August 4, 2021

VIA ELECTRONIC DELIVERY (EDIS)

The Honorable Lisa R. Barton
Secretary to the Commission
U.S. International Trade Commission
500 E Street, S.W., Room 112
Washington, DC 20436

Inv. No: TA-201-75 (Extension)

NON-CONFIDENTIAL VERSION

Confidential Business Information Deleted from
Pages 16, 17, 19, 22, 27-31, 44, 48, 51, 54, and 55
and from Exhibits 1, 3-5, 14, 16, and 18.

Re: *Petition to Extend Global Safeguard Relief Pursuant to Section 204 - Crystalline Silicon Photovoltaic Cells, Whether or Not Partially or Fully Assembled Into Other Products*

Dear Ms. Barton:

On behalf of Hanwha Q CELLS USA, Inc. ("Q CELLS USA"), LG Electronics USA, Inc. ("LGEUS"), and Mission Solar Energy ("Mission"), domestic producers of solar modules, (collectively, the "Petitioners"), we respectfully submit this petition to request extension of the global safeguards relief from imports of *Crystalline Silicon Photovoltaic ("CSPV") Cells, Whether or Not Partially or Fully Assembled Into Other Products, 201-TA-075*. This is a petition under Section 204(c) of the Trade Act of 1974 (the "Act") and Subpart F of part 206 of the rules of practice and procedure of the United States International Trade Commission ("Commission").[1]

[1] 19 C.F.R. §§ 206.2 and 206.54.

Q CELLS USA, LGEUS, and Mission are representatives of the domestic industry producing CSPV cells and modules and, therefore, pursuant to 19 U.S.C. § 2254(c)(1) and 19 C.F.R. § 206.54(b), have standing to file this petition.

Pursuant to 19 U.S.C. § 1677f(b)(1), 19 C.F.R. § 206.7, and 19 C.F.R. § 201.6, we respectfully request that certain information contained in this submission, identified [by way of brackets], be accorded proprietary treatment. The disclosure of such business proprietary information as described below is likely to have the effect of either: (1) impairing the Commission's ability to obtain such information as is necessary to perform its statutory functions; or (2) causing substantial harm to the competitive position of the person, firm, partnership, corporation, or other entity from which the information was obtained. This bracketed information constitutes the type of information normally treated as business confidential pursuant to 19 C.F.R § 206.7(a) and 19 C.F.R. § 201.6(a), is not available to the public, and would cause substantial harm to the competitive positions of Petitioners if it were released to the public. The nature of the information, and the basis for this request is as follows:

Page or Exhibit	**Nature of Information**
Page 16	Petitioners' CSPV Production Data
Page 16	Employment Figures
Page 17	Investment Figures & Employment Figures
Page 19	Petitioners' CSPV Production Data
Page 22	Percentage of Imports over U.S. Market Share
Page 27	Employment Figures & Production Data
Page 28	Company-specific Production Data
Page 28	Future Product Lines & Investment
Page 29	Future Investment
Page 30	Current & Future Investment & Employment
Page 30-31	Company-specific Production Data
Page 44	Subscription Only Supply/Demand Industry Data
Page 48	Subscription Only U.S. Industry Price Trends

Page or Exhibit	Nature of Information
Page 51	Company-specific Production Data
Page 54-55	Subscription Only Industry Data
Exhibit 1	U.S. CSPV Production Capacity
Exhibit 3	U.S. CSPV Module Production and Market Share
Exhibit 4	Company-specific Data
Exhibit 5	Company-specific Data
Exhibit 14	Subscription Only Industry Data
Exhibit 16	Subscription Only Industry Data
Exhibit 18	Subscription Only Article

Substantially identical information is not available to the public, and unauthorized disclosure of this information could cause substantial harm to the business operations and competitive position of Petitioners. A public version of this petition has been prepared and is being filed simultaneously with this submission pursuant to section 201.8(d) of the Commission's' regulations.

Also attached to this cover letter are counsel certifications pursuant to 19 C.F.R. § 206.8(a) and 19 C.F.R. §201.6(b)(3)(iii) is attached to this submission.

Respectfully submitted,

/s/ John M. Gurley
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Diana Dimitriuc Quaia
Jessica R. DiPietro
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Counsel to Hanwha Q CELLS America, Inc. and Mission Solar Energy

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Counsel to LG Electronics USA, Inc.

CERTIFICATION OF COUNSEL

CITY OF WASHINGTON)
) SS:
DISTRICT OF COLUMBIA)

In accordance with section 206.8 of the rules of the U.S. International Trade Commission (the "Commission"), I, John M. Gurley, of Arent Fox LLP, counsel to petitioner Hanwha Q CELLS USA, Inc. ("Petitioner"), hereby certify that (1) I have read the attached submission, and (2) based on the information made available to me by Petitioner, I have no reason to believe that this submission contains any material misrepresentation or omission of fact, and (3) the information contained in this submission is accurate and complete to the best of my knowledge.

Further, I certify pursuant to 19 C.F.R. § 201.6(b)(3)(iii) of the Commission's rules, that to the best of my knowledge and belief, the confidential information contained in this submission is not available to the public in substantially identical form.

I certify pursuant to 28 U.S.C. § 1746 that the foregoing statements are true and accurate.

I am aware that the information contained above may be subject to verification or corroboration (as appropriate) by the U.S. International Trade Commission. I am also aware that U.S. law (including by not limited to 18 U.S.C. § 1001) imposes criminal sanctions on individuals who knowingly and willfully make material false statements to the U.S. Government.

Dated: August 4, 2021

/s/ John M. Gurley
John M. Gurley
Arent Fox LLP
1717 K Street, NW
Washington, DC 20006

CERTIFICATION OF COUNSEL

CITY OF WASHINGTON)
) SS:
DISTRICT OF COLUMBIA)

In accordance with section 206.8 of the rules of the U.S. International Trade Commission (the "Commission"), I, Daniel L. Porter, of Curtis, Mallet-Prevost, Colt & Mosle LLP, counsel to petitioner LG Electronics USA, Inc. ("Petitioner"), hereby certify that (1) I have read the attached submission, and (2) based on the information made available to me by Petitioner, I have no reason to believe that this submission contains any material misrepresentation or omission of fact, and (3) the information contained in this submission is accurate and complete to the best of my knowledge.

Further, I certify pursuant to 19 C.F.R. § 201.6(b)(3)(iii) of the Commission's rules, that to the best of my knowledge and belief, the confidential information contained in this submission is not available to the public in substantially identical form.

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Dated: August 4, 2021

/s/ Daniel L. Porter
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Washington, DC 20006

CERTIFICATION OF COUNSEL

CITY OF WASHINGTON)
) SS:
DISTRICT OF COLUMBIA)

In accordance with section 206.8 of the rules of the U.S. International Trade Commission (the "Commission"), I, John M. Gurley, counsel to Mission Solar Energy ("Petitioner"), hereby certify that (1) I have read the attached submission, and (2) based on the information made available to me by Petitioner, I have no reason to believe that this submission contains any material misrepresentation or omission of fact, and (3) the information contained in this submission is accurate and complete to the best of my knowledge.

Further, I certify pursuant to 19 C.F.R. § 201.6(b)(3)(iii) of the Commission's rules, that to the best of my knowledge and belief, the confidential information contained in this submission is not available to the public in substantially identical form.

I certify pursuant to 28 U.S.C. § 1746 that the foregoing statements are true and accurate.

I am aware that the information contained above may be subject to verification or corroboration (as appropriate) by the U.S. International Trade Commission. I am also aware that U.S. law (including by not limited to 18 U.S.C. § 1001) imposes criminal sanctions on individuals who knowingly and willfully make material false statements to the U.S. Government.

Dated: August 4, 2021

/s/ John M. Gurley
John M. Gurley
Arent Fox LLP
1717 K Street, NW
Washington, DC 20006

BEFORE THE
UNITED STATES INTERNATIONAL TRADE COMMISSION

USITC Inv. No. TA-201-75
(Extension)

NON-CONFIDENTIAL VERSION
CBI Deleted from Pages 16, 17, 19, 22, 27-31, 44, 48, 51, 54, 55 and from Exhibits 1, 3-5, 14, 16, 18

Crystalline Silicon Photovoltaic Cells, Whether or Not Partially or Fully Assembled Into Other Products

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PETITION
UNDER SECTION 204 OF THE TRADE ACT OF 1974
REQUESTING EXTENSION OF THE SAFEGUARD

ON BEHALF OF
HANWHA Q CELLS USA, Inc., LG ELECTRONICS USA, Inc., and MISSION SOLAR ENERGY

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August 4, 2021

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I. INTRODUCTION

Hanwha Q CELLS USA, Inc. ("Q CELLS USA"), LG Electronics USA, Inc. ("LGEUS"), and Mission Solar Energy ("Mission Solar"), domestic producers of solar modules, (collectively, "Petitioners"), are submitting this petition under Section 204(c) of the Trade Act of 1974 (the "Act") to request that the U.S. International Trade Commission ("Commission") determine that the safeguard actions on *Crystalline Silicon Photovoltaic ("CSPV") Cells, Whether or Not Partially or Fully Assembled Into Other Products* imposed by the President of the United States under Section 203 the Act continue to be necessary to prevent or remedy serious injury and that the domestic industry is making a positive adjustment to import competition.

Today's CSPV manufacturing industry is an important part of the United States' clean energy industrial base. The objective of the Administration to achieve 100 percent carbon-pollution free electricity by 2035 is an historic undertaking in a relatively short amount of time and one that requires a stable and growing domestic CSPV industry. Without extension of the safeguard action, progress to achieve the Administration's objective would be significantly challenged. The petitioning companies have not yet received the full benefit intended by the safeguard action and therefore are in need of additional time to complete their adjustment and facilitate the domestic module production critical to the Administration's ambitious plan to make the energy sector carbon-free by 2035.

Only four years ago, the industry faced dire prospects as a result of a wave of unrelenting low priced imports. During the original safeguard investigation covering CSPV cells and modules, the *unanimous* affirmative determination of the Commission reflected a recognition that shoring up America's solar manufacturing industry — and the thousands of good-paying manufacturing jobs that it supports — was necessary to address the serious injury caused by surging imports.

Largely following the Commission's remedy recommendations, the President announced a four-year safeguard with gradually declining tariffs and an allowance for duty-free importation of cells needed for domestic module assembly.

As the Commission observed in its mid-term review, the safeguard has had some beneficial effect in initially curbing the volume of module imports and providing a more favorable environment for investing in U.S. module manufacturing, resulting in increased U.S. module capacity and production. In this context, the domestic solar industry is making some positive adjustments to import competition, with major private investments fueled in large part by the petitioning firms. Favorable demand conditions have allowed the U.S. industry to ramp up production and innovate. However, the remedy that the domestic industry received was partially impaired by import stockpiling in advance of the remedy, the economic impact of the COVID-19 pandemic, continued import underselling and increased costs and tariffs on the inputs used to produce modules. Notably, the effectiveness of the safeguard was *significantly* limited by the exclusion of bifacial products, which opened the gates for the return of high import volumes of duty-free, low priced modules *only four months after* new CSPV module plants started production.

The current tariff rate quota ("TRQ") of 2.5 GW per year, which was adequate during the first three years of the safeguard measures as companies entered production, ramped-up and then had to slow down during the pandemic, will need to be adjusted in the future. An adequate TRQ commensurate with domestic module production is essential to the module producers' viability and the prospects of new investments in CSPV module manufacturing.

As the United States recovers from the global COVID-19 pandemic and President Biden and Congress continue working on initiatives to build a modern, sustainable infrastructure and equitable clean energy future, we believe that the Commission should recommend extending the

safeguard remedy for an additional four years and revise the TRQ level so as to fulfill the promise of the safeguard remedy and allow the President's policy initiatives a chance to succeed.

II. DEVELOPMENTS LEADING UP TO AND SINCE THE SAFEGUARD INVESTIGATION SUPPORT A FULL EXTENSION OF THE SAFEGUARD

In 2012, the Commission found the domestic CSPV industry to be materially injured by reason of imports of CSPV cells and modules from China ("*CSPV I*").[1] Because of the highly substitutable nature of the domestic like product and subject merchandise, "competition in the U.S. CSPV market primarily depends on price."[2] Subject imports were edging out domestic producers from the U.S. market by pervasively underselling the domestic like product at sizable margins.[3] Domestic producers were forced to shutter CSPV production facilities and/or declare bankruptcy.[4] In light of the "significant and growing volume of low-priced subject imports from China . . . causing domestic producers to lose revenue and market share and leading to significant depression and suppression of the domestic industry's prices" the Commission concluded that imported cells and modules from China materially injured the domestic industry.[5] On December 7, 2012, Commerce imposed antidumping and countervailing duty orders on CSPV cells made in China and CSPV modules from CSPV cells made in China.[6]

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[1] *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*").

[2] *CSPV I*, USITC Pub. 4360 at 30.

[3] *CSPV I*, USITC Pub. 4360 at 31.

[4] *CSPV I*, USITC Pub. 4360 at 26.

[5] *See CSPV I*, USITC Pub. 4360 at 35.

[6] *Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, from the People's Republic of China*, 77 Fed. Reg. 73018 (Dec. 7, 2012) (amended final determination and AD order); *Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, from the People's Republic of China*, 77 Fed. Reg. 73017 (Dec. 7, 2012) (CVD order).

The relief intended by the Orders was stymied because "before those imports (subject to *CSPV I*) began to recede from the U.S. market, imports from Taiwan and China . . . increased their presence in the U.S. market."[7] To avoid the pricing discipline of the *Orders*, producers in China and Taiwan made minor changes to their production methods to exploit loopholes in the scope of the orders and continued to ship dumped and subsidized product to the United States.[8] Subject imports managed to increase their market penetration at the expense of the domestic industry[9] and they pervasively undersold the domestic like product at significant margins.[10] Faced with this aggressive import competition, domestic producers continued to shutter operations.[11] And despite strong demand and available capacity,[12] the domestic industry was unable to operate at a reasonable profit.[13] Because of the "significant adverse impact on the domestic industry,"[14] the Commission once again found the domestic CSPV industry materially injured ("*CSPV II*").[15] On February 18, 2015, just three years after the *CSPV I Orders*, Commerce issued antidumping and

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[7] *Certain Crystalline Silicon Photovoltaic Products from China and Taiwan*, Inv. Nos. 701-TA-511 and 731-TA-1246-1247 (Final), USITC Pub. 4519 (Feb. 2015) at 34 ("*CSPV II*")..

[8] *CSPV II*, USITC Pub. 4519 at 4 n.6 (*e.g.*, Chinese firms assembled modules from cells manufactured in Taiwan or shipped wafers to Taiwan to be processed into cells and returned for assembly into modules in China).

[9] *CSPV II*, USITC Pub. 4519 at 39 ("This increase in market penetration at the expense of the domestic industry is particularly noteworthy in light of our prior findings that the subject imports were highly substitutable for the domestic like product and competed in the same geographic markets and same U.S. market segments as the domestic industry.").

[10] *CSPV II*, USITC Pub. 4519 at 42 & 44.

[11] *CSPV II*, USITC Pub. 4519 at 34.

[12] *CSPV II*, USITC Pub. 4519 at 39.

[13] *CSPV II*, USITC Pub. 4519 at 45. The poor financial condition of the domestic industry limited its ability to devote resources to the capital expenditures and R&D necessary to manufacture CSPV products. *See CSPV II*, USITC Pub. 4519 at 46.

[14] *CSPV II*, USITC Pub. 4519 at 44.

[15] *CSPV II*, USITC Pub. 4519 at 1.

countervailing duty orders on CSPV products from China[16] and an antidumping duty order on CSPV products from Taiwan.[17]

A. The Safeguard Investigation

The relief intended by the AD/CVD duty orders was hindered by a large influx of low-priced imports,[18] leading to a substantial contraction in the domestic manufacturing capacity. Of the thirty-three domestic CSPV producers in business in 2012, twenty shut down production by 2016.[19]

In its safeguard investigation, the Commission found that CSPV imports, which increased by 492.4 percent between 2012 and 2016, were a "substantial cause of serious injury to the domestic industry producing" CSPV products, particularly contributing to the "declining market share, low capacity utilization levels, facility closures, and abysmal financial performance."[20] The Commission attributed the increased imports largely "to increased CSPV cell and CSPV module capacity by Chinese producers both within China and globally."[21]

The Commission further found that the increased imports were a substantial cause of

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[16] *Certain Crystalline Silicon Photovoltaic Products from the People's Republic of China:*, 80 Fed. Reg. 8592 (Feb. 18, 2015) (AD order, amended affirm. CVD determination and CVD order).

[17] *Certain Crystalline Silicon Photovoltaic Products from Taiwan*, 80 Fed. Reg. 8596 (Feb. 18, 2015) (AD order).

[18] *See Crystalline Silicon Photovoltaic Cells (Whether or not Partially or Fully Assembled into Other Products)*, Inv. No. TA-201-075, USITC Pub. 4739,Vol. I, at 21; App'x C, Table C-1a (Nov. 2017) ("*Solar Safeguard Determination"*) (showing an increase from 4,582,898 kW in 2014 to 8,430,393 kW in 2015).

[19] *See Solar Safeguard Determination*, USITC Pub. 4739 at 31.

[20] *See Solar Safeguard Determination*, USITC Pub. 4739 Vol. I at 1, 5, and 65.

[21] *See Supplemental Report of the U.S. International Trade Commission Regarding Unforeseen Developments*, at 4 (Dec. 27, 2017) (citing *Solar Safeguard Determination* at 40-41, 44-45).

serious injury to the U.S. domestic industry. Although the "domestic industry increased CSPV cell and CSPV module capacity" and "production of both CSPV cells and CSPV modules during the POI{, n}either of these increases . . . approached the magnitude of the explosive growth in apparent U.S. consumption during" the period of investigation.[22] To the contrary, U.S. facilities shuttered; "producers remaining in the market continued to operate at below full capacity;" overall employment declined; firms were not profitable, saw a decrease in market share, and could not compete with low-priced imports; all as "imports captured most of the growth in demand."[23] To address the serious injury to the domestic industry, the Commission recommended a tariff rate to be incrementally reduced for U.S. imports of modules and a TRQ to be incrementally raised for U.S. imports of cells.[24]

B. The Safeguard Measures

The President, having considered the Commission's report and the Commissioners' individual recommendations, implemented a safeguard measure consistent with 19 U.S.C. § 2252(a)(3) of the Trade Act.[25] The President imposed a safeguard measure in the form of (a) a tariff-rate quota of 2.5 GW on imports of solar cells not partially or fully assembled into other products and (b) an increase in duties on imports of modules.[26] Proclamation 9693 established a four-year tariff on CSPV solar modules, with the tariff rate on modules and above-quota cells

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[22] *Solar Safeguard Determination,* USITC Pub. 4739 at 33.

[23] *Solar Safeguard Determination,* USITC Pub. 4739 at 33-50.

[24] *See generally Solar Safeguard Determination,* USITC Pub. 4739.

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

[26] *Id*.

beginning at 30 percent in the first twelve-month period and decreasing by five percentage points in each subsequent twelve-month period until the expiration of the safeguard on February 6, 2022.[27] Proclamation 9693 excluded certain products from the safeguard, but not bifacial modules.[28] The President also advised that he would reduce, modify, or terminate the action established by the Proclamation if he determines that the statutory conditions for such action are met.[29]

The urgency and importance of relief was expressed in the Commission's recommendations and the President's Proclamation by imposing duty rates for a four year period—the maximum amount under the law.[30]

C. The Commission's Mid-Term Review

Because the initial period of the safeguard action exceeded three years, the Commission recently conducted a mid-term monitoring review.[31] Following a thorough investigation, the Commission found that "there have been a number of significant developments" in the "domestic industry for CSPV products," including an expanded U.S. module industry, "changes in import

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[27] *Id*. at 3542, ¶ 8, and at 3548-49, Annex I, at 4-5. The President stated that he would take further action, if appropriate and feasible, to enable the domestic industry to adjust to import competition, and to provide greater economic and social benefits than costs. *Id*. at 3542-43, ¶ 12.

[28] *Id.*, Annex I, Note 18(c)(ii)–(iii).

[29] *Id.*

[30] *See* 19 U.S.C. § 2253(e)(1)(A).

[31] 19 U.S.C. § 2254(a)(2). On July 25, 2019, the Commission instituted the monitoring phase of Investigation No. TA-201-75, pursuant to section 204(a)(1) of the Trade Act, "for the purpose of preparing the report to the President and Congress required by section 204(a)(2) of the Trade Act of 1974 on its monitoring of developments in the domestic industry." *See Crystalline Silicon Photovoltaic Cells, Whether or Not Partially or Fully Assembled Into Other Products: Monitoring Developments in the Domestic Industry Institution and Scheduling Notice for the Subject Investigation*, 84 Fed. Reg. 37674 (Aug. 1, 2019) ("*Monitoring Institution Notice*") at 37675.

volumes, and generally decreased prices."[32] The Commission concluded that "the safeguard measure resulted in positive adjustments, particularly for U.S. CSPV module producers."[33]

The *Monitoring Report* provided that imports of modules were higher in the first half of 2019, compared with the first half of 2018, and that global production and capacity significantly increased for both CSPV cells and CSPV modules.[34] The Commission found that prices for both CPSV cells and modules continued to decline, but that imports would have driven prices down further were it not for the safeguard measure.[35] While domestic producers of both cells and modules remained unprofitable, "U.S. module producers' operating losses declined" throughout the period.[36] Further evidence of the positive impact of the safeguard action can be seen in domestic CSPV module producers' market share gains and increasing investments in expanded capacity and product innovations.[37]

The Commission later issued a report on the probable economic effect of increasing the level of the TRQ.[38] In its report, the Commission explained that although CSPV module manufacturing capacity increased in 2019, "the quantity of U.S. cell and module imports reached

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[32] *Crystalline Silicon Photovoltaic Cells, Whether or Not Partially or Fully Assembled Into Other Products: Monitoring Developments in the Domestic Industry*, Inv. No. TA-201-075, USITC Pub. 5021, at 1 (Feb. 2020) ("*Monitoring Report*").

[33] *Monitoring Report*, USITC Pub. 5021 at 6.

[34] *Id.*, at I-13 n.50, I-21, II-10.

[35] *See id.*, at 5-6.

[36] *Id.*, at 5.

[37] *See id.*, at 4, 6-7.

[38] *See Crystalline Silicon Photovoltaic Cells, Whether or Not Partially or Fully Assembled Into Other Products: Advice on the Probably Economic Effect of Certain Modifications to the Safeguard Measure*, Inv. No. TA-201-075, USITC Pub. 5032 (Mar. 2020) ("*Supplemental Report*").

record levels in 2019."[39] Discussing imports of modules, the Commission explained that bifacial modules "are expected to account for a significantly larger share of apparent U.S. consumption, particularly if certain bifacial modules remain excluded from the safeguard measure."[40] With respect to the U.S. module manufacturers, the Commission determined that "raising the TRQ would reduce the tariff cost burden on U.S. module manufacturers, which in turn would alleviate some of the{} competitive pressures," such as choosing between lower profitability or losing market share because of increased prices.[41] The Commission further considered the impact on potential cell production in the U.S., finding that any projections for cell producers' revenues are reliant on demand projections and "re-entry into the industry would not substantially affect module producers' economic outcomes."[42] Ultimately, the Commission explained that an "increase in the TRQ would likely significantly improve the cost competitiveness and profitability of U.S. module manufacturers."[43]

D. Safeguard Modification

Although the Commission concluded that "the safeguard measure resulted in positive adjustments, particularly for U.S. CSPV module producers,"[44] the domestic industry did not fully realize the promise of the safeguard remedy because of a number of unanticipated events.[45] The Commission's *Monitoring Report* identified several factors that hindered domestic module

[39] *Supplemental Report,* USITC Pub. 5032 at II-1.

[40] *Supplemental Report,* USITC Pub. 5032 at ES-3.

[41] *Supplemental Report,* USITC Pub. 5032 at ES-4.

[42] *Supplemental Report,* USITC Pub. 5032 at ES-5.

[43] *Supplemental Report,* USITC Pub. 5032 at ES-4.

[44] *Monitoring Report*, USITC Pub. 5021 at 6.

[45] *See generally id*.

producers' adjustment efforts and limited the impact of the safeguard measure, including: (1) stockpiling of imports prior to implementing the safeguard; (2) the stepdown of tax credit incentives in 2019; (3) tariff cost absorption by exporters; (4) increased input and transportation costs; (5) the exclusion of bifacial CSPV modules; and (6) tariffs on imported components.[46] Likewise, the Commission's *Supplemental Report* identified certain factors which, regardless of the benefits of a TRQ, negatively impacted the efficacy of the safeguard measures. Particularly, the Commission explained that the bifacial exclusion limited any potential benefits of raising the TRQ because they "have a price advantage over module imports covered by the safeguard measure" and were "projected to gain a large share of total demand over the next several years."[47]

After taking into account the information provided in the Commission's reports, and the positions of the majority of the representatives of the domestic industry, on October 10, 2020, the President ordered the modification of the safeguard action pursuant to Section 204, 19 U.S.C. §§ 2254, *et seq*., in two respects: (1) the bifacial exclusion was revoked and (2) the rate of duty in year four of the safeguard was set at 18% (compared to 15% in Proclamation 9693).[48]

With respect to the first modification, the President determined that "it is necessary to revoke that exclusion and to apply the safeguard tariff to bifacial panels."[49] The President recognized that the domestic industry had "begun to make positive adjustment to import

[46] *See Monitoring Report*, USITC Pub. 5021 at 7.

[47] *Supplemental Report,* USITC Pub. 5032 at ES-5, I-3-I-4.

[48] *See Proclamation to Further Facilitate Positive Adjustment to Competition From Imports of Certain Crystalline Silicon Photovoltaic Cells, Proclamation 10101 of October 10, 2020*, 85 Fed. Reg. 65639 (Oct. 16, 2020) ("*Proclamation 10101*").

[49] *Proclamation 10101* at ¶ 9(a).

competition, shown by the increases in domestic module production capacity, production, and market share" and explained that "the exclusion of bifacial panels from application of the safeguard tariff has impaired and is likely to continue to impair the effectiveness of the action" for domestic CSPV module producers.[50]

The President considered that "there have been a number of significant developments" in the "domestic industry for CSPV products," including an expanded U.S. module industry, "changes in import volumes, and generally decreased prices."[51] Thus, with respect to the second modification, the President proclaimed that entries of subject merchandise will be subject to 18% safeguard tariffs during the period from February 7, 2021, through February 6, 2022, explaining that "…to achieve the full remedial effect envisaged for that action, it is necessary to adjust the duty rate of the safeguard tariff for the fourth year of the safeguard measure to 18 percent."[52]

The continuation of the safeguard remedy imposed by the President for an additional four year period, at the highest possible duty rates is essential to the continued health and viability of U.S. manufacturers. After more than three years of safeguard relief, the domestic industry has experienced progress, as well as unanticipated challenges. These adverse market conditions faced by the industry during the last three years suggest that the safeguard will not effectuate its intended purpose within the current four-year safeguard period. If the safeguard is left to expire on February 7, 2022, all members of the newly revitalized U.S. industry would be exposed to a new wave of injurious imports. Without an extension of the remedy, planned investments in

[50] *Proclamation 10101* at 65,640, ¶ 6 ("the benefits to domestic CSPV module producers from an increase in the TRQ would likely be limited if the bifacial module exclusion remained in place.").

[51] *Monitoring Report*, USITC Pub. 5021 at 1.

[52] *Proclamation 10101* at ¶ 9.b.

equipment and workforce, new capacity expansions and product innovation will have to be put on hold or may never come to fruition. Accordingly, Petitioners request that the Commission initiate an investigation, conduct a hearing, and transmit a report to the President of its determination that the safeguard continues to be necessary to prevent or remedy serious injury.[53]

III. LEGAL FRAMEWORK FOR THE COMMISSION'S DETERMINATION

Section 204(c)(1) of the Act provides that the "industry concerned" may file a petition for the extension of the Section 201 action. Once the petition is filed, the Commission must investigate the action taken by the President pursuant to Section 203 of the Act, with respect to CSPV Products.[54] Specifically, the Commission considers whether the action: (1) "continues to be necessary to prevent or remedy serious injury and;" (2) "whether there is evidence that the industry is making a positive adjustment to import competition."[55]

Neither the "statute nor the legislative history of the Uruguay Round Agreements Act ("URAA") further describes the nature of the determination the Commission must make under section 204(c)."[56] However, to determine whether the U.S. industry has made a "positive adjustment," the Commission considers whether the domestic industry:

> (i) is able to compete successfully with imports after actions taken under section 204 terminate, or

[53] *See* 19 U.S.C. §§ 2254(c)(1), (3).

[54] 19 U.S.C. § 2254(c)(1).

[55] 19 U.S.C. § 2254(c)(1); *see also* 19 C.F.R. § 206.54(d)(5) (requiring "{s}pecific information in support of the claim that action under section 203 of the Trade Act continues to be necessary to prevent or remedy serious injury and that there is evidence that the industry is making a positive adjustment to import competition.").

[56] *Large Residential Washers: Extension of Action*, Inv. No. TA-201-076, USITC Pub. 5144, at 4 (Dec. 2020) ("*Large Residential Washers Extension"*).

> (ii) the domestic industry experiences an orderly transfer of resources to other productive pursuits; and
>
> (B) dislocated workers in the industry experience an orderly transition to productive pursuits.[57]

Under the Trade Act and the Commission's regulations, a petition seeking extension of a safeguard action must be filed on a date that is not earlier than nine months, and not later than six months, before the safeguard action is scheduled to terminate. This petition is timely filed because it is being filed on August 4, 2021, which is within the window of time between six and nine months from the scheduled termination of the safeguard at 11:59 pm ET on February 6, 2022.

In February 2020, only 18 months ago, the Commission analyzed whether there is evidence that the industry is making a positive adjustment to import competition, as provided in Section 204(a) of the Act. The Commission collected data for full years 2016-2018 and interim data for January–June 2018 and 2019 to complement the data series from the original investigation. At the mid-term review, the Commission prepared a report to the President on the results of its monitoring of the "developments with respect to the domestic industry, including the progress and specific efforts made by workers and firms in the domestic industry to make a positive adjustment to import competition."[58] The Commission concluded that, despite setbacks, "the safeguard measure resulted in positive industry adjustments, particularly for U.S. CSPV module producers." At the same time, the mid-term review confirmed that the domestic industry did not fully realize the promise of the safeguard remedy due to a number of unanticipated events.

[57] 19 U.S.C. § 2254(b); *see also Large Residential Washers Extension*, USITC Pub. 5144 at 4.

[58] 19 U.S.C. § 2254(a)(l).

Petitioners are eligible to file this petition because they are representative of the industry producing the domestic article concerned, as discussed in Section V *infra*. This petition is supported by the information required under 19 U.S.C. § 2254(c) and 19 C.F.R. § 206.54(d), "to the extent such information is publicly available from governmental or other sources, or" it is based upon "best estimates and the basis therefor, if such information is not available."[59] Petitioners address below the requirements of Section 206.54(d) in the order in which they appear in the Commission's regulations, including (1) identification of relief action; (2) representativeness; (3) import data; (4) domestic production data; and (5) efforts to adjust.[60]

IV. IDENTIFICATION OF RELIEF REQUESTED

Petitioners file this petition pursuant to section 204(c) of the Trade Act of 1974 (the "Trade Act"), 19 U.S.C. § 2254(c)(1), seeking an extension of the current safeguard remedy and requesting a determination by the Commission that (1) there is evidence that the domestic industry is making a positive adjustment to import competition, and (2) action under section 203 of the Trade Act continues to be necessary to prevent or remedy serious injury to the domestic CSPV industry. Petitioners respectfully request that the Commission recommend extension of the safeguard measures for an additional four years at the highest possible duty rates on imports of out of quota CSPV cells and CSPV modules, as follows:

Year 1 of the extension – tariff rate of 17%;

Year 2 of the extension – tariff rate of 16%;

Year 3 of the extension - tariff rate of 15%; and

Year 4 of the extension – tariff rate of 14%.

[59] 19 C.F.R. § 206.54(d).

[60] *Id.*

In addition, as part of this extension request, Petitioners also request that the Commission recommend increasing the TRQ level for cells. As will be detailed during the extension proceeding, Petitioners believe that the increase in U.S. production of modules will result in the current TRQ quota level being reached and therefore an increase in TRQ level is required to allow U.S. CSPV module producers to continue to grow and thrive.

Further, Petitioners request that the Commission analyze the volume of imports from developing countries that have been excluded from the remedy to ensure that the safeguard remedies are not being circumvented by imports from such sources in excess of the volume thresholds established by Proclamation 9693.

V. REPRESENTATIVENESS

As required by Section 206.54(d)(2) of the Commission's regulations, we provide the names and production locations for Petitioners and all other known U.S. CSPV cell and module manufacturers. We also explain why Petitioners are representative of the domestic CSPV industry.

A. Names and Addresses of Firms Represented in the Petition

Hanwha Q CELLS USA, Inc. is the largest U.S. module manufacturer, located at:

Manufacturing: 300 Nexus Drive,
Dalton, Georgia 30721
Phone: (706) 671-3077
https://www.q-cells.com

LGEUSA manufactures CSPV products in Huntsville, Alabama:

Manufacturing: 201 James Record Rd SW
Huntsville, Alabama
Phone: (256) 772-8860
https://www.lg.com/us/business

Mission Solar Energy LLC is based and manufactures CSPV products in Texas:

Headquarters and Manufacturing: 8303 S New Braunfels,
San Antonio,
TX 78235
Phone: (210) 531-8600
https://www.missionsolar.com/

B. Percentage of Domestic Production That Petitioning Firms Account For

In accordance with 19 C.F.R. § 206.54(d)(4), Petitioners provide below their production data below:

CSPV Production By Petitioners 2018-2019 (kW)

	2018	2019	2020	IH 2021	Full Year 2021 (est)
Hanwha Q CELLS	[ ]	[ ]	[ ]	[ ]	[ ]
LG Electronics	[ ]	[ ]	[ ]	[ ]	[ ]
Mission Solar	[ ]	[ ]	[ ]	[ ]	[ ]
Total for Petitioners	[ ]	[ ]	[ ]	[ ]	[ ]

The safeguard measures have created the conditions for new investments in the U.S. CSPV industry that created over a thousand U.S. jobs. Domestic module production, in particular, has increased since imposition of the safeguard measures. As demonstrated above, Petitioners' CSPV production increased year-over-year due in large part to safeguard relief and strong demand conditions. A chart showing the percentage of domestic production that the petitioning firms account for is set forth below at page 19.

That stated, planned production ramp-up and expansions was slower than anticipated in 2020 due to the COVID-19 pandemic and other factors.

C. Petitioners Are Representative of the Domestic Industry

Petitioners are CSPV module manufacturers that collectively employ almost [ ]

workers in their U.S. facilities and have invested over $ [ ] million in state of the art production facilities that are representative of the newly expanded and rebuilt domestic solar industry.

Q CELLS USA, located in Dalton, Georgia, is the nation's largest producer of CSPV modules, with a production capacity that exceeds 10,000 solar modules a day and an annual capacity of 1.7 gigawatts. Q CELLS USA's new state-of-the art production facility for CSPV modules commenced production in February 2019, during the safeguard. This new module factory is a [ ] investment in the United States economy, employs around [ ] well-paid local workers, covers an area of 300,000 square feet, and generates an annual capacity nearly equivalent to the peak output of the Hoover Dam.

LGEUS opened its module manufacturing facility in Huntsville, Alabama during the safeguard measures. LGEUS began commercial production of high-performance n-type solar modules in February 2019. LGEUS' new facility, with an annual capacity of 500 MW and will employ approximately [ ] employees by December 2021, is the second largest U.S. CSPV manufacturer in the United States.

Mission Solar Energy is headquartered in San Antonio, Texas, where it produces CSPV modules. The company opened its manufacturing plant in San Antonio in 2014 and it initially produced both CSPV cells and modules. In September 2016, prior to the safeguard measures being imposed, Mission Solar had to close it CSPV cell production lines. The company was able to continue and expand its production of CSPV modules during the safeguard period. Mission Solar participated in the original safeguard investigation and the mid-term monitoring proceeding.

As we detail below, by any measurement, Petitioners are fully representative of the domestic industry.

D. Names and Locations of All Other Domestic Producers Known to Petitioners

Based on their industry intelligence, Petitioners believe, currently, there are a total of 9 U.S. producers of those CSPV products included in the Commission's like product definition. As required under 19 C.F.R. § 206.54(d)(2), Petitioners provide the names and locations of all other known *current* producers of the domestic article:[61,62]

Auxin Solar
Address: 6835 Via Del Oro, San Jose, CA 95119
Phone: (408) 225-4380
Email: mamun@auxinsolar.com
Website: http://auxinsolar.com

Heliene
Address: 8787 Silicon Way, Mountain Iron, MN 55768
Phone: (218) 288-1990; (705) 575-6556
Email: generalinfo@heliene.com
Website: https://heliene.com/

Jinko Solar
Address: 4660 POW MIA Memorial Pkwy, Ste 200, Jacksonville, FL 32221
Phone: +1 (904) 516-7288
Email: N/A
Website: https://jinkosolar.us/

Silfab Solar
Address: 800 Cornwall Ave, Bellingham, WA 98225
Phone: +1 (360) 569-4733
Email: info@silfab.ca
Website: https://silfabsolar.com/

Solartech Universal
Address: 1800 President Barack Obama Highway, Riviera Beach, FL 33404
Phone: (561) 440-8000

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[61] In its safeguard determination, the Commission defined the like or directly competitive product as comprising all domestically produced CSPV cells and CSPV modules. *See CSPV Safeguard*, USITC Pub. 4739 at 13-16.

[62] Several domestic CSPV cell and module producers identified by the Commission in its 2020 *Monitoring Report* have closed or ceased any domestic production. *Please see* **Exhibit 1 (U.S. CSPV Solar Panel Manufacturers Capacity)** for a chart detailing all producers identified in the Commission's *Monitoring Report* with notations of which companies are still currently producing.

Email: Hello@SolarTechUniversal.com
Website: https://www.solartechuniversal.com/

SunSpark Technology[63]
Address: 3080 12th Street, Riverside, CA 92507
Phone: (951) 342-3050
Email: sales@SunSparkUSA.com
Website: https://sunsparkusa.com/

E. Basis of Claim of Representativeness

In **Exhibit 1** we provide a list of all known U.S. CSPV producers that are currently producing. However, Petitioners do not have reliable information on the current U.S. production of each U.S. producer. Nor are Petitioners aware of an industry source that provides U.S. CSPV production estimates for individual companies.

Accordingly, Petitioners believe that the best proxy for total current U.S. production of CSPV products are the total kW of imported CSPV cells over the past two years. The rationale is straightforward. To the best of Petitioners knowledge, over the past two years there was no production of CSPV cells; only modules. Accordingly, over the past two years, all U.S. CSPV module production utilized *imported* CSPV cells. Therefore, the total kW of imported cells provides a good proxy for the total kW of U.S. CSPV production.

We set forth the relevant data below:

	2019	*2020*
Petitioners' CSPV production	[ ]	[ ]
Total Estimated U.S. CSPV Production	[ ]	[ ]
% by Petitioners	[ ]	[ ]

Source: Petitioners' CSPV production is from Petitioners' production records. Total U.S. production of CSPV modules is based on imports of CSPV cells as specified in USITC CSPV Midterm Review Staff Report (USITC Pub. 5021) at C-13 for 2018 and in U.S. CBP 2019 and 2020

[63] SunSpark Technology's U.S. production facilities are limited to small hand-held panels purchased by an agent to supply the U.S. Army.

Calendar Year-End Commodity Status Reports, Quota/License Allocated Quantity. CBP data covering the period Feb. 7, 2019 - Feb. 6, 2020 used as annual data for 2019; data for the period Feb. 7, 2020 to Feb. 7, 2021 used as annual data for 2020.

As demonstrated above, in each of the last two years, Petitioners accounted for well more than 50 percent of total U.S. CSPV production. We respectfully submit that such share of production satisfies the criterion of being "representative of the domestic industry" within the meaning of 19 C.F.R. § 206.54(b) and (d)(2), and therefore this petition is filed "on behalf of the domestic industry concerned" pursuant to Section 204(c)(1) of the Trade Act.

VI. IMPORTS INTO THE UNITED STATES

Section 206.54(d)(3) of the Commission's regulations requires the Petitioners to provide import data for each full year during the remedy period. U.S. Census data on U.S. imports of CSPV products for the years 2018, 2019, 2020 and the period January-May 2021, by sources, are provided at **Exhibit 2 (U.S. Imports of CSPV Products)**.

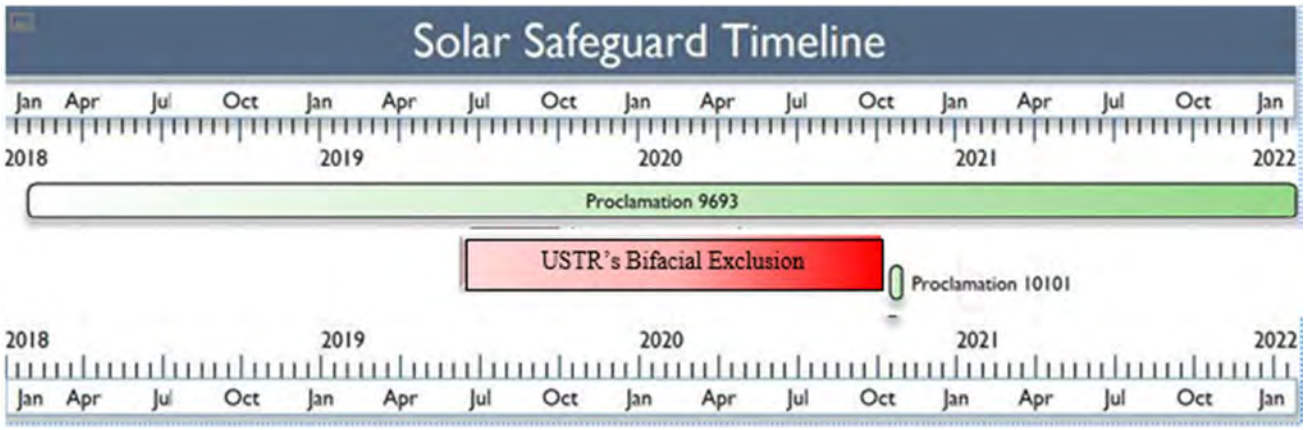
As the Commission observed in its mid-term review, the safeguard has had beneficial effects in initially curbing the volume of module imports and providing a more favorable environment for investing in U.S. module manufacturing, resulting in increased U.S. module capacity and production.[64] However, as illustrated below, imports of CSPV products have been

[64] *Monitoring Report,* USITC Pub. 5021 at 6.

increasing year-over-year under the safeguard:

	CSPV Imports: 2018-2020; January - May 2021 (*Value, 1000s of USD*[65])				
	2018	**2019**	**2020**	**YTD 2020**	**YTD-2021**
Cells	300,555	442,236	481,318	255,629	212,604
Modules	2,841,600	5,728,190	7,764,393	3,666,743	2,965,075
Total	3,142,155	6,170,426	8,245,711	3,921,372	3,177,680
	Source: U.S. Census Data and USITC, HTS #s 8541.40.6015, 8541.40.6020, 8541.40.6025, 8541.40.6030, 8541.40.6035, and 8541.40.6045				

While an increase in imported CSPV cells is consistent with the increase in domestic module production over the safeguard period, as U.S. module producers rely on imported cells for their production, the vast majority of the imports consist of imported modules.[66] As discussed at Section IX.A *infra*, the import volume increases correlate with the period during which the Bifacial Exclusion was in effect, from June 2019 to October 2020.



[65] Note, the Commission's official import statistics are reported on a unit basis whereas the quota is administered on a wattage basis consistent with industry practice.

[66] *See* **Exhibit 2 (U.S. Imports of CSPV Products)** for the break-out of import data by imports of cells and modules.

In its monitoring review, the Commission reported that the overall imports in the second half of 2019 and the first half of 2020 (*i.e.* periods when the Bifacial Exclusion was in effect) were above the previous year levels: arranged U.S. imports for the second half of 2019 were 8.6 MW, which was 122% higher than the annual import level for calendar year 2018.[67] Arranged imports for the first half of 2020 were 6.8 MW, which was 34.5% higher than the U.S. imports in the first half of 2019.[68] In 2021, with the Bifacial Exclusion finally withdrawn by Proclamation 10101, import volumes to date remain high but did not surge compared to the same period in 2020. For the period January – May 2021, imports reached $3,177,680,000, which is 18.9% lower than U.S. imports in the same period of 2020 ($3,921,372,000).[69]

As a result of the Bifacial Exclusion, imports increased and module prices in the United States declined, making imported modules that much more competitive and that much more capable of securing market share than U.S. module manufacturers had anticipated. Indeed, imports of finished CSPV modules consistently represented over [ ] percent of U.S. market share from 2018-2020, despite U.S. module market share increasing at times during the same period.[70] The persistent and substantial market share represented by low-priced imports comes at the direct expense of the domestic industry and prevents domestic CSPV module producers from increasing module prices and achieving a level of production and profitability that would facilitate their adjustment to import competition.

Petitioners also note that imports from certain developing countries that are WTO members

[67] *Monitoring Report,* USITC Pub. 5021 at V-31.

[68] *Id.* at V-31.

[69] *See* **Exhibit 2 (U.S. Imports of CSPV Products).**

[70] *See* **Exhibit 3 (U.S. CSPV Production and Market Share).**

and are thus excluded from the safeguard measures under Proclamation 9693 have also increased during the remedy period.[71] For example, imports from Cambodia, which were zero in 2018, increased to 1.5% of total imports by value in 2020, and to 2.4% in the period January-May 2021.[72] We note that such imports from a developing country that is a WTO member are excluded from the safeguard remedy as long as such country's share of total imports of the product, based on imports during a recent representative period, do not exceed 3 percent, provided that imports that are 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.

VII. DOMESTIC PRODUCTION DATA

Section 206.54(d)(4) of the Commission's regulations requires Petitioners to provide data on total U.S. production for each year of the safeguard period.

Information regarding CSPV production in the United States and domestic commercial shipments is not publicly available. As domestic CSPV cell producers ceased to produce cells during the safeguard period,[73] U.S. module producers had to rely on imported CSPV cells. The Commission's *Monitoring Report* noted that Panasonic/Tesla was only U.S. cell producer that was operating in early 2019,[74] producing HIT cells for Tesla's solar roof CSPV products.[75] Essentially, most U.S. CSPV modules produced since 2019 were produced with imported cells. Accordingly, Petitioners believe that CSPV cell imports represent a reasonable proxy for U.S. CSPV module

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[71] *See* **Exhibit 2**. **(U.S. Imports of CSPV Products)**

[72] *See id*.

[73] *Monitoring Report,* USITC Pub. 5021 at 1.

[74] *Monitoring Report,* USITC Pub. 5021 at III-26.

[75] *See* Kelly Pickerel*, Panasonic to end solar panel manufacturing* (Feb. 1, 2021) available at https://www.solarpowerworldonline.com/2021/02/panasonic-to-end-solar-panel-manufacturing/; *see also Supplemental Report,* USITC Pub. 5032 at III-12.

production.

At **Exhibit 3 (U.S. CSPV Module Production and Market Share)**, Petitioners have estimated U.S. CSPV module production in 2019, 2020, and the first half of 2021 based on U.S. imports of cells. Separately, Petitioners are also providing their best estimate of the production capacity of domestic U.S. CSPV manufacturers that, to their knowledge, are currently manufacturing CSPV products.[76]

VIII. THE DOMESTIC INDUSTRY IS MAKING A POSITIVE ADJUSTMENT TO IMPORT COMPETITION BY DRAMATICALLY EXPANDING SOLAR MODULE PRODUCTION CAPABILITY AND THEREBY IMPROVING U.S. COMPETITIVENESS IN CLEAN ENERGY AND INNOVATION

At the time of the original investigation, the Commission observed that a "significant number of firms were unable to carry out domestic production operations at a reasonable level of profit, and a significant number of domestic producers were unable to generate adequate capital to finance the modernization of their domestic plants and equipment or to maintain existing levels of expenditures for research and development."[77] Capacity utilization dropped commensurately with the increase of imports[78] and a substantial number of domestic CSPV cell and CSPV module facilities closed.[79]

However, since the safeguard measures were put in place, there have been dramatic changes in the composition of the domestic industry, including closures of the struggling cell

[76] *See* **Exhibit 1 (U.S. CSPV Solar Panel Manufacturers Capacity).**

[77] *CSPV Safeguard*, USITC Pub. 4739 at 43.

[78] *CSPV Safeguard*, USITC Pub. 4739 at 47.

[79] *CSPV Safeguard*, USITC Pub. 4739 at 47-48. *See also id*. at 48-49 ("Although many U.S. producers entered the U.S. market seeking to take advantage of this demand growth, the consistent inability of the domestic industry to compete with low-priced imports forced many of these firms, as well as others, to shut down their facilities.").

production facilities and openings of module facilities, significant increased production capacity and actual production of modules, increased employment in the industry and capital expenditures.[80] The data collected by the Commission during its mid-term review make clear that the industry has shifted its focus from integrated production of CSPV cells and modules to independent module assembly. While this shift requires imports of cells, the evidence and data also illustrate the sizeable increase in value added to imports, indicating that the technical nature of the domestic industry's module production has made significant improvements.

Indeed, the Commission has already noted this transformation. In its monitoring investigation, the Commission remarked that five CSPV module manufacturing plants with a combined production capacity of at least 3 GW opened in the last two years.[81] This is powerful evidence that the safeguard measures have had a positive effect on the domestic CSPV industry, driving hundreds of millions of dollars in investment, increasing module production and creating thousands of U.S. jobs. The industry has taken steps to adjust to import competition and, until this point, has focused on the production of modules, rather than cells.

As the Commission remarked in the mid-term investigation, domestic production of CSPV cells ended in May 2020, when Panasonic was scheduled to close its U.S. CSPV cell production facility, although Suniva retains the ability to restart CSPV cell production.[82] The fact that CSPV cell production in the United States has not had the same successes as domestic module manufacturing during the first three years of safeguard relief does not mean that the CSPV safeguard remedy was ineffective or poorly-designed. In a limited amount of time, the safeguard

[80] *See generally Monitoring Report,* USITC Pub. 5021.

[81] *Monitoring Report,* USITC Pub. 5021 at 5.

[82] *Supplemental Report,* USITC Pub. 5032 at III-12 to III-14 and at III-25, fn. 84.

has created commercial opportunities that different enterprises have responded to in different ways, with varying results. To be sure, Petitioners would have liked to have seen the impact of the quota result in cell manufacturing occurring in the United States, which would have resulted in a more reliable supply of CSPV cells for U.S. module manufacturing. But as discussed elsewhere in this petition, to date the economic headwinds have been just too substantial for investments in cell manufacturing in the United States during the safeguard period.

That investors and the industry overall devoted resources to module production instead of cell production during the period of safeguard relief is entirely consistent with "positive adjustment," as defined in 19 U.S.C. § 2251(b)(1), which states that positive adjustment may include (1) improvement in the domestic industry's ability to compete successfully with imports, or (2) orderly transfer of resources to different productive pursuits. The "domestic industry may be considered to have made a positive adjustment to import competition even though the industry is not the same size and composition as the industry at the time the investigation was initiated." 19 U.S.C. § 2251(b)(2). The new production facilities of Q CELLS USA and LGEUSA, as well as the expanded production of Mission Solar, are notable examples of the kind of positive adjustment to import competition that Section 201 was designed to foster. As discussed below, this positive adjustment is only one part of the domestic industry's response to import competition, which may, if the safeguard is extended, allow for the re-shoring of other elements of the solar supply chain.

The evidentiary record already compiled in the mid-term report shows that the safeguard remedy is working, that the domestic CSPV manufacturing industry is adjusting positively to import competition, and is likely to continue that recovery provided that the safeguard is extended. While the industry's recovery is well underway, it is by no means complete. Obstacles in the

domestic producers' road to recovery have slowed down the industry's development and impaired the effectiveness of the safeguard, but the industry continues to work to overcome these challenges.

To assist the Commission's understanding of the positive adjustment being undertaken by the domestic CSPV industry, we set forth below a description of those primary U.S. module producers, with an emphasis on actions taken since the safeguard measures were imposed and planned still-to-do efforts that are in the works.

1. Q CELLS USA

The new Q CELLS USA module factory in Dalton, Georgia, is a classic example of the kind of positive adjustment to import competition that Section 201 was designed to foster. The Section 201 remedy drove new investment and jobs in the United States; nowhere was that more impactful than in Georgia. The Dalton, GA plant provides approximately [ ] local, well-paying jobs.[83] Q CELLS USA initially invested $200 million to build the largest module plant in the Western Hemisphere, with a production capacity of 1.7 GW.[84] Between May 2018 and February 2019, Q CELLS USA mobilized resources to be able to complete its factory and commence production during the safeguard period.

The facility has [ ] with a capacity of over 10,000 modules per day that produce panels for all market segments: residential, commercial and utility. The production process is highly sophisticated, incorporating [ ]. The Dalton, GA plant houses production lines, sorting and packaging, shipping, receiving and warehousing facilities.[85] Since starting production in February 2019, Q CELLS USA has produced approximately [

[83] *See* Q CELLS USA Presentation for the USITC's Visit to Dalton, Georgia (Confidential Version), p. 2 (Oct. 30, 2019). A copy is provided at **Exhibit 4.**

[84] *See id.*

[85] *Id.*

], despite the bifacial exclusion and additional headwinds facing the U.S. CSPV industry. Q CELLS USA plans to further increase production in order to reach full capacity, which depends in part on extension of safeguard relief.

Q CELLS USA's modules incorporate high efficiency PERC cells that use the Q.ANTUM technology developed at its parent company's R&D Centers. The facility in Dalton produces primarily modules with monocrystalline cells with Q.ANTUM (PERC) technology. Its product line includes both 72-cell and 144-half cell modules. As part of its future product line, Q CELLS USA is planning to produce a [ ] solar panel starting in [ ]. The company has also kept pace with, and continuously adopted, new technologies, including the use of larger wafer sizes that are becoming more common due to the gains in efficiency and power that such larger wafer sizes would allow.

Other actions that Q CELLS USA intends to take are geared at improving efficiency and increasing production in order to meet utilization and economic targets. As production increases so will employment and investment in the local workforce. As noted above, the company will continue to develop its product line and produce new types of modules. Since it commenced production in February 2019, Q CELLS USA modules have already achieved higher power and efficiency, from [ ]% at the start of production to [ ]% in 2021. All of these actions demonstrate the commitment of Q CELLS USA to domestic manufacturing and continued improvement.

Extension of the safeguard remedy for an additional four years would allow these objectives to be completed sooner, and, importantly, would also allow for future investments in the industry. In this respect, we note that Q CELLS USA is also seriously considering [

], which could include [

] and would further improve the company's competitiveness with imports.

2. LG Electronics U.S.A Inc. (LGEUS)

LGEUS' decision to invest approximately [ ] in a new state of the art n-type solar manufacturing factory[86] in Huntsville, Alabama came [

]. This decision was also a way for LGEUS to establish and respond to U.S. demand for high efficiency, N-type modules. LGE was also able to achieve this because it had a pre-existing Huntsville, Alabama campus, which was vacant and could be built up to house and manufacture n-type solar modules.[87]

This new LGEUS production plant in Huntsville, AL contains [ ] n-type module production lines, [ ], made from all new high tech, cutting edge solar manufacturing equipment.[88] The production plant operates [ ].[89] Each shift is [ ] and the factory is in production [ ].[90] As of November 2019, the maximum production capacity was [ ] MW.[91] By December 2021,

[86] *Crystalline Silicon Photovoltaic Cells, Whether or Not Partially or Fully Assembled Into Other Products: Monitoring Developments in the Domestic Industry*, Staff Report, Inv. Nos. TA-201-075 (Monitoring) (Feb. 2020) ("*Staff Report*") (Confidential Version) at III-3.

[87] LGE's Presentation for the USITC's Visit to Huntsville (Confidential Version), p. 4 (Nov. 12, 2019) ("*LGE HSV Presentation*"). A copy is provided in **Exhibit 5**.

[88] *Id.*

[89] *Id.*

[90] *LGE HSV Presentation* at 4.

[91] *LGE HSV Presentation* at 4.

production capacity will reach [ ] MW. As of November 2019, LGEUS employed a total of [ ] individuals. By December 2021, LGEUS is expected to employ [ ] individuals.

Importantly, the manufacturing process for n-type modules is a highly complex and sophisticated process. The LGEUS solar module production process in Huntsville, AL consists of [

].

Notwithstanding that its Huntsville, AL production plan has just recently been completed (as it is still in the process of achieving maximum production efficiency), LGEUS is already taking *additional* actions to better position itself for the future. With a favorable legislative environment in place, LGEUS is encouraged by actions such as the introduction of the "Solar Energy Manufacturing Act" that aims to encourage full value-chain investment in domestic solar manufacturing so that factories, such as its Huntsville, AL factory, are not entirely reliant on a China-based supply chain. LGEUS is investing heavily in technologies to add value to the solar modules produced in Huntsville, AL that go beyond the commoditization that occurs in solar panels. Specifically, LGEUS is placing significant investment and effort in developing a [

]. With America's trend towards the "electrification of everything" (driven by increasing adoption of electric vehicles), LGEUS believes this combination of [

] will provide significant market differentiation for the company's products and services made in Huntsville, AL such that LGEUS

can compete with all suppliers.

3. Mission Solar Energy

Mission Solar Energy was founded in 2012, and was the first N-Type Solar Cell and Module factory in the United States, with 200MW of capacity at an investment of [ ]. With ground breaking in 2013, and module shipments in 2014, Mission Solar was established well before the Section 201 safeguard was enacted.

Section 201 helped Mission Solar compete against much lower cost imports. From 2017 to 2020 Mission Solar has upgraded its production lines several times. In 2021, Mission Solar completely decommissioned its existing production lines, and installed new production lines that increased output by [ ] and increased module power by over [ ]. At an investment of [ ], these upgrades allowed Mission Solar to be the first US PV manufacturer to completely decommission its production lines and install new production lines. This was made possible by conditions created by the Section 201 safeguards.

Mission Solar is proud to offer employees competitive pay, health care, vision and dental coverage, paid time off, a 401k plan, as well as scholarship opportunities to employee family members. Mission Solar is currently looking at [

]. Not only will this add even more employment opportunities, but will provide its customers a high quality US product, while increasing U.S. energy independence.

The extension of the safeguard policies is essential to bridge the gaps in the domestic solar supply chain, while the newly proposed policies allow the time necessary for investments required to build the infrastructure for renewable energy independence in the United States.

4. Auxin Solar

Auxin Solar is a 100 percent U.S.-owned, -operated, and -headquartered CSPV

manufacturer in the United States. Founded in 2008, Auxin Solar has been producing CSPV modules in the United States for the last 13 years, withstanding persistent competitive challenges. Its operations include producing own-branded CSPV modules and serving as an OEM for other branded products. Auxin Solar participated in the original safeguard investigation and the mid-term monitoring proceeding. Having operated as a CSPV module producer since 2008, Auxin Solar is one of the few domestic module producers still in business with the same ownership and management structure that has witnessed both trade remedy cases and the safeguard.

5. Jinko Solar

In March 2018, JinkoSolar (U.S.) Inc. ("JinkoSolar") announced its plan to build a module manufacturing facility in Jacksonville, Florida.[92] A pilot production program began in November 2018,[93] and a formal opening ceremony was held in February 2019.[94]

The JinkoSolar production plant is reportedly leasing 285,652 square feet in the 407,435-square-foot building in Jacksonville.[95] The JinkoSolar website states that it employs "280 American workers" at the Jacksonville facility.

[92] Karen Brune Mathis, "JinkoSolar plans $50 million plant at Cecil Commerce Center with 200 jobs; will open HQ in Jacksonville," *Jacksonville Daily Record* (Mar. 8, 2018). https://www.jaxdailyrecord.com/article/jinkosolar-plans-dollar50-million-plant-at-cecil-commerce-center-with-200-jobs, attached at **Exhibit 6**.

[93] Karen Brune Mathis, "JinkoSolar Launches Pilot Production At Jacksonville Plant," *WJCTPublic Media* (Nov. 29, 2018). https://news.wjct.org/post/jinkosolar-launches-pilot-production-jacksonville-plant, attached at **Exhibit 6**.

[94] Karen Brune Mathis, "JinkoSolar celebrates opening of its 'most advanced' factory," *Jacksonville Daily Record* (Feb. 26. 2019). https://www.jaxdailyrecord.com/photo-gallery/jinkosolar-holds-opening-ceremony-for-jacksonville-factory, attached at **Exhibit 6**.

[95] "JinkoSolar plant build-out at Cecil Commerce Center approved by city," *Jacksonville Daily Record* (Oct. 6, 2018). https://www.jaxdailyrecord.com/article/jinkosolar-plant-build-out-at-cecil-commerce-center-approved-by-city, attached at **Exhibit 6**.

6. Silfab Solar

On August 30, 2018, Silfab Solar Inc. ("Silfab") announced that it would invest $40 million to purchase and expand Itek Energy's solar panel production facility in Bellingham, Washington.[96] Silfab took possession of Itek's 48,000 square-foot factory in Bellingham on October 1, 2018.[97] As of May 2019, Silfab reportedly had 126 permanent employees, with the U.S. Department of Energy's National Renewable Energy Laboratory highlighting that Silfab is expecting that number to grow to "200 employees when 0.4 GW/year of capacity is achieved."[98]

On February 19, 2020, Silfab announced its plan to invest at least $4 million into its Bellingham plant, and the Washington State Department of Commerce also provided a $250,000 grant to assist the expansion.[99] It is estimated that the latest expansion will add 20 to 40 new jobs.[100]

7. Heliene

Heliene announced in September 2017 that it planned to acquire Silicon Energy's facility

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[96] "Canada's Silfab to invest $40 mln in U.S. solar panel factory," Reuters (Aug. 30, 2018). https://www.reuters.com/article/usa-solar-silfab/canadas-silfab-to-invest-40-mln-in-us-solar-panel-factory-idUSL8N1VK5VY, attached at **Exhibit 7**.

[97] "Silfab says it will bring metal wrap through solar to the United States," *PV Magazine* (Mar. 8, 2019). https://pv-magazine-usa.com/2019/03/08/silfab-say-it-will-bring-metal-wrap-through-solar-to-the-united-states/, attached at **Exhibit 7**. *See also* Dave Gallagher, "This Bellingham manufacturer is expanding, and it could mean more jobs," (Aug. 30, 2018), https://www.bellinghamherald.com/news/business/article217599410.html, attached at **Exhibit 7**.

[98] Brittany Smith, et al., "Solar Photovoltaic (PV) Manufacturing Expansions in the United States, 2017–2019: Motives, Challenges, Opportunities, and Policy Context," *National Renewable Energy Laboratory* (Apr, 2021) at 36. https://www.nrel.gov/docs/fy21osti/74807.pdf, attached at **Exhibit 8**.

[99] Kelly Pickerel, "Silfab to invest $4 million in expanding its Washington solar panel assembly plant," *Solar Power World Online* (Feb. 19, 2020), https://www.solarpowerworldonline.com/2020/02/silfab-to-invest-4-million-in-expanding-its-washington-solar-panel-assembly-plant/, attached at **Exhibit 7**.

[100] *Id*.

in Mountain Iron, Minnesota, with the help of a $3.5 million state loan package.[101] Heliene reportedly promised to invest at least $5.2 million in the factory and hire about 130 employees.[102] In addition, the capacity at the Mountain Iron plant is around 120-140 MW.[103]

In June 2021, Minnesota Gov. Tim Walz signed a $5.5 million appropriation bill that would help Heliene fund a $29 million expansion of its solar plant.[104] The 40,000 square-foot addition to the existing Mountain Iron plant would add a capacity of 500 MW/year.[105]

8. SolarTech Universal

In 2017, SolarTech Universal announced an expansion plan into Puerto Rico, but later it switched the planned location to Riviera Beach, Florida, after Hurricane Maria.[106] SolarTech Universal reportedly hoped to add up to 180 MW/year of production capacity.[107]

9. Convalt Energy

In February 2021, Convalt Energy announced that it would begin construction of the new facility in Watertown, New York, by October 2021, with module production beginning in July

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[101] Frank Jossi, "Canadian company reboots northern Minnesota solar panel factory," *Energy New Network* (Jul. 23, 2018), https://energynews.us/2018/07/23/canadian-company-reboots-northern-minnesota-solar-panel-factory/, attached at **Exhibit 9**.

[102] *Id*.

[103] *Id*.

[104] "Solar expansion goes green in Mountain Iron," *Mesabi Tribune* (Jun. 28, 2021), https://www.mesabitribune.com/news/solar-expansion-goes-green-in-mountain-iron/article_2b49c08a-d870-11eb-85b8-0b5b07b212f9.html, attached at **Exhibit 9**.

[105] *See id.*, *see also* "Local solar panel plant seeking to expand," *Mesabi Tribune* (Feb. 20, 2021), https://www.mesabitribune.com/news/local/local-solar-panel-plant-seeking-to-expand/article_ff44a328-730d-11eb-af9e-4baf9128be15.html, attached at **Exhibit 9**.

[106] "Hurricane Maria moves Solartech Universal's expansion to South Florida," *PV Magazine* (May 21, 2018), https://pv-magazine-usa.com/2018/05/21/hurricane-maria-moves-solartech-universal-expansion-to-continental-us/, attached at **Exhibit 10**.

[107] *Id*.

2022.[108] Convalt Energy will mostly use the equipment it purchased from SunPower's manufacturing lines in April 2021. [109] The module capacity is expected to be around 700 MW/year.[110]

The industry's health and ongoing positive adjustment to import competition require the extension of the safeguard measures for an additional four-year term.[111]

IX. THE SAFEGUARD REMAINS NECESSARY TO PREVENT OR REMEDY SERIOUS INJURY TO THE DOMESTIC PRODUCERS

Under the safeguard, domestic CSPV producers have made meaningful progress towards economic recovery even if they faced, and continue to face, obstacles precluding them from enjoying the full benefit of the safeguard measures. The industry is at a critical juncture in its efforts to compete with imported low-priced modules produced by highly-subsidized Chinese firms in South East Asia. The safeguard measures started as an effort to level the playing field, creating the conditions to increase module capacity and production, add manufacturing jobs, modernize and upgrade manufacturing equipment. At the same time, rapidly declining prices for CSPV modules together with overlapping tariffs on imported inputs that are being used to produce the modules have created challenging economic conditions for the domestic manufacturers. Section 301 tariffs of 25% on aluminum frames (List 1), solar glass (List 3) and junction boxes

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[108] "Watertown solar manufacturing plant project could start by October," *NNY 360* (Jul. 9, 2021), https://www.nny360.com/communitynews/business/watertown-solar-manufacturing-plant-project-could-start-by-october/article_a4c3bb61-3e0a-5d2b-a435-9b5701244b40.html, attached at **Exhibit 11.**

[109] Kelly Pickerel, "Convalt Energy to open 700-MW solar panel assembly facility in New York in 2022," *Solar Power World* (Jul. 12, 2021), https://www.solarpowerworldonline.com/2021/07/convalt-energy-to-open-700-mw-"solar-panel-assembly-facility-in-new-york-in-2022/, attached at **Exhibit 12**.

[110] *Id*.

[111]

(List 3) and high AD/CVD duties on aluminum frame are costing U.S. manufacturers millions of dollars in additional duties our foreign competitors did not face.

A. The Safeguard Remedy Was Impaired By Unanticipated Events

The domestic industry's progress has been slower than anticipated due to several unexpected events such as the Bifacial Exclusion, stockpiling in advance of the remedy and the economic effects of the COVID-19 pandemic.

1. The Bifacial Exclusion Hollowed Out The Remedy Recommended By the Commission and Imposed by the President

From June 13, 2019[112] to October 25, 2020,[113] representing **one third** of the original four-year term of the safeguard, the Bifacial Exclusion carved out an exclusion for bifacial panels based on the false premise that bifacial panels or substitute products were not available domestically, and were a "niche" product. This exclusion created a loophole in the remedy that left the domestic industry vulnerable to the "rapidly increas{ing}" imports of bifacial modules.[114]

As the Commission clearly concluded, bifacial modules are "broadly substitutable for monofacial modules, and can be used in all applications,"[115] making their exclusion from the safeguard measures detrimental to the health of the U.S. CSPV industry. Bifacial modules are projected to account for one-third of global module production by 2022[116] and, "driven by the bifacial exclusion, low additional costs, maturation of the technology and supply chain, ease of switching to bifacial productions with PERC technology, and benefits from additional rear side

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[112] *Exclusion of Particular Products from the Solar Products Safeguard Measure*, 84 Fed. Reg. 27684 (Jun. 13, 2019) ("*Bifacial Exclusion*").

[113] *See generally Proclamation 10101*.

[114] *See Monitoring Report*, USITC Pub. 5021 at I-75.

[115] *Supplemental Report*, USITC Pub. 5032 at II-15.

[116] *See Monitoring Report*, USITC Pub. 5021 at I-76.

energy production," apparent U.S. consumption "is expected to increase substantially during 2020-22."[117] Indeed, imports of bifacial modules "substantially increased in the second half of 2019 in response to increasing demand for these products and their exclusion from the safeguard measure."[118] In effect, the Bifacial Exclusion provided a tariff-free safe harbor to imports of one of the most important, high volume module types in the market today, one that is completely substitutable for tariffed, mono-facial products.

In considering the durability of this exclusion, USTR quickly realized and acknowledged that the exclusion would likely "undermine the objectives of the safeguard measure"[119] but was enjoined from withdrawing the exclusion by the U.S. Court of International Trade.[120] To address the harm to the domestic industry caused by the Bifacial Exclusion, in October 2020 the President modified the safeguard by removing the Bifacial Exclusion and adjusting the tariff level in Year 4 of the safeguard to 18% from 15%.[121] However, this modification came *16 months* after the Bifacial Exclusion was initially announced and after distorting import spikes had already caused a price decline for all U.S. modules.[122] Importantly, for the domestic producers whose remedy was

[117] *Supplemental Report*, USITC Pub. 5032 at II-15.

[118] *Supplemental Report*, USITC Pub. 5032 at II-1.

[119] *Withdrawal of Bifacial Solar Panels Exclusion to the Solar Products Safeguard Measure*, 84 Fed. Reg. 54244 (Oct. 9, 2019).

[120] *Invenergy Renewables LLC v. United States*, Ct. No. 19-00192 (Nov. 7, 2019) (ECF No. 68). On December 5, 2019, the CIT issued an order preliminarily enjoining USTR and Customs from withdrawing the exclusion until entry of final judgment in the case. Court Order, *Invenergy Renewables LLC v. United States*, Ct. No. 19-00192 (Dec. 5, 2019) (ECF No. 114). The litigation is ongoing.

[121] *See Proclamation 10101*.

[122] *See infra* at Section IX.C.

hollowed out by the Bifacial Exclusion, the 16 months of safeguard protection was permanently lost.

The United States was an early leader in the bifacial solar technology market. Despite this early production in the U.S., business has been decimated by imports, and the environment soured for domestic producers to establish production of bifacial panels. Producers such as Q CELLS USA and LGEUS, that responded to the safeguard measure by investing in local manufacturing and creating hundreds of jobs, found themselves in direct competition with large volumes of tariff-free imports. Rather than providing the domestic industry the opportunity to adjust to imports, the Bifacial Exclusion allowed imports to take market share in a segment of the market American companies created. The Bifacial Exclusion impact reached beyond Petitioners' bifacial business, with lower priced bifacial module imports putting downward price pressure on all domestically produced monofacial modules. According to data from the National Renewable Energy Laboratory ("NREL"), in 2020 *almost 11 GW* of imported CSPV modules entered the U.S. without paying the Section 201 tariff. This means that last year nearly half of the CSPV modules imported were not subject to the Section 201 tariffs.[123]

Decreases in production, shipment and employment are directly attributable to the Bifacial Exclusion. As the Commission recognized, "{i}mports of bifacial modules that are exempt from safeguard tariffs put significant price pressure on U.S. module producers, as these modules can be produced at virtually the same cost as monofacial modules."[124] The domestic industry has been forced to compete with these increased imports and lower prices, while attempting to open or

[123] *See* David Feldman, Robert Margolis, *H2 2020 Solar Industry Update*, NREL/PR-7A40-79758 (Apr. 6, 2021), at 46, *available at* https://www.nrel.gov/docs/fy21osti/79758.pdf, attached at **Exhibit 13.**

[124] *Supplemental Report*, USITC Pub. 5032 at III-4.

reopen facilities employing thousands of U.S. workers.

In short, the evidence reviewed by the Commission regarding projections for production and imports showed that the Bifacial Exclusion has exempted a large chunk of CSPV imports from safeguard tariffs even as the domestic industry was expending great effort and resources to adjust to seriously injurious CSPV import competition. Although the domestic industry has made a positive adjustment, an extension is necessary to remedy the serious injury which the initial safeguard measures sought to achieve.

2. Stockpiling In Advance of the Remedy And In Anticipation of the ITC Step-Down In 2019 Weakened the Remedy

Prior to the safeguard action taking effect on February 7, 2018, imports of CSPV products accelerated significantly. More CSPV cells and modules were imported in January 2018 (*i.e.* $497,029,000), the month prior to the imposition of the safeguard, than in any other month of that year.[125] This surge of imports just prior to the imposition of the safeguard remedy occurred after the 2016 close of the data collection period for the safeguard investigation and thus was not accounted for in the data used as a baseline for the safeguard modeling by the Commission and the President.[126]

Also apparent in the import data is a second stockpiling rush prior to the end of 2019. Once the safeguard took effect, importers rushed to bring-in CSPV products in advance of the stepdown of the Investment Tax Credit ("ITC") at year-end 2019 (before it was extended).[127] As the

[125] *See Monitoring Report,* USITC Pub. 5021 at Appx. I, Table I-2.

[126] *See Solar Safeguard Determination*, USITC Pub. 4739 at II-2 to II-5, Table II-1.

[127] The Internal Revenue Service ("IRS") grants income tax credits of a certain percentage to residential, commercial, and utility-scale solar project owners. At its height, the IRS offered an income tax credit of 30 percent. The IRS has scheduled gradual reductions of this income tax credit from 2020-2022. *See Monitoring Report*, USITC Pub. 5021 at II-13 n.30.

Commission's mid-term report recognized, "almost all responding firms highlighted the investment tax credit and impending stepdown on December 31, 2019 as the predominant federal incentive in influencing demand for CSPV products."[128] The ITC was set to decrease from 30% to 26% in 2020, 22% in 2021, and 10% for commercial and utility-scale project owners with no reduced taxes for owners of residential solar projects in 2022.[129]

Imports increased 93.3% percent in the second half of 2019 ($4,066,930,000) compared with the first half of 2019 ($2,103,496,000).[130] Seeking to benefit from the full 30 percent income tax credit and taking advantage of the Bifacial Exclusion loophole, imports flooded into the market in 2019.[131]

The pre-safeguard stockpiling prior to February 7, 2018, as well as the market distortion caused by import spikes in the second half of 2019, diluted the remedial effect of the safeguard in 2018 and 2019. Meanwhile, imports have not slowed. In fact, imports have continued to rise at the direct expense of the domestic industry. Imports grew from $3,142,155,000 in 2018, to $6,170,426,000 in 2019, reaching $8,245,711,000 in 2020.[132] Despite rising demand, U.S. producers have been losing market share to imports.

3. The Adverse Effect of the COVID-19 Pandemic

There can be little doubt that the COVID-19 pandemic adversely effected the ability of Petitioners and the domestic CSPV industry to fully reap the benefits of the solar safeguard

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[128] *Monitoring Report*, USITC Pub. 5021 at II-27. The ITC provides for income tax credits of 30% for residential, commercial, and utility-scale solar project owners.

[129] *Monitoring Report*, USITC Pub. 5021 at II-10.

[130] *See Monitoring Report,* USITC Pub. 5021 at Appx. I, Table I-2; *see also* **Exhibit 2 (U.S. Imports of CSPV Products, "2019 Monthly Imports") (last page).**

[131] *Supplemental Report,* USITC Pub. 5032 at II-8.

[132] *See* **Exhibit 2 (U.S. Imports of CSPV Products).**

measures. The COVID-19 pandemic had both adverse demand-side effects and adverse supply-side effects.

On the **demand-side**, while the COVID-19 pandemic adversely affected all segments of the CSPV market, the adverse effects were particularly pronounced in the residential market. As is well known, the residential market demand for the installation of solar modules on people's homes. Needless to say, such installation requires workers to visit individual homes. And during the height of the pandemic in Q2 and Q3 of 2020, many did not want any workers visiting their homes. Moreover, as detailed below (detailing 10 most populous states), many parts of the country were under various COVID-19 lock down orders.

	First day of complete state-wide lockdown	**First day of complete reopening**	**# of days**
California	1-Mar-20	15-Jun-21	471
Texas	2-Apr-20	2-Mar-21	334
Florida	2-Apr-20	29-Apr-21	392
New York	20-Mar-20	1-Jul-21	468
Pennsylvania	1-Apr-20	31-May-21	425
Illinois	20-Mar-20	11-Jun-21	448
Ohio	22-Mar-20	2-Jun-21	437
Georgia	2-Apr-20	2-Jul-21	456
North Carolina	27-Mar-20	14-May-21	413
Michigan	23-Mar-20	22-Jun-21	456

And so, demand for installation of solar panels, and thereby demand for solar panels for the residential market suffered during 2020. Demand for CSPV modules in the residential market did not snap back until Q4 of 2020, when residential volumes increased by 28% as a result of pent-up demand and a surge in interest for home improvements.[133]

[133] SEIA and Wood MacKenzie, "*U.S. Solar Market Insight (Full Report): 2020 Year In Review*" (Mar. 2021) at 6, attached at **Exhibit 14**.

The commercial segment of the U.S. CSPV market was also adversely affected by COVID-19, albeit with different timing. Because commercial projects are designed (and funded) well in advance, and because many commercial projects were deemed "essential," COVID-19 did not have the same immediate effect on commercial CSPV consumption as in the residential market. Rather, COVID-19 affected the process of finalizing *new* commercial CSPV projects. During the height of the pandemic (Q2 and Q3 2020), the overall uncertainty of how the COVID-19 pandemic would play out definitely caused hesitation in committing to larger commercial CSPV projects. Although installation volumes recovered in the second half of 2020, these project delays resulted in a 4% year-over-year decline in installations.[134]

On the **supply side**, many U.S. solar module producers experienced production delays because of COVID-19. Such production delays were caused by plant production slowdowns caused by COVID-19 related absences by plant workers and plant production slowdowns caused by supply chain shortages from key component suppliers experiencing their own COVID-19 related issues.

B. Given the Tremendous Supply-Demand Imbalance, Termination of The Safeguard Measures Will Result in Dramatically Increased Solar Module Imports at Lower Prices That Will Jeopardize the Success of U.S. Solar Module Producers

In the sections above we demonstrated that the domestic industry has already undertaken substantial efforts to undertake a positive adjustment to import competition. However, the discussion above also demonstrates that the positive adjustment is not yet done. There are still efforts that the domestic industry needs to undertake and projects that need to be completed. It is for this reason that Petitioners are seeking an extension of the safeguard measures.

[134] *Id*. at 4, attached at **Exhibit 14**.

Refusing to extend the safeguard measures, and thereby allowing termination in February 2022, will result in a dramatic increase in CSPV module imports in the United States, leading to a collapse in CSPV module average selling prices ("ASP"), and thereby making it almost impossible for U.S. module production to achieve success. The essential components of this argument are (1) early termination will lead to a dramatic increase in module imports, (2) such increase will lead to a collapse in modules ASP and (3) the resulting ASP will make it almost impossible for U.S. module production to achieve success. As detailed below, there is substantial evidence for each of these components.

1. Early Termination of Safeguard Measures for CSPV Modules Will Lead to a Dramatic Increase in U.S. Imports of CSPV Modules

That termination of safeguard measures for CSPV modules will lead to a dramatic increase in U.S. imports of CSPV modules is demonstrated by two facts: the U.S. market is a large market for CSPV modules and there is a significant and increasing global oversupply of CSPV modules.

The first point is clear and obvious: After China, the U.S. market has become the largest single country market for CSPV modules in the world. The Commission's *Monitoring Report* references multiple third party experts in noting this fact:

> Energy Trend, which projects 125.5 GW of PV demand in 2019, forecasts that China will account for 33 percent of demand, followed by the United States (11 percent), India (9 percent), Japan (6 percent) and Vietnam (6 percent).
>
> ****
>
> Over the period from 2019-24, Wood Mackenzie forecasts that the largest markets, in descending order, will be China, the United States, India, Japan, Korea, Germany, Spain, Saudi Arabia, France and Mexico.[135]

[135] *See Monitoring Report,* USITC Pub. 5021 at I-9 - I-10.

There is no question that the United States is and will continue to be a large and attractive market for CSPV sales and shipments.

And the second point – increasing global oversupply of CSPV modules – is also clear and obvious. Virtually all experts that track the solar (PV) market confirm this fact. There are multiple market research firms that track the global PV market and publish reports noting demand and supply trends over time. Such reports include (among others) *PV Installations Tracker* published by IHS Markit, *Trends in Photovoltaic Applications* published by IEA PVPC, and Global Solar PV Market Outlook Update published by Wood Mackenzie. All of these reports confirm the existence of a global oversupply.

Supply / Demand
(GW)

Source: Research reports (BNEF, IHS, PV infolink, PV insights, WoodMac), PV news, LGE internal analysis

The above chart provides Petitioners' internal analysis of the supply-demand trend over time based on a review of the various expert reports. What is most striking is that since 2016 (the last full calendar in the Commission's original CSPV safeguard report), there has been a dramatic increase in the imbalance between PV production capacity and PV demand, leading to a significant oversupply situation. Indeed, the oversupply percentage has increased from 2% in 2016 to 20% in 2019 and projected to increase to 39% in 2022.

What's more, the projected supply-demand imbalance over the next couple of years (illustrated above) represents only the "base case" scenario, or the middle point in projections concerning global PV demand. As everyone in the industry is very aware, the volatile nature of the PV market makes undertaking precise predictions about global PV demand rather challenging. This is particularly true given that China accounts for nearly 40 percent of total global demand and so small percentage changes in expected Chinese demand can have an outsize effect on changes in global demand. It is for this reason that many PV market experts also offer an "upside case" and a "downside case" when making projections about global PV demand. And so, if the downside case for global demand (which assumes that growth in Chinese PV installations slows considerably) occurs, the oversupply situation will be that much more.

In short, there is substantial evidence that there is a significant existing imbalance between global PV capacity and global PV demand, resulting in a significant oversupply of PV products in the market. And the evidentiary record confirms that the United States is a large and attractive market for PV products. The combination of these two facts leaves no doubt that should the U.S. solar safeguard measures be terminated, there would be a tremendous increase in CSPV imports into the U.S. market.

2. The Increase in U.S. CSPV Module Imports Will Lead to a Crash of CSPV Module Selling Prices in the U.S. Market

That a large increase in imports of CSPV modules will lead to a crash of U.S. CSPV module ASPs is not a conclusion that should be foreign to the Commission. Indeed, the Commission itself reached this very conclusion in its original safeguard determination. Specifically, in its original safeguard investigation the Commission made the following conclusions:

> "Imports of CSPV products increased {significantly} between 2012 and 2016."[136]
>
> "Imported CSPV products are highly substitutable with U.S.-manufactured products, and price is an important consideration in purchasing decisions in this industry."[137]
>
> "{I}mported CSPV products were priced lower than U.S.-manufactured products in 33 of 52 instances."[138]
>
> "The majority of purchasers reported that they had increased their purchases of imported CSPV products, and they identified lower price most often as the reason for increasing their purchases of imported CSPV products."[139]
>
> "According to industry reports, prices of CSPV cells and CSPV modules fell by 60.4 percent and 58.5 percent, respectively from 2012 to 2016."[140]
>
> "Eight of 12 responding domestic producers reported that they had to reduce prices."[141]

Petitioners respectfully submit that there is no information or data that would suggest that the same market pricing dynamics that the Commission found in its original safeguard report would not exist should the safeguard measures on CSPV modules be terminated now. Indeed, all

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[136] *Solar Safeguard Determination*, USITC Pub. 4739 at 27.

[137] *Id.* at 56.

[138] *Id.* at 57.

[139] *Id.*

[140] *Id.* at 58.

[141] *Id.*

available evidence confirms the substantial likelihood that the termination of the safeguard measures would lead to a dramatic reduction in U.S. ASPs for CSPV modules.

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U.S. Price Trend

[ ]

Source: PVInsights

The graph above presents a compelling visual. As detailed above, in Q4 2017, the last full calendar year before the solar safeguard case was initiated, the average U.S. ASP for CSPV products was very close to the global ASP for CSPV products. However, once the safeguard measures were imposed, the U.S. ASP was able to separate from the global ASP and enjoy a decent premium over the constantly declining global ASP. The higher ASP helped manufacturers and manufacturing jobs but did not come at the expense of expanding solar power installations.[142]

There cannot be a more clear cause and effect picture: the imposition of the solar safeguard measures allowed CSPV module ASPs to stabilize and follow a slower declining trend, resulting in higher ASPs in the market. There can be little question that termination of the solar safeguard measures will cause a collapse in the current stable CSPV module pricing in the U.S. market.

3. Because It Will Take More Time to Achieve a Lower Break-even Point, the Collapse in CSPV Module Average Selling Prices Will Make it Virtually Impossible for U.S. CSPV Module Production to Become Successful

There are two critical points that the Commission needs to understand about the likely collapse in pricing in the U.S. CSPV module market following a surge in imports.

First, although CSPV modules intended for the residential segment of the U.S. market typically can command some premium over CSPV modules destined for the utility market, it is certain that the percentage difference cannot appreciably increase. Or stated differently, if ASP's

[142] *See, e.g.* SEIA and Wood MacKenzie, "U*.S. Solar Market Insight (Full Report): 2020 Year In Review*" (Mar. 2021), **Exhibit 14** at 37, 52. (showing the market outlook and average market prices).

for CSPV modules in the utility market dramatically decrease because of the increase in imports (following termination of the solar safeguard measures), the ASPs for the residential market will also dramatically decrease, even if the percentage premium over the utility market is maintained.

Second, it takes time for a new production factory to reach its maximum efficiency potential, and therefore it takes time to achieve operating cost reductions that are commensurate with expected market price reductions.

To reference just one example, LGEUS' new Huntsville, AL production factory is definitely on track to achieve its planned maximum operating efficiency, but [

].

However, achievement of these increased operating efficiencies can only occur if U.S. CSPV module producers are able to produce at their maximum production capacity. And U.S. CSPV module producers' ability to produce at their maximum production capacity is directly dependent on U.S. CSPV module producers being able to obtain ASPs that exceed their "break-even point." As the name implies, the "break-even point" is the ASP at which it makes commercial business sense for U.S. CSPV module producers to continue producing for the U.S. market. Should the ASPs in the U.S. market fall below U.S. CSPV module producers' break-even point, it will be very difficult for U.S. CSPV module producers to achieve continued success.

This is why an extension of the safeguard measures is needed. Extension will allow the new U.S. CSPV module producers to undertake complete the process of maximizing production

efficiency in order to be able to compete with lower priced imported modules. As detailed above, this process was interrupted by events out of the control of U.S. module producers.

C. Persistent Underselling Continues to Depress Domestic Producer Prices and Hinder the Industry's Adjustments Efforts

The safeguard remedy did not afford relief from low-priced imports as intended. As the Commission found in the mid-term investigation, despite the safeguard remedy, module prices in the U.S. market did not increase as originally expected and in fact declined in 2019.[143] Commissioner Kearns remarked how this was evidence of "a less favorable price environment for all U.S. CSPV producers than what was considered by these Commissioners to be needed for a positive adjustment."[144]

Import underselling has been a constant concern for the domestic CSPV industry. During the safeguard investigation, the Commission found that imported CSPV products were priced lower than U.S.-manufactured products in 33 of 52 instances or 63.5 % of the time.[145] Following the safeguard investigation, Petitioners reasonably expected that the safeguard action would support a pricing level that would allow them to be sufficiently profitable to make investments and increase production. But even with the safeguard measures in place, CSPV module imports undersold domestic modules in 32 out of 43 instances, or 74.4% of the time.[146]

According to data from NREL, from the first half of 2018 to the first half of 2019, the

[143] *Monitoring Report,* USITC Pub. 5021 at 1.

[144] *Monitoring Report*, USITC Pub. 5021 at 3 (Additional Comments of Commissioner Jason E. Kearns).

[145] *See CSPV Safeguard*, USITC Pub. 4739 at 42.

[146] *Monitoring Report,* USITC Pub. 5021 at VI-28.

prices of modules in the U.S. market fell by more than 20%.[147] Mono-crystalline and multi crystalline modules sold in the United States in the first quarter of 2019 were 23% and 27% lower in price than modules sold in the United States in the same period on 2018, even though they were 57% and 43% higher in price than the global average.[148]

Among other factors, the Bifacial Exclusion contributed to the price decline for CSPV products.[149] The data in the mid-term review showed that the oversupply in the market in 2019 lead to a significant decrease in U.S. import prices: the average unit value declined from $0.589 per watt in 2016 to $0.419 per watt in 2018, then fell to $0.336 per watt in 2019.[150]

After the Bifacial Exclusion went into effect on June 13, 2019, import prices decreased between the second and third quarters of 2019.[151] Module prices temporarily rebounded in the last quarter of 2019 at a time of increased demand due to a combination of the Bifacial Exclusion and the ITC step-down at the end of 2019. As the graph below illustrates, the price decline resumed in 2020 with the Bifacial Exclusion in effect for most of the year.

[147] David Feldman, Robert Margolis, "*Q1/Q2 2019 Solar Industry Update*," NREL/PR-6A20-74585 (Aug. 6, 2019) at 32, *available at* https://www.nrel.gov/docs/fy19osti/74585.pdf, attached at **Exhibit 15**.

[148] *See id.* at 33.

[149] *Monitoring Report,* USITC Pub. 5021 at VI-4 to VI-5.

[150] *Supplemental Report*, USITC Pub. 5032 at II-9.

[151] *See* Wood Mackenzie, "*PV Pulse: 2D Industry Pricing"* (Jun. 2021), attached at **Exhibit 16.**

In the second quarter of 2020, NREL reported that U.S. mono-crystalline module prices fell to their lowest recorded level.[152] In the second quarter of 2020 the average U.S. price for a mono-crystalline PERC module was 39 cents/w and for a bifacial module it was 36 cents/w.[153] Prices in the U.S. market have since declined further. Wood Mackenzie reports that mono-crystalline PERC modules imported from South East Asia were being sold in the U.S. market in the first quarter of 2021 at [ ] and expected to further go down to [ ] by the end of the year.[154]

According to the same publication, orders for utility customers (orders > 10MW), mono-crystalline PERC modules from South East Asia were being sold in the U.S. market in the first quarter of 2021 at [ ].[155] For bifacial modules, the estimated price for the first quarter

[152] David Feldman, Robert Margolis, "*Q2/Q3 2020 Solar Industry Update*," NREL/PR-6A20-78625 (Dec. 8, 2020) at 40. Excerpts provided at **Exhibit 17**.

[153] *Id*. at 33.

[154] *See* Wood Mackenzie, "*PV Pulse: 2D Industry Pricing*" (Jun. 2021), attached at **Exhibit 16.**

[155] *See id.*

of 2021 was estimated by Wood MacKenzie at [ ].[156]

Therefore, the prices for modules in the U.S. market are well below pre-safeguard levels, and below pre-monitoring levels for both mono-facial and bifacial modules. These price declines seen during the safeguard period are likely to accelerate in the event of the termination of the safeguard measure. If the safeguard measures are not extended, tariff-free imports of cheap modules produced by highly-subsidized Chinese firms in South East Asia[157] could devastate the progress made by the domestic industry.

D. Increased Costs on Bill of Materials Components Have Put Pressure on Domestic Module Producers

The economic pressures of rising import volumes and low prices for modules in the U.S. market have been further compounded by increased costs for the inputs needed by the industry to produce CSPV modules. CSPV module production costs are heavily impacted by the cost of module components, *i.e.* the bill of materials cost. For lack of domestic supply, U.S. module manufacturers source critical components of the solar modules, such as solar glass, aluminum frames, junction boxes, backsheet and other components from China. Section 301 duties at rates of 25% *ad valorem*, as well as AD/CVD duties up to 100% are imposed on these inputs. Insofar as China has cornered the market on these inputs, there are no other viable alternatives, thus increasing domestic module producers' costs.

Specifically, key module components such as aluminum frames for solar panels and ethylene vinyl acetate ("EVA") encapsulants that are extruded into film were included on List 1 of products subject to the Section 301 duties and are subject to duties of 25%.[158] Certain CSPV

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[156] *See id*.

[157] *Monitoring Report,* USITC Pub. 5021 at F-35 to F-48.

[158] As a result of an investigation by the USTR under Section 301 of the Trade Act of 1974, into certain acts, policies, and practices of the government of China related to technology transfer,

cells and modules are subject to Section 301 duties of 25%,[159] as well as other module components such as solar glass, junction boxes, inverters, silicon-based sealants.[160]

Additionally, imports of aluminum frames, EVA and backsheet materials imported from China are subject to AD/CVD duties also. For example, aluminum frames from China are subject to combined AD/CVD duties of up to 328.16%.[161]

Because U.S. supply chains do not exist for most CSPV module components at the scale needed to supply the domestic module industry,[162] importing the components from China at these tariff rates is unavoidable. These overlapping tariffs on module components have added significant costs for domestic CSPV module manufacturers, impacting the producers' cost of production, operating income, gross profit and net income. While the safeguard tariff offers much needed relief to the newly established module manufacturers from injuriously priced imports, the

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intellectual property, and innovation, the President imposed, in two tranches (referred to as "List 1" and "List 2"), an additional ad valorem duty of 25% on imports under certain tariff subheadings. *See China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation*, 83 Fed. Reg. 28710 (Jun. 20, 2018) (notice of action); *China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation*, 83 Fed. Reg. 40823 (Aug. 16, 2018) (notice of action) ("August NOA").

[159] *August NOA*, 83 Fed. Reg. at 40823. Relevant HTS codes for solar products in the Tranche 2 list included 8541.40.60, 8501.31.80, and 8501.32.60. These codes cover the vast majority of subject and nonsubject solar products. *Id.* at 40827.

[160] In September 2018, the President further imposed, in a third tranche, an ad valorem duty of 10% to increase to 25% on January 1, 2019, on a very wide list of products ("List 3"), including the components listed above. *See China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation,* 83 Fed. Reg. 47974, 47999 (Sep. 21, 2018) (notice of modification of Section 301 action). Relevant HTS codes for solar products in the Tranche 3 list included 8501.61.00 and 8502.20.00.

[161] *See Aluminum Extrusions From the People's Republic of China,* 86 Fed. Reg. 8593 (Feb. 8, 2021) (2018 corrected final results); *Aluminum Extrusions From the People's Republic of China*, 85 Fed. Reg. 19726 (Apr. 8, 2020) (2018-2019 final results).

[162] *Monitoring Report*, USITC Pub. 5021 at 3 (Additional Comments of Commissioner Jason E. Kearns); *see also* Bloomberg BNEF, "*Solar PV Trade and Manufacturing, A Deep Dive"* at 16-18 (Feb. 2021) excerpts attached at **Exhibit 18.**

Section 301 duties and the AD/CVD duties on the module components add millions of dollars in costs that the foreign module manufacturers *do not* incur.

Moreover, the last year of the safeguard period coincided with a period of unanticipated higher manufacturing costs for domestic module producers due to supply/demand market dynamics. For example, solar glass supply shortages in 2020, as result of the Bifacial Exclusion, resulted in increased solar glass prices of as much as 71%.[163] Similarly, polysilicon prices increased in Q3 2020, leading to 58%-90% increases in the price of wafers.[164]

A more integrated supply chain for module manufacturing with more manufacturing taking place in the United States no doubt would result in securing a more reliable supply of components and less price volatility. However, until that is possible, the extension of the safeguard remains all the more important. It is a known fact that the supply chain for CSPV products is well established in China due to the multi-year history of the Top Runner Program. CSPV module components can be shipped from China to Southeast Asia, to produce modules in such countries. In contrast, American solar module manufacturers pay tariffs on the same components from China under Section 301 and AD/CVD orders, placing them at a significant competitive disadvantage.

E. Safeguard Extension Complements Other Policies to Support Domestic Manufacturing

The Biden Administration has called for a 100 percent carbon-free power sector by 2035 with an interim target of 80 percent clean electricity by 2030. On January 27, 2021, the President issued an Executive Order announcing bold targets to achieve a carbon pollution-free power sector by 2035 and put the United States on an irreversible path to a net-zero economy by 2050.[165] The

[163] *Id.* at 18.

[164] *Id*. at 6.

[165] *See* White House, *Executive Order on Tackling the Climate Crisis at Home and Abroad* (Jan. 27, 2021) available at https://www.whitehouse.gov/briefing-room/presidential-

challenge before the United States to attain net zero goals by 2035 demands pulling all available policy levers, including the extension of the safeguard remedies alongside other incentives. The United States needs a vibrant CSPV solar industry, one that is not 100% reliant on foreign supply.

Extension of the safeguard is key to leveling the playing field for domestic manufacturers. First, the safeguard is crucial to helping domestic manufacturers compete with China. The domestic industry is already at a disadvantage compared to the Chinese solar manufacturers and their affiliates' exports which do not face high tariffs on their inputs. The unfair trade practices that Chinese companies were found to utilize in the *Solar I* and *Solar II* AD/CVD cases[166] cannot be presumed to have disappeared simply because they are coming from third countries. Facilities in Southeast Asia set up by the Chinese have benefited from the Top Runner program and other types of subsidies[167] such that one must presume the products coming from Southeast Asia are also the beneficiaries of unfair trade practices. By providing a level playing field for domestic CSPV manufacturers, the safeguard helps to strengthen energy security by creating the conditions to support domestic R&D, technology development and manufacturing expansion. Producing more CSPV modules and more components of the CSPV supply chain domestically would support the Administration's goal of carbon-free electricity by 2035.

Second, the domestic industry's plans to continue to ramp up and invest in U.S. manufacturing require continuation of the safeguard, in combination with manufacturing

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actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad/, attached at **Exhibit 19**.

[166] *See Monitoring Report,* USITC Pub. 5021 at I-4 to I-5; *see also supra* at 3-5.

[167] Introduced in 2015, China's Top Runner Program is a reverse auction designed to support the installation, and therefore the development and production, of more advanced solar technologies. The Top Runner Program has helped drive the adoption of more advanced technologies among Chinese manufacturers, including PERC and bifacial, and contributed to the shift toward monocrystalline production. *See Monitoring Report,* USITC Pub. 5021 at F-55.

incentives and priority for renewable energy that are a centerpiece of President Biden's "Build Back Better" agenda. The continuation of the safeguard would support and complement the Administration's agenda and strengthen the base of domestic module manufacturers.

The overriding purpose of Section 201 relief is to help the U.S. industry adjust to import competition. We know the Administration believes that it benefits the national security and the economic security of the United States that the U.S. has its own solar industry - one that does not simply distribute CSPV products, but actually manufactures solar products. At stake here is whether the U.S. industry has the support it needs to sustain production of CSPV modules and achieve long-term economic viability to adjust to import competition from China and SE Asia. And, of course, ultimately make it possible for U.S. production of cells. For the reasons discussed above, extending the safeguard is imperative to level the playing field.

X. TRQ ISSUES

The current TRQ of 2.5 GW per year was adequate during the first three years of the safeguard measures as the largest domestic producers started-up production and then had to slow down during the pandemic. Looking forward, as the industry continues to recover and grow, Petitioners respectfully request that the Commission re-evaluate the size of the TRQ during the safeguard extension investigation. Petitioners are concerned that the rate at which solar cells are being imported into the U.S. for use in module production will results in the TRQ volume being met and exceeded in year four of the safeguard and beyond.

This concern is justified as the TRQ was already 52.6% filled as of July 26, 2021, which is less than six months into Year 4 of the safeguard.[168] As the U.S. economy recovers from the

[168] *See* https://www.cbp.gov/document/report/commodity-status-report for the weekly Commodity Status Report. For the week of July 26, 2021, the Commodity Status Report may be

pandemic and production is expected to increase in the coming months, there is a very real possibility that the U.S. module producers' cell requirements will exceed the level of the TRQ. With no current available domestic supply of solar cells, U.S. manufacturers will be severely disadvantaged if they are forced to pay safeguard duties on cells needed to produce the modules. With the cost of other manufacturing inputs (such as solar glass, aluminum frames and other components) already inflated by U.S. tariff measures, domestic module producers will be uncompetitive with imported modules whose inputs bear no comparable tariff costs if the TRQ is too low to provide duty-free cells to U.S. module producers.

The CSPV industry in the United States is at a critical juncture. Over the safeguard period, the industry has taken the steps to adjust to import competition and has transformed itself to focus on the production of modules, rather than cells. The lack of available duty free cells for domestic module producers at this critical junction could hinder the progress already made by the U.S. domestic industry. It would have an even worse effect on future CSPV manufacturing investments in the United States. Future investments/expansions in module production would be economically unfeasible under a cell TRQ that is plainly smaller than the demand represented by existing module producers. Any solar manufacturing tax credit is also likely to result in further investment over the next four years, potentially broadening the gap between domestic module production and availability of duty free cells to meet those production needs.

In light of these considerations, the Commission should recommend a TRQ increase that is commensurate with the needs of the growing CSPV module industry.

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accessed at: https://www.cbp.gov/sites/default/files/assets/documents/2021-Jul/Quota%20Status%20Report%20JUL%2026%202021_0.pdf, attached at **Exhibit 20.**

XI. CONCLUSION

The CSPV safeguard remedy is working and producing a positive adjustment in the newly revitalized domestic CSPV industry. The extension of the safeguard is crucial to help domestic producers attain the goals of scaling production, continue to innovate, and to complete the task of making a positive adjustment to import competition.

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LIST OF EXHIBITS

No.	Description	Confidential/ Public
1.	U.S. CSPV Module Production Capacity	Confidential
2.	U.S. Imports of CSPV Products (Annual 2018-2020, YTD 2020&2021)	Public
3.	U.S. CSPV Module Production and Market Share	Confidential
4.	Hanwha Q CELLS USA Inc. Presentation for the USITC's Visit to Dalton, Georgia (Confidential Version) (Oct. 30, 2019)	Confidential
5.	LGE's Presentation for the USITC's Visit to Huntsville (Confidential Version) (Nov. 12, 2019)	Confidential
6.	JinkoSolar Factory Project Articles	Public
7.	Silfab Solar Panel Plant Expansion Articles	Public
8.	Brittany Smith, et al., "Solar Photovoltaic (PV) Manufacturing Expansions in the United States, 2017–2019: Motives, Challenges, Opportunities, and Policy Context," Renewable Energy Laboratory (April 2021)	Public
9.	Heliene Solar Factory Expansion Articles	Public
10.	Solartech Plant Expansion Articles	Public
11.	Craig Fox, "Watertown Solar Manufacturing Plant Project Coud Start by October," (July 9, 2021)	Public
12.	Kelly Pickerel, "Convalt Energy to Open 700-MW Solar Panel Assembly Facility in New York in 2022," (July 12, 2021)	Public
13.	David Feldman, Robert Margolis, "H2 2020 Solar Industry Update," NREL/PR-7A40-79758 (April 6, 2021)	Public
14.	SEIA and Wood MacKenzie, "U.S. Solar Market Insight (Full Report): 2020 Year In Review" (March 2021)	Confidential
15.	David Feldman, Robert Margolis, "Q1/Q2 2019 Solar Industry Update," NREL/PR-6A20-74585 (August 6, 2021)	Public
16.	Wood Mackenzie, PV Pulse: 2D Industry Pricing (June 2021)	Confidential

No.	Description	Confidential/ Public
17.	David Feldman, Robert Margolis, "Q2/Q3 2020 Solar Industry Update," NREL/PR-6A20-78625 (Dec. 8, 2020)	Public
18.	Bloomberg BNEF, "Solar PV Trade and Manufacturing, A Deep Dive" at 16-18 (February 2021)	Confidential
19.	White House, "Executive Order on Tackling the Climate Crisis at Home and Abroad" (Jan. 27, 2021)	Public
20.	U.S. CBP Weekly Commodity Status Report As of July 26, 2021	Public

EXHIBIT 1

US CSPV Solar Panel Manufacturers Capacity*

Company	Country	U.S. Location		Capacity (MW)**	Type	Status of Current CSPV Production	
Auxin Solar	USA	San Jose, CA	[				]
Comvalut		Watertown, NY	[				]
Hanwha Q CELLS	South Korea	Dalton, GA	[				]
Heliene	Canada	Mountain Iron, MN	[				]
JinkoSolar	China	Jacksonville, FL	[				]
Sunergy California	China	McClellan Park, CA	[				]
LG Electronics USA	South Korea	Huntsville, AL	[				]
Mission Solar	USA	San Antonio, TX	[				]
Silfab Solar	Canada	Bellingham, WA	[				]
SolarTech Universal	USA	Riviera Beach, FL	[				]
SunSpark USA/SolarMax Technology	USA	Riverside, CA	[				]
Tesla	USA	Buffalo, NY Fremont, CA	[				]
CertainTeed Solar	USA	San Jose, CA	[				]
Next Energy Alliance	USA	Riverside, CA	[				]
Prism Solar	USA	Highland, NY	[				]
Solaria	USA	Fremont, CA	[				]
Merlin Solar	USA	San Jose, CA	[				]
Panasonic	Japan	Buffalo, NY	[				]
PowerFilm	USA	Ames, IA	[				]
SBM	USA	Concord, NC	[				]
Suniva	USA	Norcross, GA Saginaw Township, MI	[				]
SunPower (SolarWorld)	USA	Hillsboro, OR	[				]
Yingli	China	San Antonio, TX	[				]
CBS Solar	USA	Copemish, MI	[				]
Seraphim Solar	China	Jackson, MS	[				]
Solartecmx LLC		Houston, TX	[				]
Wanxiang	China	Rockford, IL	[				]
Total of Producing Companies			[				]

Notes:

*_See Monitoring Report_ at I-44 - I-45 for complete list of names

** As identified in the _Monitoring Report_ at I-44 - I-45.

EXHIBIT 2

U.S. Imports of CSPV Products

HTS #s 8541.40.6015, 8541.40.6020, 8541.40.6025, 8541.40.6030, 8541.40.6035, and 8541.40.6045

Annual 2018 - 2020; January - May 2020 & 2021

Value (Customs, 1000s of USD)

	2018	2019	2020	YTD 2020	YTD 2021
Malaysia	1,116,969	2,455,692	2,492,063	1,206,400	1,081,333
Vietnam	371,474	1,627,729	2,336,641	967,667	983,984
Thailand	171,628	502,495	1,364,292	616,650	513,836
South Korea	622,669	709,556	1,002,476	526,533	338,337
China	23,921	108,414	324,189	269,361	7,819
Singapore	144,076	161,429	168,001	78,102	81,897
Cambodia	-	13,832	124,902	24,446	75,523
Mexico	300,827	151,653	89,897	22,069	451
India	69,967	117,996	85,737	52,223	36,055
Turkey	69,296	91,549	67,055	43,698	10,553
Taiwan	26,577	99,426	60,264	40,848	18,365
Italy	6,766	6,526	41,209	22,788	1,899
Canada	38,200	23,863	38,897	15,127	6,717
Japan	130,909	78,208	19,220	18,488	3,705
Philippines	33,602	6,432	12,609	11,728	8,571
All Other Developing Countries	5,288	9,470	11,542	2,976	3,788
All Other Non-Developing Countries	9,987	6,155	6,717	2,269	4,847
Total	**3,142,155**	**6,170,426**	**8,245,711**	**3,921,372**	**3,177,680**

Share of Value (Percent)

	2018	2019	2020	YTD 2020	YTD 2021
Malaysia	35.5%	39.8%	30.2%	30.8%	34.0%
Vietnam	11.8%	26.4%	28.3%	24.7%	31.0%
Thailand	5.5%	8.1%	16.5%	15.7%	16.2%
South Korea	19.8%	11.5%	12.2%	13.4%	10.6%
China	0.8%	1.8%	3.9%	6.9%	0.2%
Singapore	4.6%	2.6%	2.0%	2.0%	2.6%
Cambodia	-	0.2%	1.5%	0.6%	2.4%
Mexico	9.6%	2.5%	1.1%	0.6%	0.0%
India	2.2%	1.9%	1.0%	1.3%	1.1%
Turkey	2.2%	1.5%	0.8%	1.1%	0.3%
Taiwan	0.8%	1.6%	0.7%	1.0%	0.6%
Italy	0.2%	0.1%	0.5%	0.6%	0.1%
Canada	1.2%	0.4%	0.5%	0.4%	0.2%
Japan	4.2%	1.3%	0.2%	0.5%	0.1%
Philippines	1.1%	0.1%	0.2%	0.3%	0.3%
All Other Developing Countries	0.2%	0.2%	0.1%	0.1%	0.1%
All Other Non-Developing Countries	0.3%	0.1%	0.1%	0.1%	0.2%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: U.S. Department of Commerce and USITC

U.S. Imports of CSPV Products

HTS #s 8541.40.6015, 8541.40.6020, 8541.40.6025, 8541.40.6030, 8541.40.6035, and 8541.40.6045

Annual 2018 - 2020; January - May 2020 & 2021

Quantity (Units)

	2018	2019	2020	YTD 2020	YTD 2021
Malaysia	37,163,804	46,122,926	76,357,558	22,601,668	60,225,038
Vietnam	18,334,464	35,453,931	55,447,425	31,698,136	33,618,583
Thailand	3,779,327	4,326,073	18,073,000	5,998,674	27,965,086
South Korea	9,213,092	145,076,922	265,523,408	136,887,511	93,295,649
China	1,771,032	19,489,662	48,816,101	44,392,678	419,419
Singapore	1,394,691	2,033,787	1,897,450	933,935	1,147,073
Cambodia	-	162,389	1,550,568	259,565	1,214,819
Mexico	1,432,278	896,672	539,447	189,940	56,567
India	731,842	1,453,612	1,094,612	789,989	383,870
Turkey	1,046,061	920,065	709,128	461,841	117,835
Taiwan	11,213,808	34,455,986	30,189,497	14,453,342	10,322,712
Italy	57,370	87,385	252,374	113,276	19,775
Canada	357,882	452,281	634,331	256,760	449,030
Japan	11,790,056	24,165,656	9,981,229	9,630,553	145,637
Philippines	15,164,188	450,397	332,962	171,946	126,883
All Other Developing Countries	118,294	556,582	862,079	51,761	214,310
All Other Non-Developing Countries	896,494	97,918	70,764	38,970	46,176
Total	**114,464,683**	**316,202,244**	**512,331,933**	**268,930,545**	**229,768,462**

Share of Quantity (Percent)

	2018	2019	2020	YTD 2020	YTD 2021
Malaysia	32.5%	14.6%	14.9%	8.4%	26.2%
Vietnam	16.0%	11.2%	10.8%	11.8%	14.6%
Thailand	3.3%	1.4%	3.5%	2.2%	12.2%
South Korea	8.0%	45.9%	51.8%	50.9%	40.6%
China	1.5%	6.2%	9.5%	16.5%	0.2%
Singapore	1.2%	0.6%	0.4%	0.3%	0.5%
Cambodia	-	0.1%	0.3%	0.1%	0.5%
Mexico	1.3%	0.3%	0.1%	0.1%	0.0%
India	0.6%	0.5%	0.2%	0.3%	0.2%
Turkey	0.9%	0.3%	0.1%	0.2%	0.1%
Taiwan	9.8%	10.9%	5.9%	5.4%	4.5%
Italy	0.1%	0.0%	0.0%	0.0%	0.0%
Canada	0.3%	0.1%	0.1%	0.1%	0.2%
Japan	10.3%	7.6%	1.9%	3.6%	0.1%
Philippines	13.2%	0.1%	0.1%	0.1%	0.1%
All Other Developing Countries	0.1%	0.2%	0.2%	0.0%	0.1%
All Other Non-Developing Countries	0.8%	0.0%	0.0%	0.0%	0.0%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: U.S. Department of Commerce and USITC

U.S. Imports of Solar Cells

HTS #s 8541.40.6025, 8541.40.6030, and 8541.40.6045

Annual 2018 - 2020; January - May 2020 & 2021

Value (Customs, 1000s of USD)

	2018	2019	2020	YTD 2020	YTD 2021
Malaysia	48,105	32,937	44,668	9,908	49,191
Vietnam	30,234	35,027	35,193	22,688	22,042
Thailand	1,589	21	4,226	634	3,422
South Korea	98,338	251,873	311,765	159,913	123,580
China	2,140	12,667	36,605	32,967	241
Singapore	-	13	14	-	282
Cambodia	-	76	128	-	-
Mexico	289	723	132	128	78
India	14,497	2,113	7,075	6,278	45
Turkey	1,406	51	-	-	-
Taiwan	22,635	46,162	27,106	13,420	11,516
Italy	1,011	153	248	239	10
Canada	114	115	165	15	31
Japan	45,894	56,660	9,090	8,751	9
Philippines	31,777	731	417	36	170
All Other Developing Countries	736	290	987	-	1,675
All Other Non-Developing Countries	1,789	2,623	3,501	652	312
Total	**300,555**	**442,236**	**481,318**	**255,629**	**212,604**

Share of Value (Percent)

	2018	2019	2020	YTD 2020	YTD 2021
Malaysia	16.0%	7.4%	9.3%	3.9%	23.1%
Vietnam	10.1%	7.9%	7.3%	8.9%	10.4%
Thailand	0.5%	0.0%	0.9%	0.2%	1.6%
South Korea	32.7%	57.0%	64.8%	62.6%	58.1%
China	0.7%	2.9%	7.6%	12.9%	0.1%
Singapore	-	0.0%	0.0%	-	0.1%
Cambodia	-	0.0%	0.0%	-	-
Mexico	0.1%	0.2%	0.0%	0.1%	0.0%
India	4.8%	0.5%	1.5%	2.5%	0.0%
Turkey	0.5%	0.0%	-	-	-
Taiwan	7.5%	10.4%	5.6%	5.2%	5.4%
Italy	0.3%	0.0%	0.1%	0.1%	0.0%
Canada	0.0%	0.0%	0.0%	0.0%	0.0%
Japan	15.3%	12.8%	1.9%	3.4%	0.0%
Philippines	10.6%	0.2%	0.1%	0.0%	0.1%
All Other Developing Countries	0.2%	0.1%	0.2%	-	0.8%
All Other Non-Developing Countries	0.6%	0.6%	0.7%	0.3%	0.1%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: U.S. Department of Commerce and USITC

U.S. Imports of Solar Modules and Panels

HTS #s 8541.40.6015, 8541.40.6020, and 8541.40.6035

Annual 2018 - 2020; January - May 2020 & 2021

Value (Customs, 1000s of USD)

	2018	2019	2020	YTD 2020	YTD 2021
Malaysia	1,068,864	2,422,755	2,447,394	1,196,492	1,032,141
Vietnam	341,240	1,592,702	2,301,448	944,980	961,942
Thailand	170,039	502,474	1,360,067	616,016	510,414
South Korea	524,331	457,683	690,711	366,620	214,757
China	21,780	95,747	287,584	236,394	7,578
Singapore	144,076	161,416	167,986	78,102	81,615
Cambodia	-	13,756	124,774	24,446	75,523
Mexico	300,538	150,929	89,765	21,941	373
India	55,471	115,883	78,662	45,945	36,010
Turkey	67,890	91,498	67,055	43,698	10,553
Taiwan	3,942	53,264	33,159	27,427	6,849
Italy	5,754	6,373	40,962	22,549	1,889
Canada	38,086	23,748	38,733	15,112	6,686
Japan	85,015	21,548	10,130	9,737	3,697
Philippines	1,825	5,701	12,192	11,692	8,401
All Other Developing Countries	4,552	9,180	10,556	2,976	2,114
All Other Non-Developing Countries	8,198	3,533	3,216	1,617	4,534
Total	**2,841,600**	**5,728,190**	**7,764,393**	**3,665,743**	**2,965,075**

Share of Value (Percent)

	2018	2019	2020	YTD 2020	YTD 2021
Malaysia	37.6%	42.3%	31.5%	32.6%	34.8%
Vietnam	12.0%	27.8%	29.6%	25.8%	32.4%
Thailand	6.0%	8.8%	17.5%	16.8%	17.2%
South Korea	18.5%	8.0%	8.9%	10.0%	7.2%
China	0.8%	1.7%	3.7%	6.4%	0.3%
Singapore	5.1%	2.8%	2.2%	2.1%	2.8%
Cambodia	-	0.2%	1.6%	0.7%	2.5%
Mexico	10.6%	2.6%	1.2%	0.6%	0.0%
India	2.0%	2.0%	1.0%	1.3%	1.2%
Turkey	2.4%	1.6%	0.9%	1.2%	0.4%
Taiwan	0.1%	0.9%	0.4%	0.7%	0.2%
Italy	0.2%	0.1%	0.5%	0.6%	0.1%
Canada	1.3%	0.4%	0.5%	0.4%	0.2%
Japan	3.0%	0.4%	0.1%	0.3%	0.1%
Philippines	0.1%	0.1%	0.2%	0.3%	0.3%
All Other Developing Countries	0.2%	0.2%	0.1%	0.1%	0.1%
All Other Non-Developing Countries	0.3%	0.1%	0.0%	0.0%	0.2%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: U.S. Department of Commerce and USITC

U.S. Imports of Solar Cells; Crystalline Silicon Photovoltaic Cells of a Kind Described in Statistical Note 11 to This Chapter; Assembled Into Modules or Made Up Into Panels

HTS # 8541.40.6015

Annual 2018 - 2020; January - May 2020 & 2021

Value (Customs, 1000s of USD)

	2018	2019	2020	YTD 2020	YTD 2021
Malaysia	307,290	1,345,307	1,906,707	873,586	876,497
Vietnam	187,814	861,708	1,392,823	550,904	618,186
Thailand	50,410	502,302	1,359,560	615,550	510,411
South Korea	240,040	456,745	689,990	366,167	214,747
China	5,884	93,186	285,247	235,674	6,730
Singapore	79,042	161,416	167,980	78,102	81,023
Cambodia	-	9,778	123,494	23,166	75,523
Mexico	138,810	150,321	88,417	21,750	242
India	4,894	71,507	24,077	10,145	4,854
Turkey	12,088	82,134	66,981	43,625	10,553
Taiwan	2,092	52,889	32,763	27,151	6,760
Italy	3,763	6,363	40,247	22,530	1,889
Canada	9,581	23,308	38,722	15,109	6,683
Japan	2,910	323	524	214	716
Philippines	700	5,697	12,192	11,692	8,401
All Other Developing Countries	259	6,688	10,313	2,840	1,953
All Other Non-Developing Countries	1,522	3,116	1,739	620	811
Total	**1,047,100**	**3,832,787**	**6,241,775**	**2,898,825**	**2,425,977**

Share of Value (Percent)

	2018	2019	2020	YTD 2020	YTD 2021
Malaysia	29.3%	35.1%	30.5%	30.1%	36.1%
Vietnam	17.9%	22.5%	22.3%	19.0%	25.5%
Thailand	4.8%	13.1%	21.8%	21.2%	21.0%
South Korea	22.9%	11.9%	11.1%	12.6%	8.9%
China	0.6%	2.4%	4.6%	8.1%	0.3%
Singapore	7.5%	4.2%	2.7%	2.7%	3.3%
Cambodia	-	0.3%	2.0%	0.8%	3.1%
Mexico	13.3%	3.9%	1.4%	0.8%	0.0%
India	0.5%	1.9%	0.4%	0.3%	0.2%
Turkey	1.2%	2.1%	1.1%	1.5%	0.4%
Taiwan	0.2%	1.4%	0.5%	0.9%	0.3%
Italy	0.4%	0.2%	0.6%	0.8%	0.1%
Canada	0.9%	0.6%	0.6%	0.5%	0.3%
Japan	0.3%	0.0%	0.0%	0.0%	0.0%
Philippines	0.1%	0.1%	0.2%	0.4%	0.3%
All Other Developing Countries	0.0%	0.2%	0.2%	0.1%	0.1%
All Other Non-Developing Countries	0.1%	0.1%	0.0%	0.0%	0.0%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: U.S. Department of Commerce and USITC

U.S. Imports of Solar Cells; Assembled Into Modules or Made Up Into Panels

HTS # 8541.40.6020

Annual 2018 - 2020; January - May 2020 & 2021

Value (Customs, 1000s of USD)

	2018	2019	2020	YTD 2020	YTD 2021
Malaysia	382,848	-	-	-	-
Vietnam	134,472	-	-	-	-
Thailand	119,380	-	-	-	-
South Korea	281,805	-	-	-	-
China	14,719	-	-	-	-
Singapore	65,035	-	-	-	-
Cambodia	-	-	-	-	-
Mexico	161,723	-	-	-	-
India	22,343	-	-	-	-
Turkey	28,453	-	-	-	-
Taiwan	1,671	-	-	-	-
Italy	1,981	-	-	-	-
Canada	28,166	-	-	-	-
Japan	46,733	-	-	-	-
Philippines	1,125	-	-	-	-
All Other Developing Countries	2,489	-	-	-	-
All Other Non-Developing Countries	6,376	-	-	-	-
Total	**1,299,322**	**-**	**-**	**-**	**-**

Share of Value (Percent)

	2018	2019	2020	YTD 2020	YTD 2021
Malaysia	29.5%	-	-	-	-
Vietnam	10.3%	-	-	-	-
Thailand	9.2%	-	-	-	-
South Korea	21.7%	-	-	-	-
China	1.1%	-	-	-	-
Singapore	5.0%	-	-	-	-
Cambodia	-	-	-	-	-
Mexico	12.4%	-	-	-	-
India	1.7%	-	-	-	-
Turkey	2.2%	-	-	-	-
Taiwan	0.1%	-	-	-	-
Italy	0.2%	-	-	-	-
Canada	2.2%	-	-	-	-
Japan	3.6%	-	-	-	-
Philippines	0.1%	-	-	-	-
All Other Developing Countries	0.2%	-	-	-	-
All Other Non-Developing Countries	0.5%	-	-	-	-
Total	**100.0%**	**-**	**-**	**-**	**-**

Source: U.S. Department of Commerce and USITC

U.S. Imports of Solar Cells; Crystalline Silicon Photovoltaic Cells of a Kind Described in Statistical Note 11 to This Chapter; Other

HTS # 8541.40.6025

Annual 2018 - 2020; January - May 2020 & 2021

Value (Customs, 1000s of USD)

	2018	2019	2020	YTD 2020	YTD 2021
Malaysia	12,240	32,919	44,640	9,905	49,185
Vietnam	16,186	34,978	32,147	22,054	21,635
Thailand	158	21	4,049	634	3,416
South Korea	95,307	251,862	311,703	159,913	123,577
China	1,412	12,648	36,548	32,956	215
Singapore	-	13	-	-	282
Cambodia	-	72	-	-	-
Mexico	232	711	125	122	78
India	14,013	1,960	6,994	6,202	45
Turkey	1,194	-	-	-	-
Taiwan	9,778	46,095	26,968	13,313	11,488
Italy	1,009	150	248	239	10
Canada	80	27	81	-	10
Japan	26,165	56,451	8,730	8,717	-
Philippines	90	731	417	36	170
All Other Developing Countries	642	290	891	-	824
All Other Non-Developing Countries	551	465	232	109	231
Total	**179,057**	**439,394**	**473,772**	**254,199**	**211,167**

Share of Value (Percent)

	2018	2019	2020	YTD 2020	YTD 2021
Malaysia	6.8%	7.5%	9.4%	3.9%	23.3%
Vietnam	9.0%	8.0%	6.8%	8.7%	10.2%
Thailand	0.1%	0.0%	0.9%	0.2%	1.6%
South Korea	53.2%	57.3%	65.8%	62.9%	58.5%
China	0.8%	2.9%	7.7%	13.0%	0.1%
Singapore	-	0.0%	-	-	0.1%
Cambodia	-	0.0%	-	-	-
Mexico	0.1%	0.2%	0.0%	0.0%	0.0%
India	7.8%	0.4%	1.5%	2.4%	0.0%
Turkey	0.7%	-	-	-	-
Taiwan	5.5%	10.5%	5.7%	5.2%	5.4%
Italy	0.6%	0.0%	0.1%	0.1%	0.0%
Canada	0.0%	0.0%	0.0%	-	0.0%
Japan	14.6%	12.8%	1.8%	3.4%	-
Philippines	0.1%	0.2%	0.1%	0.0%	0.1%
All Other Developing Countries	0.4%	0.1%	0.2%	-	0.4%
All Other Non-Developing Countries	0.3%	0.1%	0.0%	0.0%	0.1%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: U.S. Department of Commerce and USITC

U.S. Imports of Solar Cells; Other

HTS # 8541.40.6030

Annual 2018 - 2020; January - May 2020 & 2021

Value (Customs, 1000s of USD)

	2018	2019	2020	YTD 2020	YTD 2021
Malaysia	35,865	-	-	-	-
Vietnam	13,762	-	-	-	-
Thailand	1,400	-	-	-	-
South Korea	3,031	-	-	-	-
China	673	-	-	-	-
Singapore	-	-	-	-	-
Cambodia	-	-	-	-	-
Mexico	51	-	-	-	-
India	398	-	-	-	-
Turkey	213	-	-	-	-
Taiwan	12,230	-	-	-	-
Italy	-	-	-	-	-
Canada	15	-	-	-	-
Japan	19,412	-	-	-	-
Philippines	31,686	-	-	-	-
All Other Developing Countries	-	-	-	-	-
All Other Non-Developing Countries	1,076	-	-	-	-
Total	**119,812**	**-**	**-**	**-**	**-**

Share of Value (Percent)

	2018	2019	2020	YTD 2020	YTD 2021
Malaysia	29.9%	-	-	-	-
Vietnam	11.5%	-	-	-	-
Thailand	1.2%	-	-	-	-
South Korea	2.5%	-	-	-	-
China	0.6%	-	-	-	-
Singapore	-	-	-	-	-
Cambodia	-	-	-	-	-
Mexico	0.0%	-	-	-	-
India	0.3%	-	-	-	-
Turkey	0.2%	-	-	-	-
Taiwan	10.2%	-	-	-	-
Italy	-	-	-	-	-
Canada	0.0%	-	-	-	-
Japan	16.2%	-	-	-	-
Philippines	26.4%	-	-	-	-
All Other Developing Countries	-	-	-	-	-
All Other Non-Developing Countries	0.9%	-	-	-	-
Total	**100.0%**	**-**	**-**	**-**	**-**

Source: U.S. Department of Commerce and USITC

U.S. Imports of Solar Cells; Other; Assembled Into Modules or Made Up Into Panels

HTS # 8541.40.6035

Annual 2018 - 2020; January - May 2020 & 2021

Value (Customs, 1000s of USD)

	2018	2019	2020	YTD 2020	YTD 2021
Malaysia	378,726	1,077,448	540,687	322,905	155,644
Vietnam	18,953	730,994	908,625	394,075	343,756
Thailand	249	173	507	465	3
South Korea	2,485	938	721	453	11
China	1,177	2,561	2,337	719	848
Singapore	-	-	6	-	591
Cambodia	-	3,978	1,280	1,280	-
Mexico	4	608	1,349	191	132
India	28,234	44,376	54,585	35,800	31,156
Turkey	27,348	9,364	73	73	-
Taiwan	179	374	396	276	90
Italy	10	10	715	19	-
Canada	338	440	11	3	3
Japan	35,371	21,225	9,606	9,524	2,981
Philippines	-	5	-	-	-
All Other Developing Countries	1,804	2,492	243	137	161
All Other Non-Developing Countries	300	417	1,477	997	3,723
Total	**495,178**	**1,895,403**	**1,522,618**	**766,918**	**539,099**

Share of Value (Percent)

	2018	2019	2020	YTD 2020	YTD 2021
Malaysia	76.5%	56.8%	35.5%	42.1%	28.9%
Vietnam	3.8%	38.6%	59.7%	51.4%	63.8%
Thailand	0.1%	0.0%	0.0%	0.1%	0.0%
South Korea	0.5%	0.0%	0.0%	0.1%	0.0%
China	0.2%	0.1%	0.2%	0.1%	0.2%
Singapore	-	-	0.0%	-	0.1%
Cambodia	-	0.2%	0.1%	0.2%	-
Mexico	0.0%	0.0%	0.1%	0.0%	0.0%
India	5.7%	2.3%	3.6%	4.7%	5.8%
Turkey	5.5%	0.5%	0.0%	0.0%	-
Taiwan	0.0%	0.0%	0.0%	0.0%	0.0%
Italy	0.0%	0.0%	0.0%	0.0%	-
Canada	0.1%	0.0%	0.0%	0.0%	0.0%
Japan	7.1%	1.1%	0.6%	1.2%	0.6%
Philippines	-	0.0%	-	-	-
All Other Developing Countries	0.4%	0.1%	0.0%	0.0%	0.0%
All Other Non-Developing Countries	0.1%	0.0%	0.1%	0.1%	0.7%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: U.S. Department of Commerce and USITC

U.S. Imports of Solar Cells; Other; Other

HTS # 8541.40.6045

Annual 2018 - 2020; January - May 2020 & 2021

Value (Customs, 1000s of USD)

	2018	2019	2020	YTD 2020	YTD 2021
Malaysia	-	18	29	3	6
Vietnam	286	49	3,046	633	408
Thailand	32	-	177	-	5
South Korea	-	11	62	-	3
China	55	19	57	11	26
Singapore	-	-	14	-	-
Cambodia	-	4	128	-	-
Mexico	6	12	7	7	-
India	86	153	81	77	-
Turkey	-	51	-	-	-
Taiwan	627	67	138	107	28
Italy	2	3	-	-	-
Canada	19	88	84	15	21
Japan	317	209	361	34	9
Philippines	-	-	-	-	-
All Other Developing Countries	94	-	95	-	851
All Other Non-Developing Countries	162	2,158	3,269	543	81
Total	**1,686**	**2,842**	**7,546**	**1,430**	**1,437**

Share of Value (Percent)

	2018	2019	2020	YTD 2020	YTD 2021
Malaysia	-	0.6%	0.4%	0.2%	0.4%
Vietnam	17.0%	1.7%	40.4%	44.3%	28.4%
Thailand	1.9%	-	2.3%	-	0.4%
South Korea	-	0.4%	0.8%	-	0.2%
China	3.3%	0.7%	0.8%	0.8%	1.8%
Singapore	-	-	0.2%	-	-
Cambodia	-	0.1%	1.7%	-	-
Mexico	0.3%	0.4%	0.1%	0.5%	-
India	5.1%	5.4%	1.1%	5.4%	-
Turkey	-	1.8%	-	-	-
Taiwan	37.2%	2.3%	1.8%	7.5%	1.9%
Italy	0.1%	0.1%	-	-	-
Canada	1.1%	3.1%	1.1%	1.0%	1.4%
Japan	18.8%	7.4%	4.8%	2.4%	0.6%
Philippines	-	-	-	-	-
All Other Developing Countries	5.6%	-	1.3%	-	59.2%
All Other Non-Developing Countries	9.6%	75.9%	43.3%	38.0%	5.6%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: U.S. Department of Commerce and USITC

U.S. Imports of CSPV Products

HTS #s 8541.40.6015, 8541.40.6020, 8541.40.6025, 8541.40.6030, 8541.40.6035, and 8541.40.6045

Monthly, January 2019 - December 2019

Value (Customs, 1000s of USD)

	2019												
	JAN	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**Total**
Malaysia	94,300	133,629	160,891	116,110	177,295	205,646	229,372	277,335	261,107	297,518	313,204	189,285	2,455,692
Vietnam	36,063	31,305	78,876	82,449	111,650	160,477	146,037	193,206	187,185	190,148	178,299	232,034	1,627,729
Thailand	2,635	13,980	16,716	22,451	35,919	38,984	40,520	51,012	47,696	68,080	76,301	88,201	502,495
South Korea	31,119	47,447	43,106	40,565	59,491	43,134	46,940	68,467	66,364	85,073	89,670	88,181	709,556
China	1,144	563	695	648	1,461	1,042	795	1,169	4,669	31,409	14,402	50,418	108,414
Singapore	4,663	8,556	9,021	4,032	9,397	16,323	19,242	12,750	18,543	17,482	18,127	23,292	161,429
Cambodia	-	-	80	-	154	-	-	646	1,146	3,178	3,704	4,925	13,832
Mexico	17,885	15,415	16,061	7,468	8,611	6,596	12,202	17,652	11,688	17,916	8,634	11,522	151,653
India	1,422	616	2,188	3,644	4,968	5,361	7,300	13,697	14,434	23,064	20,726	20,576	117,996
Turkey	7,867	9,248	3,057	11,579	18,461	11,034	9,595	12,582	4,025	2,197	974	929	91,549
Taiwan	902	2,423	4,312	16,488	22,524	4,061	5,510	5,957	5,273	6,798	8,986	16,193	99,426
Italy	466	350	889	233	423	864	263	496	557	539	586	859	6,526
Canada	1,600	479	662	867	1,693	1,496	999	2,883	2,825	3,185	3,037	4,136	23,863
Japan	4,348	7,358	8,102	8,890	7,047	4,349	8,155	16,976	4,942	3,763	1,469	2,807	78,208
Philippines	143	156	193	115	696	354	1,467	17	28	1,025	579	1,658	6,432
All Other Developing Countries	797	415	1,728	87	885	1,036	77	381	130	1,158	2,280	496	9,470
All Other Non-Developing Countries	170	612	549	485	30	722	177	519	111	2,130	128	524	6,155
Total	**205,523**	**272,551**	**347,127**	**316,111**	**460,705**	**501,479**	**528,653**	**675,745**	**630,722**	**754,663**	**741,108**	**736,038**	**6,170,426**

Source: U.S. Department of Commerce and USITC