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**F. No. 6/26/2024-DGTR  
Government of India  
Ministry of Commerce & Industry  
Department of Commerce,  
Directorate General of Trade Remedies  
4<sup>th</sup> Floor, Jeevan Tara Building, 5, Parliament Street, New Delhi – 110001**

Date: 29.09.2025

**FINAL FINDINGS  
Case No. AD (OI)-24/2024**

**Subject: Anti-dumping investigation concerning imports of ‘Solar Cells whether or not assembled in Modules or made up into Panels’ originating in or exported from China PR.**

**A. BACKGROUND OF THE CASE**

1. FS India Solar Ventures Private Ltd., Jupiter International Ltd., RenewSys India Private Ltd., Tata Power Solar System Ltd. and TP Solar Ltd. filed an application, before the Designated Authority (hereinafter referred to as the “Authority”) in accordance with Customs Tariff Act, 1975 as amended from time to time (hereinafter also referred as the “Act”) and the Customs Tariff (Identification, Assessment, and Collection of Anti-Dumping Duty on Dumped Articles and for Determination of Injury) Rules, 1995, as amended from time to time (hereinafter referred to as the “Rules” or “Anti-Dumping Rules”) for initiation of anti-dumping investigation concerning imports of Solar Cells whether or not assembled in Modules or made up into Panels (hereinafter referred to as the “product under consideration” or the “subject goods”) from China PR (hereinafter also referred to as the “subject country”).
2. And whereas, in view of the duly substantiated application filed, the Authority issued a public notice vide Notification No. 6/26/2024-DGTR dated 30<sup>th</sup> September 2024, published in the Gazette of India, initiating anti-dumping investigation into imports of the product under consideration from China PR in accordance with Rule 5 of the Anti-Dumping Rules to determine the existence, degree and effect of the alleged dumping of the subject goods and to recommend the amount of anti-dumping duty, which if levied, would be adequate to remove the alleged injury to the domestic industry.
3. During the course of the investigation, it was informed to the Authority that RenewSys India Private Ltd. was unable to continue as an applicant in the investigation. Accordingly, the following producers have been considered as “applicants” in the present investigation –

- a. FS India Solar Ventures Private Ltd.
- b. Jupiter International Ltd.
- c. Tata Power Solar System Ltd.
- d. TP Solar Ltd.

## **B. PROCEDURE**

4. The procedure described below has been followed with regard to the investigation:
  - i. The Authority notified the Embassy of the subject country in India about the receipt of the present anti-dumping application before proceeding to initiate the investigation in accordance with sub-rule (5) of Rule 5 of the Rules.
  - ii. The Authority issued a public notice dated 30<sup>th</sup> September 2024, published in the Gazette of India, Extraordinary, initiating an anti-dumping investigation concerning import of subject goods from the subject country.
  - iii. The Authority sent a copy of the initiation notification to the Government of the subject country, through its Embassy in India, known producers and exporters from the subject country, known importers / users of the subject goods and the domestic industry as well as other interested parties, as per the addresses made available by the applicants and requested them to make their views known in writing within the prescribed time limit.
  - iv. The Authority provided a copy of the non-confidential version of the application to the known producers/exporters and to the Government of the subject country, through its Embassy in India, in accordance with Rule 6(3) of the Anti-Dumping Rules. A copy of the non-confidential version of the application was made available to other interested parties, wherever requested.
  - v. The Authority also issued an economic interest questionnaire to the interested parties seeking inputs on the economic impact of the proposed duties.
  - vi. The Authority sent exporter's questionnaire to the following known producers/exporters to elicit relevant information in accordance with Rule 6(4) of the Rules:

1.	Aidu Energy Co. Ltd.	2.	Akashi Exports Ltd.
3.	Anhui Huasun Energy Co. Ltd.	4.	Anhui Tianda New Energy Co Ltd.
5.	Anhui Yingfa Desheng Technology Co. Ltd.	6.	Blue Carbon Technology Inc.
7.	C and B International Holdings Co. Ltd.	8.	Canadian Solar International Limited
9.	CECEP Solar Energy Technology	10.	Centro Energy Co. Ltd.
11.	Changzhou Foreign Trade Co.	12.	Changzhou GS Energy and Tech Co. Ltd.
13.	Changzhou Sichuang Energy Co. Ltd.	14.	Chizhou Shoukai New Energy Co. Ltd.

15.	Chuzhou Jietai New Energy Tech Co. Ltd.	16.	Consort Solar Co. Ltd.
17.	Das Solar Co. Ltd.	18.	Dongguan Sunworth Solar Energy Co. Ltd.
19.	Econess Energy Co. Ltd.	20.	Eversola Holding Co. Ltd.
21.	Global Chip Components Ltd.	22.	Guangdong Aiko Solar Energy Tech Co. Ltd.
23.	Guangdong Jinwan Goajing Solar Energy Co. Ltd.	24.	Guangdong Juan Intelligent Tech Joint Stock Co. Ltd.
25.	Guilin LVY Photovoltaic Tech Ltd.	26.	Hangzhou Ezviz Network Co. Ltd.
27.	Hefei GCL System Integration New Energy Tech Co. Ltd.	28.	Hefei JA Solar Tech Co. Ltd.
29.	Hefei Pinergy Solar Tech Co. Ltd.	30.	Hefei Sing Solar New Energy Technology Co. Ltd.
31.	Henan Winall Traffic Facilities Co. Ltd.	32.	Hengdian Group DMEGC Magnetics Co. Ltd.
33.	Hongjoy International	34.	Hongkong First Energy Co. Ltd.
35.	Huaian Jietai New Energy Tech Co. Ltd.	36.	Hunan Red Solar New Energy Science and Tech Co. Ltd.
37.	Huzhou Juxin New Energy Co. Ltd.	38.	JA Solar International Ltd.
39.	Jaingsu Huaneng Intelligent Energy	40.	Jiangsu Fujihalo New Energy Co. Ltd.
41.	Jiangsu Joy Sun New Energy	42.	Jiangsu Phoenty Photoelectric Tech Co. Ltd.
43.	Ronma Solar Technology (Jinhua) Co. Ltd.,	44.	Jiangsu Runenergy PV Tech Co. Ltd.
45.	Jiangsu Sunfly Renewable Co. Ltd.	46.	Jiangsu Xinchun PV Tech Co. Ltd.
47.	Jiangxi Risun Solar Energy Co. Ltd.	48.	Jiangxi Risunsolar Tech Co. Ltd.
49.	Jiangxi Risunsolarsales Co. Ltd.	50.	Jiangxi Sun Risen new Energy Co. Ltd.
51.	Jiangxi Sun Risen New Energy Co. Ltd.	52.	Jiangxi Zetai New Energy Tech Co. Ltd.
53.	Jiawang Photovoltaic Tech (Shanghai) Co. Ltd.	54.	Jinko Solar Co. Ltd.
55.	Jinneng Photovoltaic Tech Ltd.	56.	Jolywood (Taizhou) Solar Tech Co. Ltd.
57.	Lanergy International Trading	58.	Lianyungang Shenzhou New Energy Co. Ltd.
59.	Lishui Zhanxin Import and Export Co. Ltd.	60.	Longi Solar Tech Co. Ltd.

61.	Maanshan Kinse Energy Tech Co. Ltd.	62.	Nanjing First Energy Co. Ltd.
63.	Nanjing Saintek Solar Co. Ltd.	64.	New Solar Energy Co. Ltd.
65.	Nextracker Inc.	66.	Ningbo Osda Solar Co. Ltd.
67.	Ningbo Renpower New Materials Tech Co. Ltd.	68.	Ninghai Baijian Solar Energy Tech Co. Ltd.
69.	Orient International Holding	70.	Q Sun Ltd.
71.	Renesola Yixing Co. Ltd.	72.	Risen Energy Co. Ltd.
73.	Shadong Ronma Solar Co. Ltd.	74.	Shanghai Foreign Trade Enterprises Pudong Co. Ltd.
75.	Shanghai Leadjoy New Energy Co. Ltd.	76.	Shanghai Siddhartha Epandst Co. Ltd.
77.	Shanghai Yang ER Import and Export Co. Ltd.	78.	Shangrao Jie Tai New Energy Technology Co. Ltd.
79.	Shanxi Lu AN Phtovoltaics Tech Co. Ltd.	80.	Shenzhen Ahony power Co. Ltd.
81.	Shenzen Guangfasheng Tech Co. Ltd.	82.	Solar N Plus New Energy Tech Co. Ltd.
83.	Solarspace Technology (Suqian) Co. Ltd.	84.	Sumec Energy Holdings Co. Ltd.
85.	Sunna (Hong Kong) Co. Ltd.	86.	Sunri International Co. Ltd.
87.	Supreme Co. Ltd.	88.	Suzhou Fly Solar Tech Co. Ltd.
89.	Suzhou Jinso Tech Development Co. Ltd.	90.	Suzhou Ronma International Trade Co. Ltd.
91.	Suzhou Safety New Energy Tech Co. Ltd.	92.	Suzhou Safety New Energy Trading Co. Ltd.
93.	Suzhou Sunergy Tech Co. Ltd.	94.	Tianjin Aiko Solar Energy Tech Co. Ltd.
95.	TN Solar Co. Ltd.	96.	TP Link Co. Ltd.
97.	Trina Solar (Hua An) Tech Co. Ltd.	98.	Unifit Industrial Supply Co. Ltd.
99.	United Profit Global Holdings Co. Ltd.	100.	United Renewable Energy Co. Ltd.
101.	Victex International (HK) Co. Ltd.	102.	Wu Xi Amphenol Solar Energy Tech Co. Ltd.
103.	Wuhan Ooitech Trading Co. Ltd.	104.	Wuxi Grow Well Import and Export Co. Ltd.
105.	Wuxisuntech Power Co. Ltd.	106.	XI AN Yuanfar International Trade Co.

107.	Xiamen Xiangyu New Energy Co. Ltd.	108.	Yangzhou Jiahui New Energy Co. Ltd.
109.	Yibin Yingfa Deyao Tech Co. Ltd.	110.	Zhangjiang Shengfeng Trade Co. Ltd.
111.	Zhejiang Aiko Solar Energy Tech Co. Ltd.	112.	Zhejiang G and F Foreign Trading Co. Ltd.
113.	Zhejiang G and P Sun Energy Tech Co. Ltd.	114.	Zhejiang kesun New Energy Co. Ltd.
115.	Zhejiang Winhitech New Energy Co. Ltd.	116.	Zhejiang Y1 Sheng New Energy Tech Co. Ltd.
117.	Zhejiangang Sengfeng Trade Co. Ltd.	118.	Znshine PC Tech Co. Ltd.

- vii. The Embassy of the subject country in India was requested to advise the exporters/producers from their countries to respond to the questionnaire within the prescribed time limit.
- viii. In response to the initiation of the subject investigation, the following producers/exporters from the subject countries have responded by filing questionnaire response:

1.	Anhui Schutten Solar Energy Co. Ltd.	2.	Astronergy New Energy Technology (Singapore) Co.
3.	Canadian Solar International Ltd.	4.	Canadian Solar Manufacturing (Changshu) Inc.
5.	Canadian Solar Sunenergy (Jiaxing) Co., Ltd.	6.	CECEP Solar Energy Technology (ZhenJiang) Co., Ltd.
7.	Chinaland Solar Energy Co., Ltd.	8.	Chint New Energy Technology (Yangcheng) Co., Ltd.
9.	Chint New Energy Technology Co., Ltd.	10.	Chuzhou Jietai New Energy Technology Co. Ltd.
11.	Econess Energy Co., Ltd.	12.	Guangdong Aiko Solar Technology Co., Ltd.
13.	Hefei JA Solar Technology Co., Ltd.	14.	Hengdian Group DMEGC Magnetism Co., Ltd.
15.	Huaian Jietai New Energy Technology Co. Ltd.	16.	JA Solar International Ltd.
17.	Jiangsu DMEGC New Energy Technology Co. Ltd.	18.	Jiangsu Huaheng New Energy Co., Ltd.
19.	Jiangsu Longheng New Energy Co., Ltd.	20.	Jinko Solar (Chuxiong) Co., Ltd.
21.	Jinko Solar (Chuzhou) Co, Ltd.	22.	Jinko Solar (Feidong) Co., Ltd.
23.	Jinko Solar (Haining) Ltd.	24.	Jinko Solar (Shangrao) Co., Ltd.
25.	Jinko Solar (Yiwu) Co., Ltd.	26.	Jinko Solar Co., Ltd. (Jiangxi)

27.	Jinko Solar Middle East DMCC.	28.	Jinko Solar Trading Private Ltd.
29.	Jolywood (Shanxi) Solar Technology Co., Ltd.	30.	Jolywood (Taizhou) Solar Technology Co., Ltd.
31.	Lianyungang DMEGC New Energy Technology Co. Ltd.	32.	LONGi Solar Technology (Chuzhou) Co., Ltd.
33.	LONGi Solar Technology (Jiaxing) Co., Ltd.	34.	LONGi Solar Technology Co., Ltd
35.	Risen Energy (Ningbo) Co., Ltd.	36.	Risen Energy Co., Ltd.
37.	Ronma Solar Technology (Jinjua) Co., Ltd.	38.	Shandong Ronma Solar Co. Ltd.
39.	Shangrao Guangxin Jinko Photovoltaic Manufacturing Co., Ltd.	40.	Shangrao Jietai New Energy Technology Co. Ltd.
41.	Shangrao Jinko Photovoltaic Manufacturing Co., Ltd.	42.	Solar N Plus New Energy Technology Co., Ltd.
43.	Solarspace New Energy (Chuzhou) Co., Ltd.	44.	Solarspace New Energy (Xuzhou) Co., Ltd.
45.	Solarspace Technology (Suqian) Co., Ltd.	46.	Solarspace Technology (Xuzhou) Co., Ltd.
47.	Solarspace Technology Co., Ltd.	48.	Suzhou Ronma International Trade Co. Ltd.
49.	Tianjin Aiko Solar Technology Co., Ltd.	50.	Tonghe New Energy (Jintang) Co., Ltd.
51.	Tongwei Solar (Chengdu) Co., Ltd.	52.	Tongwei Solar (HEFEI) Co., Ltd.
53.	Tongwei Solar (Jintang) Co., Ltd.	54.	Tongwei Solar (Meishan) Co., Ltd.
55.	Tongwei Solar (Pengshan) Co., Ltd.	56.	Tongwei Solar (Yangcheng) Co., Ltd.
57.	Tongwei Solar Co., Ltd.	58.	Trina Solar (Huai'an) Technology Co. Ltd.
59.	Trina Solar (Suqian) Science & Technology Co. Ltd.	60.	Trina Solar (Yangcheng) New Energy Co. Ltd.
61.	Trina Solar Co. Ltd.	62.	Trina Solar Energy Development Pte. Ltd.
63.	Xuzhou Zhonghui Photovoltaic Technology Co., Ltd.	64.	Yangcheng Trina Guoneng Solar Energy Technology Co. Ltd.
65.	Yiwu JA Solar Technology Co., Ltd.	66.	Yuhuan Jinko Solar Co., Ltd.
67.	Zhejiang Aiko Solar Technology Co., Ltd.	68.	Zhejiang Jinko Solar Co., Ltd.
69.	Zhejiang Ronma Solar Group Co. Ltd.	70.	Zhengxin Photoelectric Technology (Suqian) Co., Ltd.

71.	Znshine Powertek Changzhou Co., Ltd.	72.	Znshine PV-Tech Co., Ltd.
73.	Wuhu GCL System Integration New Energy Technology Co., Ltd.	74.	Hefei GCL System Integration New Energy Technology Co., Ltd.

- ix. The Authority sent Importer's and User's Questionnaire to the known importers / users of the subject goods in India calling for necessary information in accordance with Rule 6(4) of the Rules.

Aatmanirbhar Solar Pvt. Ltd.	ITI Limited Naini	Rolta Power Private Limited
Abhishek Solar Industries Private Limited	Jain Irrigation Systems Limited	Saatvik Green Energy Pvt. Ltd
Abhishek Solar Industries Pvt. Ltd	Jakson Engineers Ltd.	SAEL Solar Mfg Private Limited
AG Solar Urja Udyog	JJ PV Solar Pvt. Ltd	Sahaj Solar Private
Agrawal Renewable Energy Pvt. Ltd	Junna Solar Systems Private Limited	Sanelite Solar Pvt
Akshaya Solar Power (India) Private Limited	Jyotitech Solar LLP	SASA Energy LLP
Alpex Solar Pvt. Ltd.	Kosol Energie Pvt. Ltd.	Shanti Solar
Ameya Solar & Semiconductor Pvt. Ltd.	Kotak Urja Pvt Ltd	Shivam Photovoltaics Private
Ankur Traders & Engineers Private	Lanco Solar	Sirius Solar Energy Systems Pvt. Ltd
Australian Premium Solar (India) Pvt.	Lubi Electronics	SLG Solar System
Bharat Electronics Limited	Luminous Power Technology Pvt. Ltd.	Solarium Green Energy LLP.
Bharat Heavy Electricals. Ltd	Maglare Technologies Private Limited	Solberry Energy Private Limited
Bluebird Solar Pvt. Ltd	Maharishi Solar Technology Pvt Ltd	Solex Energy Limited
Central Electronics Ltd.	MAS Solar Systems Private Limited	Solex Energy Ltd
Citizen Solar Pvt. Ltd.	Microsun Solar Tech Private Limited	Sova Solar Ltd
Contendre Greenergy Pvt. Ltd.	Mundra Solar Energy Ltd	Spark Solar Technologies Pvt. Ltd.
Cosmic PV Power Pvt. Ltd.	Mundra Solar PV Limited	Sri Savitr Solar Pvt. Ltd
Credence Solar Panels Private Limited	Navitas Green Solutions	Sun N Sand Exim (India) Pvt. Ltd.

Credence Solar Panels Private Limited	Navitas Green Solutions Pvt. Ltd.	SUNBOND Energy Pvt Ltd.
DSM India Pvt Limited	Neety Euro Asia Solar Energy	SunField Energy Private Ltd.
ECE (India) Energies Pvt. Ltd	Neosol Technologies Private Limited	Sungrace Energy Solutions
Emmvee Photovoltaic Power Private Limited	Novasys Greenergy Pvt. Ltd.	Sunify Solar LLP
Emmvee Photovoltaic Power Pvt. Ltd.	Novus Green Energy Systems Ltd	Surya International Enterprise Private Limited
Enkay Solar Power and Infrastructure Private Limited	Nyalkaran Energy LLP	Suryakamal Energy Pvt Ltd.
Fujiyama Power Systems Private Limited	Orb Energy Private Limited	Swelect HHV Solar Photovoltaics Pvt. Ltd
Ganesh Electricals Pvt. Ltd	Oswal Solar Structure Private Limited	Tapan Solar Energy Private Limited
Gautam Solar Pvt. Ltd.	Pahal Solar	Topsun Energy Limited
Genus Innovation Limited	Patanjali Renewable Energy Pvt. Ltd	Total Solar Technologies Private Limited
Goldi Green Technologies Private Limited	Pennar Industries Ltd.	Udhaya Energy Photovoltaics Private Limited
Goldi Solar Pvt Limited	Photon Energy Systems Limited	Unique Sun Power LLP
Goldi Sun Private Limited	Pixon Green Energy Pvt. Ltd.	Urjastrot Enterprise Pvt
Green Brilliance Energy	Plaza Power & Infrastructure Co	Vikram Solar Ltd
Grew Energy Private Limited	Prashant Plastic Industries LLP	Vikram Solar Ltd
Gujarat Borosil	Premier Energies International Private Limited	Visaka Industries Limited
H R Solar Solution Private Limited	Premier Energies Photovoltaic Pvt. Ltd	Waaree Energies Limited
HHV Solar Technology Pvtl Ltd.	Premier Energies Photovoltaic Pvt. Ltd	Waaree Energies Limited
Himalayan Solar Pvt. Ltd	PV Power Technologies Private Limited	Waaree Energies Limited
HR Solar Solution Private Limited	Raajratna Ventures Limited	Websol Energy Systems Ltd.
Icon Solar En Power Technologies Private Limited	Rajasthan Electronics and Instruments Limited	Wolt Techniques
Indo Solar Limited	Rayzon Solar Private	Integrated Batteries India Pvt Ltd



Innovative Solar Solutions	Redren Energy Pvt	Inter Solar Systems Private Limited
Insolation Energy Pvt. Ltd	ReNew Photovolotics Private Limited	Rhine Solar Limited
Insolation Green Energy Pvt. Ltd	Ritika Systems Pvt	

x. In response to the initiation of the subject investigation notification, following importers/users have responded by filing questionnaire response:

- i. Adani Solar, India
- ii. Ayana Renewable Power
- iii. Azure Power
- iv. Bharat Electronics Ltd.
- v. Bharat Heavy Electricals Ltd.
- vi. Bluebird Solar
- vii. Eden Renewables India, LLP
- viii. Fortum India Pvt. Ltd.
- ix. Greenergy Solar Solutions
- x. Hero Solar Energies Pvt. Ltd.
- xi. Juniper Green Energy
- xii. Loom Solar Pvt. Ltd.
- xiii. Mahindra Susten Pvt. Ltd.
- xiv. MMEPL
- xv. O2 Power Pvt. Ltd.
- xvi. Om Sai Renewable Energy Pvt. Ltd.
- xvii. Oriana Power
- xviii. Power Grid Corporation of India Ltd.
- xix. Rays Power Infra Ltd.
- xx. ReNew Pvt. Ltd.
- xxi. Saatvik Solar
- xxii. Solar Arise
- xxiii. Solar Saarthi
- xxiv. Sprng Energy
- xxv. Tata Power Solar Systems Ltd.
- xxvi. UPC Solar India Pvt. Ltd.
- xxvii. Vena Energy
- xxviii. Vikram Solar Ltd.
- xxix. Welspun New Energy Ltd.

xi. In response to the initiation notification, following other importers/ users have responded and submitted questionnaire responses and/or legal submissions:

- a. Goldi Solar Private Ltd.
- b. Goldi Sun Private Ltd.
- c. Solex Energy Ltd.

- xii. The Authority sent a copy of the non-confidential version of the application to the following users' associations.
  - a. Indian Solar Manufacturers Association (ISMA)
  - b. Sustainable Projects Developers Association
  - c. North India Module Manufacturer Association (NIMMA)
  - d. All India Solar Industries Association (AISIA)
- xiii. The Authority also received submissions from China Chamber of Commerce for Import and Export of Machinery and Electronic Products and Vikram Solar Ltd. during the course of the investigation.
- xiv. The Authority made available non-confidential version of the evidence presented by various interested parties. A list of all interested parties was uploaded on the DGTR website, along with the request to all of them to email the non-confidential version of their submissions to all the other interested parties.
- xv. Request was made to DG Systems to provide the transaction-wise details of imports of subject goods for the injury period and also the period of investigation. The Authority has relied upon the DG Systems data for computation of the volume of imports and required analysis after due examination of the transactions.
- xvi. Interested parties were provided a time of 30 days from the date of initiation of investigation, to file their comments on the scope of product under consideration and product control numbers (PCN) methodology.
- xvii. On 19<sup>th</sup> November 2024, the Authority conducted a meeting where all the interested parties were invited to discuss and clarify their comments on the scope of the product under consideration and PCN methodology.
- xviii. The Authority vide Notification No. 6/26/2024-DGTR, dated 4<sup>th</sup> December 2024 notified the scope of the product under consideration and also notified the PCN methodology to be adopted in the present investigation.
- xix. In accordance with Rule 6(6) of the Rules, the Authority provided opportunity to all interested parties to present their views orally in a public hearing held on 21<sup>st</sup> July 2025. The parties, which presented their views in the oral hearing, were requested to file written submissions of the views expressed orally, followed by rejoinder submissions.
- xx. The non-injurious price (NIP) based on the optimum cost of production and cost to make & sell the subject goods in India, based on the information furnished by the domestic industry and having regard to Generally Accepted Accounting Principles (GAAP) and Annexure III to the Rules, has been worked out so as to ascertain whether anti-dumping duty lower than the dumping margin would be sufficient to remove injury to the domestic industry.
- xxi. The period of investigation (POI) for the purpose of present investigation is 1<sup>st</sup> April 2023 to 31<sup>st</sup> March 2024. The examination of trends in the context of injury analysis covered the periods 2020-21, 2021-22, 2022-23 and the period of investigation.
- xxii. The submissions made by the interested parties during the course of this investigation, to the extent supported with evidence and considered relevant to the present investigation, have been appropriately considered by the Authority, in this final finding.

- xxiii. The Authority circulated the disclosure statement containing all essential facts under consideration for making the final recommendations to the Central Government to all interested parties on 21<sup>st</sup> September 2025. The Authority has examined all the post-disclosure comments made by the interested parties in these final findings to the extent deemed relevant. Any submission which was merely a reproduction of the previous submissions, and which had been adequately examined by the Authority, has not been repeated for the sake of brevity.
- xxiv. Information provided by the interested parties on confidential basis was examined with regard to sufficiency of the confidentiality claim. On being satisfied, the Authority has accepted the confidentiality claims wherever warranted and such information has been considered as confidential and not disclosed to other interested parties. Wherever possible, parties providing information on confidential basis were directed to provide sufficient non-confidential version of the information filed on confidential basis.
- xxv. Wherever an interested party has refused access to or has otherwise not provided necessary information during the course of the present investigation, or has significantly impeded the investigation, the Authority has considered such parties as non-cooperative and recorded the views/observations on the basis of the facts available.
- xxvi. The Authority, during the course of the investigation, satisfied itself as to the accuracy of the information supplied by the interested parties, which forms the basis of the present final finding to the extent possible and verified the data/documents submitted by all the interested parties to the extent considered relevant, practicable and necessary.
- xxvii. ‘\*\*\*’ in this notification represents information furnished by an interested party on confidential basis and so considered by the Authority under the Rules.
- xxviii. The exchange rate adopted by the Authority for the subject investigation is 1 US\$ = ₹ 83.69

## **C. PRODUCT UNDER CONSIDERATION AND LIKE ARTICLE**

### **C.1. Submissions by other interested parties**

5. The following submissions have been made by the other interested parties regarding the scope of the product under consideration and like article.
- Solar cells and solar modules should be treated as separate products in the present investigation since the products are different in terms of technology, production process and capital investment.
  - The industries for the two products are completely different. There is only 1 producer of cells, 5 producers of both cells and modules, while there are 134 producers of modules which are not backwardly integrated. Further, the import volume and production capacities of solar modules are higher than that for cells.

- c. Solar cells and solar modules are different products considering the fact that the HS Code for cells and modules are different at 6-digit level and the customs duty is also different.
- d. Solar modules are priced 70% higher than cells. Under various FTAs, change in HS code and value addition of 35% implies that a different product has been produced in the exporting country.
- e. Solar modules comprise of cells and additional raw materials and change in the prices of these additional raw materials would affect solar modules but not solar cells.
- f. The customers of cells and modules are different as solar cells are only bought by module producers while solar modules are purchased by power developers.
- g. TOPCon cells and Back Contact cells should be excluded from the scope of the product under consideration since they differ from PERC cells in terms of different production process, high efficiency, long-term stability. Further, the domestic industry has admitted that they do not produce TOPCon cells.
- h. Inclusion of TopCon cells on the basis of end-use substitutability is not justified.
- i. Thin-Film Cadmium Telluride (CdTe) solar modules claimed to be produced by FS India differ from crystalline silicon-based solar cells and modules in terms of manufacturing process, raw material used, efficiency, performance, costs and price. Thus, the domestic industry has not produced like article to the imported goods
- j. The Authority should devise separate PCNs for cells and modules produced using different technologies, as per the table below, since there is a significant difference in cost and price between the cells and modules of different technology.

Type of cell	<ol style="list-style-type: none"> <li>i. Monocrystalline Cells</li> <li>ii. Multi-crystalline Cells</li> </ol>
Type of modules	<ol style="list-style-type: none"> <li>i. Monocrystalline Cells</li> <li>ii. Multi-crystalline Cells</li> </ol>
Type of technology (cell)	<ol style="list-style-type: none"> <li>i. Crystalline silicon based (C-Si) technology</li> <li>ii. Thin film technology</li> </ol>
Type of technology (modules)	<ol style="list-style-type: none"> <li>i. Crystalline silicon based (C-Si) technology</li> <li>ii. Thin film technology</li> </ol>

- k. Copies of sample commercial invoices clearly show that there is a significant difference in the cost and price of different product types based on technology, justifying the creation of PCN based on technology.
- l. The Authority should determine PCNs based on the CONNUM prescribed by the US Department of Commerce in the anti-dumping investigation concerning crystalline silicon photovoltaic cells whether or not assembled into modules. The PCNs should be based on following parameters
  - i. Product Form
  - ii. Crystal Type
  - iii. Cell Technology
  - iv. Power Output Modules
  - v. Frame Form

- vi. Backing Material
- vii. Junction Box
- viii. Inverter

## **C.2. Submissions by the domestic industry**

6. The following submissions have been made by the domestic industry with regard to the product under consideration and like article:
  - a. The product under consideration includes solar cells and solar modules since they share the same primary physical characteristics and perform the same function of generating photovoltaic energy.
  - b. Solar cells represent a substantial portion of the cost and value of the finished modules, and cells undergo only one manufacturing step to become modules. As such, solar cells and modules are merely different stages of the same product.
  - c. Solar cells have no independent application other than being assembled as a module. Exclusion of either solar cells or solar modules is likely to result in increased exports of the excluded product, which would nullify the purpose of the investigation.
  - d. The Authority has considered solar cells and modules are one single product in past anti-dumping and safeguard investigations concerning the same product.
  - e. The European Commission, in a past investigation, also held that solar cells and modules constitute a single product considering the physical, chemical and technical characteristics, end uses, nomenclature, value addition, market, interchangeability, distribution channels and consumer perception.
  - f. Inclusion of different stages of a product within the product scope is not prohibited by the WTO Anti-dumping Agreement or the Indian Anti-dumping Rules.
  - g. The Authority has, in a number of cases in the past, included a product and its subsequent or prior stage product within the scope of the product under consideration in the same investigation and as one product, including in the case of Chlorinated Polyvinyl Chloride Resin and Ofloxacin and its intermediates.
  - h. Solar cells and modules produced using either Crystalline Silicon (c-Si) or thin film technology are included within the product scope.
  - i. While solar products produced using c-Si or thin film technology use different production process and raw materials, they are used interchangeably and have the same end-use. Further, the products are not treated differently by the Ministry of New and Renewable Energy as well.
  - j. The Authority in previous investigation concerning the same product determined that solar products produced c-Si technology or thin film technology are both included within the product scope.
  - k. While thin film products were excluded from the product scope in the investigations conducted in the USA and the EU, it must be noted that the domestic industry in those countries did not seek duties on such products in the first place.
  - l. While Jupiter produces only solar cells using c-SI technology, First Solar only produces solar modules using thin film technology. In absence of an identical like

article to solar modules or panels based on c-Si technology in India, solar modules or panels produced using thin film technology should be treated as like article, being a directly competitive and substitutable product.

- m. TopCon cells should not be excluded from the product scope as the domestic industry produces a like article to the product, in the form of Passivated Emitter and Rear Cell (PERC) solar cell which has closely resembling characteristics.
- n. While PERC and TopCon cells have different manufacturing processes and raw material, they can be produced interchangeably using same production lines, have similar size and appearance, and have the same end-use.
- o. Exclusion of TopCon cells may lead to circumvention of duties and would defeat the purpose of duties, since the product can be used interchangeably as PERC cells and is available at dumped prices.
- p. The Authority, in the investigation concerning Phosphoric Acid, included food grade acid since it was produced by the Indian industry and could be used in place of other grades of acid.
- q. Four major domestic producers namely Mundra Solar, Tata Power, Emvee Photovoltaics and Premier Energies are producing and selling TopCon cells. Further, the applicant, Jupiter is also in the process of expanding capacities to produce TopCon cells.
- r. Both Jupiter and FS India are producing latest technology solar cells and modules respectively. In fact, FS India has set up a new plant for production of subject goods.
- s. The following PCNs provided in the application should be considered for the present investigation. The domestic industry has already provided all information based on such PCNs.

S.N.	Type of product under consideration	Code Description	Abbreviation
1.	Solar Cells	Monocrystalline cells	Mono-cells
		Multi-crystalline cells	Multi-cells
2	Solar Modules		Modules

### C.3. Examination by the Authority

7. At the time of initiation of the present investigation, the Authority considered the following as the scope of product under consideration.

*“2. The product under consideration is ‘solar cells or photovoltaic cells whether or not assembled in modules or made up into panels, produced using c-Si or thin film technology. Solar modules or panels made up of solar cells are within the scope of the product under consideration. Further, solar cells may be ‘Monocrystalline’ or ‘Multi-crystalline’, both of which are included within the scope of the product under consideration.*

*3. The product under consideration is majorly manufactured using two production technologies, namely, crystalline silicon based solar cell technology (c-Si) and thin*

*film technology. Solar cells and modules or panels produced through c-Si based technology and thin film technology are both included within the scope of the product under consideration.*

*4. Solar cell, also known as photovoltaic cell, is a solid-state electrical device that converts sunlight directly into electricity by the photovoltaic effect. In order to achieve a particular amount of wattage or current, a number of solar cells are connected together to form a solar module or panel. For large-scale generation of solar electricity, several solar panels are connected together into a solar array. The modules using thin film technology are also connected in a similar manner, to form an array.*

*5. The subject goods are classified under Chapter 85 of Schedule I to the Customs Tariff Act, under tariff items 8541 4200 and 8541 4300. The customs classification is only indicative and is not binding on the scope of the product under consideration.*

*6. The applicants have proposed the following product control numbers (PCNs) for the purpose of the present investigation, considering the difference in terms of cost and price.*

<i>S.N.</i>	<i>Type of product under consideration</i>	<i>Code Description</i>	<i>Abbreviation</i>
<i>1.</i>	<i>Solar Cells</i>	<i>Monocrystalline cells</i>	<i>Mono-cells</i>
		<i>Multi-crystalline cells</i>	<i>Multi-cells</i>
<i>2</i>	<i>Solar Modules</i>		<i>Modules”</i>

8. The interested parties were directed to provide comments or suggestions, if any, on the scope of the product under consideration and PCN methodology within 30 days from the date of initiation of investigation. Comments were received from various interested parties. A meeting was held on 19<sup>th</sup> November 2024 to understand the submissions made by various interested parties on the scope of the product under consideration and the PCN methodology proposed.
9. The applicants have submitted that both solar cells themselves and solar cells assembled into modules or panels are included within the scope of the product under consideration. However, during the course of the investigation, various interested parties have claimed that solar cells and solar modules or panels should not be considered as a single product and the scope of the product under consideration cannot include both products. The Authority has examined the submissions made by various interested parties in this regard.
10. The Authority notes that WTO Anti-dumping Agreement or the Indian Rules do not provide for factors or parameters that are required to be considered by the Authority in order to determine the scope of the product under consideration. However, based on the practice regularly adopted by the Authority as well as the practice known to be adopted by investigating authorities in other jurisdictions, factors such as physical, chemical and technical characteristics, use and application, degree of interchangeability and consumer

perception are considered while determining the product under consideration. The investigating authorities consider production substitutability or product substitution or both as the criteria to decide whether different types of a product would constitute one product within the meaning of the Rules. If the consumers would readily switch from one product to other, the two should be considered as one product. Similarly, if the producers would readily switch from one product to other, the two should be considered as one product. It is also well understood that the scope of the product under consideration is required to be determined in a manner that the same provides necessary and intended relief to the domestic industry, while also ensuring that the scope of the product under consideration does not lead to excessive protection to the industry. **As held by the CESTAT in the case of Huawei Technologies Co. Ltd vs Designated Authority Anti-dumping and Allied Duties [2016 (334) E.L.T. 339 (Tri. - Del.)], the product under consideration must be defined in a manner that the purpose of imposition of anti-dumping duty is not defeated.**

*“29. In our view it is permissible for the Authority to include within the purview of the PUC, parts and components, which if not included, would make the levy ineffective. The coverage of the product for levy of duty should be such that the purpose and intent of the levy is achieved. Anti-dumping duty is levied to safeguard the domestic producers from ill effects of dumping. If the parts and components meant for SDH application are excluded, the importers could simply bring the items in different consignments, in unassembled form, and assemble the same in India and defeat the levy.”*

11. It is noted that solar cell is a solid-state electrical device that converts sunlight into electricity by the photovoltaic effect. Electrical connections are made to the solar cells in a series to achieve the desired output wattage and/or in parallel to provide a desired current capability. Such an assembly of solar cells is called a solar panel or a solar module. Thus, to make practical use of solar cells, they are placed in modules or panels, and a solar module or panel is simply a packaged, connected assembly of solar cells. It is ultimately the modules that is consumed. Solar cells is only an intermediate product in crystalline technology, whereas solar cell is an integral part of the production process in thin film technology. A consumer would readily switch between thin film module and crystalline module, depending on relative price advantage between the two.
12. The Authority notes that solar cells are manufactured and then assembled into modules or panels to serve the intended purpose. Such solar cells do not have any independent application and must be necessarily connected and assembled into modules or panels. Conversely, modules or panels necessarily require assembly of solar cells in order to eventually generate electricity, since modules or panels are nothing but a packaged array of solar cells. Such assembly of solar cells into modules or panels does not translate into a significant manufacturing process and there is no major value addition involved in the form of manufacturing process, in placing cells on a module or panel. The same only requires a number of components, which are mostly bought-out items. This was also



observed by the Authority in the previous investigations concerning this product wherein it was noted that to make practical use, solar cells are placed on devices like panels/module etc and are not separate product per se. Accordingly, the Authority held that solar cells and solar modules are not different products but one single product.

13. Based on the above, information on record and past determinations made by the Authority considering the product under consideration, the Authority notes as below –
  - a. Solar cells are an intermediate product which eventually must be assembled into modules or made up into panels. There is no independent use of solar cells. Electricity generated by solar cells as such cannot be used. Such solar cells cannot be used as it is, and they must be necessarily assembled into modules or made up into panels for making them usable.
  - b. Solar cells and modules or panels are photovoltaic devices used for generation of electricity. While the solar cells must be assembled into modules or panels for generation of electricity, the electricity generation capacity of the solar modules or panels originates from the solar cells embedded inside the module. Thus, the products are functionally and physically same.
  - c. The process of assembly of solar cells into solar modules or panels does not require significant investment, manufacturing activity, and production skills. Manufacturing of solar cells requires significant amount of investment, which is nearly 6.5 times that of the assembly process. As such, the assembly of the intermediate solar cells into the final solar modules is only incremental production process, and does not require significant value addition in the form of manufacturing activities undertaken.
  - d. During the period of investigation, there were only 6 known producers of solar cells in India, while there were almost 130 known producers of solar modules or panels in the country. The majority of such producers are importing solar cells and assembling them into modules or panels. In view of the same, exclusion of solar cells or solar modules or panels from the purview of the levy of anti-dumping may lead to increase in the export of the excluded product. This would essentially nullify the purpose of the present investigation and the subsequent imposition of duties.
14. Certain parties have argued that solar cells and solar modules or panels are different products. In as much as these products are classified under different HSN codes at 6-digit level and different customs duties and the contention that the same implies that the products are considered differently by all WTO countries, the Authority notes that the HSN classification of a product is not considered as binding parameter to determine the scope of the product under consideration. The Authority has recommended measures on several products in the past wherein a product may have been imported under a number of different HSN codes, and such HSN codes were not considered to have binding effect on the scope of the product. Similarly, the Authority has recommended measures on

several products where the product under consideration was not the sole product falling under that HSN classification. The Authority notes that the HSN classification is only for the purpose of enabling the customs authorities to collect anti-dumping duty on the product as defined by the Authority.

15. With regards to the argument that solar cells and solar modules or panels are sold to different customers and have different sales channels, it is noted that solar cells are invariably sold to companies that are engaged in producing solar modules or panels. The solar modules or panels are then sold to entities that are engaged in setting up solar power generation. Thus, the eventual sales channel for the product is sales from cell producer to module producer and thereafter to power generator. It is noted that each step of this sales channel is not independent and are interlinked.
16. With regards to the argument that solar cells and solar modules or panels have different cost of production and are priced differently, it is noted that such differences in the cost and prices of the two products have been already noted by the Authority and have been addressed by way of creation different PCNs for the two products, in order to ensure an apple-to-apple comparison. Difference in the cost of production of different types per se does not imply different products and merely implies different product types with significant difference in costs.
17. The Authority holds that solar cells are manufactured for use in solar modules or panels, and do not have any other independent use. The assembly of solar cells into solar modules or panels does not require significant value addition in so far as manufacturing activities are concerned. The two products have the same ultimate end-use – generation of photovoltaic energy. The module producers are importing solar cells and assembling them into modules or panels. It is considered that solar cells and solar modules or panels, being an intermediate and final product, are both included within the scope of the product under consideration.
18. Certain interested parties have argued that Tunnel Oxide Passivated Contact (TopCon) solar cells and Back Contact solar cells must be excluded from the scope of the product under consideration. It has been argued that TopCon cells and Back Contact cells are not produced by the domestic industry, which produces only Passivated Emitter and Rear Cell (PERC) solar cells. Further, it has been argued that TopCon cells have a different production process, higher efficiency, and have long-term stability when compared to PERC cells. With respect to Back Contact cells, it has been argued that it is a next-generation technology and it follows a different structural design and manufacturing process. On the other hand, the applicants have submitted that TopCon and Back Contact cells cannot be excluded from the scope of the product under consideration since the domestic industry has produced and offered like article in the form of PERC cells which have closely resembling characteristics. Further, it has been claimed that other Indian producers are already producing TopCon cells and the domestic industry is also in the process of setting up plant for production of TopCon cells.

19. The Authority has examined the arguments made by the other interested parties and the domestic industry, with respect to exclusion of certain types of solar cells.
20. With regards to TopCon solar cells, it is noted that TopCon solar cell structure consists of a thin tunnel oxide layer sandwiched between a transparent conductive oxide layer and a p-doped crystalline silicon layer. On the other hand, PERC solar cells include a passivation layer at the back side of the cell, which helps to minimize recombination losses and increase light absorption. Thus, the production process and certain raw materials for the two types of cells are different. However, the domestic industry has submitted that the production lines used for production of PERC cells can also be used for the production TopCon cells with a few additional processes. Further, domestic industry has also submitted while the input raw materials used in TopCon cells and PERC cells is different, majority components such as chemicals, gases and metallization elements are same in PERC Cells and TopCon cells. Lastly, the Authority notes that even where the technology used in TopCon cells and PERC cells is different, the cells find the same end-use application – assembly into solar modules or panels for generation of electricity. Thus, the two cells can be used interchangeably since they have the same end-use. Cells produced from both the technologies have been imported from China and were in competition with each other as well as with Indian industry. Indian industry has been in competition with the imported product as well as products supplied by the Indian industry from the two technologies. Considering the same, exclusion of TopCon cells from the scope of product under consideration is likely to lead to increased imports of this product type for use in solar modules or panels which would result in continued injury to the domestic industry. Further, the domestic industry has demonstrated that other Indian producers, namely Mundra Solar, Tata Power, Emvee Photovoltaics and Premier Energies are producing and selling TopCon cells in India. Further, Jupiter International is also in the process of setting up capacities for production of TopCon cells.
21. The Authority also notes that the domestic industry is not required to produce an identical article to the imported products. In the absence of an identical article, an article which has characteristics closely resembling those of the product under consideration may be considered a ‘like article’. In the present case, it is seen that the PERC cells produced by the domestic industry can be produced using same production lines, have same components and have the same end-usage as that of TopCon cells. Since the domestic industry has produced and offered cells which have similar characteristics, exclusion of the TopCon cells is not warranted. Dumping of TopCon cells and imposition of anti-dumping duty on remaining products would lead to continued dumping and consequent injury to the Indian industry in the domestic market.
22. With regard to exclusion of Back Contact cells from the scope of the product under consideration, it is noted that it is the settled practice of the Authority to consider exclusion of product type which has been imported into India in the period of investigation, and like article to which has not been offered in the country. A claim for

exclusion of a particular type cannot be entertained unless the same has been exported to India during the relevant period, as the fact of non-supply of like article by the domestic industry cannot be established. The Authority has examined the import data and found no imports of Back Contact cells till the period of investigation. Since there were no imports of Back Contact cells, it would not be appropriate to exclude the same from the scope of the product under consideration.

23. It has also been argued that the domestic industry has not produced like article to crystalline silicon-based (c-Si) solar modules, since FS India has only produced thin film modules which are different than c-Si modules in terms of manufacturing process, raw material, cost and prices. It is an undisputed fact that FS India only produces solar modules using thin film technology and does not produce solar modules using c-Si cells. Further, Jupiter International has only produced solar cells using c-Si technology in India, and has not produced solar modules. Thus, the defined domestic industry has not produced identical articles to c-Si based solar modules.
24. In this regard, it is undisputed that solar modules can be produced using c-Si technology and thin film technology. Crystalline silicon cells are made from thin slices cut from a single crystal of silicon or from a block of silicon crystals. Once the cells are manufactured, they are connected through wires and assembled into modules or panels. On the other hand, thin film modules are produced by coating float glass with a transparent conductive layer, onto which the photovoltaic absorbing material is deposited. Using laser scribing, cell strips are patterned to form an interconnect pathway between adjacent cells. Copper ribbons are applied, an encapsulant sheet and second sheet of glass are placed on top, resulting in a module. As such the c-Si based solar modules and thin film solar modules have different production process and raw materials. Thus, the two products differ in terms of associated production technology and raw materials. Consequently, the manufacturing facilities differs. However, the modules produced using either of the production technology and production process are comparable in all material aspects, including the technical properties, function & uses, end applications. The two are technically & commercially substitutable. Both modules are used for generation of photovoltaic energy for conversion into electricity and can be used interchangeably. This was also noted by the Authority at the time of previous investigation concerning the same product. It is seen that c-Si based solar modules have closely resembling characteristics and have same end-use application as thin film modules.
25. The Authority has in the past determinations considered modules produced using the two technologies as same product. It is also noted that difference in the production technology, manufacturing process and raw materials have not been considered as determining factor as to whether two products constitute one article for the purpose of Anti-dumping Rules. The Authority has repeatedly held that difference in production technology is immaterial, if the resultant products are interchangeable and are technically and commercially substitutable.

26. It is seen that while c-Si modules are being imported into the country, thin film modules are being produced and supplied by the domestic industry. As per the provisions of Rule 2(d) of the Rules, in the absence of an identical or alike article, an article having closely resembling characteristics with the imported article should be considered as like article. It is undisputed that the effect of dumping of solar cells and modules produced using c-Si technology has had adverse effects on the modules produced using thin film technology. Therefore, in the absence of an identical article, solar modules or panels produced using thin film technology are like article to solar modules or panels producing using c-Si cells.
27. On the basis of information and evidence on record, past determinations made by the Authority in investigations concerning this product and other products, and having regard to the above, the scope of the product under consideration is as follows.

*“The product under consideration is solar cells or photovoltaic cells whether or not assembled in modules or made up into panels, produced using c-Si or thin film technology. Solar modules or panels made up of solar cells are within the scope of the product under consideration. Further, solar cells may be ‘Monocrystalline’ or ‘Multi-crystalline’, both of which are included within the scope of the product under consideration.*

*The product under consideration is majorly manufactured using two production technologies, namely, crystalline silicon based solar cell technology (c-Si) and thin film technology. Solar cells and modules or panels produced through c-Si based technology and thin film technology are both included within the scope of the product under consideration.*

*Solar cell, also known as photovoltaic cell, is a solid-state electrical device that converts sunlight directly into electricity by the photovoltaic effect. In order to achieve a particular amount of wattage or current, a number of solar cells are connected together to form a solar module or panel. For large-scale generation of solar electricity, several solar panels are connected together into a solar array. The modules using thin film technology are also connected in a similar manner, to form an array.”*

28. With regard to the submissions on PCN methodology, the Authority notes that submissions have been made by the domestic industry and the other interested parties. These have been considered by the Authority while finalizing the PCN methodology.
29. Certain interested parties suggested making separate PCNs based on the CONNUMs adopted by the US Department of Commerce in their investigation. However, the parties did not provide any evidence showing that there exists a difference of more than 5% in the cost pertaining to the parameters proposed. Further, the interested parties did not demonstrate that such PCN methodology is necessary based on the products imported

into the country. Therefore, in the absence of evidence demonstrating the need for such PCN methodology, the methodology proposed by exporters based on the CONNUMs adopted by the US Department of Commerce was not accepted. No further information and evidence has been provided by the interested parties which warrants reconsideration of the PCN earlier notified. The Authority therefore concludes that the PCN parameters considered by the US Department of Commerce in their determination is not appropriate for the present investigation.

30. The domestic industry and certain interested parties have proposed creation of PCN methodology based on different technologies. In support of their claim, certain exporters submitted commercial invoices to show that there is a difference in the cost and prices of the PCNs based on technology. Based on the same, the Authority has considered the following PCN for the purpose of the present investigation.

Product	Type	Abbreviation
Solar Cells	Monocrystalline cells	Mono-cells
	Multi-crystalline cells	Multi-cells
Solar Modules / Panels	Monocrystalline cells	Mono-Modules/ Panels
	Multi-crystalline cells	Multi-Modules/ Panels
	Thin Film	Thin Film Modules/ Panels

31. It is noted that the domestic industry has not produced modules using the c-Si technology. The Authority notes that in the absence of the identical article being produced by the domestic industry, the article most closely resembling the imported goods, i.e., thin film modules or panels, has been considered for making the determination.
32. The Authority notes that the product produced by the domestic industry is like article to the subject goods imported from the subject country. The product produced by the domestic industry and that imported from the subject country are comparable in terms of physical & chemical properties, functions & uses, product specifications, pricing, and distribution & marketing. The subject goods imported from the subject country and produced by the domestic industry are technically and commercially substitutable and used by the consumers interchangeably. In view of the same, the product manufactured by the domestic industry is considered as like article to the product imported into India, as per Rule 2(d) of the Rules.
33. The subject goods are classified under Chapter 85 of the Customs Tariff Act under heading 8541 and tariff items 85414200 and 85414300, with effect from 1<sup>st</sup> January 2022. For part of the injury period, that is 1<sup>st</sup> April 2020 to 31<sup>st</sup> December 2021, the subject goods were classified under tariff items 85414011 and 85414012. It is noted that during the period of investigation, the subject goods were classified under tariff items 85414200 and 85414300. The customs classification is only indicative and is not binding on the scope of the product under consideration.

## **D. SCOPE OF THE DOMESTIC INDUSTRY & STANDING**

### **D.1. Submissions by other interested parties**

34. The following submissions have been made by the other interested parties with regard to the scope of domestic industry and standing.
- i. The domestic industry accounts for less than 1 GW production of the total 25 GW cell production in the country, despite taking hyper-technical arguments to justify eligibility to constitute domestic industry.
  - ii. The share held by FS India and Jupiter is unrepresentative and is not credible for injury analysis. While FS India produces only solar modules, Jupiter has limited solar cell production. Further, Jupiter alone constitutes only 2% of the total demand, while the domestic industry constitutes only 5% of the demand.
  - iii. Article 4.1 of the WTO Agreement states that injury must be assessed in relation to domestic industry as a whole or at least a major proportion, which is not present in the current investigation. Therefore, the investigation must be terminated.
  - iv. FS India was not involved in commercial production during the period of investigation and is not a producer of like article, which can be seen from significant low revenue reported at MCA website. Further, the producer has consumed its product captively and does not compete in open market.
  - v. The interests of FS India do not reside with the Indian industry as it is a wholly owned subsidiary of First Solar Inc., USA and its plant was funded by U.S. International Development Finance Corporation. Its interests may not align with the interests of domestic producers and as such, they cannot be considered as eligible to constitute domestic industry.
  - vi. Jupiter International has a capacity of 800MW as per CARE Rating Reports, 2024, which is negligible in comparison to total Indian capacity, and the producer does not account for a major share of total production. Further, the producer has undergone restructuring of its business model, accompanied by low utilization, volatile production, and frequent shifts in operational focus.
  - vii. The selection of sampled domestic producers lacks transparency and the same may distort injury analysis.
  - viii. Major producers such as Adani Solar, Tata Power Solar, Vikram Solar, and Waaree Energies, have not participated in the investigation.
  - ix. Complete exclusion of production of 133 module producers cannot be justified based on assumption of domestic industry that they are importers from subject country.
  - x. The applicants must disclose the complete production numbers used to determine standing.
  - xi. There is no legal justification for considering 5 producers as applicants and only 2 as domestic industry. Further, it is unclear as to what information has been submitted by the other three applicants. As such, the initiation notification is bad in law.

- xii. RenewSys India Private Ltd. has registered itself as importer/user while Tata Power Solar Systems Ltd. and TP Solar Ltd. have not registered. These producers should file importers' questionnaire response and should not be identified as applicants.
- xiii. ISMA, AISMA and NIMMA cannot be considered as supporters of the application as members of these associations are themselves importers or users.

## **D.2. Submissions by the domestic industry**

35. The following submissions have been made by the domestic industry with regard to the scope of domestic industry and standing:
  - i. The application requesting initiation of investigation was filed by FS India Solar Ventures Private Ltd., Jupiter International Ltd., RenewSys India Private Ltd., Tata Power Solar Systems Ltd. and TP Solar Ltd.
  - ii. During the course of investigation, RenewSys India expressed inability to continue as the applicant. However, the applicants constituting domestic industry still constitute major proportion as required under the Rules, and non-participation by the producer has no impact.
  - iii. At present, there are 6 producers of solar cells in the country. These producers also produce solar modules in the country. 4 of these producers excluding Jupiter and Websol Energy System Ltd. have imported significant volume of the subject goods during the period of investigation. In some cases, the volume of imports exceeds the production capacity of the company. Accordingly, such producers are ineligible to constitute domestic industry.
  - iv. Websol Energy System Ltd. is located in Falta SEZ. As per the past practice of the Authority, units established in a **SEZ** are not within the customs territory of India and thus, are ineligible to be treated as part of the domestic industry.
  - v. Since Tata Power and Adani Solar have undertaken significant imports and Vikram Solar registered itself as importer, consideration of production by such producers would lead to double counting of Indian production.
  - vi. Certain producers who are also importing the subject goods have supported the imposition of anti-dumping duty since dumping of the subject goods has caused significant injury to the Indian producers making domestic production uncompetitive.
  - vii. The fact that the other domestic producers are ineligible to constitute domestic industry on account of significant imports indicates that the dumping has wiped out intent to produce in India.
  - viii. Other Indian producers of solar cells, namely Bharat Heavy Electricals Ltd., Bharat Electronics Ltd., Indo Solar Ltd., Moser Bear Solar Ltd., Solar Semiconductors and Euro Multivision have ceased production.
  - ix. Jupiter and FS India have not imported the subject goods from the subject country during the period of investigation, and is not related to exporter of subject goods in the subject country or importer of subject goods in India.
  - x. Other than FS India, all other Indian producers of solar modules or panels are either purchasing solar cells domestically or importing the same from the subject country.



Inclusion of production of such producers would lead to double counting of same volumes.

- xi. In the safeguard investigation concerning the same product, the Authority did not consider the producers of solar modules using imported solar cells as part of the domestic industry. Further, the Authority in past investigations has excluded production of importers of subject goods as well as the production of subject goods produced using domestically procured intermediate goods.
- xii. Production volume of Jupiter and FS India accounts for 100% of the total eligible domestic production in the country as per Rule 2(b) of the Anti-dumping Rules.
- xiii. The Authority has not undertaken sampling of the domestic producers.
- xiv. FS India does not captively consume subject goods and only sells in open market. As such, FS India is a domestic producer which engaged in production of subject goods in India during the period of investigation and is thus, eligible to constitute domestic industry under Rule 2(b) of the Anti-dumping Rules.
- xv. The fact that the FS India has American shareholding is irrelevant. The Authority in past cases has not considered the location of the holding company as relevant for determination of domestic industry.
- xvi. Contrary to the claims of other parties, Jupiter continues to be a producer of subject goods and has expanded its production lines. Further, Jupiter suffered low utilization as it was unable to sell due to dumped imports.
- xvii. The domestic industry cannot require any specific producer to participate in the investigation and non-participation by other producers has no bearing on the present investigation.
- xviii. While the other interested parties have claimed that the domestic industry has taken hyper-technical argument to justify standing, they have not submitted any evidence or logic to show that such arguments are without merits.
- xix. There is no requirement under the WTO Anti-dumping Agreement or the Anti-dumping Rules that all applicants must necessarily constitute domestic industry.
- xx. The Authority has in the past clarified that there is a distinction between domestic producer and domestic industry and that each domestic producer may not be domestic industry.
- xxi. In the case of Purified Terephthalic Acid, the Authority held that while an applicant may be ineligible to constitute domestic industry, it still has the right to seek redressal from the Authority.
- xxii. Even in the USA, the investigating authority has initiated an investigation based on application filed by a domestic producer and association of workers engaged in production of subject goods.
- xxiii. ISMA, AISMA and NIMMA are associations which represent the interests of users as well the domestic producers of the subject goods in the country. Further, it is not necessary that an association of users or importers must necessarily oppose duty.
- xxiv. Even though support by associations may not be considered for determination of standing of application under Rule 5(3), there is no bar in expressing support against unfair trade.

### **D.3. Examination by the Authority**

36. Rule 2(b) of the Anti-Dumping Rules defines domestic industry as under:

*“(b) “domestic industry” means the domestic producers as a whole engaged in the manufacture of the like article and any activity connected therewith or those whose collective output of the said article constitutes a major proportion of the total domestic production of that article except when such producers are related to the exporters or importers of the alleged dumped article or are themselves importers thereof in such case the term ‘domestic industry’ may be construed as referring to the rest of the producers”.*

37. The application for initiation of the present investigation was filed by FS India Solar Ventures Private Ltd., Jupiter International Ltd., RenewSys India Private Ltd., Tata Power Solar Systems Ltd. and TP Solar Ltd. During the course of investigation, RenewSys India Private Ltd. stated it was unable to continue as an applicant.

38. During the course of the investigation, various interested parties have claimed that the domestic industry does not constitute a major proportion of the total Indian production and is thus, not representative of the Indian industry for the product under consideration. It has been claimed that the two producers constituting domestic industry, Jupiter International Ltd. and FS India Solar Ventures Private Ltd., do not have standing to justify the investigation.

39. On the other hand, the applicants have claimed that Jupiter International and FS India are the only domestic producers eligible to constitute domestic industry. It has been claimed that out of the 6 known producers of solar cells in the country, 4 of the producers have imported the subject goods in significant quantity. While Websol Energy System Ltd. and Jupiter International have not imported the subject goods, Websol is located in SEZ and thus, cannot constitute domestic industry. It has been further claimed that FS India Solar Ventures Private Ltd. has produced solar modules using thin film technology and has not imported the subject goods from the subject country during the period of investigation. Other than the known cell producers and FS India, all other domestic producers manufacture solar modules, by buying solar cells from the Indian producers or by importing cells from China and other countries. The applicants have claimed that other than Jupiter International and FS India, none of the other domestic producers are eligible to constitute domestic industry since such producers are either importers of the product under consideration or are not undertaking significant production process in conversion of solar cells to solar modules to be classified as domestic industry under Rule 2(b), or are in SEZ.

40. The Authority has examined the submissions made by the domestic industry and the other interested parties with respect to the constitution of the domestic industry.

41. It is evident that during the period of investigation, there were few known producers of solar cells in the country, viz. Adani Green Energy Limited, Mundra Solar Energy Limited, Mundra Solar PV Limited, Premier Energies Photovoltaic Private Limited, Premier Energies Limited, RenewSys India Private Limited, Tata Power Solar Systems Limited and Jupiter International Limited. Barring Jupiter International, all other cell manufacturers are also engaged in production of solar modules or panels. It is noted that TP Solar Limited had not commenced production during the period of investigation and was in the process of setting up production capacities.
42. Other than these cell manufacturers, there are more than 100 producers of solar modules or panels in the country. They are sourcing solar cells either from the Indian producers or are importing from China.
43. FS India is manufacturing solar modules using thin film technology, which does not require assembly of solar cells. The company has not imported cells or modules from China and qualifies to be treated as domestic industry within the meaning of Rule 2(b).
44. The Authority has examined the imports data and notes that other than Jupiter International Ltd. and Websol Energy System Ltd., all other cell producers in India have imported significant volumes of subject goods from the subject country during the period of investigation.

Name of domestic industry	Imports (MW)	Capacity (MW)
Adani Green Energy Ltd., Mundra Solar Energy Ltd. and Mundra Solar PV Ltd.	***	***
Premier Energies Photovoltaic Private Ltd. and Premier Energies Ltd.	***	***
RenewSys India Private Ltd.	***	***
Tata Power Solar Systems Ltd.	***	***

45. As per the information submitted by the domestic industry with regard to capacity of the above listed companies, it is noted that the volume of imports made by some of the aforementioned producers is significant in relation to their production capacities. This implies that the focus of these producers is not limited to manufacturing subject goods in India, and are, rather, major importers of the subject goods. Accordingly, based on the established practice of the Authority, these cell manufacturers who are importing significant volume of the product under consideration from the subject country are not eligible to be treated as domestic industry under Rule 2(b) of the Rules.
46. Jupiter International is neither an importer of the subject goods nor is related to an exporter of the subject goods or importer of the subject goods in the country. Jupiter International is eligible to constitute domestic industry under Rule 2(b).

47. It is noted that Websol Energy System Ltd., which is a producer of solar cells, has not imported the subject goods from the subject country during the period of investigation. However, the producer is an SEZ unit, located in Falta SEZ. The Authority considers that a producer established in SEZ would export majority or all of its manufactured products. Based on the established practice of the Authority, Websol Energy System Ltd. is not eligible to constitute domestic industry under Rule 2(b) of the Rules.
48. With respect to the producers of solar modules in India, FS India produces solar modules using thin film technology. The producer has not imported the product under consideration from the subject country during the period of investigation and is not related to an exporter or importer of the subject goods from the subject country. Accordingly, the company is eligible to constitute domestic industry under the Rules.
49. The Authority notes that other than FS India, all other Indian producers of solar modules have produced modules by either using solar cells produced domestically or imported solar cells. Producers who have imported solar cells to assemble the same into solar modules or panels cannot be considered as eligible to constitute domestic industry under Rule 2(b), since such producers are importing the subject goods, in the form of solar cells from the subject country.
50. In order to determine the total eligible production of the subject goods in the country, the Authority has excluded the production of those producers who are importing solar cells and are converting the same into solar modules. Further, the Authority has excluded the production of solar modules since such modules are produced using solar cells, the production of which has already been taken into account as the production of cell manufacturers or imports of cells.
51. In view of the above, it is noted that the production of FS India Solar Ventures Private Ltd. and Jupiter International Ltd. accounts for 100% of the total eligible domestic production. Thus, these domestic producers account for a major production of the subject goods in the country. As noted above, both the producers have not imported the product under consideration into India, and are not related to an exporter or importer of the alleged dumped article. Accordingly, Jupiter International Ltd. and FS India Solar Ventures Private Ltd. constitute domestic industry within the meaning of Rule 2(b) of the Rules. Further, none of the other producers have opposed or directly supported the present application and thus, the application satisfies the requirement of standing in terms of Rule 5(3) of the Anti-Dumping Rules.
52. Certain interested parties have highlighted that FS India cannot be considered as domestic producer since (a) the producer did not commence production during the period of investigation; (b) the producer had very low revenue during the period of investigation; (c) the producer has consumed the product captively and has not sold the product in open market; and (d) the interests of the producer do not align with country since the ownership of the company is held by its American parent.

53. In this regard, the Authority notes that FS India commenced commercial production during the period of investigation, which was duly verified by the Authority. Further, it is noted that the fact a producer may have low revenue or that its ownership is held by non-Indian entities is not relevant in the determination of whether such producer is eligible to constitute domestic industry under Rule 2(b). Rule 2(b) requires a producer to be engaged in the production of the subject goods in the country, subject to certain qualifications. The Authority also notes that the FS India is engaged in production of solar modules using thin-film technology which are directly used for power generation. Since the producer is not a power developer, it cannot be said that FS India is captively consuming its production.
54. With regards to the argument that certain other major producers of the subject goods have not participated in the present investigation, it is noted that non-participation by such other producers does not negate the fact that FS India and Jupiter account for a major proportion of the total eligible Indian production. Even if such other producers would have participated in the investigation, it would not have precluded the Authority from finding that the two eligible domestic producers constitute domestic industry in the present case.
55. It has been contended that since only 2 producers have been considered as domestic industry, there is no basis for the application to be filed by 5 applicants. Further, since some of the applicants are themselves importers, they cannot be considered applicants. In this regard, the Authority notes that while the application was filed by 5 applicants, not all of such applicants were eligible to be treated as domestic industry within the provisions of Rule 2(b) in view of the significant imports made by such producers. Further, the fact that such the producers are importers only precludes them from being eligible to constitute domestic industry. The fact that such producers have been excluded from the scope of domestic industry does not debar them from approaching the Authority as applicants nor do such producers lose their locus standi in seeking suitable redressal against dumping.
56. With regards to the argument that the sampling of domestic industry has been undertaken in a very opaque manner, it is noted that the Authority has not undertaken sampling of the domestic producers and scope of the domestic industry has been determined as examined hereinabove. Accordingly, submissions in this regard do not require examination.

## **E. CONFIDENTIALITY**

### **E.1. Submissions by other interested parties**

57. None of the other interested parties have made any submissions regarding confidentiality.

## **E.2. Submissions by the domestic industry**

58. The domestic industry has submitted that certain producers / exporters have claimed excessive confidentiality, in violation of Trade Notice 10/2018. Further, it claimed that information available in the public domain has also been claimed confidential by certain parties.

## **E.3. Examination by the Authority**

59. The information provided by all the interested parties on confidential basis was examined with regard to sufficiency of the confidentiality claims. On being satisfied, the Authority has accepted the confidentiality claims, wherever warranted and such information has been considered confidential and not disclosed to the other interested parties. Wherever possible, the parties providing information on confidential basis were directed to provide sufficient non-confidential version of the information filed on confidential basis.

## **F. MISCELLANEOUS SUBMISSIONS**

### **F.1. Submissions by other interested parties**

60. The following miscellaneous submissions have been made by the other interested parties.
- i. The Indian industry is habitual of seeking protection of anti-dumping and safeguard measures on imports of subject goods, whenever its performance deteriorates. As such, there is no requirement for imposition of anti-dumping duty.
  - ii. In the sunset review for safeguard measures, the Authority stated that duties were being extended for only 1 year as industry received sufficient protection and only needed time to adjust.
  - iii. The domestic industry should explain the steps taken to adjust in response to when the safeguard measures imposed and why such measures did not help the industry.
  - iv. Despite being protected by anti-dumping duties for years, the domestic industry has not shown significant improvement or financial stability, which raises questions regarding the root cause of injury.
  - v. The Basic Customs Duty on solar cells and modules has already been enhanced to provide sufficient protection to the domestic industry.
  - vi. The petition filed is short of any legal and factual basis. The petitioner has exaggerated the increase in imports and deliberately invented injury.
  - vii. Considering the upcoming production capacities for solar cells in 2026-27, the Authority should not impose duty now and evaluate the need for duty once such new capacities come online.
  - viii. Since Jupiter is itself in the process of setting up a plant for production of solar modules, seeking levy of duty before establishment of the plant is premature.
  - ix. In case Jupiter is suffering injury, it can start consuming cells and produce modules which have a higher demand, since the domestic industry has self-admitted that there is no significant value addition from cells to modules.

- x. The import data filed by the domestic industry from secondary sources is not authentic and reliable. As per the Manual, the Authority must rely on DGCI& data for examining imports and dumping.

## **F.2. Submissions by the domestic industry**

- 61. The following miscellaneous submissions have been made by the domestic industry.
  - i. Contrary to the argument of the other interested parties, the Authority found that the subject imports caused injury to the domestic industry and recommended imposition of duties in the anti-dumping investigation conducted in 2014 and the safeguard investigations conducted in 2018 and 2020.
  - ii. Anti-dumping investigations were terminated in 2018 and 2022 based on withdrawal request by domestic industry due to intensified injury subsequent to investigation and increase in Basic Customs Duty respectively.
  - iii. Claims of misuse of trade remedy investigation are misplaced, as it is the foreign producers that are abusing fair market.
  - iv. While the Authority recommended safeguard measures considering significant increase in the imports, the domestic industry cannot now be blamed for seeking anti-dumping duties to remedy injury caused due to dumping.
  - v. Even though the domestic industry had adjusted and recovered due to the safeguard measures, increase in dumped imports during the injury period have led to a decline in profitability.
  - vi. While there is a requirement of cooling period between imposition of safeguard measures on the same product, there is no requirement for such gap between safeguard and anti-dumping duty.
  - vii. The Anti-Dumping Rules do not require the Authority to consider past safeguard measures or whether the domestic industry adjusted to such measures.
  - viii. Despite imposition of safeguard duty and increase in Basic Customs Duty, the subject imports continued to surge as the Chinese exporters absorbed the impact of duties.
  - ix. Claims of the other parties that Jupiter should cease production of solar cells and start producing modules is contrary to the purpose of the Anti-dumping law which intends to provide remedy to an industry suffering injury, rather compelling industry to shift to produce other products.
  - x. The fact that Jupiter has made investments to add production capacities for solar modules does not bar the producer from seeking remedy against dumping.
  - xi. Since the domestic industry is suffering losses at present due to the dumping of subject goods, it cannot be claimed that duties should be imposed after new capacities come online. Further, non-imposition of duties at present would discourage future investment.
  - xii. Since the domestic industry does not have access to DGCI&S data, it provided information as was reasonably available to it.

### **F.3. Examination by the Authority**

62. The other interested parties have submitted that the industry is misusing trade remedial measures as it is known to approach the Authority as and when its performance declines. It is noted that an anti-dumping investigation was conducted by the Authority in 2014, and it was found that the domestic industry suffered injury due to the dumped imports. Accordingly, the Authority recommended imposition of duties. Thereafter, the Authority conducted an anti-dumping investigation in 2018. The investigation was terminated based on withdrawal by the domestic industry citing that injury had intensified in the post-POI period and that the volume of imports had increased substantially. Considering the sudden and sharp increase in the volume of imports, and on the basis of an application by the domestic industry, the Authority initiated a safeguard investigation, wherein it was found that the domestic industry was seriously injured due to increased imports. Such safeguard duties were continued pursuant to a sunset review. In 2022, the Authority conducted another anti-dumping investigation. However, the same was terminated, as the domestic industry withdrew its application when it believed that increase in the Basic Customs Duty would provide necessary relief. Thus, in each of these investigations, the Authority recommended trade remedial measures taking into account the facts of the case or terminated the investigation based on request of the domestic industry, in accordance with provisions of Act and Rules.
63. As regards the submissions that the Authority should require the domestic industry to first establish the steps undertaken to adjust pursuant to previous safeguard measures before recommending anti-dumping duties, the Authority notes the scope of the present investigation is whether the product has been exported at dumped prices, and whether the same has caused material injury to the domestic industry. If the investigation establishes the same, the Authority is required to recommend anti-dumping. Thus, contentions raised in this regard are found irrelevant.
64. With regard to the submissions that the increase in Basic Customs Duty would restrict imports into India, the Authority notes that the purpose of Basic Customs Duty and imposition of anti-dumping duty is different. While duties collected at customs borders intended to regulate trade and generate revenue, the purpose of anti-dumping duty is to remedy the situation of dumping and injury to the domestic industry. The anti-dumping duty may even be in the form of price undertaking and may not necessarily imply collecting duties in cash.
65. With regard to the submissions that the domestic industry has not relied upon the DGCI&S data, the Authority notes that none of the interested parties have access to transaction wise DG Systems or DGCI&S data. However, for the purpose of the initiation of the present investigation, and for the purpose of the determination, the Authority has relied upon the DG Systems data. Hence, no prejudice has been caused to the interests of any interested parties by virtue of the fact that the domestic industry has not relied on DGCI&S data and has relied on other sources to procure import data.



66. With regard to the submission that since Jupiter and other producers are expanding capacities, the present investigation may be premature, the Authority notes that an anti-dumping investigation is conducted with respect to the injury suffered by the domestic industry producing the subject goods due to dumping during the period of investigation. The fact that Jupiter International and other domestic producers are expanding capacities in the future does not invalidate the fact that the domestic industry may have suffered injury due to dumping in the period of investigation.

## **G. NORMAL VALUE, EXPORT PRICE AND DUMPING MARGIN**

### **G.1. Submissions by other interested parties**

67. The following submissions have been made by the other interested parties, with reference to determination of normal value, export price and dumping margin.
- i. Price of imports from Malaysia cannot be considered as a surrogate rate for producers from China PR for determination of normal value.
  - ii. The normal value for producers from China PR should be determined based on the responses filed by cooperative producers from China. Alternatively, it should be determined based on normalized cost of domestic industry, since it incurred huge financial and depreciation cost.
  - iii. The normal value for Trina Group should be determined based on the information submitted in the questionnaire response since the company has operated under market economy conditions. Under Paragraph 8 of Annexure I to the Rules, MET is to be granted if a firm satisfies the five specific criteria, including market-based decision-making, compliance with GAAP, and acquisition of land and inputs through commercial means, which Trina has done.
  - iv. The mere existence of subsidies at the national or sectoral level does not justify a rejection of MET, unless it is clearly demonstrated that such subsidies have directly distorted the individual firm's cost or price structure.
  - v. The suggestion that the Chinese Government directly subsidizes all or even most raw material inputs across the entire market is not only speculative but economically irrational and financially unsustainable.
  - vi. The Petitioners have failed to provide any direct, verifiable, or entity-specific evidence demonstrating that Trina Solar or any of its raw material or utility suppliers benefited from actionable subsidies.
  - vii. Trina Solar has demonstrated through substantial evidence that procurement of raw materials, utilities, and land was conducted through commercial transactions at market-determined prices, without government interference, and findings to the contrary based on past CVD decisions of DGTR and other authorities is misplaced.
  - viii. The Chinese domestic market, like most modern economies, is predominantly comprised of privately-owned entities.
  - ix. Assertion that China operates under NME conditions implies that all economic actors globally producers, traders, and consumers alike who interact with Chinese suppliers are participating in a distorted market.

- x. Minority shareholding of certain state-owned entities does not confer control and cannot be construed as evidence of state ownership or influence.
- xi. Trina's CEO's appointment to NPC is due success as entrepreneur and does not indicate influence by Chinese government.
- xii. While land-use rights are owned by state, such rights are granted after public bids and auctions.
- xiii. In case the Authority does not accept the MET claim by Trina, the normal value should be calculated based on lowest cost of production among cooperating domestic producers, or based on reliable third-country data such as from Vietnam or Malaysia.
- xiv. The Authority should determine individual duty rates for all cooperating exporters and sampling is not required in the present case.
- xv. Rule 17(3) requires determination of individual margins for each known producer, unless it becomes impractical to examine each producer. Further, adoption of sampling methodology will be prejudicial towards non-sampled producers who have cooperated and provided information in the investigation.
- xvi. Sampling violates Article 6.10.2 of the Agreement, which provides that the Authority must encourage individual participation. The same was also observed by Panel in US – Shrimp (Vietnam). Further, the failure to consider voluntary response violates principles of transparency and fairness.
- xvii. Consideration of individual responses would not be unduly burdensome to the Authority, particularly since the process is simplified after adopting PCN methodology and the Authority has ample time till September 2025 to issue its findings.
- xviii. In the past, Authority has determined individual margins for each producer where even upto 17 group of companies were participating, such as in the case of Printed Circuit Boards and Resin Bonded Thin Wheels.
- xix. The number of sampled producers is too small as only 3 out of 15 groups have been selected. The Authority has sampled 18 out of 58 exporters, and 19 out of 51 exporters in the past.
- xx. While the Manual requires that the sampling should be done within 80 days, the present sampling was completed in 92 days.
- xxi. Instead of considering a cross-section of participating producers, in terms of export volumes, only the three largest exporters were selected. The Authority failed to consider volume bands, export channels and product categories during sampling, as was required as per the Manual, as considered in the case of Jute products.

## **G.2. Submissions by the domestic industry**

- 68. The following submissions have been made by the domestic industry, with reference to determination of normal value, export price and dumping margin.
  - i. Market economy treatment claimed by the Trina Group should be rejected and normal value for the group should be determined as per provisions of Para 7 of Annexure I.

- ii. Each producer of Trina group has procured raw materials domestically in China through affiliated and unaffiliated suppliers. It is a known fact that raw materials are provided by the Chinese Government and often at subsidized rates.
- iii. The European Commission and U.S. Department of Commerce have separately determined that solar glass and aluminium extrusions were subsidized by the Chinese government.
- iv. The Authority, in various past anti-subsidy investigations, has found that utilities such as electricity and water are provided at subsidized rates by the Chinese government.
- v. As per the annual report of Trina Solar Group, two of the top 10 shareholders, are state owned entities and account for 13% of the shareholding in the company. Further, one other shareholder namely China Merchant Bank also has significant state-owned investment. This indicates that the operation of the Trina Group are likely influenced by the Chinese Government.
- vi. The Chairman and CEO of Trina Group is affiliated with China's National People's Congress indicating indirect control by the government.
- vii. The Government of China under the Chinese Property Laws grants land use rights to companies allowing them to use land at below market rate. The state tightly controls land supply using quota which is against fair competition, as determined by the Authority in past anti-subsidy investigations.
- viii. China PR should be treated as a non-market economy in accordance with Article 15(a)(i) of China's accession protocol, and the normal value should be determined in accordance with Para 7 of Annexure I to the Rules.
- ix. Normal value for all sampled producers should be determined based on weighted average cost of the domestic industry with reasonable profits.
- x. The normal value should not be based on lowest cost of production amongst domestic producers, as per the current practice of the Authority, since it should not be assumed that the producers in China are operating their plants at highly efficient cost of production.
- xi. Determining individual margins for all participating producers / exporters would be unduly burdensome on the Authority, since it would require detailed review and verification of data. Finalization of PCN methodology makes the process even more complex.
- xii. No prejudice will be caused to the non-sampled cooperative producers, as they will still benefit from lower duties based on weighted average duties of sampled producers.
- xiii. While the other interested parties took three months to submit their questionnaire response, they expect the Authority to verify data for all exporters, determine individual margins and issue final findings in just two months.
- xiv. With a sharp increase in the total number of investigations, from 21 in 2004 to 81 in 2024, reliance on approach adopted for individual margin determination in the past is misplaced.

- xv. The investigating authorities in all major jurisdictions such as USA, China, GCC and EU undertake sampling of only 2-3 producers due to the burden of determining individual margins for a large number of producers.
- xvi. While authorities in USA, Brazil, EU and Canada initiate fewer cases than India, such authorities have undertaken mandatory sampling of producers.
- xvii. Article 6.10.2 of the WTO Anti-dumping Agreement clarifies that voluntary responses may be considered, unless the number of responses is too large to make individual examination unduly burdensome.
- xviii. In US – Shrimp (Vietnam), the Panel noted that there were no voluntary responses filed to be considered by the investigating authority, and did not address a situation where such voluntary responses were disregarded.
- xix. Article 6.10 of the WTO Anti-dumping Agreement and the Anti dumping Rules do not prescribe volume bands, channels, or product categories to be considered for sampling. On the contrary, Article 6.10 and the Manual of Operating Procedures provide for consideration of export volume and a cross-section data for sampling.
- xx. The Manual of SOP does not prescribe deadlines for any activity to be undertaken and is merely guidance to the Authority.
- xxi. Even though the Manual states that sampling should be done when three or more producers participate, the Authority in several cases has opted not to sample the producers despite their participation.
- xxii. The Authority has already noted in the Initiation Notification that Malaysia is not considered as a surrogate to determine normal value.

### **G.3. Examination by the Authority**

69. Under section 9A(1)(c), the normal value in relation to an article means:

*“i) The comparable price, in the ordinary course of trade, for the like article, when meant for consumption in the exporting country or territory as determined in accordance with the rules made under sub-section (6), or*

*ii) when there are no sales of the like article in the ordinary course of trade in the domestic market of the exporting country or territory, or when because of the particular market situation or low volume of the sales in the domestic market of the exporting country or territory, such sales do not permit a proper comparison, the normal value shall be either:*

*(a) comparable representative price of the like article when exported from the exporting country or territory or an appropriate third country as determined in accordance with the rules made under sub-section (6); or*  
*the cost of production of the said article in the country of origin along with reasonable addition for administrative, selling and general costs, and for profits, as determined in accordance with the rules made under sub-section (6);*

*(b) Provided that in the case of import of the article from a country other than the country of origin and where the article has been merely transshipped through the country of export or such article is not produced in the country of export or there is no comparable price in the country of export, the normal value shall be determined with reference to its price in the country of origin. ”*

70. The Authority notes that the following producers / exporters of the subject goods have filed submitted their response to the exporter’s questionnaire:

- i. Anhui Schutten Solar Energy Co. Ltd.
- ii. Astronergy New Energy Technology (Singapore) Co.
- iii. Canadia Solar International Ltd.
- iv. Canadian Solar Manufacturing (Changshu) Inc.
- v. Canadian Solar Sunenergy (Jiaxing) Co., Ltd.
- vi. CECEP Solar Energy Technology (ZhenJiang) Co., Ltd.
- vii. Chinaland Solar Energy Co., Ltd.
- viii. Chint New Energy Technology (Yangcheng) Co., Ltd.
- ix. Chint New Energy Technology Co., Ltd.
- x. Chuzhou Jietai New Energy Technology Co. Ltd.
- xi. Econess Energy Co., Ltd.
- xii. Guangdong Aiko Solar Technology Co., Ltd.
- xiii. Hefei JA Solar Technology Co., Ltd.
- xiv. Hengdian Group DMEGC Magnetics Co., Ltd.
- xv. Huaian Jietai New Energy Technology Co. Ltd.
- xvi. JA Solar International Ltd.
- xvii. Jiangsu DMEGC New Energy Technology Co. Ltd.
- xviii. Jiangsu Huaheng New Energy Co., Ltd.
- xix. Jiangsu Longheng New Energy Co., Ltd.
- xx. Jinko Solar (Chuxiong) Co., Ltd.
- xxi. Jinko Solar (Chuzhou) Co, Ltd.
- xxii. Jinko Solar (Feidong) Co., Ltd.
- xxiii. Jinko Solar (Haining) Ltd.
- xxiv. Jinko Solar (Shangrao) Co., Ltd.
- xxv. Jinko Solar (Yiwu) Co., Ltd.
- xxvi. Jinko Solar Co., Ltd. (Jiangxi)
- xxvii. Jinko Solar Middle East DMCC.
- xxviii. Jinko Solar Trading Private Ltd.
- xxix. Jolywood (Shanxi) Solar Technology Co., Ltd.
- xxx. Jolywood (Taizhou) Solar Technology Co., Ltd.
- xxxi. Lianyungang DMEGC New Energy Technology Co. Ltd.
- xxxii. LONGi Solar Technology (Chuzhou) Co., Ltd.
- xxxiii. LONGi Solar Technology (Jiaxing) Co., Ltd.
- xxxiv. LONGi Solar Technology Co., Ltd
- xxxv. Risen Energy (Ningbo) Co., Ltd.

- xxxvi. Risen Energy Co., Ltd.
- xxxvii. Ronma Solar Technology (Jinjua) Co., Ltd.
- xxxviii. Shandong Ronma Solar Co. Ltd.
- xxxix. Shangrao Guangxin Jinko Photovoltaic Manufacturing Co., Ltd.
- xl. Shangrao Jietai New Energy Technology Co. Ltd.
- xli. Shangrao Jinko Photovoltaic Manufacturing Co., Ltd.
- xlii. Solar N Plus New Energy Technology Co., Ltd.
- xliii. Solarspace New Energy (Chuzhou) Co., Ltd.
- xliv. Solarspace New Energy (Xuzhou) Co., Ltd.
- xlv. Solarspace Technology (Suqian) Co., Ltd.
- xlvi. Solarspace Technology Co., Ltd.
- xlvi. Suzhou Ronma International Trade Co. Ltd.
- xlvi. Tianjin Aiko Solar Technology Co., Ltd.
- xlvi. Tonghe New Energy (Jintang) Co., Ltd.
- l. Tongwei Solar (Chengdu) Co., Ltd.
- li. Tongwei Solar (HEFEI) Co., Ltd.
- lii. Tongwei Solar (Jintang) Co., Ltd.
- liii. Tongwei Solar (Meishan) Co., Ltd.
- liv. Tongwei Solar (Pengshan) Co., Ltd.
- lv. Tongwei Solar (Yangcheng) Co., Ltd.
- lvi. Tongwei Solar Co., Ltd.
- lvii. Trina Solar (Huai'an) Technology Co. Ltd.
- lviii. Trina Solar (Suqian) Science & Technology Co. Ltd.
- lix. Trina Solar (Yangcheng) New Energy Co. Ltd.
- lx. Trina Solar Co. Ltd.
- lxi. Trina Solar Energy Development Pte. Ltd.
- lxii. Xuzhou Zhonghui Photovoltaic Technology Co., Ltd.
- lxiii. Yangcheng Trina Guoneng Solar Energy Technology Co. Ltd.
- lxiv. Yiwu JA Solar Technology Co., Ltd.
- lxv. Yuhuan Jinko Solar Co., Ltd.
- lxvi. Zhejiang Aiko Solar Technology Co., Ltd.
- lxvii. Zhejiang Jinko Solar Co., Ltd.
- lxviii. Zhejiang Ronma Solar Group Co. Ltd.
- lxix. Zhengxin Photoelectric Technology (Suqian) Co., Ltd.
- lxx. Znshine Powertek Changzhou Co., Ltd.
- lxxi. Znshine PV-Tech Co., Ltd.
- lxxii. Wuhu GCL System Integration New Energy Technology Co., Ltd.,
- lxxiii. Hefei GCL System Integration New Energy Technology Co., Ltd.

71. As per the provisions of Rule 17, while the Authority is required to determine individual dumping margin in respect of all those producers/exporters who have filed questionnaire responses, in a situation where a large number of producers/ exporters have filed questionnaire responses, the Authority may resort to sampling by limiting the response to a limited number of producers. The Rules provides as follows in this regard.

*“17(3) The designated authority shall determine an individual margin of dumping for each known exporter or producer concerned of the article under investigation:*

***Provided** that in cases where the number of exporters, producers, importers or types of articles involved are so large as to make such determination impracticable, it may limit its findings either to a reasonable number of interested parties or articles by using statistically valid samples based on information available at the time of selection, or to the largest percentage of the volume of the exports from the country in question which can reasonably be investigated, and any selection, of exporters, producers, or types of articles, made under this proviso shall preferably be made in consultation with and with the consent of the exporters, producers or importers concerned :*

***Provided** further that the designated authority shall, determine an individual margin of dumping for any exporter or producer, though not selected initially, who submit necessary information in time, except where the number of exporters or producers are so large that individual examination would be unduly burdensome and prevent the timely completion of the investigation.”*

72. In view of the large number of responses, the Authority considered sampling of foreign producers for determination of individual dumping margins. The same was proposed vide notice dated 13<sup>th</sup> March 2025 and an opportunity was given to all interested parties to provide comments on the same. Thereafter, and after considering the submissions made by the interested parties, the Authority decided the sampled producers who shall be individually investigated and the same were notified vide notice dated 28<sup>th</sup> March 2025. The sample considered was based on the volume of exports to India, with the producers having the largest volume of exports, being considered as a part of the sample. The Jinko Solar Group, Trina Group and Aiko Group, comprising of the following producers were considered as a part of the sample.

<b>Group</b>	<b>Producer Name</b>	<b>Exporter/Trader</b>
Trina Group	Trina Solar (Huai'an) Technology Co., Ltd.	Trina Solar Energy Development Pte. Ltd. (TED)
	Trina Solar (Suqian) Technology Co., Ltd.	
	Trina Solar (Yancheng) New Energy Co., Ltd.	
	Trina Solar Co., Ltd.	
	Yancheng Trina Solar Guoneng PV Science & Technology Co., Ltd.	
Jinko Solar Group	Jinko Solar (Haining) Co., Ltd.	Zhejiang Jinko Solar Co., Ltd.
	Jinko Solar (Yiwu) Co., Ltd.	Zhejiang Jinko Solar Co., Ltd.

		Jinko Solar (Shangrao) Co., Ltd.
		Jinko Solar (Haining) Co., Ltd.
		Jinkosolar (Chuzhou) Co., Ltd. and Jinkosolar Middle East DMCC
		Jinko Solar (Feidong) Co., Ltd.
		Jinkosolar Middle East DMCC
	Jinkosolar (Chuzhou) Co., Ltd.	Zhejiang Jinko Solar Co., Ltd.
		Jinko Solar (Haining) Co., Ltd.
	Jinko Solar (Shangrao) Co., Ltd.	Zhejiang Jinko Solar Co., Ltd.
		Jinko Solar (Feidong) Co., Ltd. and Jinkosolar Middle East DMCC
		Yuhuan Jinko Solar Co., Ltd and Jinkosolar Middle East DMCC
		Jinko Solar (Yiwu) Co., Ltd. and Jinkosolar Middle East DMCC
		Jinkosolar (Chuzhou) Co., Ltd. and Jinkosolar Middle East DMCC
		Jinko Solar (Haining) Co., Ltd.
		Jinko Solar Co. Ltd.
		Jinkosolar Middle East DMCC
	Jinko Solar (Chuxiong) Co., Ltd.	Jinko Solar Co. Ltd.
	Jinko Solar (Feidong) Co., Ltd.	Jinko Solar (Yiwu) Co., Ltd. and Jinkosolar Middle East DMCC
		Jinko Solar (Haining) Co., Ltd.
		Zhejiang Jinko Solar Co., Ltd.
		Jinkosolar Middle East DMCC
	Shangrao Guangxin Jinko Photovoltaic Manufacturing Co., Ltd	Zhejiang Jinko Solar Co., Ltd.
	Shangrao Jinko Photovoltaic Manufacturing Co., Ltd	Zhejiang Jinko Solar Co., Ltd.
Aiko Group	Zhejiang Aiko Solar Technology Co., Ltd.	Zhejiang Aiko Solar Technology Co., Ltd.
		Targray International Inc.
	Tianjin Aiko Solar Technology Co., Ltd.	Tianjin Aiko Solar Technology Co., Ltd.
		HLA Supply Chain Solutions Inc.
		Swelect Energy Systems PTE LIMITED
		Targray International Inc.



	Guangdong Aiko Solar Technology Co., Ltd.	Guangdong Aiko Solar Technology Co., Ltd.
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73. The Authority notes that even though only 3 Groups are selected within sample, the number of producers/exporters is much higher, with 16 producers and their exporters being selected for individual examination. Further, after considering exports made by these producers either directly, or through related or unrelated producers / traders, exports made by the sampled groups collectively account for \*\*\*% of the imports into India.
74. The Authority does not find merit in the contention of the interested parties that the Authority has a mandatory obligation to determine individual dumping margin for any voluntary responses filed. Rule 17(3) and its provisos make it amply clear that the Authority may limit examination to certain exporters, where necessary, in the interest of timely completion of the investigation.
75. Certain interested parties have contended that the Authority has undertaken individual determination of dumping margin for much larger number of producers or exporters in the other past investigations. However, the fact that a large number of producers were investigated in the past does not imply that the Authority is barred from resorting to sampling in the present case. The Authority considers that it is necessary and appropriate to resort to sampling in the present case.
76. With regard to the submissions that sampling has been undertaken later than the prescribed time limit, the Authority notes that Rule 17(3) of the Anti-Dumping Rules allows sampling of producers / exporters. There is no deadline in the Rules for undertaking sampling of producers/exporters in an anti-dumping investigation. In fact, sampling is not provided under Rule 6 and is instead provided under Rule 17, which further shows that the Authority may decide need for sampling after receipt of questionnaire response from interested parties under Rule 6.
77. With regard to the submissions that the sampling methodology does not take into account different product categories, volume bands or export channels, the Authority notes that there is no provision in law which mandatorily requires the Authority to exercise any particular criterion at the time of sampling. The Anti-dumping Rules allow the Authority to resort to sampling of a reasonable number of interested parties or articles by using statistically valid samples, or to the largest percentage of the volume of the exports from the country in question which can reasonably be investigated. This has been done in the present case. Further, all interested parties were given sufficient opportunity to comment on the proposed sampling methodology. However, none of the interested parties objected to use of such methodology at the appropriate time.

### **G.3.1. Determination of normal value for China PR**

78. Article 15 of the China's Accession Protocol to the WTO provides as follows:

*“Article VI of the GATT 1994, the Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade 1994 ("Anti-Dumping Agreement") and the SCM Agreement shall apply in proceedings involving imports of Chinese origin into a WTO Member consistent with the following:*

*In determining price comparability under Article VI of the GATT 1994 and the Anti-Dumping Agreement, the importing WTO Member shall use either Chinese prices or costs for the industry under investigation or a methodology that is not based on a strict comparison with domestic prices or costs in China based on the following rules:*

*(i) If the producers under investigation can clearly show that market economy conditions prevail in the industry producing the like product with regard to the manufacture, production and sale of that product, the importing WTO Member shall use Chinese prices or costs for the industry under investigation in determining price comparability;*

*(ii) The importing WTO Member may use a methodology that is not based on a strict comparison with domestic prices or costs in China if the producers under investigation cannot clearly show that market economy conditions prevail in the industry producing the like product with regard to manufacture, production and sale of that product.*

*In proceedings under Parts II, III and V of the SCM Agreement, when addressing subsidies described in Articles 14(a), 14(b), 14(c) and 14(d), relevant provisions of the SCM Agreement shall apply; however, if there are special difficulties in that application, the importing WTO Member may then use methodologies for identifying and measuring the subsidy benefit which take into account the possibility that prevailing terms and conditions in China may not always be available as appropriate benchmarks. In applying such methodologies, where practicable, the importing WTO Member should adjust such prevailing terms and conditions before considering the use of terms and conditions prevailing outside China.*

*The importing WTO Member shall notify methodologies used in accordance with subparagraph (a) to the Committee on Anti-Dumping Practices and shall notify methodologies used in accordance with subparagraph (b) to the Committee on Subsidies and Countervailing Measures.*

*Once China has established, under the national law of the importing WTO Member, that it is a market economy, the provisions of subparagraph (a) shall be terminated provided that the importing Member's national law contains market economy criteria as of the date of accession. In any event, the provisions of subparagraph (a)(ii) shall expire 15 years after the date of accession. In addition, should China establish, pursuant to the national law of the importing WTO Member, that market economy conditions prevail in a particular industry or sector, the non-market economy provisions of subparagraph (a) shall no longer apply to that industry or sector.”*

79. The applicants have cited and relied upon Article 15(a)(i) of China's Accession Protocol. The applicants have claimed that producers in China PR must be asked to demonstrate that market economy conditions prevail in their industry producing the like product with regard to the manufacturing, the production and the sale of the product under consideration. It has been stated by the applicants that in case the responding Chinese producers are not able to demonstrate that their costs and price information are market-driven, the normal value should be calculated in terms of provisions of Para 7 of Annexure- I to the Rules.
80. Other than the Trina Group, none of the sampled producers have claimed market economy treatment in the present case. Accordingly, the normal value for the sampled producers / exporters, barring the Trina Group, have been determined in accordance with paragraph 7 of Annexure I of the Rules which state as follows.

*“In case of imports from non-market economy countries, normal value shall be determined on the basis of the price or constructed value in the market economy third country, or the price from such a third country to other countries, including India or where it is not possible, or on any other reasonable basis, including the price actually paid or payable in India for the like product, duly adjusted if necessary, to include a reasonable profit margin. An appropriate market economy third country shall be selected by the designated authority in a reasonable manner, keeping in view the level of development of the country concerned and the product in question, and due account shall be taken of any reliable information made available at the time of selection. Accounts shall be taken within time limits, where appropriate, of the investigation made in any similar matter in respect of any other market economy third country. The parties to the investigation shall be informed without any unreasonable delay the aforesaid selection of the market economy third country and shall be given a reasonable period of time to offer their comments.”*

81. The Authority has examined the market economy treatment claimed by the producers of the Trina Group. The producers have claimed that they are operating under market economy conditions and have procured raw materials and utilities from affiliated and unaffiliated parties at market rates. The Authority notes that while the producer has claimed that it has sourced raw materials locally from affiliated and unaffiliated parties at market prices, it is evident that the company has not established that the prices of major inputs substantially reflect market values. The Authority notes in this regard that since China is a non market economy country, the Chinese producers should establish that the prices of inputs reflect market values considering prices in the international market. Since raw material suppliers are located within China and are operating under non-market economy conditions, the Chinese producers must establish market economy situation on the basis of prices prevailing in the international market. Further, the fact that suppliers of solar glass and aluminium extrusions, the raw materials used for production of the subject goods, have received countervailable subsidies, has been determined by the investigating authorities in the EU and USA. While the producers have submitted that

they have procured utilities from unaffiliated entities at market rates, the Authority has in various past anti-subsidy investigations found that utilities such as electricity and water in China are supplied by the government or local authorities at subsidized rates. Thus, the price at which the utilities have been procured by the producers cannot be said to be reflective of market values. Lastly, the domestic industry has provided evidence to show that the Chairman of the Trina Group is associated with the National People's Congress of China, which can lead to indirect influence by the government. In such a case, the Authority concludes that the Trina Group is not operating under market economy conditions and as such, the normal value for the producer has been determined as per the provisions of Para 7 of Annexure I to the Rules.

82. The applicants have claimed that the normal value should be determined on the basis of price of imports of the subject goods from Malaysia. However, the applicants have not demonstrated that Malaysia can be considered as an appropriate market economy country. Alternatively, the applicants have also claimed normal value based on the price payable in India, which is based on its cost of production, duly adjusted. The other interested parties have not adduced any other basis, amongst that listed under paragraph 7 of Annexure I of the Rules, which may form basis of determination of normal value. The Authority has therefore, determined normal value as per the price payable in India, based on cost of production of the applicant, duly adjusted for selling, general and administrative expenses and reasonable profits.

### **G.3.2. Export price for China PR**

**Export price for Guangdong Aiko Solar Technology Co., Ltd. (Guangdong Aiko), Tianjin Aiko Solar Technology Co., Ltd. (Tianjin Aiko), and Zhejiang Aiko Solar Technology Co., Ltd. (Zhejiang Aiko) (Aiko Group)**

83. Guangdong Aiko, Tianjin Aiko and Zhejiang Aiko (collectively referred to as the “Aiko Group”) exported \*\*\* MW to India during the period of investigation directly to the customers in India or through unrelated traders. Out of the total exports of the Aiko Group, the producers have exported \*\*\* MW of subject goods to India directly and have exported \*\*\* MW through unrelated traders.
  - Guangdong Aiko → Customers in India
  - Tianjin Aiko → Customers in India
  - Tianjin Aiko → Unrelated Traders in China → Customers in India
  - Zhejiang Aiko → Customers in India
  - Zhejiang Aiko → Unrelated Traders → Customers in India
84. The Authority notes that the unrelated traders through which exports have been made to India have not cooperated in the present investigation by filing questionnaire response. However, the exports made through such unrelated traders accounts for only \*\*\*% of the

total exports. Accordingly, in view of small share of exports, the information submitted by the Aiko in their questionnaire response has been accepted.

85. The Authority has determined the net export price based on the price charged from the first unrelated customer. With respect to exports through unrelated traders, in absence of information relating to re-sale price charged by such trader, the Authority has determined the price of exports through such traders based on the price of direct exports by Tianjin Aiko and Zhejiang Aiko. Adjustments on account of ocean freight, insurance, inland transportation, port and other related charges, bank charges and credit cost have been allowed after due verification. The net export price so determined is mentioned in the table below.

**Jinko Solar (Haining) Co., Ltd., Jinko Solar (Yiwu) Co., Ltd., Jinko Solar (Chuzhou) Co., Ltd., Jinko Solar (Shangrao) Co., Ltd., Jinko Solar (Chuxiong) Co., Ltd., Jinko Solar (Feidong) Co., Ltd., Shangrao Guangxin Jinko Photovoltaic Manufacturing Co., Ltd., Shangrao Jinko Photovoltaic Manufacturing Co., Ltd., Jinko Solar Co. Ltd., Zhejiang Jinko Solar Co., Ltd., Yuhuan Jinko Solar Co., Ltd., Jinko Solar Middle East DMCC, Jinko Solar Trading Private Limited (Jinko Solar Group)**

86. Jinko Solar (Haining) Co., Ltd., Jinko Solar (Yiwu) Co., Ltd., Jinko Solar (Chuzhou) Co., Ltd., Jinko Solar (Shangrao) Co., Ltd., Jinko Solar (Chuxiong) Co., Ltd., Jinko Solar (Feidong) Co., Ltd., Shangrao Guangxin Jinko Photovoltaic Manufacturing Co., Ltd. and Shangrao Jinko Photovoltaic Manufacturing Co., Ltd. are related companies engaged in the manufacturing of subject goods in the subject country. Jinko Solar Co., Ltd., Zhejiang Jinko Solar Co., Ltd., Yuhuan Jinko Solar Co., Ltd., and Jinko Solar Middle East DMCC are involved in the export of the subject goods to India. The producers in the Jinko Solar Group have produced and exported the subject goods to unrelated customers in India through related exporters within Jinko Solar Group. Additionally, the producers in the Jinko Solar Group have also been exported to a related Indian trader, Jinko Solar Trading Private Limited, who has resold the subject goods to unrelated customers in India. All the aforementioned companies have submitted the relevant information in the prescribed questionnaire format.

- Haining → Zhejiang Jinko → Unrelated Customers in India
- Yiwu → Zhejiang Jinko → Unrelated Customers in India
- Yiwu → Zhejiang Jinko → Jinko India → Unrelated Customers in India
- Yiwu → Shangrao Jinko → Unrelated Customers in India
- Yiwu → Haining → Unrelated Customers in India
- Yiwu → Jinko DMCC → Unrelated Customers in India
- Yiwu → Chuzhou → Jinko DMCC → Unrelated Customers in India
- Yiwu → Feidong → Jinko DMCC → Unrelated Customers in India
- Chuzhou → Zhejiang Jinko → Unrelated Customers in India
- Chuzhou → Haining → Unrelated Customers in India
- Shangrao → Zhejiang Jinko → Unrelated Customers in India

- Shangrao→ Haining →Unrelated Customers in India
- Shangrao→ Jinko DMCC →Unrelated Customers in India
- Shangrao→ Chuzhou → Jinko DMCC →Unrelated Customers in India
- Shangrao→ Feidong →Jinko DMCC →Unrelated Customers in India
- Shangrao→ Yuhuan →Jinko DMCC →Unrelated Customers in India
- Shangrao→ Yiwu →Jinko DMCC →Unrelated Customers in India
- Shangrao→ Jiangxin Jinko →Jinko India →Unrelated Customers in India
- Chuxiong →Jiangxi Jinko →Jinko India →Unrelated Customers in India
- Feidong → Zhejiang Jinko →Unrelated Customers in India
- Feidong → Haining →Unrelated Customers in India
- Feidong→Jinko DMCC →Unrelated Customers in India
- Feidong→ Yiwu →Jinko DMCC →Unrelated Customers in India
- Guangxin →Zhejiang Jinko →Unrelated Customers in India
- Shangrao Jinko Photovoltaic →Zhejiang Jinko →Unrelated Customers in India

87. Out of the total exports of the Jinko Group, the producers have exported \*\*\* MW of subject goods to unaffiliated customers in India and have exported \*\*\* MW to the related Indian trader, which has resold the goods to unaffiliated customers in India. The Authority has verified the information submitted by the producers, exporters and related Indian importer in the Jinko Solar Group. The Authority notes that for calculation of export price for the producers, the price charged by the last exporting entity to the unaffiliated customers in India was considered as the starting point. Deductions claimed by producers and traders forming part of the channel have been adjusted to arrive at the export price. The Authority noted the affiliated Indian importer earned losses on sales of the product under consideration in India. Accordingly, such loss of the importer was adjusted. Adjustments on account of ocean freight, inland transportation, port and handling expenses, insurance, credit cost and bank charges have been allowed by the Authority after due verification. The net export price so determined is mentioned in the table below.

**Trina Solar Co., Ltd (TCZ), Yancheng Trina Solar Guoneng PV Science & Technology Co., Ltd. (TYC), Trina Solar (Yancheng) New Energy Co., Ltd. (TNE(YC)), Trina Solar (Huai'an) Technology Co., Ltd. (THAT), Trina Solar (Suqian) Technology Co. (TSQT), Ltd. and Trina Solar Energy Development Pte. Ltd, Singapore (TED) (Trina Solar Group)**

88. Trina Solar Co., Ltd (TCZ), Yancheng Trina Solar Guoneng PV Science & Technology Co., Ltd. (TYC), Trina Solar (Yancheng) New Energy Co., Ltd. (TNE(YC)), Trina Solar (Huai'an) Technology Co., Ltd. (THAT) and Trina Solar (Suqian) Technology Co. (TSQT), Ltd. are related companies engaged in the manufacturing of subject goods in the subject country, and have exported the goods to India through their affiliated trader and Trina Solar Energy Development Pte. Ltd, Singapore (TED), who has sold to unaffiliated

customers in India. All the aforementioned companies have submitted the relevant information in the prescribed questionnaire format.

- TCZ → TED → Customers in India
  - TYC → TED → Customers in India
  - TNEYC → TED → Customers in India
  - THAT → TED → Customers in India
  - TSQT → TED → Customers in India
89. The Trina Solar Group has exported \*\*\* MW of subject goods to unaffiliated customers in India through related trader. The Authority has verified the information submitted by the producers and the exporter. The Authority notes that for calculation of export price for the producers, the price charged by the last exporting entity to the unaffiliated customers in India was considered as the starting point. Deductions claimed by producers and trader forming part of the channel have been adjusted to arrive at the export price. Adjustments on account of ocean freight, inland transportation, port and handling expenses, insurance, credit cost and packing cost have been allowed by the Authority after due verification. The net export price so determined is mentioned in the table below.

#### **Export price for other producers/exporters in China PR**

90. The export price and dumping for all other cooperative non-sampled producers has been determined based on the weighted average margin determined for the cooperative sampled producers. The export price for all other producers and exporters, that have not participated in the present investigation, has been determined as per facts available. The same has been mentioned in the dumping margin table.

#### **G.3.3. Dumping margin**

91. Considering the normal value constructed as provided above, and export price as determined, the dumping margin determined for the subject country is as follows:

**Dumping Margin Table**

SN	Name of Producer		Volume	Normal Value	Export Price	Dumping Margin	Dumping Margin	Dumping Margin
			MW	(USD/MW)	(USD/MW)	(USD/MW)	(%)	(Range)
1	Jinko Solar (Haining) Co., Ltd.	Mono-Module	***	***	***	***	***	35-45%
2	Jinko Solar (Yiwu) Co., Ltd.	Mono-Module	***	***	***	***	***	35-45%
3	Jinko Solar (Chuzhou) Co., Ltd.	Mono-Module	***	***	***	***	***	35-45%

4	Jinko Solar (Shangrao) Co., Ltd	Mono-Cell	***	***	***	***	***	105-115%
5		Mono-Module	***	***	***	***	***	10-20%
6	Jinko Solar (Chuxiong) Co., Ltd.	Mono-Cell	***	***	***	***	***	90-100%
7	Jinko Solar (Feidong) Co., Ltd.	Mono-Module	***	***	***	***	***	35-45%
8	Shangrao Guangxin Jinko Photovoltaic Manufacturing Co., Ltd.	Mono-Module	***	***	***	***	***	55-65%
9	Shangrao Jinko Photovoltaic Manufacturing Co., Ltd.	Mono-Module	***	***	***	***	***	55-65%
10	<b>Weighted Average – Jinko Group</b>	<b>Mono-Cell</b>	***	***	***	***	***	<b>100-110%</b>
11		<b>Mono-Module</b>	***	***	***	***	***	<b>30-40%</b>
	<b>Jinko Group</b>	<b>Weighted</b>	***	***	***	***	***	<b>30-40%</b>
12	Guangdong Aiko Solar Technology Co., Ltd.	Mono-Cell	***	***	***	***	***	40-50%
13	Tianjin Aiko Solar Technology Co., Ltd.	Mono-Cell	***	***	***	***	***	65-75%
14	Zhejiang Aiko Solar Technology Co., Ltd.	Mono-Cell	***	***	***	***	***	55-65%
15	<b>Weighted Average – Aiko Group</b>	<b>Mono-Cell</b>	***	***	***	***	***	<b>55-65%</b>
16	Trina Solar Co., Ltd.	Mono-Module	***	***	***	***	***	55-65%
17	Yancheng Trina Solar Guoneng PV Science & Technology Co., Ltd.	Mono-Module	***	***	***	***	***	30-40%
18	Trina Solar (Yancheng) New Energy Co., Ltd.	Mono-Module	***	***	***	***	***	40-50%
19	Trina Solar (Huai'an) Technology Co., Ltd.	Mono-Module	***	***	***	***	***	25-35%
20	Trina Solar (Suqian) Technology Co., Ltd.	Mono-Module	***	***	***	***	***	25-35%
21	<b>Weighted Average – Trina Group</b>	<b>Mono-Module</b>	***	***	***	***	***	<b>30-40%</b>
22	Other sampled co-operating producers			***	***	***	***	60-70%
23	Non-cooperating producers			***	***	***	***	85-95%



## **H. ASSESSMENT OF INJURY AND CAUSAL LINK**

### **H.1. Submissions by other interested parties**

92. The following submissions have been made by the other interested parties with regard to injury and causal link:

- i. While the domestic industry has claimed different forms of injury, the WTO Panel in the case of Korea - Polyacetal Resins held that a single finding on all three forms of injury is internally contradictory. Further, claiming different forms of injury cannot be permissible when one of the producers is well established and is claiming material injury.
- ii. The domestic industry should have submitted Proforma IVA containing economic parameters for Jupiter and First Solar separately as the nature of injury is different for both companies. Further, quarter-wise information during the period of investigation for First Solar and comparison of projections with actual performance should be provided as the producer has claimed material retardation.
- iii. Examination of material injury caused by subject imports, which includes both cells and modules, would not be fair since Jupiter only produces and sells cells and imports of modules cannot cause injury to the producer.
- iv. Assessment of material injury caused by subject imports should be done based on parameters of producers of both cells and modules.
- v. Cumulation of injury data for both petitioners is misleading and presents skewed results in favour of the domestic industry as First Solar did not exist in the first three years of the injury period. Many solar cell producers in India have integrated operation lines and they captively consume a large share of cells produced, forcing module producers to import cells.
- vi. Imports by importing domestic producers should be excluded from determination of volume and price effect of imports.
- vii. Comparison of increase in volume of imports from 2020-21 is inaccurate since the base year affected by the Covid-19 pandemic whereby imports were limited.
- viii. While the volume of imports increased over the injury period, the demand and domestic sales of the domestic industry also increased steadily. Further, market share of domestic industry has increased, while market share of imports declined by 4%.
- ix. Volume of imports have declined in relation to production and demand.
- x. While the volume and price of imports increased in 2021-22, the profits of the domestic industry declined by half. As the volume of imports declined and the price remained stable, the domestic industry faced huge losses in 2022-23.
- xi. The domestic industry has provided price undercutting only for the period of investigation instead of the injury period.
- xii. The trend of cost of sales reported in the petition is inconsistent with Proforma IV-A.

- xiii. There is no price injury to the domestic industry as the domestic selling price continued to increase over the period. Further, while the selling price of the domestic industry has increased at a faster pace than the cost of sales, the profit before tax of the domestic industry has declined.
- xiv. Trends of post-POI period are not relevant in an original anti-dumping investigation. Further, in case post-POI import prices are considered, then post-POI performance of the domestic industry must also be examined. In any case, the volume of imports has declined in the post-POI period.
- xv. Fall in the prices of cell is not on account of dumping and rather, reflects the ideal situation wherein the producers from China have been able to lower their cost and such reduction has been passed on in price which has helped the Indian solar power projects to produce electricity at affordable prices ultimately.
- xvi. The price reductions mirror global cost trends and are not indicative of any predatory pricing.
- xvii. The overall performance of the domestic industry has improved significantly, and imposition of anti-dumping duty is unwarranted.
- xviii. All economic parameters of the domestic industry, such as capacity, production, sales volume, wages, employees and capital employed have shown a positive trend over the injury period.
- xix. Increased in installed capacity has outpaced growth in actual production and resulted in a decline in capacity utilization.
- xx. Jupiter International earned significant losses in 2022-23 and earned high profits in the period of investigation, which contradicts the claim of injury before the Authority. Further, Jupiter has admitted that it has earned profits.
- xxi. The PBDIT of the domestic industry increased by 18% as compared to the previous year, which demolishes any claims of injury.
- xxii. The domestic industry has not provided information regarding injury in open market versus DCR market separately, and the other parties have not gotten any opportunity to comment on the same.
- xxiii. Since the dumping margin and injury margin for imports from Malaysia and Vietnam is also positive, imposition of duty only in imports from China would be discriminatory.
- xxiv. While the domestic industry is claiming injury, such claim is misleading since the other solar cell producers, who have not submitted their information, are minting exorbitant margins.
- xxv. Import of solar cells from China PR by other module producers cannot cause threat of injury to Jupiter, when the producer is itself in the process of setting up production capacity for module and in view of limited supply of cells, will itself undertake imports.
- xxvi. There is no basis for consideration of a high return of 22% on the capital employed for computation of non-injurious price as Annexure III requires consideration of a reasonable return and 22% return is very high for the solar industry.

- xxvii. Consideration of 22% return on capital employed was only referred to as a guideline for the Authority when the Anti-Dumping Rules were notified and were made in relation to price control orders of 1976-77.
- xxviii. The CESTAT in the case of Bridge Stone Tyre Manufacturing held that adoption of 22% return was incorrect as it gives an inflated picture of the injury margins.
- xxix. The European Court of Justice in the case of EFMA vs Council held that the European Commission should calculate the non-injurious price considering profit margin which the industry would earn under normal market conditions.
- xxx. The royalty paid by FS India to their parent is their internal matter and such cost is not any essential product cost as per the NIP law as we read the claims of the applicants. Attempt to include such royalty is an attempt to inflate NIP.
- xxxi. There is no causal link between injury caused to domestic industry and subject imports.
- xxxii. The Authority is required to examine all factors other than subject imports which might have caused injury to the domestic industry as per Annexure II of Anti-Dumping Rules and Article 3.5 of Anti-Dumping Agreement. The same was also upheld by Appellate Body in US – Hot Rolled Steel.
- xxxiii. Sharp decline in profitability of domestic industry is due to increased interest costs and depreciation costs as a result of huge capital investment and financing undertaken by First Solar who is a new producer and will take some time to stabilize its operations.
- xxxiv. The domestic industry is facing injury due to usage of outdated technology, dependency on imported or low-quality raw material, shortage of skilled labor, increased logistics and transportation costs due to geographical disadvantages and increased interest and depreciation costs on huge investments.
- xxxv. Injury to the domestic industry might have been caused by changing market dynamics such as technological disruption, fluctuating currency rates, and evolving consumer preferences.
- xxxvi. The import price increased in 2021-22 due to high freight costs on account of Russia-Ukraine conflict. The import price declined thereafter as freight costs declined, and such decline was not due to dumping.
- xxxvii. Injury to the domestic industry is likely on due to reliance on imports of raw materials as there is limited production of polysilicon wafers in India. Since new plants for production of silicon wafers are being set up, the domestic industry would become competitive in the future.
- xxxviii. Losses suffered by the domestic industry are likely due to high cost of production, since the prices of subject goods declined globally during the period of investigation. The domestic industry operates at low economy of scale, compared to global counterparts.

## **H.2. Submissions by the domestic industry**

- 93. The following submissions have been made by the domestic industry with regard to the injury and causal link:

- i. The Authority in the case of Styrene Butadiene Rubber from EU, Korea RP and Thailand considered different forms of injury to different producers constituting domestic industry and this view was affirmed by the CESTAT and the Supreme Court.
- ii. Since the other interested parties have contended that FS India cannot be treated as an establishing industry for the examination of material retardation, they cannot be allowed to claim that injury to the domestic industry is on account of FS India being a new a producer and requesting separate analysis for the producer.
- iii. Since FS India and Jupiter both constitute domestic industry, their performance cannot be assessed separately, as injury analysis must be conducted for the domestic industry as a whole has also done by the Authority in the cases of Polyester Spun Yarn and Welded Stainless Steel Pipes.
- iv. As per Annexure – II, an analysis must be undertaken for all dumped imports, whether made by users, traders, or domestic producers. Further, imports by domestic producers have not been segregated by the Authority in the past.
- v. The Authority examines injury for the like article as a whole, and not separately for different types of products.
- vi. There is a critical need for imposition of anti-dumping duty considering the sharp decline in prices of the subject imports over the injury period. Further the prices have declined by 55% in the subsequent period.
- vii. The volume of subject imports increased by 271% over the injury period. The volume of imports of solar cells further increased by 63% in the subsequent period.
- viii. As opposed to the claim of other parties, imports increased not just in comparison to Covid affected 2020-21, but in comparison to every year.
- ix. The domestic industry has suffered significant injury due to dumped imports.
- x. The market for subject goods is segregated into three parts. The first market caters to imports for exports, the second is DCR market wherein supplies made to government projects must be produced in India and third market is open market where the Chinese producers are dumping. Since imports from exports do not compete in domestic market and the DCR market is insulated from Chinese imports, the domestic industry has faced significant injury in the open market.
- xi. The volume of subject imports increased sharply during the injury period in absolute and relative terms.
- xii. While the imports declined in 2022-23 as the Basic Customs Duty on the subject goods was enhanced, the imports increased sharply in the period of investigation as the Chinese producers absorbed the impact of duties.
- xiii. During the period of investigation, the subject imports accounted for 79% of the total imports into the country, while imports from around 24 other countries accounted for 21% of total imports.
- xiv. While the subject imports commanded a market share of 96% during the period of investigation, the domestic industry had a market share of less than \*\*\*%.

- xv. There is no demand-supply gap as India is expanding and adding new capacities, and the imports are unnecessary which are draining the country of foreign exchange.
- xvi. If the subject imports had increased only in line with demand, the market share and profitability of domestic industry would not have declined.
- xvii. The prices of the subject imports have declined sharply over the injury period and in the subsequent period.
- xviii. The subject imports have significantly undercut the prices of the domestic industry.
- xix. As per Annexure-II, the Authority is required to examine price undercutting only for the period of investigation, and such practice has been adopted in various cases.
- xx. The sharp decline in the prices of the subject imports forced the domestic industry to sell below its costs, and prevented price increases which otherwise would have occurred.
- xxi. The installed capacity of the domestic industry increased over the period as Jupiter enhanced its production capacity and FS India commenced their commercial production during the period of investigation. As a result, the production and sales of the domestic industry increased.
- xxii. Despite having high capacities, the domestic industry was forced to curtail its production due to presence of dumped imports and it had underutilized capacities. Further, while the capacity utilization of Jupiter declined over the injury period, the plant of FS India operated at a low utilization.
- xxiii. The domestic industry faced a significant piling up of inventories, which increased by more than 50 times. Further, the domestic industry held inventories equal to almost \*\*\* months of its production and almost \*\*\* months of its sales.
- xxiv. While the domestic industry earned profits in 2020-21, its profitability declined thereafter, and it suffered significant losses. The profits of the domestic industry declined by 275% and its cash profits declined by 158%.
- xxv. During the period of investigation, the domestic industry practically earned no returns on its investments.
- xxvi. Due to the dumped imports, the domestic industry lost various contracts. Despite having various confirmed orders, the consumers cancelled or reduced the orders with FS India in favour of cheaper Chinese imports.
- xxvii. Since FS India was able to execute only limited orders despite reducing its prices, the producer faced accumulation of inventories.
- xxviii. While FS India was able to achieve optimal capacities and its targeted production volume in its first year of operations, its sales volumes were significantly lower than its projected sales. Further, while the producer project to sell at 28% above its cost, it was forced to sell 41% lower than its cost due to presence of dumped imports.
- xxix. As opposed to the argument of other interested parties, losses of FS India were not due to high depreciation or interest cost since the company accounted for

start-up costs in its projections and anticipated losses. However, its actual losses were 69% higher than projected due to dumped imports.

- xxx. Jupiter was able to earn some profits since its sales were largely concentrated in the protected DCR market. However, if Jupiter made significant sales in the open market and was forced to match the price of Chinese imports, it would have earned huge losses.
- xxxi. The domestic industry showed healthy profitability in 2020-21 and 2021-22 when the landed prices were higher, as opposed to the claim of domestic industry operating at low economy of scale.
- xxxii. The subject imports are threatening to cause further injury to the domestic industry.
- xxxiii. The volume of subject imports has increased at significantly high rate.
- xxxiv. The producers in China are exporting to India at prices which lower than price of exports to the rest of the world.
- xxxv. The subject imports are subject to anti-dumping duty in Canada, Türkiye and the USA. Further, the subject goods are facing safeguard duties when imported into USA. Lastly, the USA has increased Basic Customs Duty on imports of solar cells from China which are practically closed all major market.
- xxxvi. The Chinese producers are unable to sell at undumped prices and have resorted to circumvention, resulting anti-circumvention investigation and extension of duties in Türkiye and the USA.
- xxxvii. The producers in China have significant idle capacities, which are much higher than their domestic demand.
- xxxviii. The producers in China are also undertaking capacity expansions, despite excess idle capacities.
- xxxix. The producers in China have a history of engaging in unfair trade practices in India, which caused severe injury to the domestic industry.
- xl. The exporters in China are exporting the subject goods to India at prices below their own cost of sales and at substantial losses in order to dispose of their inventories in light of continuous capacity expansions and limited demand.
- xli. Injury to the domestic industry has been caused by the dumped imports and the same is not account of any other known factors.
- xlii. Imports from Malaysia and Vietnam were priced higher than Chinese imports and domestic selling prices and therefore did not cause injury to the domestic industry.
- xliii. Contrary to the claim that decline in profits of the domestic industry is due to increase interest and depreciation cost, the EBIDTA of the domestic industry has declined by 57% over the injury period.
- xliv. Since the Authority always considers actual costs without adjustments for negligible interest or depreciation cost in cases of old and depreciated plants, the same cannot be adjusted in case of capacity expansions or new plants.
- xlvi. Factors such as geographical location, quality of raw material, and labour skills are inherent to domestic injury and remained unchanged during the injury period.

- xlvi. Injury to the domestic industry must be examined as it exists and factors inherent to the industry cannot be considered as causing injury, as held by the Appellate Body in EU – Biodiesel (Argentina) and in the case of Nippon Zeon Co. Ltd. vs. DA, and accepted by the Authority in various investigations.
- xlvii. The domestic industry has not claimed injury on account of the number of employees, salaries, overall productivity and productivity per day.
- xlviii. Contrary to claim of other parties, productivity per employee cannot increase proportionally to increase in number of employees as working hours or physical capability remains unchanged even if more employees are hired.
- xlix. The other interested parties have not provided any information to show that technological disruption, currency fluctuation, or change in consumer preference may have caused injury to the domestic industry.
- l. Even if prices in 2021-22 were inflated by high freight costs due to Russia-Ukraine conflict, it does not explain the high import prices in 2020-21.
- li. Injury analysis cannot be undertaken only with respect to the preceding year or taking into account comparison of only end-points as held by the WTO Panel in Pakistan–BOPP and EC–Malleable Cast Iron Tube or Pipe Fittings (Brazil).
- lii. The other parties have not submitted any evidence in support of their claim that non-participating solar cell producers are minting exorbitant profits.
- liii. Injury must be examined only for the defined domestic industry and information about producers outside the scope of domestic industry is irrelevant as held by WTO Appellate Body in US –Hot-Rolled Steel Products (Japan) and by the WTO Panel in EC –Bed Linen (India).
- liv. A finding of injury does not require that all factors listed under the law should indicate injury. Rather, an industry may be suffering injury even if some factors show improvement as held by the WTO Panel in Pakistan – BOPP Film (UAE) and by the CESTAT in Reliance Industries Ltd vs. DA.
- lv. FS India has paid royalty to its parent company in relation to production technology, manufacturing process, setting up and operation of plant and equipment, and manpower skill development, which should be included in the determination of non-injurious price as per Para (vii) (e) of Annexure-III.
- lvi. While the other interested parties have claimed allowing a 22% return for determination of non-injurious price is not reasonable, they have provided the return which should be allowed. Considering the reliance on the practice of European Commission and the decision of CESTAT in case of Bridge Stone Tyre Manufacturing, the Authority should allow return earned by the domestic industry in the past when it was unaffected by dumping, which was \*\*\* times higher than presently considered.
- lvii. As held by the Tribunal in Tangshan Sanyou Group Hong Kong International Trade Co. Ltd. vs. Union of India, in absence of evidence showing a different return should be allowed, a 22% return is justified as this rate has been consistently applied by the Authority in numerous cases.
- lviii. While the other interested parties have referred to the practice of the European Commission, they have failed to highlight that the Commission determines fair

selling price based on total cost of production without any adjustments as opposed to the practice of the Authority.

### **H.3. Examination by the Authority**

94. The Authority has examined the arguments and counterarguments of the interested parties with regard to injury to the domestic industry. The analysis made by the Authority hereunder addresses the various submissions made by the interested parties.
95. In its application, the domestic industry has claimed that the subject imports have caused material retardation to the establishment of FS India Solar Ventures Private Ltd. as well as such imports have caused material injury to the domestic industry as a whole. In this regard, the domestic industry has submitted the injury information for domestic industry as a whole, including FS India and have separately submitted information injury information of FS India as compared to its projections. The other interested parties have objected to an analysis of different forms of injury to the constituents of the domestic industry. The Authority notes while FS India may be in the process of being established, the industry for manufacturing solar products has been in operation since a long time in India and therefore, the solar industry is considered to be an established industry. It is noted that the data pertaining to FS India has been included by the domestic industry in their claims for material injury. Accordingly, the Authority has examined whether the dumped imports have caused material injury to the domestic industry, including FS India. However, since the injury parameters listed under the rules are only not exhaustive and the Authority can examine any other parameters of injury that have been identified by the domestic industry and for which relevant information has been provided, the Authority has examined such other parameters of injury.
96. Certain interested parties have argued that the Authority must examine injury to Jupiter International and FS India separately. It has been argued that injury to the domestic industry, if any, is only on account of FS India which has faced losses and had no production during first 3 years of the injury period, while Jupiter has earned significant profits. It is noted that the Authority is required to undertake injury examination for domestic industry as a whole and not for individual constituents of the domestic industry.
97. Some of the interested parties have contended that the Authority must conduct separate examination for solar cells and solar modules or panels. The Authority notes that in the investigations where different product types are included within the scope of the product under consideration, the Authority undertakes separate PCN wise analysis in order to evaluate price undercutting, dumping margin and injury margin. The same has been conducted in the present investigation. In so far as injury to the domestic industry is concerned, the same is required to be undertaken for the product under consideration and not for individual types of the product under consideration.



98. With regard to the submissions that 2020-21 should not be considered as the base year as the same was impacted due to COVID-19, the Authority notes that the performance of the domestic industry has deteriorated in comparison with 2020-21, 2021-22 as well as 2022-23. Consideration of different base year would not have made any difference in the eventual conclusion in so far as injury to the domestic industry is concerned. As far as dumping margin, injury margin and price undercutting is concerned, the same have, in any case, been determined based on the period of investigation
99. With regards to the argument that imports made by domestic producers must be excluded from the injury analysis, it is noted that as per Rule 11(2) and provisions of Annexure II to the Anti-dumping Rules, the Authority is required to examine injury caused to the domestic industry due to dumped imports, having regards to the volume of dumped imports, the effect on domestic prices of such dumped imports and the consequent impact of the same on the domestic industry. The Rules require consideration of dumped imports, irrespective of the fact whether such imports have been made by a user, importer or a domestic producer.
100. With regard to the submissions that other domestic producers have earned exorbitant profits and have not claimed injury, the Authority notes that the injury analysis is conducted for the domestic industry. Since the applicant's accounts for a major proportion of the total domestic production, only injury to the domestic industry is relevant in the present investigation. It is also noted that no verifiable information has been provided with regard to profits of such other domestic producers, and the imports are not permitted for all applications in the Country. Thus, if other domestic producers are not suffering injury because of sales in non-competing market (where imports are not permitted) and if the domestic industry has suffered injury in the market where imports are permitted, the same at the least establishes that injury to the domestic industry in these markets are due to dumped imports, while "no injury" to other domestic producers is due to "no dumping" in that market.
101. As regard the argument that certain economic parameters of the domestic industry have shown positive movement which demonstrates absence of injury, the Authority notes that while all the factors as listed under Article 3.4 of the WTO Agreement are required to be examined, there is no requirement that each of the factors listed must show injury, or a positive movement in any or some factors indicates absence of injury to the domestic industry. The Authority notes that it is well established legal position that all economic parameters need not show deterioration or injury, and improvement in some parameters does not mean no injury to the domestic industry. In the present case, while the volume parameters of the domestic industry have witnessed improvement due to expansion and addition of capacities, its price parameters have shown significant deterioration. Further, even when the volume parameters have shown improvement, the domestic industry has claimed volume injury, as analysed in detail in relevant paragraph hereinbelow.

### **H.3.1. Volume effect of the dumped imports**

**a) Assessment of demand / apparent consumption**

102. The Authority, for the purpose of the present investigation, has defined demand or apparent consumption of the product in India as the sum of domestic sales of the Indian producers and imports from all sources. The domestic industry has claimed that there have been imports into the country one form of the product which are ultimately re-exported in a different form and such imports did not compete in the Indian market. Since these imports were in one form of the product under consideration and exports were in other form of the product, the domestic industry contended that these should not be included in quantification of demand. Such imports have been separately identified. The demand so assessed is given in the table below.

Particulars	Unit	2020-21	2021-22	2022-23	POI
Sales of domestic industry	Indexed	100	83	107	213
Sales of other Indian producers (excluding sales out of imports of cells by these producers)	Indexed	100	122	142	175
Subject imports	MW	9,061	32,120	6,492	30,723
Other imports	MW	649	804	3,254	9,346
Re-export	MW	(431)	(1,583)	(53)	(3,135)
Total demand					
Excluding re-exports	Indexed	100	297	110	358
Including re-exports	Indexed	100	300	107	372

103. The Authority notes that the demand for the subject goods in India has increased over the injury period.

**b) Import Volumes from the subject countries**

104. With regard to the volume of the imports, the Authority is required to consider whether there has been a significant increase in imports, either in absolute terms or relative to production or consumption in India. The import volumes from subject countries during the injury period are as per table below.

Particulars	Unit	2020-21	2021-22	2022-23	POI
Subject imports	MW	9,061	32,120	6,492	30,723
Other imports	MW	649	804	3,254	9,346
Re-export	MW	(431)	(1,583)	(53)	(3,135)
Total imports (excluding re-export)	MW	9,280	31,341	9,693	36,933
Total imports (including re-export)	MW	9,710	32,924	9,746	40,069
Subject imports in relation to:					

Total imports	%	93%	98%	67%	77%
Production	%	***	***	***	***
Trend	Indexed	100	390	71	61
Consumption	%	***	***	***	***
Trend	Indexed	100	118	67	91

105. The Authority notes that –

- a. The volume of subject imports has increased significantly over the injury period. In 2021-22, the volume of imports was more than double the imports in 2020-21. The volume of imports declined in 2022-23. The domestic industry has claimed that such decline was on account of the fact that Basic Customs Duty on the subject goods were increased. However, the volume of imports has increased during the period of investigation, despite higher customs duty in this period. As compared to the previous year, the volume of imports increased by 373% and by 240% when compared to 2020-21. The domestic industry submitted that the increase in imports in the period of investigation is due to steep reduction in the prices by the Chinese producers, and resultantly dumping in the Country.
- b. The volume of imports in relation to production and consumption have followed similar trends. During the period of investigation, the volume of imports was \*\*\*% of the domestic industry's production.
- c. The subject imports in relation to the Indian consumption were also very high, at \*\*\*% in the period of investigation.
- d. It is noted that the imports in relation to consumption were higher during the base year, with the imports accounting for \*\*\*% and \*\*\*% during the first two years respectively. The share of imports declined in 2022-23. However, the situation has reversed in the period of investigation, with the imports again commanding a much higher share in relation to consumption.
- e. The subject imports accounted for 77% of the total imports from all sources.

106. With regards the argument that the subject imports have increased in line with the increase in demand, the Authority notes that (a) the subject imports have increased at a rate higher than the rate of increase in demand in India, (b) there was continuous and significant reduction in prices (as analysed separately hereinbelow).

Particulars	Unit	2020-21	2021-22	2022-23	POI
Subject imports	MW	9,061	32,120	6,492	30,723
Change	%		255%	-80%	373%
Demand	MW	***	***	***	***
Change	%		197%	-63%	225%

### H.3.2. Price effect of the dumped imports

107. With regard to the price effect of the imports from the subject countries, it is required to be analysed whether there has been a significant price undercutting by the alleged imports as compared to price of the like article in India, or whether the effect of such imports is otherwise to depress prices or prevent price increases, which otherwise would have occurred in the normal course. The impact on the prices of the domestic industry on account of the imports from the subject countries has been examined with reference to price undercutting, price suppression and price depression, if any.

#### a. Price undercutting

108. For the purpose of price undercutting analysis, the selling price of the domestic industry has been compared with the landed price of imports from subject countries. In this regard, a comparison has been made between the landed value of the product and the average selling price of the domestic industry, net of all rebates and taxes, at the same level of trade. In order to ensure a fair comparison, the Authority has calculated the PCN-wise price undercutting.

Particulars	Unit	Mono-crystalline cells	Multi-crystalline cells	Solar modules / Panels	PUC
Import volume	MW	12,722	10	17,990	30,722
Net sales realization	₹/Watt	***	***	***	***
Landed price	₹/Watt	7.92	8.37	18.56	14.15
Price undercutting	₹/Watt	***	***	***	***
Price undercutting	%	***	***	***	***
Price undercutting	Range	55-65%	Negative	Negative	0-10%

109. The Authority notes that while for some PCNs, the price undercutting is positive, for other PCNs, the price undercutting is negative. In case of mono-crystalline cells, the price undercutting is significantly positive. The price undercutting for product as a whole is also positive and significant.

110. As regard the submissions by the other interested parties that price undercutting has been reported only for the period of investigation and has not been provided for the previous years, it is clarified that price undercutting is required to be examined only in the period of investigation. The Authority has analysed trends of selling price, cost of sales and landed price for the injury period as a whole in the analysis for price suppression and depression.

**b. Price suppression/depression**

111. In order to determine whether the dumped imports are depressing the domestic prices to a significant degree or whether the effect of such imports is to suppress price to a significant degree or prevent price increase which otherwise would have occurred in normal course, the Authority has examined the changes in the costs and prices of the domestic industry over the injury period.

Particulars	Unit	2020-21	2021-22	2022-23	POI
Multi-crystalline cells					
Cost of sales	₹/W	***	***	***	***
Trend	Indexed	100	129	161	133
Selling price	₹/W	***	***	***	***
Trend	Indexed	100	112	124	81
Landed price	₹/W	7.32	10.17	12.98	8.37
Trend	Indexed	100	139	177	114
Monocrystalline cells					
Cost of sales	₹/W	-	-	***	***
Trend	Indexed	-	-	100	49
Selling price	₹/W	-	-	***	***
Trend	Indexed	-	-	100	87
Landed price	₹/W	7.98	12.25	14.13	7.92
Trend	Indexed	100	141	153	84
Module / panel					
Cost of sales	₹/W	-	-	-	***
Trend	Indexed	-	-	-	100
Selling price	₹/W	-	-	-	***
Trend	Indexed	-	-	-	100
Landed price	₹/W	17.38	18.00	26.41	18.56
Trend	Indexed	100	104	152	107

112. It is noted that with respect to multi-crystalline cells, the cost of sales of the domestic industry has increased over the injury period. However, the selling price of the domestic industry did not increase commensurate to the cost, till previous year, and has declined significantly during the period of investigation. This is due to the fact that the landed price of the imports also declined and during the period of investigation, was lower than the cost of the domestic industry forcing it to reduce its prices in order to compete with the imports. The subject imports forced the domestic industry to reduce its selling price and sell at prices below its costs. Thus, the subject imports have significantly depressed and suppressed the prices of the domestic industry in the market.

113. In case of mono-crystalline cells, the domestic industry commenced production in December 2022. Once the capacities of the domestic industry became operational, the landed price of the imports declined sharply and even below the cost and selling price of the domestic industry. Since the domestic industry started production only in December, 2022, the cost of production in 2022-23 were higher due to startup operations.
114. With respect to modules, the domestic industry commenced production in August 2023. Even in case of modules, as soon as the capacities of the domestic industry became fully operational, the landed price of the imports declined sharply and even below the cost of the domestic industry.
115. With regards to the argument that the selling price of the domestic industry has declined over the injury period and at a much faster pace than increase in cost, the Authority notes that the information on record demonstrates that the domestic industry was unable to increase its selling price in line with the increase in its cost in case of Mult crystalline cells, due to the pressure created by the low-priced imports. In case of monocrystalline cells and solar modules, the selling price of the domestic industry remained below costs, due to presence of dumped imports in the market.
116. The other interested parties have submitted that the import price increased in 2021-22 and 2022-23 due to Russia-Ukraine Conflict and declined in the period of investigation due to normalization of market situation and not due to dumping. The Authority notes that the import prices have shown decline even when compared with base year. Further, the import prices have declined continuously and steeply within the investigation period and even beyond the investigation period, as stated hereinabove. This continued decline in the prices remained unaddressed. The responses filed by the cooperating producers shows dumping of product under consideration in India. The dumping margin is not only positive, but also quite significant. Hence, the submission that there is no dumping leading to decline in prices is not appropriate.

### **H.3.3. Economic parameters of the domestic industry**

117. Annexure II to the Anti-Dumping Rules require that the determination of injury shall involve an objective examination of the consequent impact of dumped imports on the domestic producers of the subject goods. With regards to the consequent impact of these imports on the domestic producers of subject goods, the Rules further provide that the examination of the impact of the dumped imports on the domestic industry would include an objective unbiased evaluation of all relevant economic factors and indices having a bearing on the state of the industry, including actual and potential decline in sales, profits, output, market share, productivity, return on investments or utilization of capacity; factors affecting domestic prices, actual and potential negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital investments. Accordingly, performance of the domestic industry has been examined over the injury period.

**a) Production, capacity, capacity utilization and sales volumes**

118. The performance of the domestic industry with regard to capacity, production, sales and capacity utilization over the injury period was as below.

Particulars	Unit	2020-21	2021-22	2022-23	POI
Installed Capacity	MW	***	***	***	***
Trend	Indexed	100	101	142	803
Production	MW	***	***	***	***
Trend	Indexed	100	91	101	556
Capacity Utilization	%	***	***	***	***
Trend	Indexed	100	90	71	70
Domestic Sales	MW	***	***	***	***
Trend	Indexed	100	82	107	212
Export sales	MW	***	***	***	***
Trend	Indexed	0	0	0	100

119. It is noted that –

- The installed capacity of the domestic industry has increased over the injury period. It is seen that increase in production capacity is on account of (a) new production facilities set up by FS India for a capacity of \*\*\* MW which commenced production during the period of investigation, (b) addition of capacities by Jupiter which commenced production in December 2022. These became fully operation in the period of investigation.
- The production volume and domestic sales of the domestic industry have increased as consequence of increase in the installed capacity.
- The production volume and sales volumes of the domestic industry have increased at a lower rate than the increase in capacities, and despite significant demand in the country.
- Despite increased production and domestic sales, the domestic industry faced significantly underutilized capacities and was operating at \*\*\*% utilization.
- Whereas the production of the domestic industry increased by 456% over the injury period, the domestic sales increased only by 112%. Even if export sales are added, the increase in sales was much below the increase in production. This resulted in significant stock piling with the domestic industry, as further examined hereinbelow. Further, the domestic industry submitted that it was forced to export only because of absence of demand for its product in the Country owing to Chinese dumping of the product.

**b) Market share**

120. Market share of the imports and domestic industry is given in the table below.

Particulars	Unit	2020-21	2021-22	2022-23	POI
Subject imports	%	***	***	***	***
Trend	Indexed	100	119	68	91
Other imports	%	***	***	***	***
Trend	Indexed	100	42	473	388
Domestic Industry	%	***	***	***	***
Trend	Indexed	100	28	97	59
Other Indian producers	%	***	***	***	***
Trend	Indexed	100	41	128	49

121. It is seen that market share of the subject imports declined in 2022-23. However, the market share of the subject imports increased once again in the period of investigation. During the period of investigation, the subject imports commanded more than two-thirds of the market. As against this, the market share of the domestic industry was only around \*\*%. Further, the market share of the other Indian producers was also a meagre \*\*% during the period of investigation. This was despite significant new capacities set up by the domestic industry. The domestic industry could have achieved much higher market share in the absence of dumping. The Authority also notes that some of the market share of dumped imports is owing to imports against export orders and these imports have in any case not caused volume injury to the domestic industry.

### c) Inventories

122. Inventory position of the domestic industry over the injury period is given in the table below.

Particulars	Unit	2020-21	2021-22	2022-23	POI
Opening inventory	MW	***	***	***	***
Closing inventory	MW	***	***	***	***
Average inventory	MW	***	***	***	***
Trend	Indexed	100	361	490	6,807
Closing inventory in value terms	₹ Crores	***	***	***	***

123. The Authority notes the average inventories with the domestic industry have increased substantially and the domestic industry is faced with significant accumulation of inventories, despite selling the subject goods at reduced prices and even below costs. Over the injury period, the domestic industry has faced a sharp increase in inventories by 5,897%. The inventory holding period of the domestic industry has also increased over the injury period. In relation to production, the inventory holding period of the domestic industry increased from only \*\*\* days to \*\*\*days. In relation to sales, the inventory holding period has increased from only \*\*\* days to \*\*\* days.



**d) Lost contracts**

124. The domestic industry has also submitted that it experienced reluctance on the part of customers to honor their purchase obligations under confirmed binding contracts for significant volumes, due to the dumped imports in the market during the period of investigation. Instead, the customers opted to buy modules at much lower prices. Eventually, the domestic industry was constrained to terminate a large volume of contracts owing to non-performance by customers. Further, despite reducing prices for some contracts, the domestic industry was able to execute very limited contract for very limited volumes. As a result, the inventories of the domestic industry increased substantially.

**e) Profitability, cash profits and return on capital employed**

125. Profits, cash profits and return on capital employed of the domestic industry over the injury period is given in the table below.

Particulars	Unit	2020-21	2021-22	2022-23	POI
Cost of sales	₹/W	***	***	***	***
Trend	Indexed	100	129	170	183
Net sales realisation	₹/W	***	***	***	***
Trend	Indexed	100	112	125	119
Profits	₹ Lacs	***	***	***	***
Trend	Indexed	100	47	-22	-189
Profits	₹/W	***	***	***	***
Trend	Indexed	100	57	-21	-84
Cash profit	₹ Lacs	***	***	***	***
Trend	Indexed	100	55	1	-69
Return on investment	%	***	***	***	***
Trend	Indexed	100	24	5	1

126. It is noted that –

- The profitability of the domestic industry witnessed a sharp decline over the injury period. While the domestic industry was initially earning profits, it started suffering financial losses in 2022-23. Such losses intensified in the period of investigation as the domestic industry sold the subject goods below its costs in order to survive in the market.
- The profitability of the domestic declined by 289% over the injury period. The profit per unit of the domestic industry declined by 189% as compared to the base year.
- The cash profitability of the domestic industry has followed a similar trend and declined by 158% over the injury period. In fact, the domestic industry has incurred cash losses during the period of investigation.

- d. The return on investment earned by the domestic industry has been severely impacted and declined over the injury period. During the period of investigation, the returns earned by the domestic industry declined and was almost nil.

127. The domestic industry has submitted that it was able to sell the subject goods at remunerative prices in one segment of the market, i.e., DCR market, wherein the Indian producers are not competing with the dumped imports. Further, one of the plant of the domestic industry are almost fully depreciated, thus showing abnormal position for return on investment. However, the domestic industry has highlighted that had the domestic industry been forced to supply the product in the open market matching the prices of the subject imports, it would have faced even higher losses.

Particulars	Unit	DCR market	Open market	DCR market	Open market
		Solar cells		Solar modules	
Cost of sales	₹/W	***	***	***	***
Selling price	₹/W	***	***	***	***
Profit before tax	₹/W	***	***	***	***

128. The interested parties have contended that the profitability of the domestic industry has declined due to high interest cost and depreciation cost and not due to dumped imports. It is noted that the interest and depreciation costs of the domestic industry have increased over the injury period. The same is however natural outcome of significant capacity additions during this period. The Authority therefore analysed the profits of the domestic industry after excluding interest and depreciation costs from the expenses incurred. It is seen that the earnings of the domestic industry before interest, taxes, depreciation and amortization (EBITDA) have also significantly declined over the injury period, as can be seen from the table below. This demonstrates that decline in profitability is not on account of increased interest cost or depreciation, but because of dumping of the product.

Particulars	Unit	2020-21	2021-22	2022-23	2023-24
EBITDA	₹/W	***	***	***	***
Trend	Indexed	100	71	25	42

#### f) Employment, productivity and wages

129. The Authority has examined the information relating to employment, wages and productivity, as given below.

Particulars	Unit	2020-21	2021-22	2022-23	POI
No. of employees	Nos.	***	***	***	***
Trend	Indexed	100	96	152	482
Salaries & Wages	₹ Lacs	***	***	***	***
Trend	Indexed	100	122	197	508
Productivity per day	MW	***	***	***	***

Trend	Indexed	100	91	102	556
Productivity per employee	MW	***	***	***	***
Trend	Indexed	100	95	67	115

130. The number of employees of the domestic industry increased over the injury period, since the domestic industry has set up new plants and also enhanced capacities. The wages paid by the domestic industry has also increased during such period. As a result, the productivity of the domestic industry has improved over the injury period. The domestic industry has not claimed injury on these accounts.

**g) Growth**

131. The Authority has examined growth of the domestic industry over the injury period, as given below.

Particulars	Unit	2020-21	2021-22	2022-23	POI
Installed capacity	%		1%	41%	464%
Production	%	-	-9%	12%	448%
Domestic sales	%	-	-17%	29%	99%
Inventories	%	-	220%	35%	1,289%
Profit / Loss	%	-	-53%	-147%	-959%
Cash Profits	%	-	-45%	-98%	-4993%
Return on capital employed	%	-	-76%	-81%	-73%

132. It is seen that the volume parameters of the domestic industry have increased over the period as both producers set up production capacities. However, the price parameters of the domestic industry have witnessed a sharp decline. The profits, cash profits and return on investment of the domestic industry have declined significantly over the injury period. Even in respect of volume parameters, the growth in sales was lower than the growth in production; while growth in both production and sales were below the levels the domestic industry could have achieved in the absence of dumping and considering that new production facilities were commercialised.

**h) Factors affecting prices**

133. It is noted that the imports were priced below the selling price of the domestic industry and have caused significant price undercutting. Further, there is a continued decline in the prices by the exporters in the subject country, as seen above. The profitability of the domestic industry has declined significantly over the injury period. Thus, landed price of imports from the subject country has impacted the prices of the domestic industry.

**i) The magnitude of dumping**

134. It is seen that there is significant dumping of product under consideration in India which has destroyed the conditions of fair competition in the domestic market.

**j) Ability to raise capital investments**

135. The ability of the domestic industry to raise capital investment has been adversely impacted as it has suffered significant decline in profitability. In fact, the domestic industry has faced cash losses, and has not earned enough profits, to even service its present debt obligation.

**H.3.4. Threat of continued injury**

136. The domestic industry has claimed that while it suffered injury during the period of investigation due to the dumped imports, such imports are threatening intensified injury to the domestic industry. In this regard, the Authority notes as below.

**a. Significant price undercutting and significant decline in the prices**

137. The import price of the subject imports has declined sharply. While the landed price of imports increased till 2022-23, it has declined thereafter and was the lowest during the period of investigation. There was continuous decline in the import price within the period of investigation, and the trend has continued after the period of investigation as well. Further, the subject imports were significantly undercutting the domestic prices during the period of investigation, despite the fact that the domestic industry was selling the subject goods below its cost in order to compete in the market.

**b. Rate of increase in imports**

138. It is noted that the volume of dumped imports has increased over the injury period. While the volume of imports declined in 2022-23, such decline was temporary. As compared to the base year, the volume of imports has increased by 240%, while the imports increased by 373% as compared to the previous year.

**c. Further adverse situation in post-POI period**

139. The domestic industry has submitted that the volume of imports has continued to increase in the period subsequent to the period of investigation. Such increase in the volume of imports is coupled with the decline in the import prices. The prices of the subject goods have declined by 55% in the post-POI period.

Month	Price (₹/W)	Price (\$/MW)
Apr-24	6.1	72,888
May-24	4.3	51,380
Jun-24	5.3	63,329
Jul-24	5.6	66,914
Aug-24	6	71,693
Sep-24	5.8	69,303
Oct-24	5.7	68,108
Nov-24	4.3	51,380
Dec-24	4	47,795
Jan-25	5.5	65,719
Feb-25	5.7	68,108
Mar-25	5.3	63,329

d. Exporters in subject country are exporting at losses

140. The domestic industry has highlighted that the exporters in the subject country are dumping the subject goods at prices, which are even lower than their own costs. In support, the domestic industry has provided extracts of the publicly available financial statements of major Chinese exporters. It is noted that while the exporters are earning significant losses for sales of the subject goods, they have continued to dump the subject goods in India.

e. Significant capacity addition in India and imminent sickness of these investments

141. Under the PLI scheme notified by the Government of India, the Indian industry has committed significant investment with the aim of setting up additional capacities in the country. However, due to significant dumping of subject goods from China at present and the upcoming capacity additions, such investments are under threat of being unviable and would become sick. This would have far-reaching adverse impact on the Indian economy.

f. Trade actions by other countries

142. The exports of subject goods from China PR are subject to trade remedial measures or actions in various third countries. The domestic industry has claimed that since almost all major export destinations for the subject goods are imposing measures or initiating actions into imports from China, such markets are practically closed to the exporters in China. In such a situation, the exporters in the subject country are likely to divert their exports to India.

- i. Canada – Anti-dumping and anti-subsidy duty on imports of solar panels from China (Order of CITT in Case No. RR-2020-001, dated 25<sup>th</sup> March 2021).
- ii. Türkiye – Anti-dumping duty on imports of solar modules from China (Order of Ministry of Commerce imposing duty vide Notification No. 2017/6, dated 1<sup>st</sup> April 2017 and continued vide Notification No. 2023/26, dated 15<sup>th</sup> September 2023).

- iii. USA – ADD on imports of solar cells and modules from China-I (Order of Department of Commerce imposing duty vide 77 FR 73018, dated 7<sup>th</sup> December 2012 and continued vide 84 FR 10300, dated 20<sup>th</sup> March 2019).
  - iv. USA – ADD on imports of solar cells and modules from China- II (Order of Department of Commerce imposing duty vide 80 FR 8592, dated 18<sup>th</sup> February 2015 and continued vide 85 FR 56215, dated 11<sup>th</sup> September 2020).
143. It has also been brought to the notice of the Authority that the USA has also imposed safeguard duty on imports of certain Crystalline Silicon Photovoltaic Cells (whether or not partially or fully assembled into other products). The duties were imposed in 2018, and were continued in 2022 for a further period of 4 years.
- g. Increase in customs duty for Chinese exports
144. The exports of subject goods from China PR are also subject to enhanced Basic Customs Duty in the USA. In 2018, the USA increased the duties on Chinese imports to 25%. Such duties were enhanced to 50% in September 2024, in order to provide continued protection to the industry. This has also impacted the availability of market to the Chinese producers.
- h. Circumvention of trade remedial measures
145. The domestic industry has further submitted that the exporters in China have resorted to circumventing the trade remedial measures imposed by USA and Türkiye, by diverting their goods through Thailand, Cambodia, Vietnam and Malaysia. This indicates that the exporters in the subject country are unable to sell the subject goods at competitive prices and resort to dumping.
- i. USA – Anti-dumping duty on imports of solar cells and modules from China extended to imports from Thailand, Cambodia, Vietnam and Malaysia (Order of Department of Commerce vide 88 FR 57419, dated 23<sup>rd</sup> August 2023).
  - ii. Türkiye – Anti-dumping duty on imports of solar cells and modules from China extended to imports from Thailand, Vietnam, Malaysia and Jordan (Order of Ministry of Commerce vide Notification No. 2024/9, dated 19<sup>th</sup> March 2024).
- i. Sufficiently freely disposable and idle capacities in the subject country
146. The domestic industry has provided information to show that the Chinese producers have significant idle capacities. In 2023, the installed capacity with the Chinese exporters was much higher than the Chinese demand, as visible from the table below. It is seen that the unutilized capacities with Chinese producers are almost equivalent to 576% of the demand in India.

Particulars	Volume (GW)
Total Chinese capacity for module production*	861
Total demand in China <sup>#</sup>	608.9

Capacities in excess of demand	252.1
Total India demand	43.80
Idle capacities in relation to Indian demand	576%

\*Source: <https://www.asiafinancial.com/chinas-solar-sector-seen-facing-years-of-oversupply-low-prices>

#Source: *Global Market Outlook: For Solar Power 2024-2028*, by Solar Power Europe

j. Capacity expansion in the subject country

147. The domestic industry has also submitted information to show that in addition to the existing underutilized capacities in China, the Chinese producers/ exporters have further expanded their capacities during the recent period, as can be seen from the below.

- i. JA Solar announced that their module capacity would reach 95 GW. Simultaneously, cell capacity was expected to climb to 67%, reaching 63.65 GW by the end of 2023.
- ii. Tongwei announced that its 25 GW TNC facility in Shuangliu and the 16 GW TNC facility in Meishan would become operational in the first half of 2024.
- iii. Jinko Solar announced that its annual production capacity for solar cell and solar module would reach 95 GW and 130 GW, respectively, by the end of 2024.
- iv. Longi Solar announced that plants to add 50 GW of solar cell capacity in Shaanxi province, China.

k. Subject imports are likely to further suppress or depress the prices of the industry

148. Over the injury period, the subject imports were undercutting the prices of the domestic industry. As a result, the domestic industry was forced to sell below its costs, in order to sell its product in the market, leading to losses. Thus, the imports are entering the Indian market at prices that are likely to have a further suppressing or depressing effect on the prices of the domestic industry. This is further likely to adversely impact the profitability of the domestic industry, pushing it into higher losses.

### H.3.5. Performance of the domestic industry much below projected/targeted levels

149. The domestic industry has submitted that its performance has been significantly lower than that projected or targeted to be achieved when it commenced production, and that such adverse performance is due to the presence of dumped imports. It is noted that FS India commenced production during the period of investigation. A comparison of the actual performance during the period of investigation versus the projected levels targeted to be achieved is seen from the table below.

Particular	Unit	Actual	Projected	Change
Capacity	MW	***	***	0%
Production	MW	***	***	-32%
Capacity utilization	MW	***	***	-32%

Domestic sales	MW	***	***	-725%
Cost of sales	₹/W	***	***	64%
Net sales realisation	₹/W	***	***	21%
Profits	₹/W	***	***	69%

150. It is noted that the producer was able to reach its targeted capacity and production levels. However, the actual sales volume during the period was significantly lower than the targeted levels. Further, the producer was selling its product below its cost due to the low-priced imports in the market, and thus, as against selling at profits, the producer was selling at losses. As a result, while the producer factored in losses in its projections due to initial start-up operations, the actual losses suffered were significantly higher.

### H.3.6. Overall assessment of injury

151. The examination of imports of the subject product and the performance of the domestic industry clearly shows that –

- a. There is significant increase in the volume of dumped imports over the injury period both in absolute terms and in relation to domestic industry's production and consumption in India.
- b. The subject imports accounted for two-thirds of the imports into the country.
- c. There is a steep and continuous decline in the prices both, solar cells and solar modules.
- d. The subject imports are undercutting the prices of the domestic industry in the market.
- e. The subject imports were priced even below the costs of the domestic industry, forcing domestic industry to sell at prices lower than its own costs. As such, the subject imports have resulted in significant price suppression and depression.
- f. While the domestic industry increased its capacities, it is faced with significantly unutilized capacities.
- g. The production and sales volume of the domestic industry increased over the period. However, the sales volume of the domestic industry is far below the production volumes.
- h. The market share of Indian industry is quite insignificant due to dumping in the country. Even after fresh capacities have commercialised, the market share of the Indian industry remained below the levels it could have been.
- i. The domestic industry witnessed very significant piling up of inventories over the injury period.
- j. The domestic industry lost significant contracts due to dumped imports, despite reducing its prices.
- k. The domestic industry has suffered significant financial losses and steep deterioration in its profitability over the injury period.
- l. The cash profitability of the domestic industry also declined. The domestic industry suffered cash losses.



- m. During the period of investigation, the domestic industry earned almost no returns on its investments.
- n. The domestic industry was unable to reach its projected or targeted levels, and its performance was much lower than that projected at the time of commencement of production.
- o. The dumped imports are threatening to cause further injury to the domestic industry, in view of the significant rate of increase in imports, continuous decline in prices of subject imports, adverse situation in the post-POI period, significant idle capacities in the subject country, measures imposed by third countries and imports at prices that are likely to have further depressing effect on the prices of the domestic industry.
- p. Indian industry is adding significant capacities at present. Commercial production on these new capacities shall start in near future. Viability of these new investments is also seriously threatened.

### **H.3.7. Non-attribution analysis**

152. Having examined the existence of injury, volume and price effects of dumped imports on the prices of the domestic industry, the Authority has examined whether injury to the domestic industry can be attributed to any factor, other than the dumped imports, as listed under the Rules.

a. Volume and value of imports from third countries

153. It is noted that other than the subject countries, there are significant imports from Thailand, Malaysia and Vietnam. However, such imports are priced above the non-injurious price of the domestic industry. Thus, injury to the domestic industry cannot be attributed to imports from third countries.

b. Contraction in demand

154. The demand for the subject goods has increased over the injury period and was the highest during the period of investigation. The domestic industry has not suffered injury due to possible contraction in demand.

c. Pattern of consumption

155. There has been no material change in pattern of consumption of the product under consideration, which could have caused injury to the domestic industry.

d. Conditions of competition and trade restrictive practices

156. There are no trade restrictive practices or conditions of competition, which may have cause injury to the domestic industry.

e. Developments in technology

157. There has been no change in technology for production of the subject goods, due to which the domestic industry could have suffered injury.

158. With regards to the argument that the domestic industry may have suffered injury since it is operating on outdated technology, it is noted that the domestic industry has setup new production capacities in the period of investigation to produce solar modules using the thin film technology, which is the first of its kind in the country. The domestic industry has also enhanced capacities to produce mono crystalline solar cells, which are the latest PERC cell technology. Thus, arguments in this regard are not worthy of acceptance.

f. Productivity

159. The productivity of the domestic industry has increased over the injury period. Thus, injury cannot be due to decline in productivity.

g. Export performance of the domestic industry

160. The injury information examined hereinabove relates only to the performance of the domestic industry in terms of its domestic market. Thus, the injury suffered cannot be attributed to the export performance of the domestic industry. It is however seen that the domestic industry has undertaken significant exports in the period of investigation. The domestic industry contended that these exports were in view of dumped imports in the Country.

h. Performance of other products

161. The injury suffered cannot be attributed to the performance of other products of the company, as the domestic industry has segregated and provided information with regard to the like article only.

i. High interest cost and depreciation

162. The other interested parties have submitted that injury is due to high interest cost and depreciation due to capacity expansions. The Authority notes any new capacities are likely to incur higher costs on account of interest and depreciation. However, the profitability of the domestic industry before interest costs, taxes, depreciation and amortization have also declined over the injury period, as examined hereinabove. Thus, decline in profitability parameters of the domestic industry cannot be only attributable to such startup costs.

j. Shortage of labour

163. It has been argued that the domestic industry is likely to have faced injury to shortage of skilled labour. However, as noted hereinabove, the number of employees that have been employed by the domestic industry has increased over the injury period. Thus, such alleged shortage of labour has not caused injury to the domestic industry.

k. Reliance on imported raw material and geographical location

164. It has also been contended by the other interested parties that injury to the domestic industry is due to their reliance on imported raw materials and disadvantageous geographical location. The Authority notes that the fact that the domestic industry is importing raw materials and its geographical location is inherent to the industry and has

remained unchanged. Thus, the Authority is not required to conduct a non-attribution analysis for factors inherent to the domestic industry, as held by the Appellate Body in European Union – Anti-dumping Measures on Biodiesel from Argentina [DS473/AB/R].

### **H.3.8. Factors establishing causal link**

165. The dumped imports of the subject goods have caused material injury to the domestic industry as can be established from the following.

- a. Dumping of the subject goods increased the demand for the cheaper imported product.
- b. The volume of dumped imports increased significantly over the injury period.
- c. The volume of imports in relation to the domestic production was also very high in the period of investigation. Further, the imports in relation to consumption were very high.
- d. Due to the presence of such significant volume of subject imports, the domestic industry was unable to sell its goods in the market and its market share in total demand was abysmally low.
- e. Since the domestic industry expanded its production capacities in the period of investigation, its production and domestic sales volume increased. However, the domestic industry was unable to fully utilize its capacities and had significantly underutilized capacities.
- f. As the domestic industry was unable to sell its goods in the market, it faced a huge pile up of inventories which increased over the period. Further, the inventory holding period of the domestic industry was \*\*\* days and \*\*\* days in relation to its production and sales.
- g. During the period of investigation, the subject imports were undercutting the prices of the domestic industry. As a result, the domestic industry was forced to sell its goods below its costs in order to compete with the low-priced imports.
- h. The dumped imports severely depressed the prices of the domestic industry and forced the domestic industry to reduce prices even in respect of contracted orders.
- i. Due to reduction in the domestic prices, the domestic industry suffered significant losses and its profitability declined over the injury period.
- j. The domestic industry also faced cash losses during the period of investigation.
- k. The domestic industry earned almost return on its investment during the period of investigation.
- l. The dumped imports are also threatening to cause further injury to the domestic industry.
- m. The domestic industry was also unable to reach its projected or targeted levels, and its performance was much lower than that projected at the time of commencement of production.

### **H.3.9. Magnitude of Injury Margin**

166. The Authority has determined the non-injurious price for the domestic industry on the basis of the principles laid down in the Rules read with Annexure III, as amended. The non-injurious price of the subject goods has been determined by adopting the verified information/data relating to the cost of production for the period of investigation. The non-injurious price has been considered for comparing the landed price from the subject countries for calculating the injury margin. For determining the non-injurious price, the best utilisation of the raw materials, the utilities and the production capacity by the domestic industry over the injury period have been considered. It is ensured that no extraordinary or non-recurring expenses were charged to the cost of production. A reasonable return (pre-tax @ 22%) on the average capital employed (i.e., average net fixed assets plus average working capital) for the product under consideration was allowed as pre-tax profit to arrive at the non-injurious price as prescribed in Annexure III of the Rules and is being followed.
167. The landed price for the cooperative exporters has been determined on the basis of the data furnished by the exporters. For all the non-cooperative producers/exporters from the subject countries, the Authority has determined the landed price based on facts available.
168. As regard the contention that allowing 22% return on capital employed is unwarranted, the Authority notes that it is a consistent practice of the Authority to determine the non-injurious price of the domestic industry based on reasonable return on capital employed, which is 22%, unless evidence presented justifies considering a different return. In the present case, no evidence has been provided by other interested parties that a return of less than 22% would be appropriate for the product under consideration. Accordingly, as per the established practice of the Authority, the non-injurious price for the domestic industry has been calculated considering return at 22%.
169. As regard the submissions that royalty paid by FS India should be included in the determination of non-injurious price, it is noted that FS India has paid royalty in the form of license fees to its parent company for supply of technical know-how, development of manufacturing process, production planning and skill development. Since the royalty paid is linked to the manufacturing of the product and is not related to sales, the same has been allowed in the calculation of non-injurious price for the domestic industry, as provided under Para (vii)(e) of Annexure III to the Rules.
170. Based on the landed price and non-injurious price determined as above, the injury margin for producers/exporters has been determined by the Authority and the same is provided in the table below.

**Injury Margin Table**

SN	Name of Producer	PCN	Volume	Non-Injurious Price	Landed Price	Injury Margin	Injury Margin	Injury Margin
			MW	(USD/MW)	(USD/MW)	(USD/MW)	(%)	(Range)
1	Jinko Solar (Haining) Co., Ltd.	Mono-Module	***	***	***	***	***	Negative
2	Jinko Solar (Yiwu) Co., Ltd.	Mono-Module	***	***	***	***	***	Negative
3	Jinko Solar (Chuzhou) Co., Ltd.	Mono-Module	***	***	***	***	***	Negative
4	Jinko Solar (Shangrao) Co., Ltd	Mono-Cell	***	***	***	***	***	35-45%
5		Mono-Module	***	***	***	***	***	Negative
6	Jinko Solar (Chuxiong) Co., Ltd.	Mono-Cell	***	***	***	***	***	30-40%
7	Jinko Solar (Feidong) Co., Ltd.	Mono-Module	***	***	***	***	***	Negative
8	Shangrao Guangxin Jinko Photovoltaic Manufacturing Co., Ltd.	Mono-Module	***	***	***	***	***	0-10%
9	Shangrao Jinko Photovoltaic Manufacturing Co., Ltd.	Mono-Module	***	***	***	***	***	0-10%
10	<b>Weighted Average – Jinko Group</b>	<b>Mono-Cell</b>	***	***	***	***	***	<b>30-40%</b>
11		<b>Mono-Module</b>	***	***	***	***	***	<b>Negative</b>
		<b>Weighted</b>	***	***	***	***	***	<b>Negative</b>
12	Guangdong Aiko Solar Technology Co., Ltd.	Mono-Cell	***	***	***	***	***	5-15%
13	Tianjin Aiko Solar Technology Co., Ltd.	Mono-Cell	***	***	***	***	***	25-35%
14	Zhejiang Aiko Solar Technology Co., Ltd.	Mono-Cell	***	***	***	***	***	20-30%
15	<b>Weighted Average – Aiko Group</b>	<b>Mono-Cell</b>	***	***	***	***	***	<b>20-30%</b>
16	Trina Solar Co., Ltd.	Mono-Module	***	***	***	***	***	0-10%

17	Yancheng Trina Solar Guoneng PV Science & Technology Co., Ltd.	Mono-Module	***	***	***	***	***	Negative
18	Trina Solar (Yancheng) New Energy Co., Ltd.	Mono-Module	***	***	***	***	***	Negative
19	Trina Solar (Huai'an) Technology Co., Ltd.	Mono-Module	***	***	***	***	***	Negative
20	Trina Solar (Suqian) Technology Co., Ltd.	Mono-Module	***	***	***	***	***	Negative
<b>21</b>	<b>Weighted Average – Trina Group</b>	<b>Mono-Module</b>	<b>***</b>	<b>***</b>	<b>***</b>	<b>***</b>	<b>***</b>	<b>Negative</b>
22	Other co-operating producers			***	***	***	***	20-30%
23	Non-cooperating producers			***	***	***	***	25-35%

## **I. INDIAN INDUSTRY'S INTEREST & OTHER ISSUES**

### **I.1. Submissions by other interested parties**

171. The other interested parties have made the following submissions with regard to the Indian industry's interest.

- i. Imposition of anti-dumping duties will not be in favour of larger public interest and will have major impact on user injury in terms of increased costs.
- ii. Imposition of duties will lead to increase in prices of solar components and solar power systems and making renewable energy unaffordable for a wide range of consumers. This will demotivate the consumers to buy solar products.
- iii. The burden of inefficiency of the Indian cell manufactures should not be passed on to the users of cell in the form of duty which will only adversely impact the solar energy goals of the country.
- iv. Imposition of duty in the range of 20-30% would increase the cost of cells by 12-18%, and the module manufacturers will not be able to pass such cost to consumers.
- v. Imposition of duties will undermine the objective laid down by Government of India aiming to promote use of clean and renewable energy, reduce carbon emissions and enhance energy security.
- vi. Imposition of duties will limit the competition in Indian market and will not motivate Indian industry to grow and improve.
- vii. There is a demand-supply gap for the solar cells in the country and the imports are bound to happen irrespective of duties. The domestic industry has not worked upon increasing its capacity despite an increase in the Indian demand.
- viii. The module manufacturers are heavily reliant on imported cells in absence of sufficient capacity for Cells in India. If imports of solar cells become unviable due to imposition of anti-dumping duty, demand of solar cells is expected to decline and production of solar modules is expected to decline.
- ix. Imposition of duties is not necessary in light of significant protection available to solar industry in the form of BIS Order, ALMM and DCR requirements.

- x. Imposition of anti-dumping duty to protect the interests of Jupiter alone would be counterproductive to the national interest.
- xi. Instead of levying anti-dumping duty, a sale price should be fixed for the DCR cells which will help keep the price of DCR modules under control and will in turn help implementation of ALMM-2.
- xii. The ALMM List for solar cells has now been notified and will come into effect from 1st June 2026, which will provide sufficient protection to domestic industry.
- xiii. The Government of India has already reduced customs duty on imports of the product under consideration. Despite reduction, the imports duty on the subject goods is very high and addition of anti-dumping duty would be concerning.
- xiv. The significant investment made for solar modules would be impacted if anti-dumping duty is imposed on cells and thus, there is no justification for duty on solar cells. Further, it would result in increase in the prices of modules, and ultimately, the price of electricity.
- xv. The Authority should seek the views of the MNRE before reaching out to any conclusions in this matter.
- xvi. The allegation that there is an over-capacity situation in China is not accurate since the producers in China have enhanced capacities as they have become more efficient and in anticipation of upcoming demand for clean energy.
- xvii. Claims of proposed capacity additions and investments is speculative, forward-looking and have not yet materialized in operational or financial terms.

## **I.2. Submissions by the domestic industry**

172. The domestic industry has made the following submissions with regard to the Indian industry's interest:
- i. Public interest must be determined with regard to interests of (a) the domestic producer of like article, (b) the domestic consumers of the product, (c) the upstream and downstream industries in both the producing and consuming industry, and (d) the general public.
  - ii. While the other interested parties have acknowledged that the subject goods were Imposition of duties would be in the larger public interest.
  - iii. The domestic solar manufacturing industry is extremely crucial for the Indian economy in the wake of increasing demand for electricity and to support government's agenda of sustainable growth.
  - iv. It is essential to establish a self-sufficient solar manufacturing industry to fulfil the vision of Government of India vision to reach target of generation of 280 GW solar energy by 2030 under the Panchamrit programme.
  - v. Imposition of duties would have no impact on the end-consumers since the prices of modules and solar tariffs have moved independently of each other. While the prices of solar modules have declined since August 2022, the solar tariffs have increased over this period.

- vi. There are 134 known producers of solar products and with upcoming new capacities, there is healthy inter-se competition enabling users to access the market at competitive prices.
- vii. As opposed to the claim that the domestic industry has not worked to expand its capacities, many new manufacturing capacities are in advanced stages of execution including Jupiter.
- viii. Imposition of duties would provide a level playing field to the Indian industry and the foreign industry by ensuring that the subject goods compete in the market at fair prices.
- ix. There is a need to support the “Make in India”, “Vocal for Local” and “AtmaNirbharta” missions of the Government of India and ensure viability of investments in the country.
- x. Imposition of duties would allow the Indian industry to increase production and supply, which would lead to saving of valuable foreign exchange.
- xi. Fixing prices in the DCR market would be ineffective as such market is insulated from effects of Chinese dumping. Instead, minimum price should be fixed for the open market to mitigate injury.
- xii. The Indian solar industry has the potential to grow exponentially and the same can only be achieved if present and new capacities and investments are not affected by any unfair external factors such as Chinese dumping practices.
- xiii. While existence of demand-supply gap may result in inevitable imports, it is not a justification to dump subject goods or constitute grounds for non-imposition of duties, as held in *Nocil Ltd. vs. Government of India* and *DSM Idemitsu Ltd. vs. DA*.
- xiv. Imposition of duty would not just benefit Jupiter but will serve in national interest.
- xv. Considering the landed price based on increased Basic Customs Duty and non-injurious price based on an artificially deflated and optimized cost of production which is practically unachievable by the domestic industry, it would be seen the injury margin determined is significantly positive, confirming the urgent need for duty.

### **I.3. Examination by the Authority**

- 173. The Authority notes that the primary objective of anti-dumping duties is to rectify the injury inflicted upon the domestic industry by the unjust trade practices of dumping, thereby fostering an environment of open and equitable competition in the Indian market. This is not merely a regulatory measure, but a matter of national interest. The imposition of anti-dumping measures is not designed to curtail imports from the subject countries arbitrarily. Rather, it is a mechanism to ensure a level playing field. The Authority acknowledges that the persistence of anti-dumping duties may influence the price levels of the product in India. However, it is crucial to note that the essence of fair competition in the Indian market will remain unscathed by the imposition of these measures. Far from diminishing competition, the imposition of anti-dumping measures serves to prevent the accrual of unfair advantages through dumping practices. It safeguards the consumers'



access to a broad selection of the subject goods. Thus, anti-dumping duties are not a hindrance but a facilitator of fair-trade practices.

174. The Authority issued the initiation notification, inviting views from all interested parties including importers, users and consumers. An Economic Interest Questionnaire was also prescribed to allow various stakeholders, including the domestic industry, producers/exporters and importers/users/ consumers to provide relevant information concerning the present investigation, including the possible effect of anti-dumping duty on their operations.
175. The other interested parties have claimed that imposition of duties would increase the costs of the solar cells and modules or panels, which would increase the prices of renewable energy. However, the domestic industry has demonstrated that any possible increase in the prices of solar cells and modules would not impact the costs of renewable energy. It is noted that the while the prices of the solar modules have declined sharply over the injury period, the tariffs paid by the solar consumers for electricity consumption have increased over the period. Thus, the price of solar products and electricity tariffs have moved independent of each other, which indicates that any possible change in prices of the subject goods may have no impact on the tariffs. Further, it is noted that tariffs charged for electricity consumption are determined by the power suppliers and indirectly by the Government, having regard to the socio-economic conditions of the country and are not entirely dependent on the costs incurred for generation of electricity through various sources.
176. Some interested parties have contended that the imports are inevitable due to the demand-supply gap in India. The Authority notes that the demand-supply gap is not a justification for dumping in India. Even if there is a demand-supply gap in the country, it is necessary that the product is available at fair prices. The imposition of the anti-dumping duty will not hamper the availability of the product under consideration but will ensure that the same is available at the fair prices. In fact, the re-establishment of fair competition in the market would promote investment, which would help bridge the demand-supply gap. Further, the domestic industry submitted that the following fresh capacities have either come up or are being sent up after the period of investigation of the present case.

Company	Estimated capacity by Dec 2025	Estimated capacity by June 2026
Avaada	6,000	6,000
Alpex	-	1,600
Emmvee	2,500	2,500
First Solar	3,400	3,400
Jupiter	3,000	6,000
Mundra Solar	4,000	10,000
Premier Energies	3,600	8,400
Reliance	-	10,000
ReNew	2,400	2,400

RenewSys	3,100	3,100
Tata Power	4,400	4,400
Waaree	5,400	5,400
Websol	300	300
Total	38,100	64,600

177. The Authority further notes that while imposition of anti-dumping duty does not restrict imports into India but only ensures that the same are made at fair prices, there are alternate sources of imports available. During the period of investigation, 30% imports of subject goods in India were from the non-subject countries. The share of other countries has reduced due to dumping from the subject country.
178. The applicants have submitted that the other Indian producer has invested approximately ₹ 1,00,000 crores for expanding capacities in the country. Such expansions have been taken pursuant to the PLI Scheme announced by the Government of India. Further, there has been other investments to expand production capacities in order to bridge the demand-supply gap in India. In fact, Jupiter International has also invested to expand capacities. However, since the landed price is below the cost of sales of the domestic industry, the market situation is not conducive of any investment to bridge the demand-supply gap. Thus, there is a need for imposition of anti-dumping duty in order to establish fair market situation in India.
179. With regard to the contention that imposition of anti-dumping duty will lead to protection of inefficient industry and the burden of the same should not be passed on to the consumers, the Authority notes that there is no evidence on record that the domestic industry is inefficient in any manner. The profitability of the domestic industry was higher during the previous years. The same has declined since the domestic industry has been forced to sell at losses in order to compete with the imports.
180. It has been argued that the imposition of duties would limit competition in the market. It is noted that there are almost 134 producers of solar cells and solar modules or panels in the country. Further, various new producers are also setting up capacities to produce the subject goods in the country. Thus, there is sufficient and healthy competition in the market.
181. With regards to the argument that the domestic industry has already received protection by way of ALMM List and BIS / quality control order. It is noted that the ALMM List, DCR requirements and the quality control orders have been issued with respect to supply of solar cells and modules to Government projects and agencies. The domestic industry has submitted that such market is already insulated from the effects of dumping since the subject imports do not compete in this market. However, issuance of the ALMM List and quality control orders would not limit the dumping of subject goods from the subject country and provide relief to the domestic industry.

182. With regards to the argument that a minimum import price should be fixed for the supply of goods in the DCR market, the Authority has taken note of the same and shall consider the same appropriately while recommending measures, in case the Authority finds sufficient justification for imposition of measures.
183. The Authority further notes that the product under consideration is used for generation of photovoltaic energy, which is converted into electricity. The industry is critical to the country considering the increasing demand for energy in India. Further, there is a need to ensure that such increased demands are met through an environmentally friendly source, which does not deplete the country of its precious non-renewable energy sources. The same has also been acknowledged by the Government of India and has been incorporated in the Panchamrit mission to tackle climate change. It has been announced that India would meet 50% of its energy demand through non-fossil renewable energy sources. This would require energy capacity of 500GW in the country, of which 280GW is required to be met by solar energy. In view of the same, it is essential for the country to have a self-sufficient industry manufacturing solar devices in the country which will secure the source of energy in India, and would contribute to the vision of the Government of India.

## **J. POST-DISCLOSURE COMMENTS**

184. The Authority circulated the disclosure statement containing all essential facts under consideration for making the final recommendations to the Central Government, to all interested parties on 21<sup>st</sup> September 2025. The Authority has examined all the post-disclosure comments made by the interested parties in these final findings to the extent deemed relevant. Any submission which was merely a reproduction of the previous submissions and which had been adequately examined by the Authority has not been repeated for the sake of brevity

### **J.1. Submissions by other interested parties**

185. The other interested parties have made the following new submissions post issuance of the disclosure statement:
- i. Negative landed price, export price and injury margin for the sampled producers, including Jinko Solar should be confirmed in final findings.
  - ii. Names of Wuhu GCL System Integration New Energy Technology Co., Ltd., Hefei GCL System Integration New Energy Technology Co., Ltd. and Xuzhou Zhonghui Photovoltaic Technology Co., Ltd., are missing, despite the producers having cooperated in the investigation.
  - iii. Names of Ronma Solar Technology (Jinhua) Co. Ltd., Canadian Solar International Limited, Solarspace New Energy (Xuzhou) Co., Ltd., Tongwei Solar (Yancheng) Co., Ltd., and Shenzhen Ahony Power Co., Ltd need to be corrected.
  - iv. Injury margin for non-sampled producers is not representative, as it is based only on the Aiko Group, which has not exported solar modules. The injury margin for

non-sampled cooperating producers should be calculated on a PCN basis, as done for sampled producers. Therefore, the non-sampled producers should also be awarded negative injury margin for solar modules, particularly where the non-sampled producers were only exporting modules.

- v. Imposition of a high injury margin, based on cells, would cause a competitive disadvantage to non-sampled producers, who export modules, leading to loss of business opportunities, reputational harm, and financial strain.
- vi. Consideration of weighted average injury margins fails to ensure product-specific injury attribution, contrary to the Rules which require that duty shall be imposed only to the extent necessary to remove injury.
- vii. Anti-dumping duty should be imposed at lesser of dumping margin and injury margin, on PCN-wise basis, as done in the case of seamless pipes and tubes.
- viii. The provisions of Article 9.4 of the Anti-Dumping Agreement do not provide for exclusion of producers with negative injury margin, and only relates to negative dumping margin.
- ix. There is inadequate disclosure of essential facts, as the month in which FS India commenced production has not been disclosed. This information is relevant for determining that FS India is unestablished industry, and cannot be included in assessment of material injury.
- x. The share of sampled foreign producers in total imports has not been disclosed.
- xi. Cost of sales, selling price, profit before tax in DCR market and open market has not even been provided on indexed basis.
- xii. The initiation is bad in law as the application was received from 5 producers, of which only two producers constituted the domestic industry. It is unclear as why such other producers filed an application when they are aware that they cannot constitute domestic industry. Further, segregated data for the remaining three producers was not provided, and there was confusion regarding the data base used for injury assessment.
- xiii. TP Solar Limited may satisfy requirements of Rule 2(b) for evaluating material retardation.
- xiv. Under Rule 2(b), a producer must have actual and substantive production. Mere initiation of production, in absence of commercial scale output, is not sufficient.
- xv. There is no evidence of independent third-party sales by FS India. It has only supplied for project-specific activity, and its captive alignment to the global supply chain of its parent group. Nearly all of the production of FS India is for captive market, and its thin-film technology cannot be integrated with mono-PERC and TopCon modules.
- xvi. FS India has not produced a like article to the imported goods, since it produces thin-film solar modules.
- xvii. Foreign ownership is relevant where accompanied by external subsidization, such as USD loans, and alignment with foreign strategic interests.
- xviii. An objective analysis of injury would segregate cells and modules as distinct products, and would show absence of injury. This is necessary since while Jupiter has produced only cells, FS India has produced only modules. However, only FS

India, which is an establishing producer, has suffered losses, and not Jupiter, which is an established producer.

- xix. The calculation of weighted average price undercutting is not appropriate, as it is driven by the positive price undercutting of mono-cells. The price undercutting for modules is negative. Since the domestic industry commenced production of mono cells only during the period of investigation, such weighted average price undercutting is driven entirely by import volumes.
- xx. Multi-crystalline cells have negative price undercutting and are imported in very limited quantities. Therefore, they should be excluded from purview of duties.
- xxi. Imposition of high basic Customs duty on the product led to a decline in demand for the subject goods. This shows that higher duties forced customers to switch to alternative energy sources. Such decline in demand also impacted the profitability of the domestic industry.
- xxii. Simultaneous imposition of higher Customs duty and anti-dumping duty would aggravate existing demand-supply gap.
- xxiii. Any anti-dumping duty should be recommended for only 2 years, since FS India has set up the plant for production of subject goods only recently, and Jupiter has also set up a plant for manufacturing modules, which would require captive consumption of cells.
- xxiv. FS India majorly uses the subject goods for captive projects and has limited sales in the market.
- xxv. Due to the DCR content requirement in projects, there is a delay in execution as the availability of DCR solar cells is insufficient.
- xxvi. There is shortage of solar cells in the market as the demand from government programs such as PM Surya Ghar and PM- KUSUM absorbs most of the supply at much higher prices.
- xxvii. From June 2026, imports of solar cells for the DCR market will be effectively restricted, significantly reducing overall import dependency under ALMM List-II. Already ALMM List-I resulted in significant reduction in imports of solar modules, and similar effect may be expected in cells post implementation of List-II.
- xxviii. The energy tariffs charged by distribution companies (DISCOMs) are derived from a mix of generation sources, including thermal, wind, solar, and hydro; and thus, there is no direct correlation between end-consumer energy tariffs with the falling global prices of solar modules or cells.
- xxix. While NIMMA had initially supported the application, it withdrew its support after hearing the concerns of solar module manufacturers. The Association in fact opposes the imposition of duty. This fact has not been noted in the disclosure statement.
- xxx. Suzhou Safety New Energy Trading Co. Ltd. did not receive a questionnaire, and therefore, was not able to file a response. However, since such omission was not intentional, and it has concrete business plans to export to India, and are committed to being strategic business partners. Suzhou has major exports to India. Therefore, it should be treated as cooperative. In the alternative, it should be allowed to file a new shipper review in the future.

## **J.2. Submissions by domestic industry**

186. The domestic industry has made the following new submissions post issuance of the disclosure statement:
- a. Prices of subject imports have declined sharply throughout the injury period, period of investigation, and in post-POI period warranting a reference price duty, as ad-valorem or fixed duties would not adequately address the continued price decline.
  - b. Due to significant cost and price differences among product types, separate reference prices for each PCN should be considered as followed in several findings of the Authority.
  - c. Injury margin should be determined solely based on injurious imports. This is in accordance with the observation of Panel in European Communities – Anti-Dumping Duties on Malleable Cast Iron Tube or Pipe Fittings from Brazil, and of the Tribunal.
  - d. Injury from dumped imports must be analysed for the product as a whole and not for the individual components, while price undercutting may be evaluated on a PCN-wise basis.
  - e. There is a need for re-examination of non-injurious price on the grounds to consider the fixed assets for production, subsequent to capitalized of plant. Further, opening working capital, valued at nil, should not be used in determination of average capital employed.
  - f. Income from scrap should be adjusted as a variable income, and not considered as part of cost of raw material consumed.

## **J.3. Examination by the Authority**

187. The Authority has examined the post disclosure submissions made by the domestic industry and the other interested parties and notes that a number of submissions are reiterations which have already been examined suitably and addressed adequately in the relevant paras of the final findings. The issues raised for the first time in the post-disclosure comments/submissions by the interested parties and the domestic industry and those backed up with sufficient evidence and considered relevant by the Authority are examined below.
188. With regard to the request for correction of names of one of the foreign producers, the Authority has corrected the same in the relevant part of this notification.
189. The interested parties have sought that the negative injury margin calculated for modules should be applied to the non-sampled cooperative producers as well. The parties have particularly emphasized that since the non-sampled producers of modules fully cooperated before the Authority, they should not be subjected to the higher duty rate determined for cells. The domestic industry has also conceded that the modules and cells should be treated separately for the purpose of imposition of duty. However, the Authority considers it appropriate to determine anti-dumping duty for the product under

consideration as a whole and not for individual product types. In this regard, it is noted that the Solar modules are basically an array of solar cells.

190. Some interested parties have argued that the Rules do not permit exclusion of negative injury margin in determining the weighted average margins for non-sampled producers. The parties have relied on the provisions of Article 9.4 of the Anti-Dumping Agreement and Rule 18 of the Anti-Dumping Rules. The Authority notes that the provisions of Article 9.4 and the Rule 18 of the Anti-Dumping Rules provide that the duty imposed on non-sampled producers shall not exceed the weighted average dumping margin for sampled producers. However, such provisions do not prescribe the manner in which the injury margin shall be quantified. The injury margin is quantified under Rule 4 and Rule 17, which require the Authority to determine such quantum of duty, which shall remove the injury suffered by the domestic industry.
191. With regards to the argument that the month in which FS India commenced production has not been disclosed, it is noted that such information was submitted by the applicant on a confidential basis and thus, cannot be disclosed. The Authority has duly verified the information submitted by the applicants and has noted that FS India was operational during the period of investigation. However, in any case, the Authority notes that it has disclosed that the industry shall be considered as established in the present case. The mere commencement of production by one more producer would not imply that the industry is unestablished. No information, evidence or jurisprudence has been provided by other interested parties to demonstrate that the industry can be considered establishing, on account of commencement of production by an individual producer, when there have been multiple producers in operation for several years, and the Authority has previously conducted an anti-dumping investigation considering such producers as established industry.
192. Further, information with regards to the cost of sales, selling price and profits in different markets was also submitted on a confidential basis, and thus, cannot be disclosed.
193. It has been claimed that when three out of 5 applicants were subsequently admitted as being ineligible by the applicants themselves, the purpose of including them as applicants in the first place requires consideration. In this regard, it is noted that there is no restriction under the law that prevents a domestic producer of subject goods from filing an application seeking imposition of anti-dumping duty. If it is determined that such producer is an importer of or is related to exporter of subject goods, they may be excluded from constitution of domestic industry, based on facts and circumstances of the case. However, the fact that a producer may have imported the subject goods does not prohibit them from approaching the Authority and seeking remedy against dumping. In the present case, the interested parties have not made out a case that the applicants, which were engaged in importation of the subject goods, should be considered as eligible to constitute domestic industry. It has not been questioned that they have been incorrectly removed

from the scope of domestic industry. The concern of the interested parties is that they should not be treated as applicants. However, the interested parties have not shown any prejudice that was caused to them, or any impact on the merits of the case, due to the application having been filed by a larger number of producers.

194. Certain interested parties have argued that since TP Solar Limited commenced production in the post-POI period, they could have satisfied the requirements of Rule 2(b) for evaluating material retardation. In this regard, the Authority notes that once the Authority has considered the industry to be established, an individual producer cannot be considered to be an establishing industry. The interested parties have not provided any evidence or jurisprudence to demonstrate that the conclusion of the Authority concerning the industry having been an established industry was not appropriate. Further, in case of an established industry, the Authority can only examine injury to a producer that has actually produced the like article during the period of investigation. Since TP Solar did not produce the subject goods during the period of investigation, it cannot be considered for injury analysis.
195. Further, it is noted that the interested parties, in the present case, have adopted a pick and choose approach in their arguments. The interested parties have opposed the claim of FS India that they suffered material retardation to their establishment. The opposition rests on the basis that there cannot be a separate analysis of material retardation and material injury in one investigation. On the other hand, the interested parties have sought separate analysis for FS India and now sought consideration of TP Solar as establishing industry. Further, it was also argued that separate analysis should be undertaken for cells and modules. This shows a selective approach in making arguments. However, the Authority is required to conduct an objective analysis of injury. In view of the same, the Authority has determined that - (a) the industry for the subject goods has been established for many years, and thus, is not a new industry; (b) the injury analysis has been undertaken for the domestic industry as a whole; (c) the injury analysis has been undertaken for the like article as a whole.
196. Certain interested parties have alleged that mere initiation of production by FS India during the period of investigation was not sufficient for the producer to be eligible as domestic industry. Further, it has been alleged that FS India did not have any independent third-party sales. In the regard the Authority notes that it has duly verified the production records of FS India during on-site verification. Further, sales invoices and contracts were examined and verified on a sample basis. The evidence on record does not substantiate the allegation of lack of low production or insufficient external sales. On the contrary, FS India was able to utilize its capacities to the extent of \*\*\*%. Further, it has also provided evidence to demonstrate that it was prevented from making external sales, due to non-fulfilment of contracts by customers in face of dumped imports.
197. With regards to the argument that FS India has produced thin-film solar modules and has not produced like article to the imported goods, the issue has been examined in detail by



the Authority in the relevant portion of the findings. In the absence of an identical article, solar modules or panels produced using thin film technology are like article to solar modules or panels producing using c-Si cells. This practice has also been adopted by the Authority in the past investigations concerning the product under consideration. The Authority notes that the earlier findings of the Authority have not been challenged or set aside by any higher Courts as well. The interested parties have not provided any information or evidence demonstrating that a different view is required to be taken in the present investigation. Therefore, the Authority finds that no cause has been made out for taking a different view, than that taken in the previous findings.

198. With regards the argument that there may be external subsidization in the form of USD loans for FS India which impacts their eligibility as domestic industry, it is noted that existence of external subsidies or loans for parent company, even if foreign, has no bearing on the eligibility of a domestic producer to constitute domestic industry under Rules 2(b). In any case, external subsidization to the producer would only reduce the cost of production and non-injurious price for the producer. However, it cannot preclude a producer from constituting domestic industry.
199. With regards to the argument that injury analysis should be done separately for cells and modules, the same has been examined in detailed hereinabove.
200. The other interested parties have claimed that consideration of weighted average price undercutting is inappropriate since the domestic industry commenced production of mono cells only during the period of investigation and that the positive undercutting is being driven by the limited sales of mono cells. In this regard, it is noted that price undercutting has been determined for the product as a whole. The volume of domestic sales of mono cells was significant and was more than double than the volume of domestic sales of multi cells. Thus, such volume cannot be treated as insignificant, as claimed by the interested parties.
201. With regards to the argument that imposition of high Basic Customs Duty led to decline in demand, it is noted that the import duties on solar cells and modules were enhanced in 2022. As a result of such enhancement, the demand for the product declined in 2022-23. However, such decline was temporary as the demand increased again significantly in 2023-24, despite the high duties. Thus, the argument that high duties have deterred demand is not correct.
202. It has been claimed that anti-dumping duty should be recommended for only 2 years considering that FS India has recently set-up production and that Jupiter is setting up plant for production of modules which would require captive consumption of cells. In this regard, it is noted that other than the domestic industry, there are 5 other producer groups that are producing and selling cells in the market. Jupiter itself is also expanding its capacities for production of cells. Additionally, many new producers are also setting

up production capacities for cells in India. Similarly, other than FS India, there are many other producers of solar modules in India and additional capacities are also being set up. Thus, there would be no limitation on the supply of products in the event of imposition of duties.

203. With regards the argument that the no segregated data was provide for remaining three applicants who were not part of domestic industry, the Authority has clarified at the stage of initiation as well as in its disclosure statement that injury analysis has been conducted based on data submitted by FS India and Jupiter, the two producers who constitute domestic industry. The data for other applicants has not been considered at any stage, and thus, there is no requirement of any segregation of data.
204. With regards the argument that modules produced by the FS India cannot be integrated with mono-PERC and TopCon modules, it is noted that FS India has produced thin-film modules which are directly utilized by the downstream users. Thus, the present determination has been made considering such fact.
205. Certain interested parties have apprehended that the due to supply in DCR market and to government projects / programs, there may be shortage of supply for solar cells. It is noted that the domestic producers in the country have made significant investment to enhance / install new capacities for solar cells in the country. Further significant investments have also been made under the PLI Scheme of the Government.
206. The Authority notes that the North India Module Manufacturers Association had initially supported the application and had submitted a support letter in this regard. However, vide email dated 31<sup>st</sup> December 2024 and in the post-disclosure comments, the Association has clarified that it has withdrawn its support and does not support the imposition of duties.
207. With regards the argument that FS India has largely supplied to captive projects and has limited supply in the market, it is noted that the Authority has duly verified the sales information of the producer during the on-site verification. It is noted that while the producer has supplied the subject goods for captive solar projects set-up by industries, it has also supplied the subject goods to Independent Power Producers (IPPs) who have in-turn supplied energy to State Electricity Distribution Companies which supply electricity to the general public in the country. In fact, more than two-thirds of total sales have been made to IPPs. Thus, the argument that FS India has only supply to captive projects is not correct.
208. One of the exporters, namely Suzhou Safety New Energy Trading Co. Ltd., has stated that they were unable to file a response as they did not receive a questionnaire and have now requested to be treated as cooperative. It is noted that the Authority had circulated the intimation regarding initiation of notification and provided an opportunity to all known exporters to participate in the investigation. Further, the Authority also notified

the Chinese embassy to regarding the investigation. Thus, the exporter had sufficient opportunity to participate in the investigation and submit their questionnaire response within the prescribed time limit. Further, while the exporter has submitted some information regarding its sales and has requested to be treated as a cooperative producer, it has not filed a response to the questionnaire as prescribed by the Authority. Therefore, the exporter cannot be treated as a cooperative in the present investigation, at such belated stage.

209. The domestic industry has requested for consideration of benchmark form of duty, for the reason that there has been a steep decline in prices subsequent to the investigation period. Further, the domestic industry has requested that a different benchmark may kindly be noted for different product types. The Authority has recommended the appropriate form of duty, having regard to the facts of the case.
210. The domestic industry has also requested that the injury margin should be calculated based on only the prices of injurious transactions. However, the Authority finds that the same is not appropriate, as anti-dumping duty is sought to be imposed on all imports.
211. The domestic industry has requested re-examination of the non-injurious price. The Authority has considered the same, and notes that the non-injurious price has been determined based on the provisions of Annexure – III of the Anti-Dumping Rules. Therefore, no change is warranted to the determination of non-injurious price.

## **K. CONCLUSION**

212. Having examined the submissions made by all interested parties and issues raised therein, and considering the facts available on record, the Authority concludes the following:
  - i. The scope of product under consideration is Solar Cells or Photovoltaic Cells whether or not assembled in modules or made up into panels, produced using c-Si or thin film technology. Further, solar cells may be monocrystalline or multi-crystalline, both of which are included within the product scope.
  - ii. The product scope includes both solar cells and solar modules or panels in view of the following –
    - a. Solar cells are manufactured for use in solar modules or panels and thus, do not have any independent use.
    - b. Assembly of solar cells into solar modules or panels does not require significant value addition with respect to manufacturing activities.
    - c. Solar cells and solar modules or panels have the same end-use, that is generation of photovoltaic energy.
    - d. Solar cells are an intermediate product, which are imported into India by module producers for assembly into solar modules or panels, the final product.
    - e. Exclusion of one form of product is likely to result in increase in imports of the other form of product.

- iii. The domestic industry has produced and sold solar cells comparable to TopCon cells. Further, other Indian producers have produced and supplied TopCon Cells in the market. Therefore, TopCon cells cannot be excluded from the product scope.
- iv. Back Contact cells have not been imported into the country, and in absence of imports of such product type, they cannot be excluded from the product scope.
- v. Domestically produced c-Si cells are comparable to the imported c-Si cells. Imported c-Si based solar modules and domestically produced thin film modules are comparable in all material aspects, including functions and end-application, and thus, are like article.
- vi. The domestic industry has produced like article to the imported product under consideration.
- vii. Based on the submissions by the domestic industry and all interested parties, PCN methodology based on type of product (cell or module / panel) and technology (mono / multi or thin film) was adopted.
- viii. Out of the six known producers of solar cells, 4 producers have imported solar cells in significant volumes and have used them to produce solar modules. Thus, such producers cannot be considered eligible to constitute domestic industry.
- ix. Websol Energy System Limited is located in an SEZ, and thus, as per past practice, cannot be considered as eligible to constitute domestic industry.
- x. Jupiter International Limited, a producer of solar cells, has neither imported the subject goods, nor is related to any exporter or importer of subject goods, and thus, is eligible to constitute domestic industry.
- xi. All known producers of solar modules, barring FS India Solar Ventures Private Limited, have either imported solar modules or have imported solar cells for conversion into solar modules / panels. Such producers cannot be considered as eligible to constitute domestic industry. Further, such producers are purchasing cells and consuming the same for production of modules. Therefore, consideration of their production in Indian production again, would lead to double counting.
- xii. FS India Solar Ventures Private Limited, a producer of thin film solar modules, has neither imported the subject goods, nor is related to any exporter or importer of subject goods, and thus, is eligible to constitute domestic industry.
- xiii. In order to determine total eligible production for the subject goods, the production of those producers that are importing solar cells for conversion into solar modules has been excluded. Further, production of those producers who are producing solar modules using solar cells where the production of solar cells has been included in cell production or cell imports has been excluded.
- xiv. Jupiter International Limited and FS India Solar Ventures Private Limited constitute domestic industry under Rule 2(b) of the Rules and the application satisfies the criteria of standing in terms of Rule 5(3).
- xv. The subject goods have been exported to India at a price below the normal value, resulting in dumping. The dumping margin is above de-minimis level and significant.

- xvi. The volume of subject imports has increased, in absolute terms as well as in relative terms, over the injury period, and such imports constitute two-thirds of the imports into India.
- xvii. There is a steep and continuous decline in the prices of the subject goods. The subject goods were undercutting the prices of the domestic industry on an overall product level.
- xviii. The domestic industry was forced to sell at losses in order to maintain its selling prices at par with the prices of the subject goods.
- xix. As regards the impact of the subject imports on the economic parameters of the domestic industry, it is seen that-
  - a. The domestic industry enhanced its installed capacities but continued to operate with significant unutilized capacities. The production and domestic sales of the domestic industry have increased.
  - b. The market share of the Indian industry was insignificant as the demand for dumped goods continued to increase.
  - c. The average inventories of the domestic industry increased significantly over the injury period.
  - d. The domestic industry lost significant contracts, despite reducing its prices, due to presence of dumped imports.
  - e. The profitability of the domestic industry deteriorated over the injury period and it suffered losses, cash losses and earned negligible returns on investment.
  - f. The domestic industry was unable to reach its projected or targeted levels, and its actual performance was lower than as projected.
- xx. Considering the above, it is clear that the subject goods have caused material injury to the domestic industry.
- xxi. The subject imports are threatening to cause further injury to the domestic industry considering the sharp increase in import volume, decline in price of imports, freely disposable capacities available with exporters, imminent capacity addition in the subject country and imposition of trade remedial measures by other countries.
- xxii. The investigation has not shown any other factor which could have caused material injury to the domestic industry.
- xxiii. The injury to the domestic industry has been caused by the dumping of the product under consideration.
- xxiv. While the injury margin for cooperative producers for modules is negative, the injury margin for cells and the margin for non-cooperative producers is significant.
- xxv. Imposition of anti-dumping duty is in the larger public interest as can be seen from the following –
  - a. The imposition of duties would not have any adverse impact on the downstream consumers.
  - b. While a demand-supply exists in the country at present, such demand-supply gap cannot be a justification for dumping.
  - c. The Indian industry is undertaking significant capacity expansion in order to bridge any demand-supply gap.

- d. The PLI scheme has also promoted capacity expansions for the product.
- e. The users can continue to import the subject goods from subject countries, other countries and the Indian industry at fair prices.
- f. Imposition of duty would ensure a fair market situation for the product in the country and would ensure viability of upcoming capacity investments.
- g. Solar industry is critical to the country considering the increasing demand for energy in the country.
- h. There is a need to ensure that increasing energy demand is met through any environmentally friendly renewable energy source.

## **L. RECOMMENDATIONS**

213. The Authority notes that the investigation was initiated and notified to all the interested parties and adequate opportunity was given to them to provide information on aspects of injury, causal link, and impact of measures. Having initiated and conducted the investigation in terms of the provisions under the Anti-Dumping Rules, the Authority is of the view that imposition of anti-dumping duty is required to offset dumping and injury. Accordingly, the Authority recommends imposition of anti-dumping duties on imports of the product under consideration from the subject countries.
214. Having regard to the lesser duty rule followed, the Authority recommends imposition of anti-dumping duty equal to the lesser of the margin of dumping and the margin of injury so as to remove the injury to the domestic industry. Accordingly, the Authority recommends imposition of definitive anti-dumping duty on the imports of subject goods originating in or exported from the subject countries, for a period of 3 years, from the date of notification to be issued in this regard by the Central Government, as a percentage of the CIF value of the goods as indicated in Column 7 below.

### **DUTY TABLE**

SN	Heading	Description*	Country of Origin	Country of Export	Producer	Duty as % of CIF
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	85414200 and 85414300	Solar cells or photovoltaic cells whether or not assembled in modules or made up into panels, produced using c-Si or thin film technology, including solar modules or panels	China PR	Any country, including China PR	Jinko Group**	Nil

		made up of solar cells*				
2.	-do-	-do-	China PR	Any country including China PR	Aiko Group <sup>+</sup>	23%
3.	-do-	-do-	China PR	Any country including China PR	Trina Group <sup>++</sup>	Nil
4.	-do-	-do-	China PR	Any country including China PR	Non-sampled cooperative producers, as per list below <sup>+++</sup>	23%
5.	-do-	-do-	China PR	Any country including China PR	Any producer other than 1 to 4 above	30%
6.	-do-	-do-	Any country other than China PR	China PR	Any	30%

\* The product under consideration is includes both 'Monocrystalline' or 'Multi-crystalline' solar cells.

\*\* The following companies form part of Jinko Group

1. Jinko Solar (Haining) Co., Ltd.
2. Jinko Solar (Yiwu) Co., Ltd.
3. Jinko Solar (Chuzhou) Co., Ltd.
4. Jinko Solar (Shangrao) Co., Ltd
5. Jinko Solar (Chuxiong) Co., Ltd.
6. Jinko Solar (Feidong) Co., Ltd.
7. Shangrao Guangxin Jinko Photovoltaic Manufacturing Co., Ltd.
8. Shangrao Jinko Photovoltaic Manufacturing Co., Ltd.

<sup>+</sup> The following companies form part of Aiko Group

1. Guangdong Aiko Solar Technology Co., Ltd.
2. Tianjin Aiko Solar Technology Co., Ltd.
3. Zhejiang Aiko Solar Technology Co., Ltd.

<sup>++</sup> The following companies form part of Trina Group

1. Trina Solar Co., Ltd.
2. Yancheng Trina Solar Guoneng PV Science & Technology Co., Ltd.
3. Trina Solar (Yancheng) New Energy Co., Ltd.
4. Trina Solar (Huai'an) Technology Co., Ltd.

5. Trina Solar (Suqian) Technology Co., Ltd.

+++List of non-sampled cooperative producers

SN	Group	Producer Name
1	LONGi Group	M/s LONGi Solar Technology (Chuzhou) Co., Ltd.
		M/s LONGi Solar Technology (Jiaxing) Co., Ltd.
2	GCL Group	M/s Hefei GCL System Integration New Energy Technology Co., Ltd.
		M/s Wuhu GCL System Integration New Energy Technology Co., Ltd.
3	CECEP	M/s CECEP Solar Energy Technology (Zhenjiang) Co., Ltd.
4	Chint Group	M/s Chint New Energy Technology Co., Ltd.
		M/s Chint New Energy Technology (Yancheng) Co., Ltd.
5	Ronma Group	M/s Ronma Solar Technology (Jinhua) Co., Ltd.
		M/s Shandong Ronma Solar Co., Ltd
6	Jietai Group	M/s Chuzhou Jietai New Energy Technology Co., Ltd.
		M/s Huai'an Jietai New Energy Technology Co., Ltd.
		M/s Shangrao Jietai New Energy Technology Co., Ltd.
7	JA Solar Group	M/s Yiwu JA Solar Technology Co., Ltd.
		M/s Hefei JA Solar Technology Co., Ltd.
8	Anhui Schutten	M/s Anhui Schutten Solar Energy Co., Ltd.
9	Econess	M/s Econess Energy Co., Ltd.
10	N Plus	M/s Solar N Plus New Energy Technology Co., Ltd.
11	Risen Group	M/s Risen Energy (Ningbo) Co., Ltd.
12	DMGEC Group	M/s Lianyungang DMEGC New Energy Technology Co., Ltd.
		M/s Jiangsu DMEGC New Energy Technology Co., Ltd.-
		M/s Hengdian Group DMEGC Magnetics Co., Ltd.
13	Chinaland	M/s Chinaland Solar Energy Co., Ltd.
14	Jolywood	M/s Jolywood (Taizhou) Solar Technology Co., Ltd.
15	Znshine Group	M/s Zhengxin Photoelectric Technology (Suqian) Co., Ltd
		M/s Znshine Pv-Tech Co., Ltd.
17	Canadian Group	M/s Canadian Solar Sunenergy (Jiaxing) Co., Ltd
		M/s Canadian Solar Manufacturing (Changshu) Inc.
18	Tongwei Group	M/s Tonghe New Energy (Jintang) Co., Ltd.
		M/s Tongwei Solar (Chengdu) Co., Ltd.
		M/s Tongwei Solar (Hefei) Co., Ltd.
		M/s Tongwei Solar (Yancheng) Co., Ltd.
		M/s Tongwei Solar (Meishan) Co., Ltd.
		M/s Tongwei Solar (Pengshan) Co., Ltd.



		M/s Tongwei Solar (Jintang) Co., Ltd.
19	Solar space Group	M/s Jiangsu Longheng New Energy Co., Ltd.
		M/s Solarspace New Energy (Chuzhou) Co., Ltd.,
		M/s Solarspace Technology (Suqian) Co., Ltd.
		M/s Solarspace Technology (Xuzhou) Co., Ltd.
		M/s Solarspace New Energy (Xuzhou) Co., Ltd.
		M/s Xuzhou Zhonghui Photovoltaic Technology Co., Ltd.
		M/s Jiangsu Huaheng New Energy Co., Ltd.
		M/s Shanghai Xinyu Semiconductor Material Co., Ltd.
		M/s Tianchang Qinguan Photovoltaic Technology Co., Ltd.
		M/s Wuxi Kaishengda New Energy Technology Co., Ltd.
		M/s Wuxi Xianghe Photovoltaic Co., Ltd.
		M/s Yangzhou Jiahui New Energy Co., Ltd.

**M. FURTHER PROCEDURE**

215. An appeal against the determination of the Designated Authority in these final findings shall lie before the Customs, Excise and Service Tax Appellate Tribunal in accordance with the relevant provisions of the Act/ Rules.



(Siddharth Mahajan)  
Designated Authority