS: Other material input costs	Share	***	***	***	***	***
COGS: Raw material costs	Share	***	***	***	***	***
COGS: Direct labor costs	Share	***	***	***	***	***
COGS: Other factory costs	Share	***	***	***	***	***
COGS: Total costs	Share	***	100.0	100.0	100.0	100.0
Commercial sales	Unit value	***	***	***	***	***
Transfers to related firms	Unit value	***	***	***	***	***
Total net sales	Unit value	***	***	***	***	***
COGS: Wafer costs	Unit value	***	***	***	***	***
COGS: Other material input costs	Unit value	***	***	***	***	***
COGS: Raw material costs	Unit value	***	***	***	***	***
COGS: Direct labor costs	Unit value	***	***	***	***	***
COGS: Other factory costs	Unit value	***	***	***	***	***
COGS: Total costs	Unit value	***	***	***	***	***
Gross profit or (loss)	Unit value	***	***	***	***	***
SG&A expenses	Unit value	***	***	***	***	***
Operating income or (loss)	Unit value	***	***	***	***	***
Net income or (loss)	Unit value	***	***	***	***	***
Operating losses	Count	***	***	***	***	***
Net losses	Count	***	***	***	***	***
Data	Count	0	1	2	1	2

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table F.2 CSPV cells: Changes in AUVs between comparison periods

Changes in percent; interim period is January through March

Item	2023 to 2025	2023 to 2024	2024 to 2025	Interim 2025 to interim 2026
Commercial sales	***	***	***	***
Transfers to related firms	***	***	***	***
Total net sales	***	***	***	***
COGS: Raw material costs	***	***	***	***
COGS: Direct labor costs	***	***	***	***
COGS: Other factory costs	***	***	***	***
COGS: Total costs	***	***	***	***

Table continued.

Table F.2 (Continued) CSPV cells: Changes in AUVs between comparison periods

Changes in dollars per kilowatt; interim period is January through March

Item	2023 to 2025	2023 to 2024	2024 to 2025	Interim 2025 to interim 2026
Commercial sales	***	***	***	***
Transfers to related firms	***	***	***	***
Total net sales	***	***	***	***
COGS: Raw material costs	***	***	***	***
COGS: Direct labor costs	***	***	***	***
COGS: Other factory costs	***	***	***	***
COGS: Total costs	***	***	***	***
Gross profit or (loss)	***	***	***	***
SG&A expense	***	***	***	***
Operating income or (loss)	***	***	***	***
Net income or (loss)	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Changes in percentages and unit values shown as “0.0” or “0” represent values greater than zero, but less than “0.05” or “0.5,” respectively. Zeroes, no changes, null values, and undefined calculations are suppressed and shown as “—“. Period changes preceded by a “▲” represent an increase, while period changes preceded by a “▼” represent a decrease.

Table F.3 CSPV modules: U.S. producers' results of operations, by item and period

Quantity in kilowatts; value in 1,000 dollars; ratio in percent; interim period is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
Commercial sales	Quantity	***	***	***	***	***
Internal consumption	Quantity	***	***	***	***	***
Transfers to related firms	Quantity	***	***	***	***	***
Total net sales	Quantity	***	***	***	***	***
Commercial sales	Value	***	***	***	***	***
Internal consumption	Value	***	***	***	***	***
Transfers to related firms	Value	***	***	***	***	***
Total net sales	Value	***	***	***	***	***
COGS: Raw material costs	Value	***	***	***	***	***
COGS: Direct labor costs	Value	***	***	***	***	***
COGS: Other factory costs	Value	***	***	***	***	***
COGS: Total costs	Value	***	***	***	***	***
Gross profit or (loss)	Value	***	***	***	***	***
SG&A expenses	Value	***	***	***	***	***
Operating income or (loss)	Value	***	***	***	***	***
45X MPTC/IRA income	Value	***	***	***	***	***
All other expense/(income)	Value	***	***	***	***	***
Net income or (loss)	Value	***	***	***	***	***
Depreciation/amortization	Value	***	***	***	***	***
Cash flow	Value	***	***	***	***	***
COGS: Raw material costs	Ratio to NS	***	***	***	***	***
COGS: Direct labor costs	Ratio to NS	***	***	***	***	***
COGS: Other factory costs	Ratio to NS	***	***	***	***	***
COGS: Total costs	Ratio to NS	***	***	***	***	***
Gross profit	Ratio to NS	***	***	***	***	***
SG&A expense	Ratio to NS	***	***	***	***	***
Operating income or (loss)	Ratio to NS	***	***	***	***	***
Net income or (loss)	Ratio to NS	***	***	***	***	***

Table continued.

Table F.3 (Continued) CSPV modules: U.S. producers' results of operations, by item and period

Shares in percent; unit values in dollars per kilowatt; count in number of firms reporting; interim period is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
COGS: Raw material costs	Share	***	***	***	***	***
COGS: Direct labor costs	Share	***	***	***	***	***
COGS: Other factory costs	Share	***	***	***	***	***
COGS: Total costs	Share	100.0	100.0	100.0	100.0	100.0
Commercial sales	Unit value	***	***	***	***	***
Internal consumption	Unit value	***	***	***	***	***
Transfers to related firms	Unit value	***	***	***	***	***
Total net sales	Unit value	***	***	***	***	***
COGS: Raw material costs	Unit value	***	***	***	***	***
COGS: Direct labor costs	Unit value	***	***	***	***	***
COGS: Other factory costs	Unit value	***	***	***	***	***
COGS: Total costs	Unit value	***	***	***	***	***
Gross profit or (loss)	Unit value	***	***	***	***	***
SG&A expenses	Unit value	***	***	***	***	***
Operating income or (loss)	Unit value	***	***	***	***	***
Net income or (loss)	Unit value	***	***	***	***	***
Operating losses	Count	***	***	***	***	***
Net losses	Count	***	***	***	***	***
Data	Count	8	12	15	14	14

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table F.4 CSPV modules: Changes in AUVs between comparison periods

Changes in percent; interim period is January through March

Item	2023 to 2025	2023 to 2024	2024 to 2025	Interim 2025 to interim 2026
Commercial sales	***	***	***	***
Internal consumption	***	***	***	***
Transfers to related firms	***	***	***	***
Total net sales	***	***	***	***
COGS: Raw material costs	***	***	***	***
COGS: Direct labor costs	***	***	***	***
COGS: Other factory costs	***	***	***	***
COGS: Total costs	***	***	***	***

Table continued.

Table F.4 (Continued) CSPV modules: Changes in AUVs between comparison periods

Changes in dollars per kilowatt; interim period is January through March

Item	2023 to 2025	2023 to 2024	2024 to 2025	Interim 2025 to interim 2026
Commercial sales	***	***	***	***
Internal consumption	***	***	***	***
Transfers to related firms	***	***	***	***
Total net sales	***	***	***	***
COGS: Raw material costs	***	***	***	***
COGS: Direct labor costs	***	***	***	***
COGS: Other factory costs	***	***	***	***
COGS: Total costs	***	***	***	***
Gross profit or (loss)	***	***	***	***
SG&A expense	***	***	***	***
Operating income or (loss)	***	***	***	***
Net income or (loss)	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Changes in percentages and unit values shown as “0.0” or “0” represent values greater than zero, but less than “0.05” or “0.5,” respectively. Zeroes, no changes, null values, and undefined calculations are suppressed and shown as “—“. Period changes preceded by a “▲” represent an increase, while period changes preceded by a “▼” represent a decrease.

Table F.5 CSPV modules: U.S. producers' raw material costs, by major material inputs

Value in 1,000 dollars; share in percent; interim period is January through March

Item	Measure	2023	2024	2025	Interim 2025	Interim 2026
Purchased cells: Domestic	Value	***	***	***	***	***
Purchased cells: Subject	Value	***	***	***	***	***
Purchased cells: Nonsubject	Value	***	***	***	***	***
Cell costs, total	Value	***	***	***	***	***
Backsheet costs	Value	***	***	***	***	***
Encapsulant costs	Value	***	***	***	***	***
Framing costs	Value	***	***	***	***	***
Junction box costs	Value	***	***	***	***	***
Solar glass costs	Value	***	***	***	***	***
Other material input costs	Value	***	***	***	***	***
Non-cell costs	Value	***	***	***	***	***
Raw material costs, total	Value	***	***	***	***	***
Purchased cells: Domestic	Share	***	***	***	***	***
Purchased cells: Subject	Share	***	***	***	***	***
Purchased cells: Nonsubject	Share	***	***	***	***	***
Cell costs, total	Share	***	***	***	***	***
Backsheet costs	Share	***	***	***	***	***
Encapsulant costs	Share	***	***	***	***	***
Framing costs	Share	***	***	***	***	***
Junction box costs	Share	***	***	***	***	***
Solar glass costs	Share	***	***	***	***	***
Other material input costs	Share	***	***	***	***	***
Non-cell costs	Share	***	***	***	***	***
Raw material costs, total	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

APPENDIX G

U.S. PRODUCERS' AND U.S. IMPORTERS' U.S. SHIPMENTS,

BY SOURCE AND PRICING PRODUCT

Pricing product definitions

The Commission requested U.S. producers and importers to provide pricing product data for the total quantity and f.o.b. value of the following CSPV module products shipped to unrelated U.S. customers.

Product 1.-- Monocrystalline silicon module with front-side area of less than 2.2 square meters and a peak power wattage between 380w and 450w, inclusive, P-max or Wp as measured under Standard Test Conditions (STC), excluding bifacial and flexible modules.

Product 2.-- Monocrystalline silicon module with front-side area of greater than or equal to 2.2 square meters and a peak power wattage between 320w and 440w, inclusive, P-max or Wp as measured under STC, excluding bifacial and flexible modules.

Product 3.-- Monocrystalline silicon bifacial module that generates power on both sides of the panel with a front-side area of greater than or equal to 1.9 square meters and a peak power wattage between 320w and 450w, inclusive, P-max or Wp as measured under STC, excluding flexible modules.

Product 4.-- Monocrystalline silicon bifacial module that generates power on both sides of the panel with front-side area of greater than or equal to 1.9 square meters and a peak power wattage between 485w and 585w, inclusive, P-max or Wp as measured under STC, excluding flexible modules.

Table G.1 CSPV modules: U.S. producers' and U.S. importers' U.S. shipments, by source and pricing product, 2025

Quantity in kilowatts

Source	Product 1	Product 2	Product 3	Product 4	All other modules	All modules
U.S. producers	***	***	***	***	***	***
India	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***
Laos	***	***	***	***	***	***
Subject sources	***	***	***	***	***	***
Recent order sources	***	***	***	***	***	***
All other sources	***	***	***	***	***	***
Nonsubject sources	***	***	***	***	***	***
All import sources	***	***	***	***	***	***
All sources	***	***	***	***	***	***

Table continued.

Table G.1 (Continued) CSPV modules: U.S. producers' and U.S. importers' U.S. shipments, by source and pricing product, 2025

Share across in percent

Source	Product 1	Product 2	Product 3	Product 4	All other modules	All modules
U.S. producers	***	***	***	***	***	100.0
India	***	***	***	***	***	100.0
Indonesia	***	***	***	***	***	100.0
Laos	***	***	***	***	***	100.0
Subject sources	***	***	***	***	***	100.0
Recent order sources	***	***	***	***	***	100.0
All other sources	***	***	***	***	***	100.0
Nonsubject sources	***	***	***	***	***	100.0
All import sources	***	***	***	***	***	100.0
All sources	***	***	***	***	***	100.0

Table continued.

Table G.1 (Continued) CSPV modules: U.S. producers' and U.S. importers' U.S. shipments, by source and pricing product, 2025

Share down in percent

Source	Product 1	Product 2	Product 3	Product 4	All other modules	All modules
U.S. producers	***	***	***	***	***	***
India	***	***	***	***	***	***
Indonesia	***	***	***	***	***	***
Laos	***	***	***	***	***	***
Subject sources	***	***	***	***	***	***
Recent order sources	***	***	***	***	***	***
All other sources	***	***	***	***	***	***
Nonsubject sources	***	***	***	***	***	***
All import sources	***	***	***	***	***	***
All sources	100.0	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting number 8541.43.0010, accessed June 22, 2026.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “—“. Data related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire are included as all other modules as the pricing product data break outs were not available.

Figure G.1 CSPV modules: U.S. producers' and U.S. importers' U.S. shipments, by source and pricing product, 2025

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires and from proprietary, Census-edited Customs records using HTS statistical reporting number 8541.43.0010, accessed June 22, 2026.

Note: Data for all other firms are related to the additional importers of record identified using proprietary, Census-edited Customs records that did not respond to the Commission questionnaire.