COMMISSION IMPLEMENTING REGULATION (EU) 2017/367

of 1 March 2017

imposing a definitive anti-dumping duty on imports of crystalline silicon photovoltaic modules and key components (i.e. cells) originating in or consigned from the People's Republic of China following an expiry review pursuant to Article 11(2) of Regulation (EU) 2016/1036 of the European Parliament and of the Council and terminating the partial interim review investigation pursuant to Article 11(3) of Regulation (EU) 2016/1036

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) 2016/1036 of the European Parliament and of the Council of 8 June 2016 on protection against dumped imports from countries not members of the European Union [1], and in particular Article 11(2) and (3) thereof,

Whereas:

1. PROCEDURE

1.1. Measures in force

(1) Following an anti-dumping investigation ('the original investigation'), the Council imposed in December 2013 by Implementing Regulation (EU) No 1238/2013 [2] ('the original regulation') a definitive anti-dumping duty on imports of crystalline silicon photovoltaic modules and key components (i.e. cells) currently falling within CN codes ex 8501 31 00, ex 8501 32 00, ex 8501 33 00, ex 8501 34 00, ex 8501 61 20, ex 8501 61 80, ex 8501 62 00, ex 8501 63 00, ex 8501 64 00 and ex 8541 40 90 (TARIC codes 8501 31 00 81, 8501 31 00 89, 8501 32 00 41, 8501 32 00 49, 8501 33 00 61, 8501 33 00 69, 8501 34 00 41, 8501 34 00 49, 8501 61 20 41, 8501 61 20 49, 8501 61 80 41, 8501 61 80 49, 8501 62 00 61, 8501 62 00 69, 8501 63 00 41, 8501 63 00 49, 8501 64 00 41, 8501 64 00 49, 8541 40 90 21, 8541 40 90 29, 8541 40 90 31 and 8541 40 90 39) and originating in or consigned from the People's Republic of China ('PRC') ('the original measures'). The measures took the form of an ad valorem duty ranging between 27,3 % and 64,9 %.

(2) In the original investigation, the China Chamber of Commerce for Import and Export of Machinery and Electronic Products ('CCCME') submitted, on behalf of a group of exporting producers, a price undertaking to the Commission. By Decision 2013/423/EU [3], the Commission accepted that price undertaking with regard to the provisional anti-dumping duty. Following the notification of an amended version of the price undertaking by a group of exporting producers together with the CCCME, the Commission confirmed by Implementing Decision 2013/707/EU [4] the acceptance of the price undertaking as amended ('the undertaking') for the period of application of definitive measures. Since then the Commission adopted Implementing Decision 2014/657/EU [5] clarifying the implementation of the undertaking. It also adopted five Regulations withdrawing the acceptance of the undertaking for several exporting producers [6].

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[1] OJ L 176, 30.6.2016, p. 21.

[2] Council Implementing Regulation (EU) No 1238/2013 of 2 December 2013 imposing a definitive anti-dumping duty and collecting definitively the provisional duty imposed on imports of crystalline silicon photovoltaic modules and key components (i.e. cells) originating in or consigned from the People's Republic of China (OJ L 325, 5.12.2013, p. 1).

[3] Commission Decision 2013/423/EU of 2 August 2013 accepting an undertaking offered in connection with the anti-dumping proceeding concerning imports of crystalline silicon photovoltaic modules and key components (i.e. cells and wafers) originating in or consigned from the People's Republic of China (OJ L 209, 3.8.2013, p. 26).

[4] Commission Implementing Decision 2013/707/EU of 4 December 2013 confirming the acceptance of an undertaking offered in connection with the anti-dumping and anti-subsidy proceedings concerning imports of crystalline silicon photovoltaic modules and key components (i.e. cells) originating in or consigned from the People's Republic of China for the period of application of definitive measures (OJ L 325, 5.12.2013, p. 214).

[5] Commission Implementing Decision 2014/657/EU of 10 September 2014 accepting a proposal by a group of exporting producers together with the China Chamber of Commerce for Import and Export of Machinery and Electronic Products for clarifications concerning the implementation of the undertaking referred to in Implementing Decision 2013/707/EU (OJ L 270, 11.9.2014, p. 6).

[6] Commission Implementing Regulations (EU) 2015/1403 (OJ L 218, 19.8.2015, p. 1), (EU) 2015/2018 (OJ L 295, 12.11.2015, p. 23), (EU) 2016/115 (OJ L 23, 29.1.2016, p. 47), (EU) 2016/1045 (OJ L 170, 29.6.2016, p. 5) and (EU) 2016/1998 (OJ L 308, 16.11.2016, p. 8) withdrawing the acceptance of the undertaking for several exporting producers.

(3) On 5 May 2015, the Commission published a Notice of Initiation of a partial interim review of the anti-dumping and countervailing measures applicable to imports of the product under review ([7]). The review was limited in scope to the benchmark used as a reference for the price adaption mechanism set out in the above undertaking. It was terminated in January 2016 by virtue of Commission Implementing Regulation (EU) 2016/12 ([8]).

(4) On 28 May 2015, the Commission initiated anti-circumvention investigations concerning the possible circumvention of both the anti-dumping and countervailing measures on imports of the product under review by imports of the product under review consigned from Malaysia and Taiwan, whether declared as originating in Malaysia and Taiwan or not ([9]) ([10]). As a result, the measures were extended to imports of crystalline silicon photovoltaic modules and key components (i.e. cells) consigned from Malaysia and Taiwan with the exception of a number of genuine producers which were found not to circumvent ([11]).

1.2. **Request for an expiry review**

(5) Following the publication of a notice of impending expiry ([12]) of the original measures, on 4 September 2015 the Commission received a request for the initiation of an expiry review pursuant to Article 11(2) of the basic Regulation. The request was lodged by EU ProSun on behalf of Union producers representing more than 25 % of the total Union production of crystalline silicon photovoltaic modules and key components (i.e. cells) and it was supported by Union producers whose collective output constitutes more than 50 % of the total production of the like product produced by that portion of the Union industry expressing either support for or opposition to the request.

1.3. **Initiation of an expiry review and an interim review**

(6) On 5 December 2015, the Commission initiated an expiry review of the anti-dumping measures applicable to imports into the Union of crystalline silicon photovoltaic modules and key components (i.e. cells) originating in or consigned from the PRC ('the country concerned') and published a Notice of Initiation in the *Official Journal of the European Union* ([13]) ('the Notice of Initiation of an expiry review').

(7) On the same date the Commission initiated ex officio a partial interim review pursuant to Article 11(3) of the basic Regulation limited to the examination of whether or not it is in the Union interest to maintain measures currently in force on cells of the type used in crystalline silicon photovoltaic modules or panels ([14]) ('the Notice of Initiation of an interim review').

([7]) Notice of Initiation of a partial interim review of the anti-dumping and countervailing measures applicable to imports of crystalline silicon photovoltaic modules and key components (i.e. cells) originating in or consigned from the People's Republic of China (OJ C 147, 5.5.2015, p. 4).

([8]) Commission Implementing Regulation (EU) 2016/12 of 6 January 2016 terminating the partial interim review of the anti-dumping and countervailing measures applicable to imports of crystalline silicon photovoltaic modules and key components (i.e. cells) originating in or consigned from the People's Republic of China (OJ L 4, 7.1.2016, p. 1).

([9]) Commission Implementing Regulation (EU) 2015/833 of 28 May 2015 initiating an investigation concerning the possible circumvention of anti-dumping measures imposed by Council Implementing Regulation (EU) No 1238/2013 on imports of crystalline silicon photovoltaic modules and key components (i.e. cells) originating in or consigned from the People's Republic of China by imports of crystalline silicon photovoltaic modules and key components (i.e. cells) consigned from Malaysia and Taiwan, whether declared as originating in Malaysia and Taiwan or not, and making such imports subject to registration (OJ L 132, 29.5.2015, p. 60).

([10]) Commission Implementing Regulation (EU) 2015/832 of 28 May 2015 initiating an investigation concerning the possible circumvention of countervailing measures imposed by Council Implementing Regulation (EU) No 1239/2013 on imports of crystalline silicon photovoltaic modules and key components (i.e. cells) originating in or consigned from the People's Republic of China by imports of crystalline silicon photovoltaic modules and key components (i.e. cells) consigned from Malaysia and Taiwan, whether declared as originating in Malaysia and Taiwan or not, and making such imports subject to registration (OJ L 132, 29.5.2015, p. 53).

([11]) Commission Implementing Regulation (EU) 2016/185 of 11 February 2016 extending the definitive anti-dumping duty imposed by Council Regulation (EU) No 1238/2013 on imports of crystalline silicon photovoltaic modules and key components (i.e. cells) originating in or consigned from the People's Republic of China to imports of crystalline silicon photovoltaic modules and key components (i.e. cells) consigned from Malaysia and Taiwan, whether declared as originating in Malaysia and in Taiwan or not (OJ L 37, 12.2.2016, p. 76).

([12]) Notice of the impending expiry of certain anti-dumping measures (OJ C 137, 25.4.2015, p. 29).

([13]) Notice of Initiation of an expiry review of the anti-dumping measures applicable to imports of crystalline silicon photovoltaic modules and key components (i.e. cells) originating in or consigned from the People's Republic of China (OJ C 405, 5.12.2015, p. 8).

([14]) Notice of Initiation of a partial interim review of the anti-dumping and countervailing measures applicable to imports of crystalline silicon photovoltaic modules and key components (i.e. cells) originating in or consigned from the People's Republic of China (OJ C 405, 5.12.2015, p. 33).

1.4. **Review investigation period and period considered**

(8) The investigation of a continuation or recurrence of dumping covered the period from 1 October 2014 to 30 September 2015 ('the review investigation period' or 'RIP'). The examination of trends relevant for the assessment of the likelihood of a continuation or recurrence of injury covered the period from 1 January 2012 to the end of the review investigation period ('the period considered'). The same periods were used in the partial interim review.

1.5. **Interested parties**

(9) In the Notices of Initiation, the Commission invited interested parties to contact it in order to participate in the investigations. In addition, the Commission informed the applicants, other known Union producers, known exporting producers in the PRC and the PRC authorities, the known importers, suppliers and users, traders, as well as associations known to be concerned about the initiation of the investigations and invited them to participate.

(10) Interested parties had an opportunity to comment on the initiations of the investigations and to request a hearing with the Commission and/or the Hearing Officer in trade proceedings.

(11) In the Notice of Initiation of an expiry review, the Commission informed interested parties that it envisaged the United States of America ('USA') and India, as well as Japan, Malaysia, South Korea and Taiwan as third market economy countries within the meaning of Article 2(7)(a) of the basic Regulation. The Commission informed the known producers in those countries about the initiations and invited them to participate.

1.6. **Sampling**

(12) In the Notices of Initiation, the Commission stated that it might sample the Chinese exporting producers (concerning the expiry review), the Union producers and Union unrelated importers (concerning both the expiry review and the interim review) in accordance with Article 17 of the basic Regulation.

1.6.1. *Sampling of Union producers*

(13) In its Notices of Initiation, the Commission stated that it had provisionally selected a sample of Union producers. The Commission selected the sample on the basis of the largest representative volume of EU sales, taking into account production volume and the geographical location, which could reasonably be investigated within the time available. The sample consisted of six Union producers for modules and three for cells. Both vertically integrated and non-integrated producers were included in the provisional sample. The Commission invited all interested parties to comment on it. All companies that were provisionally selected agreed to be included in the provisional sample.

(14) Comments on the proposed sample were received from several interested parties. They criticised the fact that the names and the location of several Union producers were kept confidential which prevented them from making comments on the selected producers' share with respect to the total production and sales volumes of the Union industry.

(15) The Commission recalled that all sampled Union producers, except for SolarWorld, WARIS Srl ('Waris') and Sillia VL ('Sillia'), requested at initiation stage that their names be kept confidential. The Commission respected those requests, but invited them to confirm their wish to remain anonymous throughout the reviews investigations and to provide good cause for their request. All of the companies concerned, with the exception of one, confirmed their initial request and provided justification for their requests. In particular, the companies indicated that they fear losing business activities in the PRC, and/or supplies of raw materials and components sourced from the PRC. These reasons were found to be warranted. Thus the Commission decided to accept their claim for anonymity and to reject the requests by interested parties to reveal the identity and location of the sampled Union producers. Among the anonymous companies, only Jabil Assembly Poland sp. zoo. ('Jabil') agreed to have its name disclosed in the final sample.

(16) One exporting producer argued that the Commission failed to define the Union industry prior to selecting the provisional sample thereof. Therefore, it could not comment whether the latter is representative. In addition, some of the selected Union producers, like SolarWorld, are vertically integrated as they manufacture cells which are mainly used for their own modules production. Consequently, there is a risk that the production of the same final product, modules, has been counted twice.

(17) It follows from the Notices of Initiation that 'Union industry' refers to all Union producers of modules and key components (i.e. cells). In addition, the Union industry was already clearly defined in the original investigation. Finally, the captive use of cells production has been deducted when examining the standing and the representativeness of the Union industry. Therefore, this claim was rejected.

(18) Several other interested parties argued that the Commission should not have included in the sample Waris and Sillia since they are small Union producers of modules. As such they have a very specific business model which is not representative. Rather, the Commission should have included big and middle sized companies such as Jabil.

(19) The Commission rejected this argument as it included in the sample a significant number of big and middle sized modules producers. Waris and Sillia were included in the sample in order to ensure a wider geographical representativity.

(20) After the initiation of the proceeding the Commission had to exclude from the sample the company Sillia due to lack of cooperation. As a result, the remaining sampled Union producers accounted for 38,8 % of the total EU sales and 55 % of total Union production of modules. For cells they accounted for 76,6 % of the total EU sales volume and 77 % of the total Union production. Therefore, the modified sample was still considered representative of the Union industry.

1.6.2. *Sampling of importers*

(21) In order to decide whether sampling is necessary and, if so, to select a sample, the Commission asked unrelated importers to provide the information specified in the Notices of Initiation.

(22) Two unrelated importers provided the requested information and agreed to be included in the sample. In view of the low number, the Commission decided that sampling was not necessary.

1.6.3. *Sampling of exporting producers*

(23) In view of the apparently high number of exporting producers, sampling was envisaged in the Notice of Initiation of an expiry review for the determination of dumping, in accordance with Article 17 of the basic Regulation. To decide whether sampling would be necessary and, if so, to select a sample, the Commission asked all known exporting producers in the PRC to provide the information specified in the Notice of Initiation of an expiry review. The authorities of the country concerned were also consulted.

(24) Eighty-one exporting producers in the country concerned (often groups of several companies) provided the requested information and agreed to be included in the sample. In accordance with Article 17(1) of the basic Regulation, the Commission selected a sample of three groups on the basis of the largest representative volume of exports to the Union which could reasonably be investigated within the time available. All three exported modules to the EU, one exported also cells. In accordance with Article 17(2) of the basic Regulation, all known exporting producers concerned, and the authorities of the country concerned, were consulted on the selection of the sample. No comments were made.

(25) Following disclosure, one interested party argued that the sample of the exporting producers is inappropriate as it differs significantly from the sample of Union producers in terms of the sampled companies' production and production capacity.

(26) As explained in recital 24, the Commission selected a sample on the basis of the largest representative volume of exports to the Union which could reasonably be investigated within the time available. According to Article 17 of the basic Regulation the sample used is to be statistically valid on the basis of information available at the time of the selection, or include the largest representative volume of production, sales or exports which can reasonably be investigated within the time available. Therefore, the sample of exporting producers is to be representative of the exporting producers and not of their Union counterparts. As confirmed by the jurisprudence of the Court of Justice, the sample of exporting producers does not have to mirror that of Union producers ([15]). This claim was therefore rejected.

1.7. **Questionnaire replies and verification visits**

(27) The Commission sent questionnaires to the three sampled exporting producers in the PRC, nine Union producers and more than 100 other interested parties, e.g. unrelated importers, upstream and downstream companies, that had made themselves known within the time limits set out in the Notices of Initiation.

(28) The Commission sought and verified all the information deemed necessary for a determination of dumping, resulting injury and Union interest. Verification visits pursuant to Article 16 of the basic Regulation were carried out at the premises of the following interested parties:

Union producers

— SolarWorld Group, Bonn, Germany;

— Jabil, Kwidzyn, Poland;

— WARIS S.r.l., Borgo Chiese, Italy.

— 2 anonymous module producers and 2 anonymous cell producers.

Importers

— IBC Solar AG, Germany

— BayWa r.e. Solar Energy Systems GmbH, Germany

Upstream operators

— Wacker Chemie AG, Germany

Exporting producers in the PRC

— Chint Solar, Hangzhou

— Jinko Solar, Shanghai and Shangrao

— Trina Solar, Changzhou

Producers in the analogue country

— Sunengine Corporation, Hukou, Taiwan

1.8. **Disclosure**

(29) On 20 December 2016, the Commission disclosed to all interested parties the essential facts and considerations on the basis of which it intends to maintain the anti-dumping measures in force and invited all interested parties to comment. The Commission considered the comments made by the interested parties and took them into

([15]) Judgment of the Court of Justice of 10 September 2015 in case C-687/13 Fliesen-Zentrum v Hauptzollamt (preliminary ruling), recitals 87-90.

account, where appropriate. Following disclosure, the Chinese Chamber of Commerce, Wacker, Solar Power Europe ('SPE') and Solar Alliance for Europe ('SAFE') requested and were granted a hearing with the Hearing Officer in trade proceedings.

(30) After the Committee referred to in recital 379 delivered no opinion, the Commission disclosed its intention to reduce the period for which the measures would apply from 24 months to 18 months. It invited the interested parties to comment on this aspect.

2. **PRODUCT CONCERNED AND LIKE PRODUCT**

2.1. **Product concerned**

(31) The product concerned is crystalline silicon photovoltaic modules or panels and cells of the type used in crystalline silicon photovoltaic modules or panels (the cells have a thickness not exceeding 400 micrometres) ('the product under review' or 'product concerned'), currently falling within CN codes ex 8501 31 00, ex 8501 32 00, ex 8501 33 00, ex 8501 34 00, ex 8501 61 20, ex 8501 61 80, ex 8501 62 00, ex 8501 63 00, ex 8501 64 00 and ex 8541 40 90 (TARIC codes 8501 31 00 81, 8501 31 00 89, 8501 32 00 41, 8501 32 00 49, 8501 33 00 61, 8501 33 00 69, 8501 34 00 41, 8501 34 00 49, 8501 61 20 41, 8501 61 20 49, 8501 61 80 41, 8501 61 80 49, 8501 62 00 61, 8501 62 00 69, 8501 63 00 41, 8501 63 00 49, 8501 64 00 41, 8501 64 00 49, 8541 40 90 21, 8541 40 90 29, 8541 40 90 31 and 8541 40 90 39) and originating in or consigned from the People's Republic of China, unless they are in transit in the sense of Article V GATT.

(32) The following product types are excluded from the definition of the product under review:

— solar chargers that consist of less than six cells, are portable and supply electricity to devices or charge batteries;

— thin film photovoltaic products;

— crystalline silicon photovoltaic products that are permanently integrated into electrical goods, where the function of the electrical goods is other than power generation, and where these electrical goods consume the electricity generated by the integrated crystalline silicon photovoltaic cell(s);

— modules or panels with a output voltage not exceeding 50 V DC and a power output not exceeding 50 W solely for direct use as battery chargers in systems with the same voltage and power characteristics.

(33) The photovoltaic modules and cells convert sunlight into electricity. The conversion is operated by cells which absorb light and convert it into electricity through crystalline silicon.

2.2. **Like product**

(34) The investigation showed that the following products have the same basic physical, chemical and technical characteristics as well as the same basic uses:

— the product concerned;

— the product produced in the PRC and sold in the Union;

— the product produced in the PRC and sold in other markets;

— the product produced and sold on the domestic market of Taiwan, which served as an analogue country; and

— the product produced and sold in the Union by the Union industry.

(35) The Commission decided that those products are therefore like products within the meaning of Article 1(4) of the basic Regulation.

3. **DUMPING**

3.1. **Preliminary remarks**

(36) In accordance with Article 11(2) of the basic Regulation, the Commission examined whether dumping was currently taking place and whether dumping was likely to continue or recur upon a possible expiry of the measures in force on imports from the PRC.

3.2. **Dumping during the review investigation period**

3.2.1. *Analogue country*

(37) Since the PRC is considered to be a non-market economy country, normal value was determined on the basis of the price in a market economy third country, in accordance with Article 2(7)(a) of the basic Regulation. For this purpose the analogue country had to be selected.

(38) India served as analogue country in the original investigation. In the notice of initiation, the Commission informed interested parties that it envisaged the USA and India (as requested by the applicant), as well as Japan, Malaysia, South Korea and Taiwan as potential analogue countries.

(39) The Commission received comments on the choice of the analogue country from six interested parties. All of them supported Taiwan. One supported South Korea, as an alternative. At the same time all of them opposed the USA because of the existing trade defence measures and distortions caused by the domestic subsidisation. Three parties also opposed India because of domestic inefficiencies.

(40) After contacting all known producers of the like product in all potential analogue countries, the Commission secured cooperation from one producer in Taiwan and one in the USA. The cooperating producer in Taiwan produced mainly cells but sold both modules and cells. The majority of modules sold by this producer were manufactured by third parties pursuant to a tolling agreement whereby the third party would receive cells and a tolling fee and supply the modules. Some modules were simply bought from third parties to whom the cooperating producer would be selling cells. All these modules were then sold under the cooperating producer's brand. The cooperating producer in the USA is related to the major Union producer — SolarWorld — and produced both cells and modules, but sold domestically only modules.

(41) Both the Taiwanese and the US markets appear to be competitive, with several domestic producers and significant imports from abroad. However, the solar panels market in the USA is protected by anti-dumping and countervailing duties on the imports from China and anti-dumping duties on the imports from Taiwan. Taiwan does not have any such measures in place.

(42) As the cooperating producer in the USA did not sell cells on the domestic market during the RIP and, unlike the USA, the market in Taiwan is not shielded by trade defence measures, the Commission considered Taiwan as a more appropriate market economy third country.

(43) Following disclosure, two interested parties argued that the Commission chose an inappropriate analogue country producer as it produces smaller quantities of cells than the exporting producers and has their modules produced by third parties under a tolling agreement.

(44) Under Article 2(7) of the basic Regulation, the Commission does not choose analogue country producers. It chooses market economy third countries. Despite the Commission's extensive efforts to secure wide cooperation in all potential analogue countries only one producer in Taiwan cooperated. Furthermore that producer was also the only cooperating producer in the entire investigation that sold both modules and cells. Finally, the cooperating producer in Taiwan operates in a market economy third country, supported as the analogue country for this case by all the parties that commented on this issue, including one of the two parties that raised this claim. This claim was therefore rejected, as there was no alternative, and the choice was, in the light of the circumstances of the case, appropriate.

3.2.2. *Normal value*

(45) The information received from the cooperating producer in the analogue country was used as a basis for the determination of the normal value, pursuant to Article 2(7)(a) of the basic Regulation.

(46) The Commission first examined whether the total volume of domestic sales for the analogue country producer was representative, in accordance with Article 2(2) of the basic Regulation. Following this provision, the domestic sales are representative if the total domestic sales volume of that producer and of the like product to independent customers on the domestic market represented at least 5 % of the total export sales volume of each exporting producer of the product concerned to the Union during the review investigation period. In case of representative domestic sales of the like product, the profitable domestic prices were used as normal value. When the domestic sales of the like product were not representative, the normal value was constructed in accordance with Article 2(3) and (6) of the basic Regulation. In the case where the like product was not sold in representative quantities, the Commission furthermore decided not to apply the last sentence of Article 2(2) as the representative sales per company were below 1 %, which is too little to be representative in the meaning of that provision.

(47) Normal value was constructed by adding the following to the average cost of production of the like product of the cooperating analogue country producer during the review investigation period:

— the weighted average selling, general and administrative ('SG&A') expenses incurred by the cooperating analogue country producer on domestic sales of the like product, in the ordinary course of trade, during the review investigation period; and

— the weighted average profit realised by the cooperating analogue country producer on domestic sales of the like product, in the ordinary course of trade, during the review investigation period.

(48) For the product types sold on the domestic market, the average SG&A expenses and profit of transactions made in the ordinary course of trade on the domestic market for those types were added. For the product types not sold at all on the domestic market, the weighted average SG&A expenses (between 2 % and 5 %) and profit (between 1,5 % and 6 %) of all transactions made in the ordinary course of trade on the domestic market were added.

(49) Following disclosure, one interested party argued that, when constructing the normal value, the Commission did not take into consideration the structural cost advantages of Chinese so-called 'tier 1 companies' ([16]). According to that party 22 % of cost of production should have been subtracted on that account. The same party also objected to the Commission constructing the normal value by adding SG&A expenses and profit to the cost of production. According to that party this is double counting as any tolling fee would already include some SG&A expenses and profit.

(50) Another interested party argued that the Commission failed to provide a breakdown of the volume and representativeness of the production and sales of cells produced by the analogue country producer and modules produced under the tolling arrangement. According to the party, the Commission failed to explain how the cost of production of the modules made under the tolling arrangement was calculated. The same company requested that the Commission provides further details on the calculation of the constructed normal value of both cells and modules. Furthermore, the Commission should provide details on the tolling partner's cost structure and its size to determine whether it could sufficiently use economies of scale and whether the tolling fee to the toller was representative. The Commission should also assess the representativeness of the tolling fee paid by the analogue country producer by comparing it with the tolling fee that Jabil has received for the same service in the Union.

([16]) Bloomberg New Energy Finance ('BNEF') defines, Tier 1 companies are 'major' or 'bankable' suppliers of solar modules. 'Bankability' — whether projects using the solar products are likely to be offered non-recourse debt financing by banks — is the key criterion for tiering. Banks, and their technical due diligence providers, are extremely unwilling to disclose their whitelists of acceptable products. Bloomberg New Energy Finance therefore bases its criteria in what deals have been closed in the past, as tracked by their database. For further details see BNEF PV Module Maker Tiering System, 4 November 2016, available at https://data.bloomberglp.com/bnef/sites/4/2012/12/bnef_2012-12-03_PVModuleTiering.pdf, accessed on 7.11.2016.

(51) As mentioned above, when construction of the normal value was necessary, the normal value was constructed on the basis of Article 2(3) of the basic Regulation (i.e. cost of production in the country of origin plus SG&A expenses and profit). The alleged cost advantages of Chinese tier 1 companies is not to be taken into consideration in this exercise, as there is no basis for doing so under the basic Regulation. Furthermore, it was not made clear in the relevant submission how the 22 % was quantified by the interested party. The Commission also disagreed that adding SG&A expenses and profit leads to double counting. The price of any raw material being sold or service being provided in a market economy will include part of SG&A expenses and profit of the supplier. Therefore, this claim runs contrary to the way a normal value should be constructed according to Article 2(3) of the basic Regulation.

(52) As mentioned above, the representativeness of domestic sales of the analogue country producer was assessed by the Commission. However, the detailed outcome of this test and the volumes of production and sales cannot be disclosed as they constitute business confidential information of that producer. The costs of production of the modules made under the tolling agreement were composed of the cost of production of the cells used in the modules and the tolling fee. As to further details on the calculation of the constructed normal value of both cells and modules, the Commission noted that this is business confidential information. Furthermore some of it, like cost structure of the tollers is not only confidential but also inaccessible to the Commission as well as the analogue country producer. With regard to this request, it cannot be overstated that the interested party does not question Taiwan as being an appropriate market economy third country. Indeed, in its previous submission, the interested party praised it as such, dismissing USA and India as inappropriate analogue countries. There is no indication, nor argument being put forward by any of the interested parties, that suppliers of a service to an analogue country producer in an appropriate market economy third country are not behaving according to market forces.

(53) These claims were therefore rejected.

3.2.3. *Export price*

(54) The Commission first established the export price on the basis of export prices actually paid or payable by independent customers in the Union or on the basis of resale prices when the product concerned was sold via related importers in the Union.

(55) In order to examine whether export prices to the Union were reliable and given the existence of undertakings, export prices to the Union were analysed in relation to the minimum import price ('MIP') of the undertaking. It was in fact necessary to ascertain whether the export price to the Union was set at a certain level mainly because of the MIP established by the undertaking and, therefore, whether it was reliable or not. In this respect, the Commission considered whether, on a weighted average basis at the level of each sampled exporting producer, the export price to the Union was substantially higher than the MIP or not. The Commission also considered how this price related to prices for exports to third countries.

(56) For all sampled exporting producers, the export price to the Union was on average at the level of the MIP. In addition, their export price to the Union was significantly higher than export prices to third countries. Consequently, the export price to the Union was significantly influenced by the undertaking and is therefore unreliable.

(57) Following disclosure, one interested party argued that this finding confirms that the MIP serves as a general price benchmark for the Union market and thus determines the price level of all modules sold in the Union, no matter where the modules were produced.

(58) The Commission did not see this connection. The fact that the sampled exporting producers, because they were subject to the terms of the undertaking, could not sell below the MIP, does not preclude other exporting producers both from the PRC and other third countries from doing so, if economically viable. Furthermore, the MIP can also not serve as a benchmark because it is business-confidential. This claim was therefore rejected.

(59) In the absence of a reliable export price for these Chinese exporting producers, due to the existence of the undertaking in this case, the Commission considered another methodology to establish the export price. Given

that the sampled exporting producers were selling solar panels on the world market, the Commission used unit export prices for solar panels sold in the biggest non-EU export markets (Chile, India, Japan and Singapore, depending on the exporting producer) of the sampled exporting producers, where those sales prices did not include trade defence duties. India appeared to have trade defence measures in place, but the Commission was able to use data from the exporting producers, who did not pay those duties, for the reason set out below in recital 60. It then turned out after disclosure that those duties were no longer in force during the RIP (see below recital 86)

(60) If the exporting producers export the product concerned directly to independent customers in the third country, the unit export price was the price actually paid or payable for the product concerned when sold for export to the relevant third country market, in accordance with Article 2(8) of the basic Regulation.

(61) If the exporting producers export the product concerned in the third country through a related company acting as an importer, the unit export price was established on the basis of the price at which the imported product was first resold to independent customers in the relevant third country market, in accordance with Article 2(9) of the basic Regulation. In this case, on the basis of the data supplied by the sampled exporting producers and verified by the European Commission, adjustments to the price were made for all costs incurred between importation and resale, including SG&A expenses (between 0,05 % and 9 %, depending on the data reported by and verified for the company in question), and for profits accruing (between 1 % and 3 %, depending on the data reported by and verified for the company in question). In this case, sales transactions including anti-dumping or countervailing duties were disregarded as they are not a reliable proxy for a price in the absence of measures. Therefore, duty-paid transaction in the United States of America were excluded, as the vast majority of these transactions were done through related importers.

(62) Following disclosure, one interested party argued that, when constructing the export price on the basis of Article 2(9), the Commission wrongly made adjustment for SG&A expenses and profit of related traders in the PRC and in Hong Kong.

(63) The same interested party pointed out that some of the allowances may have been double counted when direct selling expenses were added (as they were already included in the SG&A). The party also pointed out that its level of dumping when compared with its level of undercutting may point to some errors in the calculations.

(64) The Commission accepted these claims. A relevant adjustment on the account of traders in the PRC and in Hong Kong was made under Article 2(10)(i) instead of under Article 2(9) of the basic Regulation. The Commission also adjusted its calculations to avoid double counting of certain allowances. Furthermore, following the comment about dumping and undercutting the Commission discovered a clerical error in its calculations and corrected it. The changes in the calculations have no impact to the conclusion and the proposal. Nevertheless, the party was informed of the changes made after its comments on final disclosure and allowed to comment, if necessary, again.

(65) In order to establish the export price the unit export price established as described above was then multiplied by the quantities sold to the Union during the RIP.

(66) Following disclosure, one interested party questioned the use of third country export prices. According to the party, Chile and Singapore have limited solar installations and represent a minor share of the PRC's total cell and module exports. The same party requested the Commission to provide a breakdown of the export sales to each country in the calculated export price and the weighted average export prices in each of the four export countries considered, namely Chile, India, Japan and Singapore.

(67) Another interested party argued that by changing calculation methodology and using prices to third countries to calculate the export price contradicts Article 11(9) of the basic Regulation, as interpreted by the General Court ([17]).

(68) As explained above, for each sampled exporting producer the Commission used its biggest export markets. Chile and Singapore do not represent minor shares of the sampled exporting producer(s) in question. Concerning the

([17]) T-143/06 *MTZ Polyfilms* v *Council* EU:T:2009:441, paragraphs 38 to 52.

request for the breakdown of the export sales to each country in the calculated export price and the weighted average export prices in each of the four export countries considered, the Commission notes that this information contains business confidential information. Moreover, this information was obtained from the sampled exporting producers. It was then returned to them with the specific disclosure, so that they could verify whether it was used correctly in the relevant calculation. No comments concerning this issue were received from the sampled exporting producers. The following ranges can be provided in order to illustrate this point: Chile from 12 % to 18 % of the relevant exporting producer(s)' exports; India from 9 % to 15 % of the relevant exporting producer(s)' exports; Japan from 12 % to 22 % of the exporting producer(s)' exports; and Singapore from 40 % to 60 % of the exporting producer(s)' exports.

(69) With regards to the change in methodology, it is indeed true that, as it is apparent from Article 11(9) of the basic Regulation, as a general rule, the methodology for calculating the dumping margin followed in a review must be the same as that used in the original investigation which led to the imposition of the anti-dumping measures. However, the provision contains an exception which allows a different methodology to be applied in a case in which the circumstances have changed. As explained above the effect of the undertaking on the export prices to the Union was examined and the existence of MIP was found to render these prices unreliable. In accordance with Article 11(9), considering that the circumstances have changed, the Commission was entitled to apply a methodology which was different from that applied in the original investigation. In the judgment relied upon by the interested party, that possibility is explicitly foreseen, but the Council decided not to rely on it. Finally, the Commission's approach was confirmed by the Court of Justice ([18]).

(70) These claims were therefore rejected.

3.2.4. *Comparison*

(71) The Commission compared the normal value with the export prices for solar panels in the sampled exporting producers' biggest non-Union export markets (Chile, India, Japan and Singapore, depending on the sampled exporting producer).

(72) Where justified by the need to ensure a fair comparison, the Commission adjusted the normal value and/or the export price for differences affecting prices and price comparability, in accordance with Article 2(10) of the basic Regulation. Adjustments were made for transport and insurance, (between 0,02 % and 7 %, depending on the data reported by and verified for the company in question) handling, loading and ancillary expenses (between 0 % and 1 %, depending on the data reported by and verified for the company in question), credit cost (between 0,05 % and 0,5 %, depending on the data reported by and verified for the company in question) and bank charges (between 0 % and 0,03 %, depending on the data reported by and verified for the company in question).

3.2.5. *Dumping margin*

(73) For the sampled exporting producers, the Commission compared the weighted average normal value of each type of the like product in the analogue country with the weighted average export price of the corresponding type of the product concerned, in accordance with Article 2(11) and (12) of the basic Regulation.

(74) The dumping margins so established range from 23,5 % to 31,5 %.

(75) As mentioned in recital 48 above, the export price to the Union was significantly influenced by the undertaking and is therefore unreliable. Nevertheless, for the sake of completeness, the Commission compared the weighted average normal value of each type of the like product in the analogue country with the weighted average export price of the corresponding type of the product concerned to the Union. On this basis, dumping margins, expressed as a percentage of the CIF Union frontier price duty unpaid, from 8,9 % to 14,8 % were found in the RIP.

(76) This calculation showed dumping for exporting producers who, during the RIP, were subject to undertakings. It is recalled that the MIP in the undertakings was not based on the dumping margin. Thus the undertakings did not remove the dumping established in the original investigation completely.

([18]) C-374/12 *Valimar* v *Nachalnik na Mitnitsa Varna*, EU:C:2014:2231, paragraphs 40 to 49.

(77) Following disclosure, one interested party, who was not a sampled exporting producer, complained about no details of the calculation of the dumping margins were delivered.

(78) The Commission noted that detailed calculations were delivered to and verified by the sampled exporting producers that have provided the data. A disclosure to third parties, that goes beyond the meaningful summary provided in the general disclosure document and in the present Regulation, would violate the applicable provisions on the need to balance business confidentiality and procedural rights.

3.3. **Likelihood of continuation of dumping**

(79) As discussed in recitals 55 to 59 above, for all sampled exporting producers, the export price to the Union was on average at the level of the MIP. In addition, their export price to the Union was significantly higher than export prices to third countries. Consequently, it is very likely that in the absence of the undertaking the export price to the Union would decrease to the level of export prices to third countries. Therefore, the likely dumping margin, in the absence of the measures, would be in the range of 23,5 % to 31,5 %, as established in recital 74. These dumping margins are significantly higher than those which were established on the basis of the export price to the Union during the RIP (which were within the range of 400 EUR/kW and 700 EUR/kW for modules and 100 EUR/kW and 400 EUR/kW for cells). As established in recital 75, these dumping margins are in the range of 8,9 % to 14,8 %.

(80) When analysing whether there was a likelihood of continuation of dumping should the measures lapse, the Commission also analysed the following elements: attractiveness of the Union market and production capacity and consumption in the country concerned.

3.3.1. *Attractiveness of the Union market*

(81) In 2012, the Union market accounted for up to 60 % of the annual global new installed capacity. Since then its importance has diminished to 14 % in 2015 as indicated in recital 197. Its share is expected to remain important in the future. However, the forecasts for growth of the Union market of annual global new installed capacity are modest in comparison with the rest of the world.

(82) Nevertheless, the Union remains an important market with roughly 7,2 GW annual new installed capacity in the RIP and three of its Member States (France, Germany and the United Kingdom) amongst the top ten markets for solar modules in 2015 ([19]). Furthermore, the imposition and reinforcement of trade defence measures against imports from the PRC by Canada, India and the USA has reduced the attractiveness of these markets for exporting producers from the PRC, thereby increasing that of the Union market, should the measures lapse.

(83) The Chinese producers are still very interested in the Union market. Despite the introduction of the anti-dumping and countervailing measures in 2013, they have maintained a strong position on the Union market. Their share in the modules market dropped from 66 % in 2012 to 41 % in the RIP, whilst their share in the cells market increased from 7 % in 2012 to 16 % in the RIP. This reflects the trend that an increasing number of Union producers limit their activity to the segment of module production, purchasing cells in third countries. They account as Union production of modules. It also reflects the tendency that those exporting producers that also have production facilities in other third countries than the PRC withdraw from the undertaking and are selling to the Union from those third countries.

(84) Furthermore, as demonstrated by the anti-circumvention investigation in 2015, some of the Chinese producers were trying to avoid the measures by circumventing them through Taiwan and Malaysia, the biggest third countries in imports into the Union. Since the imposition of the measures, several undertakings have been withdrawn. The withdrawals were either voluntary or due to breaches or for reasons of impracticability (see for detailed references above footnote 6).

([19]) Ranking of the top ten countries in terms of capacity added in 2015: 1st China (15 GW); 2nd Japan (11 GW); 3rd the US (7,3 GW); 4th the UK (3,7 GW); 5th India (2 GW); 6th Germany (1,5 GW); 7th Korea (1 GW); 8th Australia (900 MW); 9th France (879 MW); 10th Canada (600 MW); source: Global Market Outlook For Solar Power, 2016-2020, Solar Power Europe, pp. 13-14.

(85) Following disclosure, one interested party argued that, despite the trade defence measures against imports from the PRC, the USA is an attractive market due to incentives and a very high natural sun irradiation level. Furthermore, according to the same party, contrary to the facts set out above, India does not have any trade defence measures against imports from the PRC. Furthermore, India plans to significantly increase its installed capacity.

(86) With regard to the USA, the Commission noted that the party provides no proof that the incentives completely offset the disadvantage posed by the duties to producers from the PRC. Indeed, the Commission did not claim that the US market is unattractive but that the presence of the duties reduced its attractiveness. With regard to India, the proposed duty was not enforced and was allowed to lapse in June 2014. However, even if India is not subject to duties, duties in Canada and the USA are increasing the attractiveness of the Union market, should the measures lapse. It also does not render the Union market unattractive as all the other considerations described above still stand.

3.3.2. *Production capacity and consumption in the country concerned*

(87) The spare capacity of all exporting producers in the PRC cooperating with this investigation is at around 33 %, according to their sampling replies. These companies alone had a spare capacity during the RIP (around 10 GW) capable of satisfying the entire Union market. It is to be noted that the spare capacity of the largest cooperating producers by volume, is much lower, their capacity utilisation ranging from 86 % to 97,8 %.

(88) Following disclosure, one interested party questioned this data arguing that the four largest Chinese manufacturers (Trina, JA Solar, Jinko and Canadian Solar) were operating at full capacity. According to the interested party these four producers account for more than 40 % of the total Chinese exports (about 11,2 GW). Consequently, to reach the 43 % spare capacity in 2016 indicated by the Commission, all smaller producers would have to operate at a mere 20 % capacity utilisation. The interested party requested the Commission to provide details of the calculation of the 43 % average.

(89) The Commission first noted that the spare capacity of all exporting producers in the PRC cooperating with this investigation is estimated at around 33 %, not 43 %. Furthermore the party's calculations outlined above are based on the assumption that JA Solar and Canadian Solar were cooperating with the investigation. These two manufacturers did not cooperate with the investigation. Thus their capacity and capacity utilisation is unknown to the Commission and was not taken into consideration in the calculations above.

(90) The claim was therefore rejected.

(91) The overall Chinese production capacity of modules is estimated at 96,3 GW/year for 2015 and is expected to reach 108 GW/year in 2016 ([20]). At the same time, global demand was estimated at 50,6 GW in 2015 and is projected to increase to 61,7 GW in 2016 ([21]). Therefore, the total spare capacity of the Chinese producers exceeded by large the global demand, namely by 47,5 %, in 2015 and will exceed it by 42,9 % in 2016.

(92) Several parties argued that Chinese domestic demand has been increasing in the last few years, reaching 50 % of Chinese solar module production by the first quarter of 2016. China would allegedly have around 20 GW annual new installations per year until 2020. However, as shown above and further developed in recitals 186 to 195, the Chinese exporting producers' excess capacity would be capable of meeting the total global demand in the future, including all rapidly growing markets such as China itself, India, Japan and South America taken together.

(93) Two interested parties questioned the data for the capacity in the PRC and the global consumption used by the Commission. One interested party argued that further capacity will be required to cover the growing demand for solar installations in the PRC and elsewhere in the near future. According to the party the Commission failed to provide any sound arguments that the alleged excess capacity in the PRC would be destined for the Union market.

([20]) Bloomberg New Energy Finance ('BNEF') 'Solar manufacturer capacity league table'; accessed on 28.10.2016.
([21]) Global Market Outlook For Solar Power, 2016-2020, Solar Power Europe, p. 18.

(94) These claims are addressed in recitals 190-191 below.

3.3.3. *Conclusion on the likelihood of continuation of dumping*

(95) In light of the estimated significant spare capacity in the PRC, combined with the attractiveness of the Union market in terms of size and sales price, in particular with regard to the price level of the PRC exports to third countries, and the records of past circumvention practices, the Commission concluded that there is a strong likelihood that the repeal of the anti-dumping measures would result in a significant increase of dumped imports of solar cells and modules from the PRC to the Union.

4. **INJURY**

4.1. **Definition of the Union industry and Union production**

(96) The like product was manufactured by over 100 producers in the Union during the review investigation period. They constitute the 'Union industry' within the meaning of Article 4(1) of the basic Regulation.

(97) All available information concerning the Union industry was used to establish the total Union production for the RIP since complete public information on production was not available. This information included: macro-economic data provided by the applicant, but collected on its behalf by Europressedienst, an independent consultancy firm; the standing replies of interested parties provided at pre-initiation stage and the verified questionnaire responses of the sampled Union producers.

(98) On this basis, the total Union production during the review investigation period was estimated to be at around 3 409 MW for modules and 1 270 MW for cells.

4.2. **Determination of the relevant Union market**

(99) A part of the Union industry is vertically integrated and, as far as the production of cells is concerned, a substantial part of the Union industry's production was destined for captive use (96 %). Hence, the free market for cells was very marginal. Following disclosure, one interested party contested the last statement arguing that the free market constituted a big part of the total market for cells (estimated at 3 409 MW, see Table 1b below). The Commission accepted this correction as indeed the captive market in the Union constituted only 31,8 % of the total cells consumption. However, this does not alter the finding that a substantial part of the Union industry's cells production was destined for captive use and has no impact on the analysis made on injury and Union interest. Indeed, the free market for cells is mainly served by imports and not by sales of the Union cells producers, given the fact that most of the cells producers exited the market in the last few years.

(100) In order to establish whether the Union industry continued to suffer injury and to determine consumption and the various economic indicators related to the situation of the Union industry, the Commission examined whether and to what extent the subsequent use of the Union industry's production of the like product ('captive use') had to be taken into account in the analysis.

(101) The Commission analysed the following economic indicators by referring to the total activity (including the captive use of the industry): consumption, sales volume, production, production capacity, capacity utilisation, growth, investments, stocks, employment, productivity, cash flow, return on investment, ability to raise capital and magnitude of the dumping margin. For those indicators the Commission found, in line with the original investigation, that the production destined for captive use was equally affected by the competition of imports from the country concerned. The cells destined for the captive market were used as the main component for the production of modules. Therefore, the direct competition of imports of modules from the country concerned

faced by the Union module producers also exercised an indirect pressure on the captive sales price and/or costs of production of the cells used in those modules. In addition, the import of cells from the PRC increased the pressure on module producers using captive cell production. They were competing not only with modules assembled in third countries from Chinese cells, but also with modules assembled in the Union using those imported Chinese cells.

(102) Consequently, in contrast to other cases ([22]), where a distinction between captive and free market was relevant for the injury analysis because products destined for captive use were found not to be exposed to direct competition from imports, the Commission established at the case at hand that for most of the economic indicators, no distinction between captive and free market was justified.

(103) However, as regards profitability, the Commission looked only at the sales on the free market. The prices on the captive market were set according to various pricing policies (transfer pricing at virtual market price, transfer on the basis of the actual costs, etc.). Thus they did not always reflect prices at arm's length and could not be taken into account when assessing this indicator.

(104) Following disclosure, several parties argued that the state of the Union cells industry should have been assessed separately for the captive market and the free market. First, they claimed that the Commission failed to provide a proper reasoning on how the captive market has been equally affected by the competition of the imports from the PRC. Second, one party contended that since the Commission considered that the prices on the captive market were unreliable to assess profitability, it is equally inaccurate to draw the conclusion that they underwent pressure because of imports of modules. Third, a common analysis of the two markets contradicts the fact that cell consumption decreased less than the module consumption during the period considered. This arguably means that there is no direct link between import of modules and import of cells and between the decrease in imports of cells and prices of cells exposed to the free market.

(105) First, contrary to the claims of the parties, the Commission provided in recitals 101-102 above a detailed reasoning on how the captive market for cells has been equally affected by the competition of the imports from the PRC. Since the cell is the main component for the production of a module, the imports of modules from the PRC exercise an indirect pressure on the captive sales price of cells, when the transfer price is based on a virtual market price. In the alternative, when the transfer is based on actual cost, imported cells put pressure on companies to make their production process more efficient. Second, even though the prices on the captive market are unreliable to assess profitability, the Commission considered the development of those prices a relevant factor for assessing whether the captive market faced competition from the imports from the PRC. Third, the Commission did not assert that there is a direct link between imports of modules and import of cells. Rather it observed that the captive use of cells is also subject to the direct competition of imports of cells and indirect competition of imports of modules since the captive cells are used for producing modules. Finally, the interested party failed to prove that there is no link between prices of cells on the free market and decrease in imports of cells. Indeed, as evident from Table 8b the sales prices of the Union cells industry increased when the imports of cells from China decreased both in volume and in market share between 2014, when the measures started to have a full effect, and the RIP. Consequently, these arguments were rejected.

(106) Following disclosure, the Government of China ('GOC') contended that a common analysis of the captive and free market for cells actually eliminates an analysis of the free market as it is only 4 % of the total Union cell production. The Commission thus failed to examine the state of the domestic industry as a whole and does not, therefore satisfy the requirements of 'objectiv[ity]' in Article 3.1 of the Anti-dumping Agreement.

(107) The Commission failed to understand how the common analysis of the captive and free market for cells eliminated an analysis of the free market. In fact, the Commission analysed a number of injury indicators only for the free market such as profitability, sales prices and return on investments. In addition, a number of indicators are analysed cumulatively, even in cases when a separate analysis of captive and non-captive market is made ([23]). Those indicators often are: production, capacity, capacity utilisation, investments, return on investments,

([22]) See, *inter alia*, Commission Implementing Regulation (EU) 2016/113 of 28 January 2016 imposing a provisional anti-dumping duty on imports of high fatigue performance steel concrete reinforcement bars originating in the People's Republic of China (OJ L 23, 29.1.2016, p. 16), recitals 52-56 thereof.

([23]) See for example Implementing Regulation (EU) 2016/113 quoted in footnote 22 above.

employment, productivity, stocks and labour costs. Last but not least, the injury indicators of those Union cell producers which sold exclusively on the free market followed the same trends, and, as a result, the conclusions reached for the entire Union cell industry apply to them as well. The GOC insisted that according to WTO case law, in case of the presence of a captive market for part of the product under investigation, a comparative analysis has to be carried out. The Commission considered that this requirement, if it was applicable in the present, very specific case, was in any event complied with. For the part of the Union cell production that is sold on a captive market, injury has been established on the basis of indirect price pressure at the level of the modules into which those cells are built. For the part of the Union cell production that is sold on a free market, the injury indicators have also been assessed separately, and show the same trends as for the captive part of the market (which, due to the fact that it represents 96 % of Union production, are virtually identical to the cumulative assessment). Consequently, this argument was rejected.

(108) The GOC also argued that the statement that the Union modules manufacturers compete with modules assembled in third countries with Chinese cells unlawfully extends the scope of the investigation. However, such modules have been included in the scope of the investigation from the outset since cells confer origin to modules ([24]). Therefore, this claim was rejected.

(109) Following disclosure, another party claimed that the analysis of profitability on the basis of 4 % of the Union cell production is not representative for an accurate assessment on the need to maintain duties. The Commission noted that only profitability was assessed exclusively on the basis of the sales of cells to independent customers for the reasons set out in recital 103 above. However, for the purposes of assessing the state of Union industry, all other indicators were analysed taking into account both the captive and free market of cells. Consequently, this argument was rejected.

(110) Jabil assembled modules on behalf of other companies during the RIP as a contract manufacturer. For this assembly service, the other companies paid a fee. They also took full contractual responsibility for the sales of the modules assembled by Jabil. Consequently, the revenue reported by Jabil was not derived from the sales of modules, but from the service fees. Therefore, the Commission decided to distinguish Jabil's profit figures from the profit figures of the rest of the Union module industry (see recitals 160 and 161 below). For the remaining injury indicators, the assembly activities provided by Jabil to non-cooperating module producers could not be verified and therefore were not taken into account.

(111) Following disclosure, one interested party requested further clarifications on what data from Jabil was or was not taken into account and why. For all injury indicators, except for profitability, the Commission has taken into account all data provided by Jabil which relate to the cooperating Union module producers. Only that data was taken into account as it could be verified, while the rest was disregarded, in view of Jabil's particular business model and the fact that the final sales prices could not be verified.

4.3. **Union consumption**

(112) The Commission established the Union consumption on the basis of the total volume of imports of the product concerned and the volume of total sales of the like product in the Union, including those destined for captive use. The total sales of the Union industry were based on the information provided by Europressedienst, corrected, where appropriate, with data from the standing replies of interested parties submitted at pre-initiation stage and the verified questionnaire replies of the sampled companies. As indicated in recital 116 below, import data was based on Comext and the data reported to the Commission by the Member States in accordance with Article 14(6) of the basic Regulation ('Article 14(6) database'). The data on consumption was cross-checked with other sources ([25]).

([24]) Commission Implementing Regulation (EU) No 1357/2013 of 17 December 2013 amending Regulation (EEC) No 2454/93 laying down provisions for the implementation of Council Regulation (EEC) No 2913/92 establishing the Community Customs Code (OJ L 341, 18.12.2013, p. 47).

([25]) Bloomberg New Energy Finance, Global PV Demand, 18 February 2016, Global Market Outlook Solar Power Europe, July 2016; IHS, The Price of Solar, Benchmarking PV Module Manufacturing Cost, June 2016; PV Status Report 2016, October 2016, a Joint Research Centre Study available at: https://setis.ec.europa.eu/sites/default/files/reports/Perspectives%20on%20future%20large-scale%20manufacturing%20of%20PV%20in%20Europe.pdf, accessed on 12.12.2016.

(113) Union consumption developed as follows:

Table 1a

Union consumption for modules (in MW)

	2012	2013	2014	RIP
Total market	16 324	10 580	7 292	7 191
Index (2012 = 100)	*100*	*65*	*45*	*44*

Source: Europressedienst, standing replies, verified questionnaire replies, Comext and Article 14(6) database.

Table 1b

Union consumption for cells (in MW)

	2012	2013	2014	RIP
Total market	4 604	4 449	3 262	3 409
Index (2012 = 100)	*100*	*97*	*71*	*74*

Source: Europressedienst, standing replies, verified questionnaire replies, Comext and Article 14(6) database.

(114) In overall terms the Union consumption decreased considerably between 2012 and the RIP. The Union consumption for modules fell by 56 %. However, after the dramatic drop between 2012 and 2013 by 35 %, the consumption remained rather stable in 2014 and the RIP.

(115) Concerning cells, consumption decreased slightly less, i.e. by 26 % during the period considered. The drop in consumption took place mainly between 2013 and 2014 when it plummeted by 26 %. However, it started to recover during the RIP when it increased by 4,5 % in comparison with 2014.

4.4. **Imports from the country concerned**

(116) Import volumes and values were based on different sources. For 2012 and part of 2013 they were based on data provided by the applicant, but collected on its behalf by Europressedienst, since at that time modules and cells were imported into the Union under customs headings covering other products not subject to the present investigation and Eurostat could thus not be used. After the registration of imports of modules and cells had been introduced on 6 March 2013 ([26]), Eurostat data could be used. Consequently, for the rest of 2013, 2014 and the RIP the Commission based its findings on the Comext database ([27]) and the Article 14(6) database.

([26]) Commission Regulation (EU) No 182/2013 of 1 March 2013 making imports of crystalline silicon photovoltaic modules and key components (i.e. cells and wafers) originating in or consigned from the People's Republic of China subject to registration (OJ L 61, 5.3.2013, p. 2).

([27]) Comext is a database on foreign trade statistics managed by Eurostat.

4.4.1. *Volume and market share of the imports from the country concerned*

(117) Imports into the Union from the country concerned developed as follows:

Table 2a

Imports of modules from the PRC (in MW) and market share ([28])

	2012	2013	2014	RIP
Import volumes from the PRC	10 786	5 198	2 845	2 917
Index	*100*	*48*	*26*	*27*
Market share (%)	66	49	39	41
Index (2012 = 100)	*100*	*74*	*59*	*61*

Source: Comext and Article 14(6) database.

Table 2b

Imports of cells from the PRC (in MW) and market share

	2012	2013	2014	RIP
Import volumes from the PRC	333	386	613	548
Index	*100*	*116*	*184*	*165*
Market share (%)	7	9	19	16
Index (2012 = 100)	*100*	*120*	*260*	*223*

Source: Comext and Article 14(6) database.

(118) During the period considered the import volumes of modules from the PRC decreased by 73 %, with a corresponding decrease in market share by 39 %, i.e. from 66 % in 2012 to 41 % during the RIP. However, after the existing measures were imposed in 2013, import volumes of modules decreased by 45 % between 2013 and 2014, while consumption decreased by 31 %.

(119) Regarding cells, the import volumes increased by 65 % during the period considered, which resulted in a much bigger increase in market share, i.e. by 123 % (from 7 % in 2012 to 16 % during the RIP), in the context of a shrinking market. At the same time between 2013 and 2014 the imports of cells increased by 59 %, which resulted in an increase in market share of 10 percentage points. Even though the surge did not continue in the RIP, the level of imports remained much higher during the RIP than in 2012 and 2013.

4.4.2. *Prices of the imports from the country concerned*

(120) The Commission established the prices of imports on the basis of Comext and Article 14(6) database.

([28]) All Tables 1-11 contain rounded figures. The indexes and percentages are based on the actual figures and may differ, if expressed on the basis of the rounded figures.

(121) The average price of imports into the Union from the country concerned developed as follows:

Table 3a

Import prices of modules (EUR/kW)

	2012	2013	2014	RIP
PRC's import prices	700	520	553	544
Index (2012 = 100)	*100*	*74*	*79*	*78*

Source: Comext and Article 14(6) database.

Table 3b

Import prices of cells (EUR/kW)

	2012	2013	2014	RIP
PRC's import prices	500	350	282	286
Index (2012 = 100)	*100*	*70*	*56*	*57*

Source: Comext and Article 14(6) database.

(122) The average import price from the PRC dropped by 22 % for modules and by 43 % for cells during the period considered. For modules the import price decreased in 2012 and 2013 and then, when the measures entered into force, the price increased by 6,3 % for modules between 2013 and 2014. It slightly decreased again between 2014 and the RIP, i.e. by 1,6 %. Regarding cells, the import price decreased by 43 % during the period considered. It decreased by 30 % between 2012 and 2013 and continued to decrease between 2013 and 2014 when it plummeted further by 19,4 %. However, it slightly increased between 2014 and the RIP, by 1,4 %.

(123) As indicated in Section 3.2.3 above, almost all exporting producers which sold modules and cells during the RIP from the PRC to the Union had price undertakings and their export prices to the EU were determined by those price undertakings which set a minimum import price. Only 1,6 % of the volume of imports of modules and 0,6 % of cells were made outside the minimum import price ([29]). Consequently, such export prices could not be considered a pertinent indicator in order to establish the pricing behaviour of the exporting producers should the measures not be in place.

(124) Following disclosure, several parties argued that the export price to the EU should be used to establish undercutting and they calculated that there was no undercutting on this basis. It is true that on the basis of the export prices to the EU there is no undercutting for modules and that the undercutting for cells is very marginal. However, the Commission considered that the lack of undercutting because of compliance with the MIP was not the decisive indicator for the analysis of the current state of the Union industry. As indicated in recitals 170 below, the Commission established that the Union industry continued to suffer injury from the past dumping practices found in the previous investigation and from the circumvention practices found as referred to in recital 4 above and did not have sufficient time to recover.

([29]) The latter was not based on the dumping margin.

4.4.3. *Prices of the imports from other countries*

(125) The average price of imports into the Union from third countries were also based on Comext and Article 14(6) data and developed as follows:

Table 4a

Modules — imports from third countries

	2012	2013	2014	RIP
Volume (MW)	1 395	1 382	2 049	1 808
Index (2012 = 100)	*100*	*99*	*147*	*130*
Market share (%)	9	13	28	25
Index (2012 = 100)	*100*	*153*	*329*	*290*
Average price (EUR/kW)	700	520	547	550
Index (2012 = 100)	*100*	*74*	*78*	*79*

Source: Comext and Article 14(6) database.

Table 4b

Cells — imports from third countries

	2012	2013	2014	RIP
Volumes (MW)	3 227	3 334	1 580	1 725
Index (2012 = 100)	*100*	*103*	*49*	*53*
Market share (%)	70	75	48	51
Index (2012 = 100)	*100*	*107*	*69*	*72*
Average price (EUR/kW)	500	350	289	275
Index (2012 = 100)	*100*	*70*	*58*	*55*

Source: Comext and Article 14(6) database.

(126) During the period considered imports from third countries into the Union increased by 30 % for modules. The biggest surge was between 2013 and 2014, when the volumes increased by 48 %. Their market share increased significantly, from 9 % in 2012 to 25 % in the RIP. Again, the biggest change happened between 2013 and 2014 when the market share increased from 13 % to 28 %. Taiwan, Malaysia and Singapore were the biggest exporters after the PRC. It should be noted that imports from Taiwan and Malaysia may have included circumvention (see recital 4 above).

(127) Regarding cells the imports from other countries decreased by 47 % during the period considered. The biggest drop, i.e. by 52 %, occurred between 2013 and 2014, while they slightly increased by 9 % between 2014 and the RIP. This resulted in a decrease in market share from 70 % in 2012 to 51 % in the RIP. The decrease was from 75 % to 48 % between 2013 and 2014 and then slightly increased with three percentage points during the RIP. Regarding cells, Taiwan and Malaysia were the biggest exporters, followed by the PRC and the USA. It should be noted that imports from Taiwan and Malaysia may have included circumvention (see recital 4 above).

(128) The average export prices from third countries for both modules and cells decreased significantly during the period considered, in line with the Chinese and Union prices. For modules they decreased by 21 % and for cells by 45 % during the period considered. Again, those prices may have been influenced by circumvention practices (see recital 4 above).

4.5. **Economic situation of the Union industry**

4.5.1. *General remarks*

(129) In accordance with Article 3(5) of the basic Regulation, the Commission examined all economic factors and indices having a bearing on the state of the Union industry during the period considered.

(130) For the injury analysis, the Commission distinguished between macroeconomic and microeconomic injury indicators. The Commission evaluated the macroeconomic indicators on the basis of data obtained from the applicant, cross-checked with the standing replies sent by a number of Union producers at pre-initiation stage and the verified questionnaire replies of the sampled Union producers. The Commission evaluated the micro-economic indicators on the basis of data contained in the questionnaire replies from the sampled Union producers.

(131) The macroeconomic indicators are: production, production capacity, capacity utilisation, sales volume, market share, growth, employment, productivity, magnitude of the dumping margin, and recovery from past dumping.

(132) The microeconomic indicators are: average unit prices, unit cost, labour costs, inventories, profitability, cash flow, investments, return on investments, and ability to raise capital.

4.5.2. *Macroeconomic indicators*

4.5.2.1. Production, production capacity and capacity utilisation

(133) The total Union production, production capacity and capacity utilisation developed over the period considered as follows:

Table 5a

Modules — production, production capacity and capacity utilisation

	2012	2013	2014	RIP
Production volume (MW)	4 604	4 449	3 262	3 409
Index	*100*	*97*	*71*	*74*
Production capacity (MW)	8 624	7 907	7 391	6 467
Index	*100*	*92*	*86*	*75*
Capacity utilisation (%)	53	56	44	53
Index	*100*	*105*	*83*	*99*

Source: Europressedienst, standing replies, verified questionnaire replies.

Table 5b

Cells — production, production capacity and capacity utilisation

	2012	2013	2014	RIP
Production volume (MW)	1 066	734	1 096	1 270
Index	*100*	*69*	*103*	*119*
Production capacity (MW)	2 384	1 844	1 778	1 811
Index	*100*	*77*	*75*	*76*
Capacity utilisation (%)	45	40	62	70
Index	*100*	*89*	*138*	*157*

Source: Europressedienst, standing replies, verified questionnaire replies.

(134) The overall Union production of modules decreased by 26 % during the period considered, but increased by 4,5 % between 2014 and the RIP. Against the drop in consumption, production capacity responded to the trend of decreasing production and also decreased by 25 % during the period considered. Hence, the capacity utilisation rate remained stable between the beginning and the end of the period considered, reaching 53 % during the RIP. However, there was a major increase in capacity utilisation by 9 percentage points between 2014 and the RIP (i.e. an increase by 19 %). It should be noted that the sampled Union module producers had much higher capacity utilisation rate during the period considered, reaching 85 % during the RIP, an increase by 39 % in comparison with 2012 (61 %).

(135) The Union production of cells increased by 19 % during the period considered. While production fell by 31 % between 2012 and 2013, it increased by 49 % between 2013 and 2014 and by further 15 % between 2014 and the RIP. This coincided with the imposition of the anti-dumping measures in December 2013, while consumption constantly decreased in the period between 2012 and 2014, but increased between 2014 and the RIP. At the same time production capacity decreased by 24 % during the period considered, which led to a significant increase of capacity utilisation, from 45 % in 2012 to 70 % in the RIP. Similarly to module producers, the sampled cells producers had much higher capacity utilisation rate than the overall Union industry (86 %), which remained stable during the period considered.

(136) In conclusion, the Union industry decreased its capacity in response to a decrease in consumption. At the same time it increased its production during the RIP in comparison with 2014 which further improved the capacity utilisation rate.

4.5.2.2. Sales volume and market share

(137) The Union industry's sales volume and market share developed over the period considered as follows:

Table 6a

Modules — sales volume and market share

	2012	2013	2014	RIP
Total sales volume (captive and open market) in the Union (MW)	4 143	4 000	2 398	2 465
Index	*100*	*97*	*58*	*60*

	2012	2013	2014	RIP
Market share (%)	25	38	32	35
Index	*100*	*149*	*128*	*140*

Source: Europressedienst, standing replies, verified questionnaire replies.

Table 6b

Cells — sales volume and market share

	2012	2013	2014	RIP
Total sales volume (captive and open market) in the Union (MW)	1 045	729	1 069	1 136
Index	*100*	*70*	*102*	*109*
Market share (%)	23	16	33	33
Index	*100*	*72*	*144*	*147*

Source: Europressedienst, standing replies, verified questionnaire replies.

(138) During the period considered the sales volumes of modules decreased by 40 %. However, in the context of a decrease in consumption by 56 %, this translated into a significant increase in market share during the period considered by 40 %, reaching 35 % during the RIP.

(139) Regarding cells, the Union industry's sales volumes increased by 9 % during the period considered. This resulted in an increase in market share from 23 % in 2012 to 33 % during the RIP, while consumption decreased much less than for modules, i.e. by 26 %.

(140) In the context of a shrinking consumption and the entry into force of the anti-dumping measures, the Union industry managed to increase its market share for both modules and cells.

4.5.2.3. Employment and productivity

(141) Employment and productivity developed over the period considered as follows:

Table 7a

Modules — employment and productivity

	2012	2013	2014	RIP
Number of employees	17 321	13 918	6 506	6 303
Index	*100*	*80*	*38*	*36*

	2012	2013	2014	RIP
Productivity (kW/employee)	266	320	501	541
Index	*100*	*120*	*189*	*203*

Source: Europressedienst, standing replies, verified questionnaire replies.

Table 7b

Cells — employment and productivity

	2012	2013	2014	RIP
Number of employees	2 876	1 511	1 846	1 770
Index	*100*	*53*	*64*	*62*
Productivity (kW/employee)	371	486	594	717
Index	*100*	*131*	*160*	*194*

Source: Europressedienst, standing replies, verified questionnaire replies.

(142) Employment decreased between 2012 and the RIP for modules and cells by 64 % and 38 % respectively. The main decrease (by 53 %) in the number of employees for modules took place between 2013 and 2014, a much bigger decrease in comparison with the drop in production during the same period (by 27 %). For cells, the number of employees increased by 22 % between 2013 and 2014, which was much less than the increase of production — by 49 % during the same period. This resulted in significant productivity increase for both modules and cells, i.e. by 103 % and 94 % respectively during the period considered. Between 2013 and 2014 the productivity increase was by 57 % for modules and by 22 % for cells.

(143) Following disclosure, one interested party contested the Commission's findings on the number of employees employed in the Union industry, claiming that there had been double counting of employees of the cell and module manufacturing of the biggest company, SolarWorld. The figures regarding the employees of SolarWorld and all other sampled companies have been duly verified and it has been ensured that no employees have been double counted in the case of vertically integrated companies. Therefore, this argument was rejected.

4.5.2.4. Magnitude of the dumping margin and recovery from past dumping

(144) As explained in Section 3.2.3 above, during the review investigation period the export prices of the exporting producers to the Union were influenced by the undertakings and therefore not reliable enough to be used for the determination whether dumping would be likely to continue or recur should the anti-dumping measures be allowed to lapse.

(145) However, the analysis of the injury indicators shows that the measures in place had a positive impact on the Union industry which is deemed to be recovering from the effect of past dumping.

4.5.3. *Microeconomic indicators*

(146) Only three cell producers were sampled and two of them are members of EU ProSun. They cooperated in bringing the request, which contained the figures of both producers. Hence, all figures related to microeconomic indicators for cells which can be directly traced to the third company, not member of EU ProSun, are given as ranges to protect the confidentiality of this Union producer who cooperated with the investigation.

4.5.3.1. Prices and factors affecting prices

(147) The average unit sales prices of the sampled Union producers to unrelated customers in the Union developed as follows over the period considered:

Table 8a

Modules — sales prices in the Union

	2012	2013	2014	RIP
Average sales price in the Union on the free market (EUR/kW)	790	651	618	593
Index	*100*	*82*	*78*	*75*
Unit cost of production (EUR/kW)	1 112	813	648	627
Index	*100*	*73*	*58*	*56*

Source: verified questionnaire replies.

Table 8b

Cells — sales prices in the Union

	2012	2013	2014	RIP
Average sales price in the Union on the free market (EUR/kW)	378-418	307-339	239-264	258-284
Index	*100*	*81*	*63*	*68*
Unit cost of production (EUR/kW)	587-648	402-444	347-384	338-373
Index	*100*	*69*	*59*	*58*

Source: verified questionnaire replies.

(148) The table above shows the evolution of the unit sales price on the Union free market as compared to the corresponding cost of production. Sales prices fell significantly, i.e. by 25 % for modules, and by 32 % for cells during the period considered. While for modules sales prices fell continuously throughout the period considered, for cells they increased with 5 percentage points between 2014 and the RIP. The sales of cells on the open market made up less than 5 % of the overall production of the sampled producers and in addition one producer sold large quantities at very low prices in anticipation of its business closure in the EU. Therefore, no meaningful conclusion could be drawn from this indicator. Among some sampled producers cells for captive consumption were transferred or delivered for the production of modules using different methodology (transfer pricing at virtual market price, transfer on the basis of the actual costs, etc.). Therefore, no meaningful conclusion could be drawn from captive use price evolution, either.

(149) Unit cost of production fell sharply, i.e. by 46 % for modules and by 42 % for cells during the period considered.

(150) Sales prices for modules have on average been lower than the unit cost of production, but the difference decreased continuously throughout the period considered, and especially after the imposition of the measures in 2013. While the sales price was only 71 % of the unit cost of production for modules in 2012, it was 80 % in 2013, 94 % in 2014 and 94,5 % in the RIP. Thus the difference between the sales price and the cost of production decreased steeply, by 14 percentage points, between 2013 and the RIP.

(151) For cells the sales price was 60 %-67 % of the unit cost of production in 2012, 72 %-80 % in 2013, 65 %-72 % in 2014 and 72-79 % in the RIP. However, as explained above for 2014 and the RIP the trend was strongly influenced by the exceptionally low prices of one Union producer. For the other two sampled companies the trend was 75-80 % in 2014 and 81-86 % in the RIP, largely in line with the one observed for modules.

(152) Overall, the industry started recovering from the past dumping but also made increased efforts to regain its competitiveness, in particular by increasing the productivity of the Union industry's workforce, as set out in recital 141, which resulted in productivity gains and in improved capacity utilisation.

4.5.3.2. Labour costs

(153) The average labour costs of the sampled Union producers developed as follows over the period considered:

Table 9a

Modules — Average labour costs per employee

	2012	2013	2014	RIP
Average labour costs per employee (EUR)	32 918	38 245	36 577	38 343
Index	*100*	*116*	*111*	*116*

Source: verified questionnaire replies.

Table 9b

Cells — Average labour costs per employee

	2012	2013	2014	RIP
Average labour costs per employee (EUR)	41 289-45 590	45 002-49 689	45 188-49 895	47 825-52 807
Index	*100*	*109*	*109*	*116*

Source: verified questionnaire replies.

(154) Between 2012 and the RIP the average labour costs per employee both for modules and cells increased by 16 %. These increases were mainly caused by the severance payments linked to the rationalisation of the number of employees and wage inflation.

4.5.3.3. Inventories

(155) Stock levels of the sampled Union producers developed over the period considered as follows:

Table 10a

Modules — Inventories

	2012	2013	2014	RIP
Closing stocks (kW)	186 533	114 792	196 944	191 207
Index	*100*	*62*	*106*	*103*
Closing stocks as a percentage of production (%)	33	13	13	11
Index	*100*	*40*	*38*	*34*

Source: verified questionnaire replies.

Table 10b

Cells — Inventories

	2012	2013	2014	RIP
Closing stocks (MW)	53 029-58 553	90 079-99 462	99 999-110 415	135 492-149 606
Index	*100*	*170*	*189*	*256*
Closing stocks as a percentage of production (%)	18	23	12	14
Index	*100*	*125*	*68*	*80*

Source: verified questionnaire replies.

(156) During the period considered stocks slightly increased for modules by 3 % and increased significantly for cells by 156 %. However, for both modules and cells stocks decreased as a percentage of total production by 66 % and 20 % respectively.

(157) Inventories cannot be considered as a relevant injury indicator in this sector, as production and sales are mainly based on orders and, accordingly, producers tend to hold limited stocks.

4.5.3.4. Profitability, cash flow, investments, return on investments and ability to raise capital

(158) Profitability, cash flow, investments and return on investments of the sampled Union producers developed over the period considered as follows:

Table 11a

Modules — Profitability, cash flow, investments and return on investments

	2012	2013	2014	RIP
Profitability of sales in the Union to unrelated customers including Jabil (% of sales turnover) [1]	– 24,4/– 29,5	– 24,4/– 29,5	– 6,8/– 8,2	– 7,7/– 9,3
Index	*100*	*100*	*361/298*	*319/264*

	2012	2013	2014	RIP
Profitability of sales in the Union to unrelated customers excluding Jabil (% of sales turnover)	– 32,7	– 27,2	– 8,7	– 9,5
Index	*100*	*120*	*376*	*344*
Cash flow (EUR)	– 129 864 423	– 69 402 391	– 18 231 488	– 145 258 620
Index	*100*	*187*	*712*	*89*
Investments (EUR)	24 134 924	12 407 723	17 333 494	24 565 553
Index	*100*	*51*	*72*	*102*
Return on investments (%)	– 6	– 10	– 3	– 2
Index	*100*	*55*	*193*	*258*

([1]) The actual profit figures had to be presented in ranges in order to avoid that the other sampled companies would be able to deduct the profit achieved by Jabil.
Source: verified questionnaire replies.

Table 11b

Cells — Profitability, cash flow, investments and return on investments

	2012	2013	2014	RIP
Profitability of sales in the Union to unrelated customers (% of sales turnover)	– 37,7 - – 41,6	– 7,2 - – 7,9	– 26,6 - – 29,3	– 36,8 - – 40,7
Index	*100*	*527*	*142*	*102*
Cash flow (EUR)	– 41 934 911 - – 46 303 131	– 17 537 454 - – 19 364 273	– 12 414 052 - – 13 707 182	– 29 027 946 - – 32 051 690
Index	*100*	*239*	*338*	*144*
Investments (EUR)	29 435 820- 32 502 051	26 074 619- 28 790 726	7 001 485- 7 730 807	11 429 509- 12 620 083
Index	*100*	*89*	*24*	*39*
Return on investments (%)	– 6,0 - – 6,7	– 2,5 - – 2,7	– 24,6 - – 27,2	– 31,8 - – 35,1
Index	*100*	*246*	*25*	*19*

Source: verified questionnaire replies.

(159) The Commission established the profitability of the sampled Union producers by expressing the pre-tax net profit of the sales of the like product to unrelated customers in the Union as a percentage of the turnover of those sales.

(160) As indicated in recital 110 above, one sampled company, Jabil, is an assembly operator and is not involved in the business of selling modules. It had a different trend in profitability. It was profitable throughout the period considered and increased its profitability during the RIP, reaching 5-15 %. However, Jabil achieved its profits on the basis of the fee it collected from its customers for the assembly service and not on the basis of the sales of modules. Furthermore, it did not incur expenses related to the sales of modules, such as marketing costs (it incurred only costs for finding new contract manufacturers). It also had a costs structure different from the one incurred by a typical module producer that is fully responsible for the production and the sales of its product. For example, Jabil had lower working capital, inventory costs, accounts payable and receivable as well as lower R & D costs.

(161) The Commission observed that the figure on profitability in the 1st column of Table 11a combined figures from two different groups. On the one hand, it included the module producers, which manufacture the product and sell it. On the other hand, it also included the sampled company Jabil, which merely assembles the modules. In order to have a realistic view on the state of the industry, the Commission decided to differentiate between the two groups in its further analysis. It thus added a second column to Table 11a, which it considered more reliable for the assessment of the profitability of the Union's module industry.

(162) The sampled modules producers, excluding Jabil, were loss making during the period considered. However, losses decreased by 244 % during the period considered. They decreased by 5,5 percentage points in 2013, when compared to 2012. This coincided with the time when the measures entered into force (the provisional measures entered into force on 6 June 2013). Losses decreased significantly more, by 18,5 percentage points, between 2013 and 2014, when the effects of the measures covered the entire year. During the RIP the losses slightly increased by 0,8 percentage points. However, this was mainly influenced by the losses incurred by one Union producer which subsequently decided to stop production. At the same time, all other sampled Union producers continued to decrease their losses further during the RIP in comparison with 2014.

(163) Following disclosure, several parties challenged the exclusion of Jabil from the profit figures of the rest of Union module industry. They argued that Jabil was a rare example of a profitable producer and that the exclusion is inconsistent with the decision to accept an analogue country producer who is using such a tolling agreement to have the modules it sells assembled by another company. The Commission, contrary to what those parties claim, has not excluded Jabil from the profitability analysis. Rather, in order to have a more meaningful sensitivity analysis, it has provided two separate sets of data. Those show that even including Jabil, the Union industry is, on average and taken as a whole, loss-making. It also illustrates that major differences exist between different Union producers, depending on their business model, see in recitals 110 and 160. That claim has therefore to be rejected. In addition, the Commission observes that there is in any event no inconsistency in the approach for the analogue country producer and the Union industry. The analogue country producer is rather similar to Jabil's customers and not to Jabil's own business model. Indeed, while the analogue country producer assumes full responsibility for the sales of the modules assembled by another company, Jabil is an assembly operator which collects a tolling fee from its customers for the assembly service it provides. It is for that reason also that the Commission has focussed, for the injury analysis, on transactions between Jabil and other Union producers that are in the same situation as the analogue country producer (see above recital 52).

(164) Regarding the cells producers, losses decreased by 2 % during the period considered. They decreased by 31,9 percentage points between 2012 and 2013, but increased by 20,3 percentage points between 2013 and 2014 and by 10,7 percentage points between 2014 and the RIP. However, for cells, profitability was influenced by two extraordinary events. On the one hand, one of the sampled producers entered the market during the period considered but changed reporting of some of its costs of production during the last years of the period considered, which resulted in high losses. On the other hand, the sales prices were extraordinarily low and highly loss making of another sampled producer during the RIP when it was in the process of ceasing production. In contrast, the third sampled producer constantly decreased its losses during the period considered.

(165) The net cash flow is the ability of the Union producers to self-finance their activities. Similarly to profitability, it also followed a negative trend between 2012 and the RIP. For modules the net cash flow decreased by 11 % during the period considered, while for cells it decreased by 44 % during the same period. The cash flow fluctuations which occurred in 2014 for both modules and cells were affected by extraordinary events which had taken place with respect to one big Union producer. On the one hand, it acquired an existing factory for a low purchase price and, on the other hand, it restructured its debt. In 2015 it continued to make significant repayments on its loans, which resulted in a negative cash flow from financing activities. It must be noted that this producer reported a positive cash flow from operating activities and a significant improvement in its operating result as compared to 2014. Two other Union module producers had positive and improving cash flow in the RIP, while the other two cell producers had negative, but improving cash flow.

(166) Regarding investments, the tables above show that the Union industry increased its investments by 2 % for modules between 2012 and the RIP. They increased by 40 % between 2013 and 2014 and by 98 % between 2013 and the RIP.

(167) The overall investments for cells decreased by 61 % between 2012 and the RIP. The general trend for investment for cells was again influenced by the decision of one sampled Union producer to stop production. At the same time the investments of the other two sampled producers increased four times between 2014 and the RIP.

(168) Following disclosure, several parties pointed out that investments in cells decreased throughout the period considered and were not positively influenced by the imposition of the measures. First, while this is factually true for the total sample, as indicated in the previous recital this trend was influenced by the decision of one sampled Union producer to stop production. That producer had significant investments at the beginning of the period but almost none at the end of it. Second, another sampled producer made start-up investments in 2013 which reflects the big increase in the overall investments in that year. Third, after the entry of the measures started affecting the profitability of the companies, the investments of the whole sample increased between 2014 and the RIP, reflecting the fact that the two sampled producers who stayed on the market increased four times their investments during that period. Consequently, the argument that the investments were not positively influenced by the imposition of the measures was rejected.

(169) The return on investments ('ROI') is the profit in percentage of the net book value of investments. It remained negative throughout the period considered because of the net losses suffered by the Union industry. The ROI for modules improved by 4 percentage points during the period considered; but it improved significantly in 2014 and the RIP in comparison with 2013, by 7 and 8 percentage points respectively. For cells the ROI deteriorated by 25,8-28,4 percentage points during the period considered.

4.5.4. *Conclusion on injury*

(170) In overall terms, the Union industry continued to suffer from injury during the period considered given the short period after the imposition of the original measures and the magnitude of dumping and the level of injury found in the previous investigation. In addition, the circumvention practices found, as indicated in recital 4 above, have also contributed to the continuation of injury. However, from mid-2013 (the provisional measures entered into force on 6 June 2013), and especially during 2014 (the first full year with anti-dumping measures in force) and during the RIP the Union industry started gradually to recover.

(171) Indeed, a number of injury indicators showed positive trends. Regarding modules, the Union industry increased its Union module sales by 2,8 % and, as a result, its market share increased by 9,4 % between 2014 and the RIP. During the same period, the Union industry increased its captive use and Union sales of cells by 6,3 % and maintained the market share of 33 %. In addition, during the same period the Union industry improved its capacity utilisation by 9 percentage points for modules and by 8 percentage points for cells by both increasing production and decreasing existing capacity. It also achieved significant productivity gains, thereby reducing the gap between its sales prices and its average costs of production. Moreover, the previous undercutting from Chinese exports had stopped due to their compliance with the MIP (no undercutting for modules and only marginal undercutting for cells during the RIP). As a result, although the Union industry was still loss making during the RIP, its losses decreased significantly for modules in comparison with 2012 and 2013. However, the losses did not decrease for the Union industry for cells because, as explained in recital 165 above, they were

influenced by extraordinary events occurring to two of the sampled producers. By contrast, the third sampled producer had its losses reduced during the RIP and thus followed the same trend as the one observed for modules.

(172) The Union industry also increased its investments both for modules and cells by 41 % and 63 % respectively between 2014 and the RIP.

(173) However, despite the efforts made and all the positive trends that resulted therefrom, the Union industry still did not manage to recover from the past dumping by the Chinese exporters. As already indicated, both cells and modules manufacturers were loss making during the RIP and had negative cash flows and return on investments. In addition, despite the fact that the import volumes of the Chinese exports decreased for modules, their market share was still higher than the one of the Union producers. Regarding cells, the imports increased significantly in the RIP in volume (by 65 %) in comparison with 2012, gaining market share. The Chinese imports of cells exercised indirect pressure also on the module market of captive producers which was thus prevented from growing further. Therefore, Chinese imports continued to enter the Union market with significant volumes and at prices which were below the cost of production of the Union industry.

(174) Following disclosure, several parties claimed that the Commission failed to assess the effects on the Union industry of imports of modules from third countries made in substantial volumes and at prices below the ones of the Chinese exports.

(175) The Commission acknowledged that the impact from module imports from third countries constitutes an important factor for assessing the state of the EU industry, However, such imports were much less important than the Chinese imports — the market share of the former was 25 % (including modules that in reality were Chinese, but fell under circumvention practices), while of the latter was 41 % during the RIP (and, given circumvention, in reality higher). In addition, the market share of the third countries imports decreased by 10 % between 2014 and the RIP, while the share of the Chinese imports increased by 4,9 % during the same period. These two factors show the much stronger impact of the Chinese imports on the Union industry than the imports from third countries. In addition, the prices of modules from third countries were not below the ones of the Chinese exports. As evidenced in Table 4a above, the weighted average price of all imports from third countries was 550 EUR/kW during the RIP, which was higher than the average Chinese export price – 544 EUR/kW. Therefore, these arguments were rejected.

(176) Concerning cells, several parties claimed that the injury has been caused by third countries imports since the profitability decreased during the RIP compared to 2014, which was caused by the decrease of Chinese imports and the simultaneous increase of imports from third countries.

(177) First, as indicated in recital 164, the increase in losses during the RIP for the sampled producers was influenced by extraordinary events which occurred to two of the Union cell producers, while the third (and the biggest) producer had an increase in profitability during the RIP in comparison with 2014. Second, although the imports from China decreased by 3 percentage points between 2014 and the RIP, they increased by 7 percentage points between 2013 and the RIP, despite the entry into force of the measures. Consequently, the imports from China continued to have an important impact on the Union industry. Third, regarding imports from third countries, indeed they increased with 2 percentage points between 2014 and the RIP, but decreased by 24 percentage points between 2013 and the RIP. Therefore, their impact on the Union industry actually decreased in the period after the imposition of the measures. Consequently, the argument that injury has been caused by third country imports was rejected.

(178) Following disclosure, the GOC claimed that some injury indicators improved only in the RIP and not immediately after the imposition of the measures. Hence, there is no clear link between the imposition of the measures and the various positive trends.

(179) The Commission acknowledged that some injury indicators, for example concerning modules the market share, production and capacity utilisation improved only in the RIP and not in 2014. However, given the magnitude of dumping and injury found in the previous investigation, it took some time to reverse the negative trends applicable for the entire industry. This can be explained by the fact that at the time of imposition of the original measures, the Union industry was in the process of consolidation whereby many producers were already in the state of bankruptcy or near bankruptcy, but exited the market only during 2014. This had an important impact on all macro indicators, which also included such companies. It is also worth noting that a number of indicators, such as market share, production, capacity utilisation and production capacity which had negative trend at the level of the entire Union industry, showed positive trends already in 2014 for the sampled Union producers of both modules and cells. Consequently, this claim was rejected.

(180) Several interested parties argued that the Union industry is doing well and has fully recovered from the previous injury. Following disclosure, those parties reiterated these claims. In particular, the figures reported in the financial statements of SolarWorld and Jabil, by far the biggest Union modules producers, allegedly showed that their Union business had been growing in the last few years and they had increased production volumes, capacity, capacity utilisation, export sales and productivity, while the cost of production and stocks have decreased.

(181) The sampled Union producers (including Jabil and SolarWorld) have increased their production volumes, capacity, capacity utilisation, export sales and productivity, while they have decreased their cost of production and stocks in 2014 and in the RIP. However, the claim that the industry has fully recovered from the previous injury contradicts the findings of the investigation which are based on the actual verified data of the sampled Union producers. In particular, many microeconomic indicators are based only on the sales to independent customers in the Union (such as profitability, cash flow, and return on investments). In addition, some of the sampled companies have important production outside the Union, which is not included in the microeconomic indicators. By contrast, the publicly available financial documents focus on all activities of the companies concerned and often provide information on the consolidated accounts of the entire groups. Therefore, conclusions on the economic situation of the Union industry within the meaning of Article 3(5) of the basic Regulation were based not on publicly available financial documents but on the more detailed and verified information regarding the situation in the Union only provided in the investigation. In addition, the conclusions reached on the state of the Union industry were based on data coming from all sampled Union producers and not only from SolarWorld and Jabil. Finally, regarding Jabil, as explained above, this company only assembled modules, but did not assume full contractual responsibility for their sales. This claim was therefore rejected.

(182) Following disclosure, one interested party claimed that the Commission should have taken into account the effects of large-scale investments made by SolarWorld. The latter are said to have negatively affected the company and the industry as a whole, given its important share in the Union industry's output.

(183) First, the investments the party is referring to were made in 2015 and concerned not only cells and modules but also other production in the EU, such as wafers ([30]). Therefore those investments had only partial implications on the profitability assessment of the company's modules and cells business. Second, as pointed out by other parties, the SolarWorld group achieved positive results in 2016 ([31]) of its European and non-European businesses. This does not seem to suggest at this stage that the already made investments have negatively affected the company. Consequently, this argument was rejected.

4.6. **Likelihood of continuation of injury**

(184) To assess the likelihood of continuation of injury if the measures against the PRC were allowed to lapse, the potential impact of Chinese imports on the Union market and the Union industry was analysed in accordance with Article 11(2) of the basic Regulation.

([30]) See Annual Group Report of SolarWorld for 2015, available at: http://www.solarworld.de/fileadmin/sites/sw/ir/pdf/finanzberichte/annual_report_2015_web.pdf, p. 58.

([31]) Consolidated Quarterly Announcement Q3 2016, SolarWorld http://www.solarworld.de/fileadmin/sites/sw/ir/pdf/finanzberichte/2016/solarworld-q3-2016-web-en.pdf, pp. 8-9.

(185) As shown in Section 4.5 above, the Union industry continued to suffer from injury during the RIP. As outlined in Section 3.3 above, there is a likelihood of continuation of dumping should the measures be allowed to lapse. In addition, it was established that the exporting producers were selling at dumped prices to third countries and to the Union and would enter the Union market at even lower prices than the ones at which they currently sell to the Union should the measures be allowed to lapse.

4.6.1. *Spare capacity, trade flows and attractiveness of the Union market and pricing behaviour of the exporting producers in the PRC*

(186) The Chinese production capacity of modules is estimated at 96,3 GW/year for 2015 and is expected to reach 108 GW/year in 2016 ([32]). At the same time global demand was estimated at 50,6 GW in 2015 and was projected to increase to 61,7 GW ([33]) in 2016 or to 68,7 GW, according to another source ([34]). Therefore, the Commission concluded that the total spare capacity of the Chinese producers exceeded by large global demand, namely by 47,5 %, in 2015 and will exceed it by 42,9 % or by 36 % in 2016, depending on the source. Another source established that the total global demand was 58 GW ([35]) in 2015, which would render the excess capacity of the Chinese producers at 39,8 % for 2015.

(187) Even if no new capacity was installed in China in the future, the existing capacity would still exceed significantly the projected global annual demand for solar installations. Indeed, in the most probable scenario (so-called 'Medium Scenario') the demand would reach 97 GW ([36]) or 95 GW ([37]) in 2020, which would be fully covered by the existing Chinese capacity. In addition, the Chinese solar module production capacity has been steadily growing in the last 10 years. For example, it has more than doubled between 2012 and 2015, (from 43,8 GW ([38]) in 2012 to 96,3 GW in 2015). In 2016 alone there is additional 2 GW of announced capacity or under construction capacity in China, according to Bloomberg New Energy Finance ('BNEF'). Furthermore, there is no evidence suggesting that the Chinese capacity would not continue to expand in the near future, given the fact that it incessantly expanded at least in the past five years. Therefore, even in the less likely scenario (so called 'High Scenario') of increasing global annual demand to up to 120 GW ([39]) in 2020, it is probable that the Chinese producers alone would be still able to meet the demand in its entirety as they would need to expand their existing capacity at much lower speed than they had done in the past, i.e. by only 11,3 % in 4 years.

(188) Following disclosure, several interested parties questioned the data on capacity in the PRC and the global consumption used by the Commission. They argued that Solar Power Europe was not sufficiently reliable as a source since it takes into account only modules already connected to the grid, while IHS and BNEF provide more accurate outlook as they show the modules purchased for installation.

(189) However, the Commission already analysed in the recitals above data and projections coming from IHS, while the data from BNEF does not differ substantially from IHS ([40]). In fact, the estimations of BNEF and IHS match completely for 2016 (68,7 GW conservative scenario and 70,7 GW optimistic scenario) and 2017 (72,9 and 77,5 GW respectively), while they differ insignificantly for 2018 (BNEF: 83 GW; IHS: 82 GW) ([41]), which is the last year for which BNEF has an estimation. Consequently, this argument was rejected.

(190) The same parties also contested the amount of total spare capacity established by the Commission. In particular, one interested party submitted that it was 70 GW in 2016. However, it failed to provide an information source

([32]) Bloomberg New Energy Finance ('BNEF') 'Solar manufacturer capacity league table'; accessed on 28.10.2016.
([33]) Global Market Outlook For Solar Power, 2016-2020, Solar Power Europe, July 2016, p. 18.
([34]) BNEF, Q4 2016 PV Market Outlook, 30 November 2016.
([35]) IHS, The Price of Solar, Benchmarking PV Module Manufacturing Cost, June 2016, p. 23. The difference appears to stem from the fact that IHS reports all modules which have been sitting in warehouses, shipped or installed. By contrast, Global Market Outlook takes into account only those modules installed which already produce electricity.
([36]) Global Market Outlook For Solar Power, 2016-2020, Solar Power Europe, July 2016, p. 18.
([37]) IHS, The Price of Solar, Benchmarking PV Module Manufacturing Cost, June 2016, p. 23. In its latest report (IHS, PV Demand Tracker Q4 2016, 9 December 2016) IHS made the same estimation as Solar Power Europe of 97 GW for 2020.
([38]) Bloomberg New Energy Finance ('BNEF') 'Solar manufacturer capacity league table'; accessed on 28.10.2016.
([39]) Global Market Outlook For Solar Power, 2016-2020, Solar Power Europe, July 2016, p. 18.
([40]) See footnotes 34, 36, 37, 38, 40 referring to the IHS and SPE.
([41]) BNEF, Q4 2016 PV Market Outlook, 30 November 2016 and IHS, PV Demand Tracker Q4 2016, 9 December 2016.

or any methodology on the basis of which it established this figure. Even if that figure was correct, the estimated spare capacity would still be sufficient to cover the entire global demand even in the case of the most optimistic estimation for 2016 (70,7 GW ([42])). None of the other parties provided any estimate or quoted a study or report suggesting that the established by the Commission spare capacity should be reduced. Consequently, this argument does not alter the conclusions reached above.

(191) Several interested parties submitted, before and after disclosure, that Tier 1 companies have much less overcapacity than the remaining Tier 2 and Tier 3 companies. According to BNEF Tier 1 companies have 46 GW estimated module production capacity in the PRC in 2016, which indeed is lower than the total capacity of tier 2 and 3 companies combined, estimated at 62 GW ([43]). However, all tiers of Chinese companies are active on the global market. As far as the Union is concerned, not only Tier 1 companies were exporting after the imposition of the existing measures, but also Tier 2 and Tier 3 companies, albeit in lesser quantities (the latter's share of the total Chinese imports was estimated at 13,6 % in 2014). Therefore, the Commission considered that the capacity of all types of Chinese exporting producers should be taken into account for the purpose of establishing the spare capacity available in China.

(192) Following disclosure, one interested party contested the finding that the overcapacity of all types of exporting producers should be taken into account when establishing the spare capacity available in China.

(193) The Commission pointed out that already the capacity available at Tier 1 companies constituted 90 % of the total world consumption for 2015 (estimated at 50,6 GW). In addition, the fact that Tier 2 and Tier 3 companies exported to the EU, irrespective of the small volumes, shows that they are active on the Union market and do not limit their sales only to the Chinese or other markets. Finally, the imports of Tier 2 and Tier 3 companies are expected to increase significantly following the recent withdrawals of the undertaking of predominantly Tier 1 companies. This claim was thus rejected.

(194) Several parties put forward the argument, both before and after disclosure, that overcapacities in China were largely overstated since demand of solar installations had steadily increased at a global level. Indeed, global annual demand had increased by 25 % between 2014 and 2015 (from 40,3 GW to 50,6 GW) ([44]). However, as specified above, the estimated overcapacity of the Chinese producers exceeds by 47,5 % the current demand. Therefore, even in the most optimistic scenario for increase of the global demand the Chinese producers would most likely still have sufficient spare capacity in order to meet this demand. Consequently, this argument was rejected.

(195) Regarding cells, the existing capacity of the Chinese exporting producers is estimated at 76,6 GW in 2016, an increase by 12 % in comparison with 2015 (68 GW) ([45]). Since the global demand for cells roughly equals the global demand for modules, the Chinese exporting producers had an excess capacity of cells of 25,6 % in 2015 and of 19,5 % in 2016. In addition, China had 72,8 % of the global existing capacity of cells in 2016, thereby exceeding significantly all other third countries. The next four biggest third countries with available capacities are much smaller than China (Taiwan: 11 GW; Malaysia: 4 GW; Korea: 2,7 GW; Japan: 1,9 GW). On this basis, the Commission concluded that China has also a significant overcapacity of cell production.

4.6.2. *Attractiveness of the Union market*

(196) Several parties argued that the Union market is no longer attractive for the Chinese producers. They contended that the Chinese production of cells and modules would be rather directed towards the rapidly expanding markets in Asia, such as Japan and India. In addition, Chinese domestic demand has been increasing in the last few years, reaching 50 % of Chinese solar module production by the first quarter of 2016. China would allegedly have around 20 GW installations per year until 2020. Therefore, in the context of an increasing number of solar installations in China, India and other markets in South East Asia, the Chinese solar module production would be primarily destined to satisfy the increasing demand in these markets.

([42]) BNEF, Q4 2016 PV Market Outlook, 30 November 2016.
([43]) Bloomberg New Energy Finance 'Solar manufacturer capacity league table'; accessed on 28.10.2016.
([44]) Global Market Outlook for Solar Power 2016-2020, Solar Power Europe, July 2016.
([45]) Bloomberg New Energy Finance 'Solar manufacturer capacity league table' accessed on 28.10.2016.

(197) It is correct that the Union market is no longer as important as it used to be in the past, when it accounted for up to 60 % of the annual global installed capacity (in 2012). The Union is also not expected to be among the rapidly expanding markets. The forecasts for growth of the Union market are rather modest in comparison with the rest of the world. According to Solar Power Europe's medium Scenario, European solar annual consumption is expected to grow from 8,2 GW to roughly 15 GW in 2020 ([46]). However, Solar Power Europe's estimates include also non EU countries (Turkey, Switzerland, etc.); its growth forecast for the 28 Member States of the Union is even less optimistic, i.e. approximately 11,6 GW ([47]) for 2020. Nevertheless, the Union remains an important market representing 14 % of the total global market and its share of the global market is expected to remain important in the future. Three of its Member States (UK, Germany and France) were amongst the top ten markets for solar modules in 2015. Furthermore, as shown above, the Chinese exporting producers' excess capacity would be capable of meeting the total global demand in the future, including all rapidly growing markets such as China itself, India, Japan, South America taken together. Last but not least, the imposition and reinforcement of trade defence measures, inter alia, by Canada and the USA has reduced the attractiveness of these markets, thereby further increasing that of the Union market, should the measures be repealed.

(198) Despite the imposition of the anti-dumping and countervailing measures in 2013, the Chinese exporting producers remain very interested in the Union market which is demonstrated by the fact that they have maintained a strong position on the Union market. As indicated in Section 4.4 above, the imports of modules and cells from China had a market share of 41 % and 16 % respectively during the RIP and have successfully kept (and even increased in the case of cells) their market position in comparison with imports from third countries. The volume and market share of the Chinese imports of modules are much more important than those from third countries; the latter cumulatively accounted for only 25 %. Regarding cells, the market share of third countries accounted for 51 % during the RIP, but this means that they dropped significantly (by 32 %) in comparison with 2013 when they had 75 % market share. In addition, despite the fact that the measures entered into force in 2013, the Chinese imports of cells increased by 77,8 % between 2013 and the RIP. Furthermore, as demonstrated by the anti-circumvention investigation in 2015, some of the Chinese producers were trying to avoid the measures by circumventing them through Taiwan and Malaysia, the biggest third countries in imports.

(199) Following disclosure, several parties contested the finding that the Union market remains an attractive market for the Chinese exporting producers. One of the parties pointed out that the projections for growth of the Union market as a whole should be reduced on the basis of a decline by 18 % of new installations in the Union in the first 9 months of 2016 in comparison with the previous year, thereby leading to a rather pessimistic estimation of 7,1 GW of Union demand in 2016. This would also result into following a pessimistic development in Union demand until 2020. In addition, it contended that the three major Union markets (UK, Germany and France) would lose further attractiveness in the future.

(200) In fact, an estimated total Union demand of 7,1 GW, as quoted by the interested party, is a rather good result for 2016 as it is broadly in line with the Solar Power Europe's initial estimation under the medium scenario for 2016 (7,3 GW) ([48]). Therefore, the estimation by the party that the Union demand will follow on this basis the low scenario by 2020 is not backed by the data it provided itself. In any case, even if the demand was to follow the worst possible scenario and the share of the Union market in the global market decreased, this would not necessarily render the Union market unattractive to the Chinese exports as all other considerations described above still stand. Even though its relative share of global demand may be shrinking, the Union market still remains attractive for the Chinese exports. Otherwise, circumvention practices, as still found in the recent investigations on Malaysia and Taiwan, would not occur.

(201) Regarding the claims that China would install 20 GW of solar systems annually until 2020, the Commission's investigation has found evidence that the PRC would not be able to maintain this high target. The market intelligence reports that this Chinese target will be lowered due to lack of grid infrastructure, fundamentally oversupplied market and a deficit in the renewable subsidy fund ([49]). The bust and boom cycles on the Chinese solar market are further discussed in recital 356.

([46]) Global Market Outlook For Solar Power, 2016-2020, Solar Power Europe, July 2016. p. 30.
([47]) Global Market Outlook for Solar Power 2016-2020, Solar Power Europe, July 2016.
([48]) Global Market Outlook for Solar Power 2016-2020, Solar Power Europe, July 2016.
([49]) Q3 2016 PV Market Outlook, Solar power — not everyone needs it right now, 1 September 2016, p. 17.

(202) Following disclosure, one party quoted a press release by the Chinese National Energy Administration, in which the latter announced that according to the solar power development plan for the next five years, at least 105 GW of photovoltaic power capacity is planned to be installed by 2020. The party alleged that this would bring further increase in demand in China.

(203) The target of 105 GW of cumulative capacity installed is quite low and, according to BNEF ([50]), will be met already in 2017. Consequently, this low target is irrelevant as it suggests that no growth should be expected after 2017, contrary to the forecasts that the Chinese market would grow. At the same time the Commission already analysed in recital 201 above a scenario of growth of the Chinese market, albeit lower than 20 GW per year until 2020. Therefore, this argument was rejected.

(204) The Commission also analysed whether the Chinese imports would come to the Union at prices lower than the current Union prices should the measures be allowed to lapse.

(205) Almost all exporting producers which sold modules and cells during the RIP from the PRC to the Union had price undertakings and their export prices to the EU were determined by those price undertakings which set a minimum import price. Consequently, such export prices could not be considered a pertinent indicator in order to establish the pricing behaviour of the exporting producers should the measures not be in place.

(206) Therefore, prices to third countries of the sampled exporting producers were used instead. The exports to third countries of the sampled exporting producers were found to undercut the prices of the sampled Union producers on average by 2,2 % for cells, and between 5,6 % and 9,2 % for modules during the RIP. The figures show the average undercutting per exporting producer (the lowest margin among the companies and the highest margin among the companies). For cells there is only one undercutting margin as this is the average undercutting for the sole sampled exporting producer exporting cells to the Union.

(207) One of the parties requested a breakdown of the weighted average price for the four export countries considered (Chile, India, Japan and Singapore) in order to comment on the undercutting findings. For the purposes of the undercutting calculations no account was taken of the weighted average price per third country, but the weighted average price of all four export countries added together, thereby correctly reflecting the quantities and the prices at which those exports have been made. Therefore, this request was rejected.

(208) Following disclosure, one interested party argued that the exporting producers would not have incentives to increase their sales to the Union should the measures be allowed to lapse. The Commission was not convinced by this hypothesis. As demonstrated by the undercutting margins established, the exporting producers could increase their sales volumes to the EU, should the measures be allowed to lapse. Indeed, since their prices in the Union would be lower than the prices of the Union producers, it is reasonable to expect that the Chinese exports would fight for more market share in the Union. This claim was thus rejected.

(209) Therefore, the Commission concluded that the Chinese imports would come to the Union at prices lower than the current Union industry prices and are likely to increase their sales volume and gain market share should the measures be allowed to lapse.

4.6.3. *Conclusion on the likelihood of continuation of injury*

(210) In light of the above, the Commission concluded that there is significant spare capacity in the PRC for both modules and cells. The Union market remains attractive in terms of size and sales price, particularly in comparison with the price level of the PRC exports to third countries, further proven by the records of past circumvention practices. Consequently, the Commission found that there is a strong likelihood that the repeal of the anti-dumping measures would lead to the continuation of dumping resulting in the continuation of injury of the Union industry.

([50]) Q4 2016 PV Market Outlook, Solar power 30 November 2016, p. 19.

4.7. **Causation**

(211) Several interested parties also contended, both before and after disclosure, that, in case the Commission finds that the Union industry still suffers from injury, the latter is caused by several other factors, which cumulatively account for the entire injury:

(i) the abolition of the incentive schemes by many of the Member States.

(ii) the Union industry has not achieved yet economies of scale by having a capacity of several GW in order to be economically viable and to have an impact on the global market.

(iii) the injury is caused by imports from other countries as their prices were 25 % lower than the Chinese import prices.

(iv) the injury is caused by the fact that the prices of modules of the Union producers are constantly lower than the import prices of the Chinese producers.

(212) Regarding the first claim, the Commission recognised, as set out in Section 5.3.2 below, that the modifications and, in certain Member States, suspension or termination of support schemes led to a decline in Union consumption in the years 2012-2014, after the peak in consumption that occurred in 2011. This significant drop in consumption makes it harder for the Union industry to grow. However, the Commission found in the previous investigation that the Union industry had been forced to decrease its prices mainly due to the pressure of the dumped imports and not due to changes in support schemes ([51]). Therefore, the influx of Chinese dumped products was the main cause for the injury suffered during the previous investigation. In addition, despite the decrease in consumption between 2012 and the RIP by 56 %, the Union industry increased its market share for modules and cells by 40 % and 47 % respectively. The Union industry also started increasing its sales volumes between 2014 and the RIP, once the protective effect of the measures materialized, as set out in recital 171 above. The industry also reduced significantly its costs (see Tables 8a and 8b above) and improved its capacity utilisation. Therefore, despite the decline in consumption and given the measures in force, the Union industry started recovering from the past injury. This argument was thus rejected.

(213) Concerning the second claim, the Union industry's capacity is indeed not comparable to the one achieved by the Chinese exporting producers in the recent years. First, the Chinese companies achieved massive production and (over)capacities at a period when they overtook a number of markets in the world, partially thanks to dumped prices, as established not only by the European Commission, but also by the US and Canadian authorities. By contrast, the influx of large volumes of dumped imports had just the opposite effect on the producers exposed to these unfair practices. The Commission established in the previous investigation ([52]) that in 2010 the Union industry achieved 10 % profit in the context of similar existing capacity (6 983 MW in 2010 and 6 467 MW in the RIP). The massive imports of the Chinese dumped products caused the Union industry's profitability to drastically go down, effectively preventing it from making new investments to achieve economies of scale. The protective effect of the measures enabled the Union industry to consolidate and reduce significantly its costs in 2014 and during the RIP and put the Union industry on the right track to reap the benefits of economies of scale. Following disclosure, one party challenged this statement. It claimed that investments decreased after the imposition of the measures and did not permit economies of scale. Contrary to this statement, the investments actually increased during the RIP for both modules and cells in comparison with the previous years. Consequently, this claim was also rejected.

(214) As far as the third claim is concerned, the Commission established (see Tables 4a and 4b above) that the average import prices from China were slightly higher for cells and slightly lower for modules than the respective average import prices from third countries. While for cells, the Chinese import prices were 4 % higher than the import prices from third countries, for modules they were 1 % lower. Consequently, this argument was factually incorrect and was thus rejected. The claim that the imports from third countries make the measures ineffective is discussed in recitals 324 and 325 below.

([51]) Commission Regulation (EU) No 513/2013 (OJ L 152, 5.6.2013, p. 5), recital 180 and Implementing Regulation (EU) No 1238/2013, recitals 245-247.
([52]) See Tables 4a and 10a of Regulation (EU) No 513/2013.

(215) As to the fourth claim, the investigation revealed that for modules the average import prices from China were constantly lower than the average EU sales prices of the Union producers. For example, during the RIP, the average import price from China was 544 EUR/kW ([53]), while the Union average price was 593 EUR/kW. Consequently, this claim was also factually incorrect and was thus rejected. In light of the above, the Commission concluded that the Union industry continued to suffer from material injury within the meaning of Article 3(5) of the basic Regulation.

(216) Following disclosure, one interested party argued that the injury is caused by the measures as they increase costs of cells for non-vertically integrated module producers. However, as indicated in Section 6.4.1 below, the module manufacturers have access to low priced cells from third countries and did not lack supply of such cells. Therefore, this argument was rejected.

5. UNION INTEREST

5.1. Interest of the Union industry

(217) This section focuses on the interest of the Union module manufactures. The interest of the Union cell manufactures is analysed in Section 6 — partial interim review.

(218) There are more than 100 known module manufactures. The Union industry is represented by the association EU Pro Sun, which is the applicant. EU Pro Sun represents 31 Union wafer, cell and module manufactures.

(219) The continuation of the measures will enable the Union industry to keep its increased market share in the Union and to recover from material injury. As noted in recital 137, the market share of the Union industry in the Union went up from 25 % in 2012 to 35 % in the RIP. As established in Section 4.6, given the sales prices of Chinese modules to third countries and high spare capacities in the PRC, the Chinese modules will come to the Union at prices below the Minimum Import Price and in more important volumes if the measures lapse. Therefore, the continuation of the measures would shield the Union industry from an intensive and unfair price pressure which would otherwise be exerted by the Chinese imports.

(220) If the measures are not prolonged, high R & D and capital investments that have been made in the Union module manufacturing could be made redundant as they cannot be easily switched to a productive use in other sectors. In case of bankruptcy of the Union module producers, most of the 6 300 people involved in the module production will lose their jobs. That workforce is to a large extent highly skilled. In contrast, the continuation of measures will give the Union industry more time to completely recover from the effects of past dumping.

(221) Following disclosure one party invited the Commission to identify the cell and module manufactures that do not support the measures. The Commission clarified that no party that considered itself part of the Union industry came forward and opposed the measures. The same party asked the Commission to subtract the Union wafer manufactures from the list of 31 companies represented by EU ProSun. The Commission clarified that EU ProSun represented 29 Union cell and module manufactures.

(222) Following disclosure several parties disagreed that the measures were in the interest of the Union industry. These parties also disagreed that the Chinese dumped products exerted an unfair price pressure on the Union industry. They also claimed that the Commission was driven by the objective to preserve the market share of the Union industry and that the Commission protected a small fraction of the solar industry at the expense of the whole solar value chain.

(223) The Commission recalled that under the basic Regulation trade measures aim to defend the Union industry against material injury caused by dumping, provided that is in the Union interest. In this expiry review, it found

([53]) A very similar price was established also on the basis of the weighted average export price to the EU from the sampled exporting producers.

a likelihood of dumping and continuing injury should the measures lapse. The Commission also found that the Union market for solar modules contracted for several reasons, unrelated to the imposition of the measures as concluded in recital 270. Therefore, the increase in the Union industry's market share is the key indicator showing that the measures were effective.

(224) Therefore, the Commission concluded that the continuation of measures on modules is clearly in the interest of the Union industry.

5.2. **Interest of the unrelated importers, downstream and upstream industry**

5.2.1. *Preliminary remarks*

(225) A significant number of Union upstream and downstream companies, either individually or through their associations called on the termination of the measures on the Union interest grounds. They claim that the measures have unforeseen, negative consequences for an overwhelming majority of jobs in the European solar sector. They submitted that the measures cause price increase for solar installations, which has dampening impact on the demand, with all the negative consequences on the downstream and upstream employment. In addition, the wider policy objectives concerning climate change and promotion of renewable energies are also claimed to be negatively affected. They also pointed to changed circumstances since the definitive measures were adopted in December 2013, in particular the move away from support schemes at fixed prices (e.g. feed-in tariffs and feed-in premiums) towards tenders, achievement of grid parity by solar generated power in certain regions of the Union or for certain groups of customers and the ratification by the Union of the UNFCCC Paris Agreement to limit climate change in October 2016. Finally, some parties claimed that there is not enough module manufacturing in the Union to cover the Union demand; that the measures became ineffective due to increase in exports by third countries and that the measures mainly benefitted the exporters in third countries.

5.2.2. *Unrelated importers*

(226) Two unrelated importers of modules came forward and provided answers to the questionnaire, which were subsequently verified as set out in recital 28. These unrelated importers also sent several additional submissions setting out their views on why the measures should be terminated. The importers of solar panels suffer from weak profitability. They also provided a list of other importers and wholesalers that went bankrupt or significantly reduced their employment since the registration on Chinese solar modules was imposed in March 2013. Some of these companies pointed to the imposition of measures on Chinese solar modules as the main reason of their insolvency, e.g. Gehrlicher. The unrelated importers claim that the measures increase the price of solar power and depress the demand.

(227) The unrelated importers also submitted that the MIP price undertaking causes disadvantages to them and other downstream companies, active in international markets, such as EPCs (Engineering, Procurement and Construction companies), as it limits their ability to purchase modules from leading Chinese Tier 1 producers. The undertaking does not allow the parallel sales of the product under investigation in the Union and outside of the Union. Therefore, the Chinese exporters cannot deliver modules to unrelated importers who are also active in the markets outside the Union (e.g. in Switzerland or in the US) if they are part of the unrelated importers' wholesale portfolio within the Union. This is claimed to be a significant drawback for these companies' participation as wholesalers and project developers in the globally growing PV market.

(228) The unrelated importers also claimed that the measures in their current form create a significant additional business risk and administrative burden. In their view, additional administrative steps, such as issuance of a certificate by the China Chamber of Commerce for Import and Export of Machinery and Electronic Products ('CCCME') and thorough checks by the Union customs authorities extend the overall time from order to delivery from 7 to 11 weeks.

(229) The Commission found that even after the imposition of measures the market share of Chinese modules in the Union market remained relatively high. Even though the market share of Chinese modules in the Union went down from 66 % in 2012, it still remained at the high level of 41 % in the RIP. Therefore, China remained the largest seller of modules in the Union, above the Union industry, which held 35 % market share in the RIP. In addition, independent importers were free to source solar modules from third countries. The cooperating importers replaced at least to some extent the Chinese modules with third country modules. The cooperating importers, acting as wholesalers and systems integrators ([54]), also sold the Union industry's modules; therefore they benefitted both from the increase in the market share of the imports from the rest of the world ('RoW') and the increase in the market share of the Union industry. Therefore, the weaker results of the cooperating importers must to be partially attributed to falling Union demand, following the boom and bust cycle that the Union solar industry went through as discussed more in detail in Section 5.3.2 below.

(230) The ban on parallel sales was introduced to avoid compensatory deals that might undermine the undertaking. Additional administrative steps for Chinese imports were introduced to improve the monitoring of the measures and avoid any form of circumvention that might undermine the undertaking.

(231) Following disclosure several parties claimed that the Commission disregarded the interest of the importers. In their view, the measures increased the prices at which solar products could be purchased. Therefore, the importers suffered from decreased demand.

(232) The Commission observed that the key objective of the measures was to re-establish the non-injurious price for the product that was found to be dumped. This logically entails a certain increase in the price of the dumped product. The Chinese dumped products had held a very high market share in the Union before the measures were imposed. Their market share dropped after the measures were imposed. However, as discussed at length in Section 5.3 the Commission found that this price increase caused by restoring the non-injurious price level had only a limited impact on the overall Union demand. Therefore, the Commission concluded that unrelated importers suffered only marginally from the decrease in demand caused by the measures.

5.2.3. *Downstream Industry*

(233) More than 140 downstream companies registered as interested parties. The downstream companies are installers of solar panels; EPCs (Engineering, Procurement and Construction), operation & maintenance companies and companies active in project finance. While a majority of companies just registered as interested parties with no follow-up, around 30 companies provided more substantiated submissions opposing the measures. Three EPCs submitted a questionnaire reply. In addition, more than 400 downstream companies from all the Member States were signatories to an open letter calling to terminate the measures.

(234) More than 30 pan-European and national associations representing solar companies sent letters opposing the measures. Among them was the European Association of Electrical Contractors (AIE), claiming to represent the interests of the Union installers at the European level. The most active associations were SPE and SAFE. SAFE is an ad hoc association of 50 German companies whilst SPE claims to be the most representative association of the Solar Power industry in Europe with more than 100 European members, out of which more than 80 support its position on termination of the measures on both solar modules and cells.

(235) EU Pro Sun pointed out that several large solar national associations stayed neutral towards the measures, although some of them are a member of SPE. This is the case in particular for Bundesverband Solarwirtschaft (BSW), Germany (Europe's biggest solar association); British Photovoltaic Association (BPVA); Syndicat des Energies Renouvenables (SER), France; and ANIE Rinnovabili (renewable energy section of Confindustria), Italy. In addition, EU Pro Sun also claims to have support from 150 European installers. However, no installer has openly come forward in support of the measures. The European Trade Union Confederation and IndustriALL European Trade Union sent a joint letter supporting the measures. A German Association of Energy Consumers (Bund der Energieverbraucher) sent a letter in favour of the measures at the level which reflects the cost savings stemming from technological development.

([54]) Systems integrators are companies bringing together solar system components such as modules, inverters, mounting, storage and selling them as a set to final users.

(236) Following disclosure EU ProSun contested the statement that no installer had openly come forward in support of the measures. EU Pro Sun pointed to a letter by 150 installers supporting the measures and a letter signed by two members of the Fachpartnerbeirat der Solar World AG, both sent in October 2016. The Commission noted that the 150 installers asked for anonymity, therefore the Commission continued to consider that they had not openly come forward in support of the measures. The Commission also noted that Fachpartnerbeirat der Solar World AG claimed to represent over 800 installers, but the names of these installers were not provided. The Commission confirmed, however, that the two installers who signed an open latter on behalf of Fachpartnerbeirat der Solar World AG came openly in support of the measures.

(237) The parties opposing the measures on Union interest grounds claimed that downstream companies account for more than 80 % of the employment and value added in the European solar value chain. They pointed to the much higher number of jobs that they create compared to the cell and modules manufacturers in the Union. SPE presented a report prepared by Ernst & Young indicating that the downstream sector employs more than 110 000 people. However, the report did not explain the methodology for the calculation of this high number of employees. Another party indicated that the downstream sector employs around 65 000 people, based on the assumption of roughly 7 FTE/MW/year. However, this party did not substantiate their assumptions, either.

(238) Based on the analysis of some representative projects in ground mounted, commercial and residential sectors, the Commission found that the amount of jobs involved in the downstream sector does not exceed 50 000 people. This figure is based on the assumption that total installation (total installation includes project and site development, distribution, logistics, actual installation and the overhead for all these activities) requires an average of 5,2 FTE/MW/year ([55]), while operation and maintenance requires roughly 0,08 FTE/MW/year. Nonetheless, given that cell and module manufacturing provides roughly 8 000 jobs, the claim that the downstream sector generates significantly higher employment than the production of cells and modules is correct.

(239) The Commission's investigation also found that most of the jobs involved in the downstream solar sector consist in the installation of modules on residential and commercial rooftops and mounting them on the ground. These jobs usually do not require a significant capital investment specific to solar installation — many tools and machines such as cranes, diggers, drills etc. can be also used for other construction works. While some installers are solely focused on the solar sector and are able to perform very high value added tasks, many installers also perform other jobs in the construction or energy sector or can easily switch to those sectors, without much impact on their revenue. One interested party submitted that many installers were recently switching to the building sector because of low margins in solar installation and increasing margins in the construction of buildings in Germany. Therefore, the survival or economic welfare of many installers is not dependent on the solar sector alone.

(240) The same holds partially true for most of the EPCs that came forward in the investigation. Most of them are also involved in the development of other renewable sources of energy or are large construction companies developing projects in general building sector. The impact of the measures on the revenue and employment of the downstream companies depend on the impact of the measures on demand, which is discussed in the Section 5.3 below.

(241) Following disclosure several parties contested the Commission's consideration that the E&Y report did not explain the methodology for its calculation of employment in the solar downstream sector. Solar Power Europe provided some additional information on the methodology. Even after the additional information was provided, the Commission continued to consider that the methodology was still unclear, in particular neither the report nor the additional information indicated how many people were employed in installation of a representative solar project in each key segment.

([55]) A yearly FTE is considered to work 1 680 hours. An average annual FTE/MW depends on how many projects are completed each year in each of the three key segments, rooftop residential, rooftop commercial and ground mounted ones. For total installation (including project and site development, distribution, logistics, actual installation and the overhead for all these activities) the Commission assumes 8,6 FTE/MW for residential projects, 3,7 FTE/MW for commercial ones and 4 FTE/MW for ground mounted ones.

(242) Following disclosure, several parties claimed that the Commission underestimated the amount of jobs involved in the downstream sector in the Union. These parties provided additional reports estimating the number of jobs at 120 250 ([56]) in the Union in 2014 according to 'Eurobserver' and at 31 600 in Germany according to GWS/DIW/DLR in 2015 ([57]).

(243) The Commission observed that the report by the GWS/DIW/DLR covered the total employment in the whole solar value chain. Consequently, the 31 600 jobs indicated in that report includes also the upstream sector as well as cell and module manufacturing. The German upstream sector is believed to employ several thousand people — Wacker alone claimed to provide around 3 000 jobs. The solar manufacturing equipment and balance of plant equipment manufactures also claimed to employ a few thousand people. These jobs are only partially affected by the sales in the Union as the upstream companies export most of their output outside of the Union.

(244) In addition, around 10 000 people are reported to be employed in the Operation and Maintenance activities (O&M). The report does not provide any definition of the O&M. The Commission assumed that O&M referred to all the activities that are necessary to ensure a smooth operation of the existing solar facilities, such as cleaning the panels, reparations, running the dispatch centres, etc. These jobs are counted on the basis of the existing, cumulative solar capacity, which is close to 40 GW in Germany ([58]). Consequently, the already existing 10 000 O&M jobs can only be influenced by the measures that were going to be imposed to the extent that they prevent replacement of aging installations. However, on the basis of the average lifetime of 20 years and the relatively recent installation date of most installations, those jobs would only be affected if the measures where to remain in place for more than the period proposed in the present regulation. Therefore, the number of people employed in the downstream sector in Germany that might be affected by the measures is substantially less than 31 600 people.

(245) The Eurobserver report does not make any distinction between upstream, downstream and manufacturing jobs either. In addition, the employment figure in the solar sector in Germany quoted in that report is the same as the one reported in the GWS, DIW, DLR study for 2014. Therefore, the Commission considered that the number of people employed in the downstream sector in the Union that might be allegedly affected by the measures is much less than 120 250 people

(246) Following disclosure several parties disagreed with the Commission's finding that it is easier to switch jobs from the installation of modules to the general construction sector than from manufacturing of modules to other sectors. However, none of the parties provided any precise data what proportion of the jobs in the installation of the panels is carried out by general construction companies (i.e. ground works and landscaping for ground mounted installations and reinforcing the structure of the roof for rooftop installations).

(247) The Commission had already agreed that a significantly larger number of people were employed in the downstream sector than in the manufacturing of modules. It had also observed that many jobs in the downstream sector required specific skills that made them hard to switch to other sectors. It had, however, also concluded that the impact of the measures on demand is the key factor affecting the jobs in the downstream industry. The absolute number of employees and the questions whether it is hard to switch to other sectors or not, is becoming irrelevant in this respect. As discussed extensively in Section 5.3 the Commission found that the measures had only a limited impact on demand for solar module and therefore also a limited impact on the downstream employment.

5.2.4. *Upstream Industry*

(248) Upstream operators produce raw materials, such as polysilicon and wafers; manufacturing equipment for cells and modules as well as balance of system components, such as inverters, storage, mounting etc. On the one

([56]) Eurobserver: The state of renewable energy in Europe 2015, p. 128.
([57]) GWS, DIW, DLR et al: Bruttobeschäftigung durch erneuerbare Energien in Deutschland und verringerte fossile Brennstoffimporte durch erneuerbare Energien und Energieeffizienz, p. 8.
([58]) Global Market Outlook For Solar Power 2016-2020 Solar Power Europe, p. 16.

hand, Solar World, which is also the largest Union wafer manufacturer, supports the measures. In addition, one more Union wafer manufacturer came forward in favour of the measures. On the other hand, eight other Union upstream companies that came forward opposed the measures. However, most of these upstream operators came forward at a later stage or did not provide a questionnaire reply. Only the polysilicon manufacturer — Wacker Chemie AG ('Wacker') provided a questionnaire reply and was verified as set out in recital 28 above.

(249) The upstream operators calling to terminate the measures reiterated the argument that the measures depress the demand through increased prices, which negatively affects the whole solar value chain. Several companies claimed that due to depressed demand they suffer from a reduction in turnover, profits, loss of jobs, and inadequate resources to invest in R & D. However, due to the fact that they sent their submissions late and did not reply to the questionnaires, their situation could not be verified. The Commission estimated that the upstream industry may employ several thousand people.

(250) The verified polysilicon producer provides more than 2 000 direct jobs and around 1 000 indirect jobs in the Union. It also has a large direct R & D budget exceeding EUR 17 million related to solar raw material production. Although Wacker's turnover and employment remained stable in the period under investigation, it vehemently opposed the measures claiming that they have a negative impact on the trade relations with the PRC. The PRC is by far the largest producer of solar wafers and cells; therefore the polysilicon manufacturer's turnover and several thousand jobs are dependent on an unrestricted access to the Chinese market, which is declining. Wacker and several other parties claimed that by protecting an inefficient industry — solar cell and module manufacturing, the measures cause serious damage to the industries in which Europe has still a competitive edge.

(251) The association of the German equipment manufacturers (VDMA) sent a letter calling to review the level of the MIP, pointing to the fact that manufacturing costs in the solar sector have been continually decreasing. VDMA indicated that the solar cell and module producers had been following a historic solar learning curve of 21 %. VDMA also claimed that the German photovoltaic equipment manufacturers are the key enabler of such a cost reduction. The equipment manufacturers are estimated to employ several thousand people and are key contributors to R & D in the solar sector.

(252) Several parties claimed that the Commission did not properly weigh the interest of upstream operators against the interest of the Union industry. The Commission reiterated that only one upstream operator — Wacker — had sent a complete reply to the questionnaire and could be verified. The interests of this company were taken into account in the analysis as set out in recital 250. Several other upstream operators came forward only at a very late stage with short submissions. The Commission could not properly verify the impact of the measures on the other upstream operators. In any case, the Commission had found that the measures had only a limited impact on the demand for solar modules and consequently the Union sales and profitability of other upstream operators.

5.2.5. *Conclusion on the interest of unrelated importers, downstream and upstream industries*

(253) The Commission acknowledged the basic assumption of the unrelated importers, downstream and upstream industries that the lapse of the measures may be beneficial for the turnover and the number of jobs in these industries. It can thus be concluded that prolongation of measures is not in their interest. However, at the same time the Commission found that the impact of the measures and the likely effect of terminating them on these economic operators and new installations in the Union were substantially overstated in most of the submissions by the companies opposing the measures, as analysed in detail in the Section 5.3 below. With respect of the alleged administrative burden arising from the undertaking an interim review on the form of the measures could be initiated to better protect the interests of the unrelated importers and the downstream operators.

(254) Several parties contended that the Commission did not take into account the interest of the consumers. The Commission considered that their interests in lower prices overlap with the interests of downstream users assessed in Section 5.2.3. The Commission therefore did not undertake a separate analysis for consumers.

(255) Following disclosure, SAFE provided a more detailed submission analysing the impact of measures on German electricity consumers. The SAFE study concluded that the removal of the measures could save German electricity consumers approx. EUR 570 million a year under the assumption that modules could be purchased at EUR 0,40 to 0,45/W and that an annual target of 2 500 MW would be achieved. In addition, Wacker contended that the termination of the measures could save consumers EUR 1 billion a year. This figure was calculated by comparing the difference between the MIP and the assumed price of solar modules of EUR 0,42/W in the past and the expected price of EUR 0,32/W in 2017.

(256) The Commission found that the above calculations are based on too simplistic assumptions. First, the MIP was equipped with an adjustment mechanism. Therefore, for most of the period considered the gap between the MIP and an average global module purchase price was not that large. A larger gap between the two opened only in 2016. This gap was closed at least partially by the latest adjustment of the MIP that became effective at the beginning of 2017. In order to avoid a too large difference between the MIP and the global module purchase price in the future and further reduce the impact of the measures on the consumers, the Commission intends to open an interim review on the form and the level of the MIP. It should be noted that it is not possible as part of the present expiry review to amend the level of measures, as this necessitates an interim review.

(257) Second, the prices used by the parties in their calculations relate to multi-silicon modules in the lower quality range. A large proportion of the modules sold in the Union, though, are high-efficiency multi-silicon and mono-silicon modules. Their prices are considerably higher and therefore the gap between the MIP, which applies without distinction to all modules, and the actual purchase price was even smaller.

(258) Therefore, the Commission considered that the measures had only a very limited impact on the finances of the consumers and solar deployment.

(259) Several parties also claimed that the MIP, increasing the price of modules, is responsible for the failure to achieve annual solar deployment targets in Germany. The Commission was not convinced about this mono-causal link. The gap between the MIP and an average selling price was smaller than assumed by the parties, and the measures did not affect significantly the demand. Accordingly, Commission also concluded that the MIP did not have a significant impact on the non-achievement of the solar deployment targets.

5.3. **Impact of the measures on the demand for solar installations**

5.3.1. *Preliminary remarks*

(260) Virtually all parties who came forward opposing the measures claimed that the measures increase the price of new solar installations and depress the demand for solar modules, making solar generated energy more expensive to consumers. While some admitted that the decline of solar installations in the Union is also due to the modifications and, in certain Member States, suspension or termination of support schemes, they considered that the measures cause artificially high prices and slow down solar deployment even more. They claimed that recent policy changes such as an introduction of competitive tenders for new solar installations exacerbate the damage caused by higher prices of modules due to the measures in place. In their view, the termination of measures would enable cost reductions for solar power in the Union, benefiting end-consumers, stimulating the demand for solar panels and reducing the cost of clean energy provision as a whole.

(261) The Commission identified three segments within the Union solar market:

— Large utility-scale solar systems (or parks), which are usually mounted on the ground, have the installed capacity exceeding 1 MW, and are usually connected to a high-voltage transmission grid to which they feed the electricity they generate;

— Commercial solar systems (or installations), which are usually mounted on the rooftop of a user's building. The user is a commercial entity (for example a supermarket or a warehouse) and the system is connected to a low-voltage distribution grid. Commercial installations can be used for self-consumption or feeding electricity to the grid;

— Residential solar systems (or installations), which are usually mounted on the rooftops of private houses and have capacity that usually does not exceed 10 kW. Residential installations are generally connected to a low-voltage distribution grid and can be used for self-consumption or feeding electricity to the grid.

(262) The Commission considered that, in the RIP and the preceding years, the demand in all three segments was driven by the support schemes as set out in Section 5.3.2 below. The Commission also considered that, at the end of the RIP and in the year 2016, important changes took place and the demand for the three segments became increasingly driven by separate forces. The demand for large utility scale solar parks is increasingly driven by tenders as set out in Section 5.3.3, and possibly to a very small degree by grid parity. The demand for commercial and residential installations is increasingly driven by the achievement of retail grid parity, both with and absent taxes as set out in Section 5.3.4.

5.3.2. *The impact of modifications and, in certain Member States, suspension or termination of support schemes*

(263) The opponents of the measures claimed that the MIP had prevented solar products to follow the cost learning curve, while the level of State aid had adjusted to that learning curve. This mismatch between falling State aid and stagnating prices caused in their view the demand for solar panels in the Union to fall. In their view, the Commission's expectation expressed in the original regulation that the support schemes will be adjusted over time in line with the development of prices for projects ([59]) did not materialise. Consequently, all upstream and downstream companies are severely suffering from the Union market contraction. They submitted that this finding is acknowledged, inter alia, in a study by the German Ministry of Economy and Energy ('BMWi') ([60]).

(264) These parties claimed that while the MIP has remained fairly stable since 2013, the solar industry has continued to achieve the learning curve of 21 % ([61]). Such a learning curve means that with each doubling of cumulative solar installed capacity, the cost of production goes down by 21 %. The cumulative global solar capacity in 2013 was around 130 GW, while it is expected to reach 290 GW at the end of 2016. This means that it has doubled by now and the predicted cost of production went down by 21 %. They submitted that the MIP was 30 % above the world contract selling price at some point in 2016 as reported by PV Insights and other sources. This means, in their view, that the European consumer has been effectively excluded from taking the advantage of the worldwide decrease in the cost of production.

(265) In light of the above arguments, the Commission acknowledged that the solar industry has a steep learning curve and the cost of solar production has been going down. For this reason the undertaking/MIP has been equipped with an adjustment mechanism based on prices quoted by one of the market intelligence agencies, Bloomberg. The prices in a competitive market are supposed to reflect the decreases in the cost of production. Nonetheless, the price index that the Commission has been using changed only marginally. This raises the question — which has not been analysed by the Commission in this investigation — whether the Bloomberg index still adequately reflects the evolution of world market price. As this an expiry review, that cannot change the level or the form of measures, there was also no need to examine that matter further.

(266) If the interested parties consider that there is a better way to reflect the solar industry's learning curve and the resulting evolution of world market price in the level of the measures, an interim review can be opened at their request. The Commission's analysis of the study by the BMWi quoted above revealed the main reason for failing to achieve the target of 2 500 MW of new installations in Germany in 2014 were the steadily declining rates of

([59]) Implementing Regulation (EU) No 1238/2013, recital 394.
([60]) Marktanalyse Photovoltaik-Dachanlagen, Bundesministerium für Wirtschaft und Energie, 2014 (p. 7).
([61]) 21 % learning curve for 2015 has been confirmed in the March 2016 edition of International Technology Roadmap for Photovoltaic (ITRPV): Results 2015.

remuneration, coupled with stagnating prices for installations. That study also pointed out that the prices in the solar market did not necessarily reflect solar production costs, but resulted from significant global overcapacities. The Commission found that the wholesale solar prices stagnated not only in the Union, but worldwide. Actually global prices of solar modules denominated in the euro even increased in the second half of 2014, as reported by several market intelligence agencies such as PV Insights ([62]) and BNEF ([63]).

(267) The Commission also found that support schemes were at a high level in certain Member States in the years preceding the measures as they were adjusted to the level of the Union prices and prices from other third countries, such as Japan, Taiwan or the United States of America. Some of the support systems were not designed to cope with a massive influx of modules form China at dumped prices. Such an influx caused an installation boom in the years preceding the measures. The solar installations peaked in 2011 and at that time the solar deployment targets were significantly exceeded in certain Member States. The Commission's Renewable Energy Progress Report from June 2015 states that at technology level, photovoltaic (i.e. solar power) has already reached the initially planned 2020 deployment levels as early as in 2013 ([64]). In certain Member States, this caused an unexpected financial strain on the support systems. The policy reaction was a reduction in the level of support, or even a suspension and/or modification of the support scheme. Those changes were also necessary for installations already installed where otherwise, the support would have led to an overcompensation of the investors ([65]).

(268) The evolution of the solar UK market in 2014-2016 serves yet as another piece of evidence that the level of the support schemes has been the main driver of the demand in the Union. As long as there were high feed-in tariffs available the market was booming, even if the trade defence measures were in place. Once the feed-in tariffs were discontinued at the beginning of 2016, the volume of new installations collapsed. This is also acknowledged in the SPE's Global Outlook: A European latecomer, the UK's recent solar boom was also primarily triggered by incentives for utility-scale systems, which ended in March 2016 ([66]).

(269) While most of the reports by market intelligence agencies usually point to decreasing support schemes and the regulatory uncertainty as the main reasons for the stagnation in the Union demand for solar power, they hardly ever point to the measures. The Global Market Outlooks by Solar Power Europe also points to reduced incentives and uncertainties about market development as well as cuts in support schemes for existing installations in order to avoid overcompensation as the main cause of a decrease in European solar markets, for example regarding the German situation the SPE's Global Outlook 2015 states: 'Second in 2014, Germany installed less than 2 GW (1,9 GW), below the official target of 2,5 GW. The global PV leader [i.e. Germany] was under pressure to lower the costs of the support system, with new regulations leading to a 75 % reduction of the market over two years (from 7,6 GW to 1,9 GW)' ([67]).

(270) The Commission observed that there had been a boom in solar installation demand in the years 2010 to 2013 driven, in certain Member States, by a mismatch between feed-in tariffs set at the level of a fair module price and the overall level of prices driven by unfairly dumped Chinese modules. The decline in demand in 2013 and the following years was an inevitable consequence of an installation boom in the preceding years. The significant decline in solar module consumption/installation had already started in 2012, which coincided with a significant cut in feed-in tariffs in that year in certain Member States. In the years 2014 — RIP, the Union demand was increasing only in the UK, the Member State that had the most attractive support schemes in that time. Therefore, the Commission found that the support schemes were the main driver of demand in the RIP and in the preceding years. It can thus be concluded that the unrelated importers, downstream and upstream industry suffered to a significant extent from the collapse of the Union consumption that is unrelated to the imposition of the measures.

([62]) http://pvinsights.com/
([63]) Bloomberg New Energy Finance, Solar Spot Price Index.
([64]) Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Renewable energy progress report COM(2015) 293 final, p. 11.
([65]) See, for the Czech Republic, Commission decision SA.40171, 28 November 2016.
([66]) Global Market Outlook For Solar Power 2016-2020 Solar Power Europe, p. 28 and p. 5.
([67]) Global Market Outlook for Solar Power 2015-2019 Solar Power Europe, p. 18.

5.3.3. *The impact of the measures on large utility-scale solar systems*

(271) Under the new Union state aid rules ([68]), support schemes need to be 'market based' for all larger installations above 1 MW ([69]) by the beginning of 2017, except where the support schemes had been authorized prior to the entry into force of the new rules. In that case, they may remain unchanged until the end of the authorisation period ([70]). Market-based mechanisms are green certificates and competitive tenders.

(272) Competitive tenders are one of the market based mechanisms required by these new state aid rules. Under such a mechanism governments put a desired amount of capacity to be installed up for an auction In line with the Union state aid rules, competitive tenders are in principle technology-neutral, but may also be technology-specific, for instance where this is necessary in order to ensure the necessary diversity of energy sources.

(273) The solar parks developers bid for the lowest price they agree to be paid for the energy they are going to inject into the grid over the lifetime of a solar park.

(274) The opponents of the measures claim that under the new price sensitive system of competitive tenders, the MIP will have an increasingly negative impact on solar deployment as it increases the price of modules — the main component of the solar system. According to these parties the tenders for capacity coupled with the termination of measures can yield significant savings. The cheaper the solar systems become, the more appetite the governments may have to build solar installations as the cost savings are going to be directly reflected in the final price of electricity. In addition, decreasing the price of the solar system will make it easier for Member States to achieve the targets for renewable energy deployment.

(275) These parties referred to Germany as an example. According to them, a couple of pilot auctions have already taken place and they were quite successful in pushing an average price down to EUR 7,25 cents/kWh in August 2016. SPE and SAFE provided an analysis indicating that the removal of the MIP could result in a potential system price decrease by 10 % for utility-scale PV installations in the Union through tenders. The negative impact of the measures on the outcome of the tenders is also acknowledged in the latest SPE's Global Market Outlook ([71]). One other party assumed that given the current decreasing trend in the world markets, the price of solar energy can fall in Germany to EUR 5 cents/kWh if the measures are lifted, though they did not substantiate their findings.

(276) The parties opposing the measures submitted that in some jurisdictions, in particular in the United Kingdom, solar was bound to compete against other renewable forms of energy, such as on-shore wind. As no trade measures apply to wind energy, solar was unable to compete against wind and very few solar projects went ahead through those auctions. Some parties claimed that Germany also considers introducing technology neutral tenders, and that such neutral tenders exacerbate the disadvantage of higher prices caused by the measures as it makes solar power lose in tenders against other renewable technologies in particular wind.

(277) The parties supporting the measures submitted that the tenders and overall installation targets were introduced exactly for the purpose to enable the governments to control the level of solar deployment and to avoid installation boom and bust cycles that happened before.

(278) The Commission limited its analysis of support schemes for large utility-scale solar systems to Germany, France and the United Kingdom. That choice is justified by the fact that they accounted for roughly 80 % of annual new solar installations in the Union during the RIP. It was thus appropriate to look at the developments in these three Member States as a proxy for the situation in the Union as a whole.

([68]) Communication from the Commission: Guidelines on state aid for environmental protection and energy 2014-2020 (OJ C 200, 28.6.2014, p. 1); Sections 3.3.2.1 and 3.3.2.4.
([69]) Member States may decide to choose a lower threshold or no threshold at all.
([70]) Communication from the Commission: Guidelines on state aid for environmental protection and energy 2014-2020 (OJ C 200, 28.6.2014, p. 1), paragraph 250. Those rules also do not apply to any support scheme that does not constitute State aid. However, the Commission is not aware that any Member State would have designed its support scheme so that it does not constitute State aid.
([71]) Global Market Outlook For Solar Power 2016-2020 Solar Power Europe, p. 8 and p. 37.

(279) The analysis is based on information submitted by interested parties, information collected by the Commission during the investigation and information submitted by Member States to the Commission for the purpose of State aid control.

(280) Germany and France have already set their targets for the three years to come. France plans 2 annual tender rounds of 500 MW each for solar energy in 2017-2019. That makes for a total annual new installation of 1 000 MW. Germany plans to have tenders for an annual volume for solar energy of 600 MW from 2017 at least until 2020.

(281) The United Kingdom, on the contrary, does not run technology-specific tenders for solar energy. In February 2015 a multi-technology tender took place in which solar modules were in competition with other technologies for the award of contracts for difference ('CfD'). No new tenders are planned in the United Kingdom for the time being, as the government takes the view that utility-scale on-shore wind and solar energy can compete with other sources of electricity without support schemes.

(282) For Germany and France, the measures cannot have any impact on utility-scale demand for solar modules, as solar energy has 'reserved' tenders, and the capacity is fixed. The only difference is a marginally higher price for the end consumers that have to cover the costs of the tender either through taxes or charges.

(283) For the United Kingdom, as tenders are technology-neutral and in any event no new tenders are planned, the analysis is different. Here, solar energy competes in the market with all other forms of energy. However, the measures did not make solar energy uncompetitive. At the February 2015 auction 18,5 % of a combined capacity of 2,1 GW was still awarded to solar energy. That tender shows that even with the measures in place, solar energy is able to compete successfully in a non-technology specific tender ([72]). At most, they may have slightly reduced the weight of solar in the tender results, i.e. solar energy may have won a bigger share of the technology-neutral tenders absent the measures. Finally, the Commission considered that if the measures were removed and solar modules would be purchased at dumped prices, multi-technology tenders would confer an unfair advantage to solar modules towards other renewable sources of energy. Therefore, the measures do not put solar energy at a competitive disadvantage, but merely restore a level playing field between all the technologies.

(284) The Commission concluded that there was no link between falling prices per kWh and increased demand for solar energy. In particular, Germany, France and the United Kingdom did not increase their solar deployment targets because project developers were placing lower bids in the capacity auctions. Rather, the tenders were mainly introduced by the Member States to control the level of solar deployment. This was also acknowledged by SPE in its 2015 Global Outlook: 'In a similar way, mono or multi-technology tenders are also on the rise again in France, the UK and Germany, with the idea to better control the evolution of the PV market in the related segments' ([73]).

(285) SPE claimed that the Commission gave an incomplete and even inaccurate picture of their position on the impact of measures on tenders. The Commission confirmed that SPE had claimed in their 2016 Global Market Outlook and several other submissions that in their view the MIP negatively impacted on the outcome of the tenders. The Commission, however, disagreed with that view as set out in detail above. At the same time, the Commission noted that in the Global Market Outlook 2016-2020, Solar Power Europe still considered that tenders can be used by governments to control or even limit solar deployment: '*Policy leaders often prefer to see distributed solar on rooftops, where it outcompetes any other renewable energy technology and — unlike ground-mounted PV power plants, does*

([72]) That result has also been confirmed in the Netherlands, under the SDE+ programme, where in the period 2013 to 2015 ca. 55 % of all bids based on solar energy were awarded support.

([73]) Global Market Outlook for Solar Power 2015-2019 by Solar Power Europe, p. 22.

not compete with other usages. This has been in particular the case for European countries, where ground-mounted PV systems sometimes even have been limited in size — in Germany, for example, up to 10 MW, and also in volume by implementing tenders ([74])'.

5.3.4. *The impact of the measures on achieving grid parity by solar power*

(286) The term grid parity means a point in time at which a developing technology will produce electricity for the same cost as conventional technologies. Actually, there are two forms of grid parity. Wholesale grid parity occurs when a solar system (usually a large, utility scale system that is connected to the transmission/distribution grid) can generate power at a levelised cost of electricity (LCOE) ([75]) that is less than the price of purchasing power from the wholesale market where all major (usually conventional) generators are competing. At the wholesale level the energy is sold to very large industrial customers and utilities who distribute the energy to households and other smaller end-users. Retail grid parity occurs when a solar system (usually installed on the rooftop of a user) can generate power at LCOE that is less than the cost of retail electricity price (including all the transmission and distribution fees, utility mark-up and the taxes).

(287) The Commission first analysed the situation for wholesale grid parity, and then for retail grid parity.

(288) Wholesale grid parity. The opponents of the measures submitted that, if the measures are removed, large solar installations could achieve wholesale grid parity in the sunniest parts of the Union, such as Spain. According to a business plan presented by one of the members of SAFE, they could achieve the LCOE of EUR 3,8 cents/kWh in the Spanish region of Cadiz if they purchased modules at EUR 0,35/W. This party believed that they could get a module price of EUR 0,35/W from Tier 1 Chinese manufactures for a large quantity transaction in the absence of duties, for the project delivered at the beginning of 2017. They claimed that at such low LCOE the solar energy not only achieves grid parity with other conventional sources of energy, but there is no other production method of electricity which could beat it in the very near future. This cost advantage coupled with other assets of South European countries i.e. good grid connections, stable political and economic environment and strong and liquid currency gives them a unique opportunity to become new European leaders in energy production. According to these parties, the measures prevent this from happening.

(289) The Commission observed that the Spanish region of Cadiz has one of the best solar radiations in the Union (the most hours of sun in a year), which maximises the production of energy per module. Given much lesser solar radiation in most parts of the Union, it has to be seen when achieving wholesale grid parity can be replicated in other markets, even though the British government seems to assume that that is soon the case. The Commission also observed that there are large differences in the wholesale price in the different Member States, which means that wholesale grid parity comes at different prices depending on the Member State in question.

(290) Therefore, the Commission took the view that in the near future wholesale grid parity will not be achieved on a wide-spread basis in the Union, even in the absence of the measures.

(291) Following disclosure, several parties disagreed with the Commission's conclusion that wholesale grid parity will not be achieved on a wide-spread basis in the Union in the near future, even if the trade measures expire. These parties pointed to a 6-page report by the Becquerel Institute which examined the potential for wholesale grid parity in eleven Member States. This report was financed by the three parties to the investigation opposing the measures.

([74]) Global Market Outlook for Solar Power 2015-2019 by Solar Power Europe, p. 23.

([75]) LCOE is the key metrics for the cost of electricity produced by a power-generating asset. It is calculated by accounting for all of a system's expected lifetime costs (including construction, financing, fuel, maintenance, taxes, insurance and incentives), which are then divided by the system's lifetime expected power output (kWh). All cost and benefit estimates are adjusted for inflation and discounted to account for the time-value of money.

(292) The Commission observed that other sources are less optimistic than Becquerel Institute on the level of solar LCOE and consequently the timing of the achievement of grid parity by solar energy in Europe. For example, the detailed report by BNEF ([76]), forecasts much higher LCOE ranges for the key markets such as France, Germany, Italy and the United Kingdom. The differences are indicated in the table below:

Member State	BNEF LCOE range EUR/MWh ([1])		Becquerel LCOE range EUR/MWh	
	Low	High	Low	High
France	58	105	34	53
Germany	66	107	46	54
Italy	65	99	36	58
UK	77	117	49	60

([1]) Converted from USD at the rate 0,94462.

(293) Becquerel assumed CAPEX costs at 0,726 EUR/W without differentiating between Member States. BNEF assumed much higher CAPEX and differentiated by Member States: France 0,99 EUR/W; Germany 0,9-0,94 EUR/W, Italy 0,76-0,99 EUR/W and the UK 0,9-0,94 EUR/W. The difference could be explained to some extent by the fact that Becquerel assumed the module prices free of the measures. However, so much lower CAPEX appears unlikely, especially given that, according to BNEF, CAPEX is anyway lower in the Union than in other countries where trade defence measures do not apply, e.g. Turkey 1,04 EUR/W and the United Arab Emirates 1,14 EUR/W.

(294) Therefore, Becquerel and BNEF have divergent forecasts. They disagree about the point in time when building utility scale solar plant will become definitively cheaper than operating an existing fossil fuel plant. For France, Becquerel assumes that it has already happened, for the United Kingdom; and Germany Becquerel assumes it will happen in 2018 and in 2020 respectively. BNEF, however, assumes that utility-scale solar power will become definitively cheaper than fossil power plants only somewhere between 2025 and 2030 for all the three Member States ([77]). Consequently, according to BNEF utility scale solar power plants will be deployed on a larger scale only after 2025 in most parts of the Union ([78]).

(295) Finally, the Becquerel report concludes that: 'PV electricity could become competitive in several of Europe's largest markets by 2019, and in most European countries […] within the five coming years'. This means that most of the Member States, including Germany, are expected to achieve grid parity only when the measures are set to expire in 2019, even in the disputed case that the assumptions and findings of the Becquerel report were proven to be correct by then.

(296) SPE provided two reports by Deutsche Bank ([79]) which, in their view, opposed the Commission's view that wholesale grid parity would not be achieved in the near future. The Commission observed that the two reports actually referred to retail grid parity instead of wholesale grid parity, which is confirmed not only by the text, but also by the high LCOE that is compared against the solar LCOE. As explained in the immediately subsequent recitals, the Commission did not deny that retail grid parity had been already achieved in some parts of the Union.

(297) Retail grid parity. The opponents of the measures also submitted that the rooftop solar installations have already achieved retail grid parity, i.e. they became economically viable, even without subsidies, in the Member States where the retail electricity prices are high, such as Germany. One of the parties illustrated the point with an example of a commercial centre. It has a large rooftop area for the panels to be installed and it needs energy during daytime while the main activity goes on. So its energy demand coincides with the peak solar production.

([76]) H2 2016 EMEA LCOE Outlook, October 2016, p. 2.
([77]) BNEF, New Energy Outlook 2016, p. 28.
([78]) Idem p. 23 and 2017 Germany Power Market Outlook 10 January 2017, p. 9.
([79]) Deutsche Bank's 2015 solar outlook: accelerating investment and cost competitiveness, 13 January 2015 and Deutsche Bank, Markets research, Industry Solar, 27 February 2015.

In Germany the price they need to pay for each kWh is currently around EUR 20 cents/kWh, while the LCOE of a rooftop solar installation is around EUR 10 cents/kWh. Therefore, installing the panels can yield significant savings on electricity charges, especially to customers who use a lot of energy during the day. This has not been the case in the original investigation when solar-generated electricity always required subsidies to be viable. In the situation when the subsidies are no longer relevant, it is the final module price that influences a customer's decision to install solar system and currently this price is increased by the measures.

(298) The Commission investigated in more detail the market for retail grid parity in Germany, because parties have extensively commented on it during the investigation.

(299) It is necessary to distinguish between installations that are for self-consumption, and installations that feed electricity into the grid.

(300) The Commission concurred with the view that achieving the grid parity by solar energy is a very desirable development as it helps combatting climate change and reducing consumers' electricity bill. It found that removing the measures would reduce the price of solar panels, hence increasing the number of locations at which retail grid parity can be achieved.

(301) At the same time the Commission found that during the RIP, investments into commercial and residential rooftop installations for self-consumption, which do not benefit from any support scheme, have been hold back by regulatory uncertainty about the inclusion, or not, of those installations into the levy for financing the German support scheme — EEG surcharge. Following a regulatory change proposed by Germany in order to comply with Union State aid law, the entities which self-consume the power from their renewable energy sources (sometimes called prosumers) are obliged to pay a levy of more than EUR 2 cents per kWh in Germany. Therefore, if a project has an LCOE of 10 cents/kWh, the levy alone makes the electricity generated by it 20 % more expensive ([80]).

(302) The Commission aims at decreasing regulatory uncertainty for the future. Under the proposal for the Electricity Market Design and the Renewable Energy Directive, 'renewable self-consumers […] are entitled to carry out self-consumption […] without being subject to disproportionate procedures and charges that are not cost-reflective' ([81]). Reports by market intelligence also point to the fact that regulatory changes have an impact on demand. One of the latest BNEF's reports states: the German commercial and residential small-scale PV sector was languishing ever since monthly degressions [in the feed-in remuneration] and the surcharge on self-consumption came into force ([82]). All elements considered, the example of retail price parity achievement set out above shows that solar modules can already generate the electricity much below the retail delivery price in Germany. Once the necessary regulatory certainty will be achieved by Union legislation, demand that is not based on support schemes can be expected to pick up. That demand is likely to be more sensitive to the price level of solar panels, and therefore likely to be more sensitive to the measures as well.

(303) For installations feeding into the grid, demand is mainly determined by support schemes, which may continue to be used without carrying out tenders for installations of up to 1 MW. At a given level of support, demand is slightly higher if measures are removed. At the same time, for budgetary reasons, most Member States have significantly reduced support, so that this demand is shrinking irrespective of the measures.

(304) Following disclosure, SPE claimed that the Commission wrongly drew its conclusions on the impact on the regulatory uncertainty and EEG-surcharge based on a German illustration alone. The Commission reiterated that similar negative conditions existed in many Member States. The same was observed by SPE in their latest Global

([80]) Spain also applies a surcharge on energy generated from solar panels. Although the modalities of the Spanish surcharge are very different from the German surcharge, they both have a cooling effect on the solar demand.

([81]) Proposal for a Directive of the European Parliament and the Council on the promotion of the use of energy from renewable sources (recast); COM(2016) 767 final; Article 21(1)(a).

([82]) Q3 2016 European Policy Outlook, BNEF, 4 August 2016, p. 8.

Market Outlook 2016-2020 for Spain: '[…] the Spanish Government […] hindered the emerging self-consumption market with a solar tax and high fines for non-declared prosumers' ([83]) and 'The fate of solar in Spain is similar in several other former high feed-in-tariff markets: Belgium, Bulgaria, Czech Republic and Greece. The solar markets in Slovakia and Slovenia have almost completely come to a halt' ([84]); as well as: 'Even several developed distributed rooftop solar markets are struggling as they are transforming from feed-in tariff or net-metering markets to self-consumption schemes. This is despite the fact that solar in many instances is cheaper than retail electricity. The barriers that have been implemented for rooftop solar in certain European countries (taxes on self-consumed solar power, hindering sales of excess power or only offering wholesale prices) and continued discussion on further limitations have kept many potential buyers away from investing in their own solar system' ([85]). The Commission thus rejected this argument.

5.3.5. *Conclusion on the impact of measures on demand*

(305) Following an in-depth analysis the Commission found that with regard to the impact of measures on demand, it is important to distinguish different sectors and different types of demand.

(306) Demand from support schemes. Where support schemes are technology-specific, measures do not have an impact on demand. Where support schemes are technology-neutral, measures reduce the chances of solar energy of winning. However, even for those tenders, the Commission observes that solar energy has won a significant market share, which shows that even with the measures, it is capable of competing for utility-scale projects.

(307) Wholesale grid parity. Wholesale grid parity at this stage and in the near future can only be achieved, if at all, at ideal locations, even if prices for solar panels are reduced because measures are lifted. Again, the additional demand to be expected in the absence of the measures is low, and in addition depends on the level of the wholesale price in the Member State in question.

(308) Retail grid parity. Retail grid parity is today achieved for commercial installations in Member States, which have high retail prices, such as Germany, even if sun is not abundant there. The main drivers here are taxes, fees for the network and levies for support schemes. New energy market design rules announced by the Commission on 1 December 2016 ([86]) and new rules for consumer centred clean energy transition proposed by the Commission on 30 November 2016 ([87]) are an important step towards achieving a stable and growth friendly environment. Once the Commission's proposal is adopted by the co-legislators demand for commercial installations that auto-consume is expected to pick up. In that case, for commercial systems the removal of measures may have more important impact, as there is no limit to demand in the form of a limited amount of production to be supported by support schemes, and no competition from other energy sources, contrary to wholesale grid parity. For residential installations, achieving retail grid parity will take longer, as they need to be fitted with costly storage devices to be suitable for most users who auto-consume ([88]).

(309) Following disclosure, several parties disagreed with the finding that the measures had only a limited impact on the demand for modules. They contended that investments are driven by the expected rate of return and therefore the lower the price of solar module, the higher the return on investment and the likelihood of realisation.

(310) The Commission recalled that it had always agreed that the price has an impact on demand. Nonetheless, in its view other factors exert currently much more significant impact on demand than a relatively mild increase in the

([83]) Solar Power Europe, Global Market Outlook 2016-2020, p. 25.
([84]) Idem p. 26.
([85]) Idem p. 23.
([86]) https://ec.europa.eu/energy/en/news/commission-publishes-new-market-design-rules-proposal
([87]) https://ec.europa.eu/energy/en/news/commission-proposes-new-rules-consumer-centred-clean-energy-transition
([88]) An average residential user spends most of the daytime outside of home, therefore without storage they are unable to self-consume most of the electricity their rooftop system generated.

price of modules caused by the MIP. These factors are on the one hand regulatory uncertainty, but on the other hand, the intentional actions by the government to control the level of solar deployment. These actions include setting of overall annual installation targets, introduction of tenders for capacity, and imposition of the taxes on self-consumption.

(311) The Commission also recognised that in some instances, such as technology neutral tenders, the MIP may have a more significant impact on the solar demand. At the same time, the Commission observed that without the MIP removing the effect of dumping solar energy would have an unfair competitive advantage over other renewable sources of energy. The Commission also observed that solar energy was relatively successful in the technology neutral tenders even with the MIP that merely restores the level-playing field.

(312) Finally, the Commission found further evidence that in the near future the governments may take further actions to control solar deployment, such as introduction more cost-reflective grid usage tariffs on solar installations. BNEF assumed that: *many European regulators will respond to the falling cost of solar from 2018, by making users with solar panels pay fixed costs to be connected to the grid, so they can only save the variable part of the power price by buying solar. We based this on estimates of the cost structure of each country's grid. This reduces the avoidable power bill by about 30 % of the power price in most EU countries. If this does not happen, build could be higher but grid costs are unfunded* ([89]).

(313) Therefore, these arguments were rejected and the Commission continued to consider that the measures have only a very limited impact on the solar demand in Europe.

5.4. **Other arguments**

(314) Most of the parties opposing the measures submitted that the measures have a negative impact on the achievement of the climate change goals. This claim was also backed by five environmental NGOs. These parties reiterated that the Union and the Member States have committed, by several decisions and agreements, most recently in the Paris agreement, to reduce greenhouse gas emissions and prevent climate change. The Union has set the legally binding target to increase the share of renewable energy sources in the final energy consumption to 20 % ([90]). The Commission has also set the policy framework for the target of 27 % by 2030. This new ambitious target was adopted in 2014, after the definitive measures were imposed. In October 2016 the UNFCCC Paris Agreement on fighting climate change, the first-ever universal, legally binding global climate deal, was ratified by the European Union after the European Parliament voted in favour of it by an overwhelming majority. The transformation to low-carbon energy supply is the main element of this effort and solar generated power remains one of the most promising energy sources to achieve the climate goals.

(315) The parties opposing the measures submitted that the measures make the achievement of the climate targets more difficult by slowing down the deployment of solar energy. They claimed that restoring market global prices for solar will allow the Union to decarbonize faster its power generation. They also pointed out that there is an inconsistency between the Union's climate and trade policy. While the former is promoting and subsidising the renewables, the latter is increasing their price and affecting availability.

(316) The Commission agreed that the ratification of the UNFCCC Paris Agreement on fighting climate change is a very important milestone in galvanising global cooperation towards reducing climate change. Solar power is one of the key energy sources to achieve the climate goals. At the same time, the Commission found that the Union's demand for solar installations in the near future will only be affected to a limited extent by the measures (see Section 5.3 above). This will only change once retail grid parity becomes a significant source of demand. Therefore, the removal of the measures at this stage will not help much to achieve the environmental objectives.

([89]) BNEF, New Energy Outlook 2016, p. 17.
([90]) Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (OJ L 140, 5.6.2009, p. 16).

(317) EU Pro Sun made several other observations in an open letter replying to the NGOs' position calling to end the measures on environmental grounds. EU Pro Sun submitted that if the whole solar supply chain perspective is adopted, the panels manufactured in the Union result in much lower carbon footprint. The modules manufactured in the Union do not need to be transported over long distances. Due to the Union production standards and environmental requirements, on the one hand, and the higher energy costs, on the other hand, the EU solar industry has systematically reduced its energy consumption as compared to the Chinese producers. This is particularly important given that the manufacturing of solar modules and their raw materials is energy intensive. EU Pro Sun also pointed out that there is a certain contradiction between the fact some of the NGOs sign the letter calling to terminate the measures on Union interest grounds, i.e. even if unfair trade practices are found, and the recent statement by one of their leaders calling to do more to ensure fair and environmentally friendly trade.

(318) The Commission concluded that the measures have only a limited impact on the achievement of the short term Union climate objectives.

(319) Following disclosure several parties disagreed with the statement that imported solar products have a higher carbon footprint that the one manufactured in the Union. These parties claimed that polysilicon and wafer manufacturing accounted for the largest share of primary energy demand, therefore the origin of polysilicon and wafers matters the most. These parties also pointed out that the production of electricity has a different carbon footprint in different Member States. As the production of modules and its raw materials is energy intensive it matters in which Member State the modules and their components were manufactured.

(320) The Commission could not analyse these claims in-depth within the short timeframe following disclosure. It clarified it had only produced a submission of EU ProSun and never asserted itself that imported solar suffers from a higher carbon footprint. Rather, irrespective of the carbon footprint of the Union modules and the Chinese modules, the Commission reiterated the main conclusion that the measures had only a very limited impact on the solar demand so far. Therefore, the Commission concluded that the measures did not have a significant impact on the achievement of the Union's environmental goals.

(321) Some of the parties calling to terminate the measures claimed that there were insufficient manufacturing capacities in the Union to cover the Union demand for modules and the measures were ineffective in significantly increasing the manufacturing capacities of the Union cell and module manufacturers. The Union demand was estimated by them at less than 8 GW and the Union production of modules was less than 4 GW by the interested parties concerned. This allegedly means that at least half of the modules need to be imported anyway. These parties submitted that the European Commission's expectation expressed in the original regulation that 'in the medium-term it is reasonable to assume that the Union industry will expand its production capacity to cover demand which will allow it to achieve economies of scale, which in turn would allow for further price reduction' did not materialize.

(322) The Commission found that even if the Union production of modules is below the Union demand, there has never been a shortage of modules in the Union. The price undertaking/MIP allowed imports from China at fair prices. While there was a relative increase in imports from the rest of the world, the Union industry managed to increase its market share in the Union from 25 % to 35 % between the 2012 and the RIP. Therefore, the measures enabled the Union industry to increase its production and sales relative to the size of the Union market and to cover a larger part of the demand. As noted in Section 5.3.2 above, the Union consumption decreased drastically due to the reduction in support schemes, which make it much harder for the Union industry to grow. In spite of that the Union industry managed to further consolidate and achieve significant cost reductions. In addition, there is significant spare module manufacturing capacity in the Union that could be put back into operation, if the demand increases. Therefore, the Commission considered that the measures do not cause a shortage of supply of modules in the Union market and the measures were effective in expanding the Union production relative to the size of the Union market.

(323) The parties opposing the measures submitted that module manufacturing capacities outside of China are growing very rapidly. They quoted various market intelligence reports, according to which, the combined manufacturing capacity in other Asian countries has been growing very fast; it reached 7 GW in 2015 and is forecast to go up to 10 GW in 2016. This is allegedly going to be more than the Union demand — estimated by the parties at

around 8 GW. A significant volume of these new capacities has been installed by the Chinese companies. Also, several large Chinese companies left the undertaking voluntarily to be able to supply the Union market from outside of the PRC. The parties asserted that the result would be that an increasing volume of cheap modules may be exported to the Union from third countries, even if the measures remain in place. Therefore, the opponents of the measures submitted that the expectation of the Commission expressed in the original regulation that other third countries would not direct their exports massively to the Union market ([91]) did not materialise.

(324) The Commission's investigation revealed that the market share of the imports from the PRC to the Union decreased from 66 % in 2012 to 41 % in the RIP, while the market share of imports from the rest of the world, excluding the PRC (mainly Taiwan, Malaysia, Korea and Singapore) increased from 9 % to 25 %. The market share of the Union manufacturers in the Union increased from 25 % in 2012 to 35 % in the RIP. Therefore, the imports from third countries did not prevent the Union industry to recover a significant market share in the Union.

(325) The Commission also found that while the module manufacturing capacities in South East Asia are growing fast, they are still a fraction of the capacities in China ([92]). South East Asian factories also sell large volumes to the US market and other countries which imposed trade measures on Chinese modules, such as India and Canada. The South East Asian solar installations are also expected to grow, consequently some volumes are expected to be sold within the region. Therefore, the Commission concluded that module manufacturing capacities in South East Asia are insufficient to cover a significant proportion of the Union demand and to make the measures ineffective. In any case, the purpose of the measures is to ensure that imports of solar modules and cells from the PRC are made at fair and non-dumped prices and the fact that the Union industry might be subject to competition from other countries does not render the measures ineffective.

(326) One party submitted that the evolution of market shares demonstrates that the measures mainly benefited the importers from third countries. This party claimed that the situation is similar to Farmed Atlantic Salmon case ([93]), in which the Commission terminated the measures because they would lead to a substantial net transfer of wealth out of the Union and the transfer of wealth to third country suppliers would greatly exceed any benefit from measures that the Union industry would derive.

(327) As noted above, the Union industry managed to increase its market share in the Union from 25 % to 35 % between the 2012 and the RIP. This means that the third countries did not take over most of the market share previously held by the Chinese manufacturers. In addition, the Commission considers that the situation of the Union industry in Farmed Atlantic Salmon case was very different — in that case the market share of the Union industry was much smaller and grew only from 2,7 % in 1998 to 4,3 % in 2001. In that case a very low market share of the Union industry was one of the key reasons why the imposition of measures would lead to a substantial net transfer of wealth out of the Community as the market adjusts to higher prices ([94]). In the present case, the measures benefited significantly the Union industry. Therefore, Farmed Atlantic Salmon case cannot serve as a precedent.

(328) According to the parties opposing the measures, the Union manufactures have not announced any credible plans to expand their capacity. Instead, Solar World, the largest Union manufacturer, recently laid off several hundred temporary workers in their European facilities and entered into OEM agreements to manufacture solar panels in Thailand. The parties opposing the measurers claimed that this is yet another proof that a successful solar module manufacturing can only take place in large production facilities, such as the Asian ones.

(329) SolarWorld responded that it entered into temporary OEM contracts to cover a surge in the global demand at the end of 2015 and in the first half of 2016. Solar World submitted that the uncertainties about the outcome of the on-going investigation caused higher interest rates on its capital investments required by the financial investors. For that reason, it was a sound economic decision to postpone a capital intensive extension of its manufacturing

([91]) Original Definitive Regulation, recital 336.
([92]) Bloomberg New Energy Finance ('BNEF') 'Solar manufacturer capacity league table'; accessed on 28.10.2016.
([93]) Council Regulation (EC) No 930/2003 (OJ L 133, 29.5.2003, p. 1), recital 224.
([94]) Idem.

capacities until the conclusion of this investigation and instead use available contract manufactures' capacities on a temporary basis. Solar World also indicated that all the modules manufactured by their OEM partner outside of the Union were shipped outside of the Union.

(330) Market intelligence confirmed that the first half of 2016 was a boom period and the second half of 2016 has been a period of low demand causing tumbling prices stemming from module oversupply ([95]). In this context, the decision by Solar World to lay off temporary staff can be seen as a difficult decision, but justified by market circumstances. Solar World also reduced the volumes manufactured by the contract manufacturers as much as it was contractually allowed.

(331) Therefore, the Commission considered that, given the uncertainties and a recent global boom and bust cycle, the decision by a Union manufacturer to postpone capacity expansion and instead rely on readily available production capacities of contract manufactures was economically justified and it did not demonstrate that the production in the Union had become unsustainable.

5.5. **Conclusion on Union interest**

(332) Weighing and balancing the competing interests, the Commission analysed whether the negative effect on unrelated importers, upstream and downstream industries and other effects analysed above would be disproportionate when compared to the positive effect on the Union manufactures of the product under review. Under Article 21(1) 3rd sentence of the basic Regulation, special consideration was given to the need to eliminate the trade distorting effects of injurious dumping and to restore effective competition.

(333) The key consideration was to assess the likely impact of continued measures on the future of Union demand for solar modules. If the measures would significantly curb demand, it could be argued that protecting a relatively small Union industry might disproportionally affect significantly larger downstream and upstream industries. However, as concluded in recital 313 the measures had only a limited impact on the Union demand for solar modules. This situation is not likely to change prior to the adoption and implementation by Member States of the new renewable energy directive. Against that finding, the argument on the impact of jobs was put in perspective. While the termination of the measure might help in the creation of some new jobs, it would also put at immediate risk the existing jobs in the Union solar cells and modules industry (around 8 000). Hence, a mere numerical comparison between the current jobs in the Union industry with the existing jobs in the downstream industry (around 50 000) or the upstream industry (around 5 000-10 000) was not appropriate.

(334) The fact that renewable energy support policies had to be reformed following the entry into force of the new rules under Union state aid law, and are likely to undergo further changes once the Commission's proposal for a new renewable energy directive are adopted by the co-legislators, it is not possible to take a view on Union interest for a period exceeding 18 months. Some findings suggest that the measures may have more impact on the demand in the future, once the transition of renewable support policies will be completed, the fiscal situation of self-consumption clarified and grid parity will be achieved across wider parts of Europe and for certain groups of consumers. As noted in recitals 302 and 308 new energy market designed rules proposed by the Commission on 1 December 2016 ([96]) and new rules for consumer centred clean energy transition proposed by the Commission on 30 November 2016 ([97]) are an important step towards achieving a stable and growth friendly environment. The Commission therefore decided to limit the prolongation of the measures to 18 months.

(335) Following the additional disclosure referred to in recital 30 the Commission received three different sets of comments. Generally, EU manufacturers asked the Commission to keep the original length of 24 months with the argument that the disclosed proposal to reduce the normal length from 5 years to 2 years had already struck a fair balance of interests. Some interested parties representing the downstream and upstream industry welcomed the reduction to 18 months, whereas others favoured the termination of measures altogether. The Chinese

([95]) Q4 2016 Global Market Outlook, Preparing for a tough year ahead, BNEF, 30 November 2016 and Q3 2016 PV Market Outlook, Solar power — not everyone needs it right now, BNEF, 1 September 2016.
([96]) https://ec.europa.eu/energy/en/news/commission-publishes-new-market-design-rules-proposal
([97]) https://ec.europa.eu/energy/en/news/commission-proposes-new-rules-consumer-centred-clean-energy-transition

government regretted that the Commission intended to keep the measures even for 18 months only. Like some interested parties from the upstream and downstream industry the government also criticised the fact that there was no mention of the immediate termination of measures afterwards in the text of the draft implementing act.

The Commission observed that the measures may have more impact on the demand in the future, once the transition of renewable support policies will be completed, the fiscal situation of self-consumption clarified and grid parity will be achieved across wider parts of Europe. This justifies that the measures should be exceptionally prolonged for 18 months only, after which they would lapse in accordance with the applicable rules of the basic Regulation. The Commission considered, on the basis of the evidence available at this stage, that when balancing the likely negative effects on the upstream and downstream industry as well as the consumers against the benefits which Union industry would derive from the measures, 18 months constitute an appropriate mediation between the competing interests.

(336) Moreover, when reviewing the interests of the unrelated importers, the Commission was faced with complaints about the heavy administrative burden put on them, while the Union producers complained about ongoing circumvention. These issues can be addressed in an interim review on the form of the measures. Finally, the Commission has become aware that the MIP adjustment mechanism does not follow the steep solar industry learning curve ([98]). The current adjustment system therefore may have cut off European consumers from global efficiency gains, which may trigger a need to review this issue. It can be addressed in an interim review on any adjustment mechanism which could be associated with another form of the measure.

(337) Overall, the Commission concluded that there are no compelling reasons to terminate the measures on Union interest grounds. However, it also came to the conclusion that an ex-officio review on the issues identified in recital 336 is appropriate.

6. PARTIAL INTERIM REVIEW INVESTIGATION LIMITED TO THE EXAMINATION OF WHETHER OR NOT IT IS IN THE UNION INTEREST TO MAINTAIN MEASURES CURRENTLY IN FORCE ON CELLS

6.1. Preliminary remarks

(338) As set out in recital 7, the Commission initiated on its own initiative a partial interim review investigation ('interim review') limited to the examination of whether or not it is in the Union interest to maintain measures currently in force on cells.

(339) The review was opened as there was prima facie evidence that the circumstances on the basis of which the original measures were imposed had changed. In particular, following a restructuring and consolidation of the Union industry, a significant number of cell producers have closed production. The bulk of the remaining cell production capacities in the Union appeared to be largely destined for captive use for the production of modules. Consequently, the Union industry's cell sales to unrelated users were very limited in quantity, while non-vertically integrated module producers depended on the cells supplied form outside of the Union. Therefore, the Commission considered it prudent to examine whether the continued imposition of the measures on cells was still in the Union interest.

6.2. Interest of the cell manufacturers

(340) There are 12 Union cell manufactures known to the Commission. The Union industry was represented by the association EU Pro Sun, which is the applicant in the expiry review case concerning existing anti-dumping measures. EU Pro Sun represented four Union cell manufacturers. Two more cell producers expressly supported EU Pro Sun's position. EU Pro Sun also represented Solar World as an upstream wafer manufacturer and one more Union wafer producer.

([98]) According to several sources, the solar industry achieves the learning curve of 21 %. This means that with each doubling of solar power generating capacity, the cost of modules production goes down by 21 %. The global cumulative solar capacity was around 130 GW in 2013, while it is expected to reach 290 GW at the end of 2016, which means that it has doubled by now and the cost of modules production went down by 21 %.

(341) In the initial investigation the Commission found that a massive influx of dumped Chinese solar cells and modules into the Union had contributed to the bankruptcy of many Union cell producers. The imposition of measures allowed the remaining Union producers to recover, consolidate and stabilise cell production. In particular, the production assets and employees of one of the largest Union cell manufacturers Bosch Solar Energy remained operational as they were taken over by Solar World in 2014.

(342) If the measures on cells were terminated, Chinese cells exports at dumped prices would recur in large volumes, causing material injury to the Union industry with very negative consequences to the Union cell industry. Large capital investments in sophisticated cell manufacturing equipment would become redundant. Up to 1 700 highly skilled workers could lose their job. The Commission was also notified of the intention of a few Union companies to restore around 300 MW of capacity if the measures are maintained.

(343) The decline of the Union cell manufacturing industry would also have a negative impact on the Union R & D activities. The cell is the core component of a module and much of the R & D in the solar value chain focuses on cells. If the measures on cells were removed the European R & D investment would slow down and the know-how accumulated so far would become redundant or would need to be transferred to third countries. Therefore, there is a risk that excluding cells would cement the dependency of the Union module manufacturers on imported cells.

(344) Terminating the measures on cells might also undermine the measures on modules. It would enable the Chinese producers to export cells at unfair prices and assemble them into modules either via their subsidiaries or via contract manufacturers located in the Union. Module assembly lines can be set up relatively quickly, which is evidenced by a fast build-up of module production capacities in South East Asia (see recital 323). EU Pro Sun submitted that such a scenario had taken place in the USA between 2012 and 2014 when the measures on modules failed to be effective. The situation changed only when the initial product definition was extended to cells.

(345) Therefore, the continuation of measures on cells is clearly in the interest of the Union cell manufacturers and may also confer some benefits on the Union module manufacturers.

(346) Following disclosure Jabil contested the Commission's finding that the termination of measures on cells would enable the Chinese producers to export cells at unfair prices and assemble them into modules either via their subsidiaries or via contract manufacturers located in the Union. In response to Jabil's claim, the Commission recalled that if found the likelihood of the continuation of dumping and injury if the measures would be repealed. The Commission also explained that contract manufacturers, such as Jabil, have a significantly different business model and cost structure than the rest of the Union industry. In particular cost manufactures operate with much smaller overhead resources as they do not take the same responsibility for the sales, marketing and R & D of their products as set out in recitals 110 and 160. Therefore, if the Commission would repeal the measures on cells in the interest of the Union module makers, nothing could stop a Union-based contract manufacturer from assembling modules from dumped Chinese cells. In fact, a contract manufacturer is not even obliged to know what the real price of a cell is, as its usual business model consists of charging a tolling fee to another company that provides inputs and takes full responsibility of the sales of the outputs. Therefore, the Commission continued to consider that the termination of the measures on cells could lead to unfair prices on modules, which could be assembled in the Union from dumped Chinese cells either by related companies or contract manufactures.

(347) Following disclosure SPE claimed that there is no causal link between imports of cells from the PRC and the sales of Union-made cells; in their view the Union industry faced competition from third countries. The same party claimed that the measures did not protect the investments in the cell industry and that the cell workforce is not threatened by redundancy if the measures lapse. That party also claimed that the cell captive market was not affected by the imports of the Chinese cells.

(348) The Commission made an additional analysis of the impact of the sales of cells from third countries as set out in recital 176 and reiterated that third countries sales did not cause injury. It also analysed further the impact of the measures on investment in Union cell industry as set out in recital 168 and reiterated that the measures have a positive impact on investment. Moreover, it found an impact of Chinese imports on the Union cell captive

market as set out in recital 105. Given the low profitability of the Union cell industry today, the Commission continued to consider that the Union cell workforce faces the threat of losing their jobs if the measures were allowed to lapse.

6.3. **Interest of unrelated cell importers**

(349) No unrelated cell importers active in the RIP came forward. Cells are imported either by Union module manufactures or related importers of the Chinese producers.

6.4. **Interest of the downstream industry — module producers**

(350) Seven European module manufactures came forward calling for the exclusion of cells from the measure. Some of these companies are supporters of EU Pro Sun position on the continuation of measures on modules. Some upstream and downstream companies provided submissions opposing the measures specifically on cells; however most upstream and downstream companies focused on the reasons for and effects of the termination of the measures on modules.

(351) The parties calling to terminate the measures on cells drew attention to the fact that almost all the cells manufactured in the Union are used in-house by vertically integrated companies. For this reason, the non-vertically integrated module manufacturers, which make up more than 65 % of the Union module output, are dependent on cell imports. These parties claimed that almost all imports of cells into the Union are subject either to measures or enhanced customs checks stemming from the anti-circumvention measures on Malaysian and Taiwanese cells ([99]). This causes additional administrative and financial burden on non-vertically integrated module manufacturers. The parties opposing the measures on cells also submitted that the measures on cells were ineffective as they failed to bring new capacities in the Union. The measures, in their view, also increase the price of the final product, i.e. modules, with the negative impact on demand, customers and broader Union environmental policy objectives.

6.4.1. *Lack of supply of cells in the Union*

(352) The parties calling to terminate the measures on cells claimed that there is no availability of cells manufactured in the Union on the Union market. There are only few cells manufacturers in the Union and almost all of them use their cells in-house and sell only very small quantities to third parties. The small volumes sold are usually of inferior quality. On the basis of its investigation, the Commission agreed that the cells sold by the Union industry on the Union market satisfy less than 5 % of the demand of the non-vertically integrated Union module manufactures.

(353) The parties further claimed that even if more Union cells were sold on the open market, the Union capacity and production of cells would by far be insufficient to satisfy the total Union demand for cells and even less adequate to satisfy the total demand for modules. The Commission found that cell production in the Union was 1 270 MW in the RIP, which means that it could cover 37 % of the total Union demand for cells, which was estimated at 3 409 MW. The Union cell manufacturing capacity could cover roughly 18 % of the total Union demand for modules — roughly 7 200 MW in the RIP.

(354) Several parties submitted that the measures on cells benefit only one company — Solar World — and put most other non-vertically integrated module manufacturers at a competitive disadvantage in relation to that company. Solar World accounted for more than 70 % of all the cell production in the Union during the RIP. Solar World does not sell any cells on the open market but the ones which it considers not fulfilling its high standards. These parties submitted that the only way for them to purchase cells are the imports from third countries. If the measures on cells are not terminated, they would remain at a competitive disadvantage in relation to the dominant manufacturer of cells in the Union.

([99]) Implementing Regulation (EU) 2016/185.

(355) As noted above, the Commission found that the Union production of cells accounted for 35 % of the demand of cells in the Union and this ratio increased from 23 % in 2012. This means that a substantial proportion of the Union demand can be covered by Union manufactured cells irrespective if these are captive sales or not. The Commission also recalled that the average cost of cells manufacturing in the Union was above an average Chinese and Taiwanese contract selling price (as reported by PV Insights). This means that non-vertically integrated Union module producers could buy the cells from outside of the Union at similar prices or even lower prices. This conclusion holds even taking into account the fact that the cells produced in the Union by vertically integrated producers are of high efficiency and high quality and hence are more expensive. Therefore, the measures do not confer a competitive advantage to vertically integrated cell and module manufacturers over the non-vertically integrated ones.

(356) The Commission further observed that the only period when the non-vertically integrated Union module manufacturers had difficulties in sourcing cells, coincided with an exceptional spike in demand at the end of 2015 and at the beginning of 2016 in the PRC. During that period the Chinese solar demand peaked at 22 GW ([100]). The Chinese target of solar installations was underpinned by generous remuneration schemes, which caused a temporary installation boom. Even Chinese significant manufacturing overcapacities of cells became temporarily insufficient to cover this unusual spike in demand. Some Chinese module makers exceptionally needed to resort to imports of cells from abroad, which caused a temporary global cell supply shortage and increased cell prices. The contract selling prices for cells as reported by PVInsights were above the MIP during that period of cell scarcity i.e. between November 2015 and March 2016. Therefore, even if the measures had not been in place, the Union module manufacturers would have experienced similar cell supply difficulties as there was a one-off shortage of cells in the PRC for that relatively short period of time.

(357) This period of overheated demand for cells also partially coincided with the Commission's anti-circumvention investigation of Chinese cells and modules via Malaysia and Taiwan. The registration of cells and modules, effective from the date of the initiation of the anti-circumvention case, i.e. May 2015, caused some additional supply difficulties to the Union module manufactures. The module manufacturers experienced a period of uncertainty as they had not known if their Taiwanese and Malaysian suppliers were genuine producers and would get an exemption from the duties. Eventually, in February 2016, more than 20 Malaysian and Taiwanese cell manufacturers who cooperated in that investigation were found to be genuine producers. The temporary supply uncertainty came to an end removing the supply uncertainty.

(358) The Commission also found that the claim that the measures on cells protect only one company — Solar World — is unfounded. As set out in recital 340, five more cell manufactures expressly support the continuation of the measures on cells. The Commission is aware of more than 10 cells manufacturers in the Union. The key reason why a single producer currently accounts for more than 70 % of all the cells produced in the Union is that many other cell manufactures exited the market as they could not withstand unfair competition from Chinese dumped products. While most of these manufactures went out of the market, Solar World took over one of the largest Union cell manufacturers in 2014. This manufacturer was exiting the market and if the takeover had not happened more than 500 highly skilled workers would have lost their jobs. Solar World claimed that without the measures in place not only it would have been unable to take over the other company and save its employment, but its own cell manufacturing facilities would have been bankrupt by now.

(359) Therefore, the non-vertically integrated Union module assemblers face neither supply shortages nor a competitive disadvantage with regard to the vertically integrated ones. Consequently, the Union consumers of modules are not negatively affected by the fact that the Union production of cells can cover only a relatively small proportion of the modules consumption.

6.4.2. *Administrative burden caused by the measures*

(360) The parties calling to terminate the measures on cells claimed that they impose significant additional business risk, working capital and administrative burden on non-vertically integrated module manufacturers. This would stem from adhering to the complex procedures of the undertaking. Some module manufactures submitted that

([100]) Q3 2016 PV Market Outlook, Solar power — not everyone needs it right now, BNEF, 1 September 2016, p. 1.

the situation exacerbated after the anti-circumvention investigation started against Taiwan and Malaysia. The non-vertically integrated manufacturers are subject to strict checks of documents while the goods are customs cleared even if they import from companies that got the exemption. They complained that, in some instances, simple procedural deficiencies in the documentation, such as a lack of a stamp or signature at the right place, caused several weeks of delay. The Chinese cells that are imported under the undertaking are subject to similar rigid customs checks and burdensome administrative procedures. Therefore, these producers submitted that nearly 100 % of the imports of cells in the Union are subject to diligent scrutiny by customs authorities resulting in shipment delays, additional administrative work and increased working capital requirements. This makes them suffer from an additional competitive disadvantage not only compared to the manufactures in the rest of the world, but also to the vertically-integrated leading European module manufacturer.

(361) The Commission recalled that it had taken additional steps to improve the monitoring of the measures and avoid any form of circumvention and cross-compensation that might undermine the undertaking. Other solutions that could effectively protect the Union industry and prevent the circumvention of Chinese modules can be addressed in an interim review. Enhanced checks by the Member States' customs authorities are necessary to effectively protect the Union industry from an influx of products at unfair prices.

6.4.3. *Impact of measures imposed on cells on the prices of modules and the demand*

(362) Several parties calling to terminate measures on cells claimed that they increase the cost of the key component of solar modules and consequently increase the price of new solar installations, which depresses the demand for solar modules. Some parties submitted that outside of the RIP, in the second half of 2016, the average global contract selling prices fell significantly below the MIP, putting an additional strain on the non-vertically integrated Union module manufacturers.

(363) The Commission found that an average global contract selling price for cells as reported by PVInsights was close to the MIP for most of the time the measures were in place. Therefore the measures did not significantly increase the price of the key component of modules, if the global average contract selling price is used as a benchmark.

(364) The Commission found the global contract selling prices fell significantly in the second half of 2016 as the solar sector went through a boom and bust cycle as set out in recital 356. In the fourth quarter of 2016, the cell prices stabilised and even started going up again, which is predictable for boom and bust cycles. Nonetheless, taking into account the learning curve effect of the solar sector, it is likely that the new longer term price of solar cells will set below the level that prevailed before the recent boom and bust cycle. As noted above in recital 265 the price index, which the Commission has used to adjust the MIP, did not fully reflect such decreases in the cost of solar cells and modules production throughout most of 2016. A better way to reflect the evolution of the solar industry's learning curve in the level of the measures can be examined in an interim review.

(365) The impact of the measures on solar demand in the Union was analysed in-depth in Section 5.3 above. The Commission found that several other factors influence the demand for modules much more than the measures. As the cells are the key component of the modules these findings also hold for the cells.

(366) Following disclosure, SPE claimed that an average global purchase price for cells had not been close to MIP for most of the time the measures were in place. This party propped up their statement with an article from November 2016 from PV-Magazine ([101]) and the data from Energy Trend PV ([102]).

(367) The MIP followed closely the global prices for cells denominated in the euro from December 2013, when the measures were imposed, until September 2015, when the RIP ended, as reported by PVInsights. The Commission also noted that in 2016, outside of the period considered, the MIP temporarily decoupled from the global

([101]) PvXchange module price index November 2016: Red light, green light.
([102]) Energy Trend PV, Cell prices, updated on 4 January 2017.

purchase prices. Both the quoted article and the data provided indicated solar price developments outside of the period considered. Therefore, the Commission reiterated that the measures on cells had only a very limited impact on the non-integrated module manufactures.

6.5. **Conclusions on the Interim Review**

(368) The Commission concluded that there are no compelling reasons to terminate the measures on cells on Union interest grounds. In particular, it found that the measures were effective in retaining and to some extent restoring cell production in the Union. Cells manufactured in the Union account for a significant proportion of the Union demand for cells. The removal of the measures on cells might likely lead to a collapse of the Union cells manufacturing industry, loss of highly skilled jobs and the related R & D activity. The Commission also considered that the measures on cells do not give Union vertically integrated module manufacturers a competitive advantage over the non-vertically integrated ones. The non-vertically integrated module producers have access to sufficient supply of cells from outside of China at prices that are not higher than the ones charged internally by the vertically integrated ones.

(369) Moreover, when reviewing the interests of the non-vertically integrated module manufacturers, the Commission was faced with many complaints about the heavy administrative burden put on them, while the Union producers complained about ongoing circumvention. These issues can be addressed in an interim review on the form of the measures.

(370) Finally, the Commission noted that throughout most of 2016 the MIP adjustment mechanism did not follow the steep solar industry learning curve for cells. The current adjustment system therefore cut European module makers off global efficiency gains, which may trigger a need to review this issue. It can be addressed in an interim review on any adjustment mechanism which could be associated with another form of the measure.

(371) Following disclosure several parties also claimed that the proposed interim review would take too long time to protect the interests of the non-integrated module manufactures. The Commission noted that, after disclosure, namely at the beginning of 2017, the MIP got considerably lower, which significantly closed the gap between the MIP and the average global selling price. In addition, the Commission intends to complete the interim review within 2017.

7. **DEFINITIVE ANTI-DUMPING MEASURES**

(372) In view of the conclusions reached with regard to the likelihood of continuation of dumping and continuation of injury, it follows that, in accordance with Article 11(2) of the basic Regulation, the anti-dumping measures applicable to imports of crystalline silicon photovoltaic modules and key components (i.e. cells) originating in or consigned from the PRC, imposed by Implementing Regulation (EU) No 1238/2013, should be maintained.

(373) As explained in Section 5.3 above, the measures may have more impact on the demand in the future, once the transition of renewable support policies will be completed, the fiscal situation of self-consumption clarified and grid parity will be achieved across wider parts of Europe. This justifies that the measures should be exceptionally prolonged for 18 months only, after which they would lapse in accordance with the applicable rules of the basic Regulation. The Commission considered, on the basis of the evidence available at this stage, that when balancing the likely negative effects on the upstream and downstream industry as well as the consumers against the benefits which Union industry would derive from the measures, 18 months constitute an appropriate mediation between the competing interests.

(374) Following disclosure, EU Pro Sun took issue with this reasoning. It claimed that the measures should be extended for a period of five years. It considered that the regulatory uncertainty that depresses the solar demand would not be removed in the near future. Only a five-year extension would create the stability needed to foster the continued revival of the Union industry by creating a better investment environment. The Commission reiterated that the Union solar sector had been going through a deep transition phase, namely it is moving away from the

traditional support instrument — feed-in tariff to tenders for large utility-scale solar and self-consumption for commercial and, to a lesser extent, residential solar. In its view, this transition is likely to show quantifiable effects in several Member States already within 18 months. In particular, the Commission expected that many tenders for solar capacity will take place in this period already and that solar deployment driven by retail grid parity will increase. Therefore, the Commission continued to consider it appropriate to extend the measures only for 18 months.

(375) The exporting producers from Malaysia and Taiwan that were exempted from the measures, as extended by Implementing Regulation (EU) 2016/185, shall also be exempted from the measures imposed by this Regulation.

(376) In view of the conclusions reached that there are no compelling reasons to terminate the measures on cells on Union interest grounds, the partial interim review initiated pursuant to Article 11(3) of the basic Regulation should be terminated.

8. **FORM OF THE MEASURES**

(377) The undertaking accepted by the Commission by Implementing Decision 2013/707/EU, as last amended by Implementing Regulation (EU) 2016/1998 ([103]), continues to be applied for the duration of the definitive measures imposed by this regulation. The exporters to which the undertaking applies are listed in the Annex to that Decision.

(378) However, as noted in recitals 336 and 337 as well as (369) and (370), it is also appropriate to open an ex officio interim review on the form of the measure and the adjustment mechanism associated with it.

(379) The Committee established by Article 15(1) of the basic Regulation did not deliver an opinion and a simple majority of its component members opposed the draft Commission implementing Regulation. The Commission submitted an amended draft Commission implementing Regulation to the appeal committee.

(380) The appeal committee did not deliver an opinion,

HAS ADOPTED THIS REGULATION:

Article 1

1. A definitive anti-dumping duty is imposed on imports of crystalline silicon photovoltaic modules or panels and cells of the type used in crystalline silicon photovoltaic modules or panels (the cells have a thickness not exceeding 400 micrometres), currently falling within CN codes ex 8501 31 00, ex 8501 32 00, ex 8501 33 00, ex 8501 34 00, ex 8501 61 20, ex 8501 61 80, ex 8501 62 00, ex 8501 63 00, ex 8501 64 00 and ex 8541 40 90 (TARIC codes 8501 31 00 81, 8501 31 00 89, 8501 32 00 41, 8501 32 00 49, 8501 33 00 61, 8501 33 00 69, 8501 34 00 41, 8501 34 00 49, 8501 61 20 41, 8501 61 20 49, 8501 61 80 41, 8501 61 80 49, 8501 62 00 61, 8501 62 00 69, 8501 63 00 41, 8501 63 00 49, 8501 64 00 41, 8501 64 00 49, 8541 40 90 21, 8541 40 90 29, 8541 40 90 31 and 8541 40 90 39) and originating in or consigned from the People's Republic of China, unless they are in transit in the sense of Article V GATT.

The following product types are excluded from the definition of the product concerned:

— solar chargers that consist of less than six cells, are portable and supply electricity to devices or charge batteries,

([103]) Commission Implementing Regulation (EU) 2016/1998 of 15 November 2016 withdrawing the acceptance of the undertaking for five exporting producers under Implementing Decision 2013/707/EU confirming the acceptance of an undertaking offered in connection with the anti-dumping and anti-subsidy proceedings concerning imports of crystalline silicon photovoltaic modules and key components (i.e. cells) originating in or consigned from the People's Republic of China for the period of application of definitive measures (OJ L 308, 16.11.2016, p. 8).

— thin film photovoltaic products,

— crystalline silicon photovoltaic products that are permanently integrated into electrical goods, where the function of the electrical goods is other than power generation, and where these electrical goods consume the electricity generated by the integrated crystalline silicon photovoltaic cell(s),

— modules or panels with a output voltage not exceeding 50 V DC and a power output not exceeding 50 W solely for direct use as battery chargers in systems with the same voltage and power characteristics.

2. The rate of the definitive anti-dumping duty applicable to the net, free-at-Union-frontier price, before duty, of the products described in paragraph 1 and produced by the companies listed below shall be as follows:

Company	Duty rate (%)	TARIC additional code
Changzhou Trina Solar Energy Co. Ltd; Trina Solar (Changzhou) Science & Technology Co. Ltd; Changzhou Youze Technology Co. Ltd; Trina Solar Energy (Shanghai) Co. Ltd; Yancheng Trina Solar Energy Technology Co. Ltd	44,7	B791
Delsolar (Wujiang) Ltd	64,9	B792
Jiangxi LDK Solar Hi-Tech Co. Ltd LDK Solar Hi-Tech (Nanchang) Co. Ltd LDK Solar Hi-Tech (Suzhou) Co. Ltd	46,7	B793
LDK Solar Hi-Tech (Hefei) Co. Ltd	46,7	B927
JingAo Solar Co. Ltd Shanghai JA Solar Technology Co. Ltd JA Solar Technology Yangzhou Co. Ltd Hefei JA Solar Technology Co. Ltd Shanghai JA Solar PV Technology Co. Ltd	51,5	B794
Jinko Solar Co. Ltd Jinko Solar Import and Export Co. Ltd ZHEJIANG JINKO SOLAR CO. LTD ZHEJIANG JINKO SOLAR TRADING CO. LTD	41,2	B845
Jinzhou Yangguang Energy Co. Ltd Jinzhou Huachang Photovoltaic Technology Co. Ltd Jinzhou Jinmao Photovoltaic Technology Co. Ltd Jinzhou Rixin Silicon Materials Co. Ltd Jinzhou Youhua Silicon Materials Co. Ltd	27,3	B795
RENESOLA ZHEJIANG LTD RENESOLA JIANGSU LTD	43,1	B921

Company	Duty rate (%)	TARIC additional code
Wuxi Suntech Power Co. Ltd Suntech Power Co. Ltd Wuxi Sunshine Power Co. Ltd Luoyang Suntech Power Co. Ltd Zhenjiang Ren De New Energy Science Technology Co. Ltd Zhenjiang Rietech New Energy Science Technology Co. Ltd	41,4	B796
Yingli Energy (China) Co. Ltd Baoding Tianwei Yingli New Energy Resources Co. Ltd Hainan Yingli New Energy Resources Co. Ltd Hengshui Yingli New Energy Resources Co. Ltd Tianjin Yingli New Energy Resources Co. Ltd Lixian Yingli New Energy Resources Co. Ltd Baoding Jiasheng Photovoltaic Technology Co. Ltd Beijing Tianneng Yingli New Energy Resources Co. Ltd Yingli Energy (Beijing) Co. Ltd	35,5	B797
Other cooperating companies in the anti-dumping investigation (with the exception of the companies subject to the residual duty in the parallel anti-subsidy Commission Implementing Regulation (EU) 2017/366) [1] (Annex I)	41,3	
Other cooperating companies in the anti-dumping investigation, subject to the residual duty in the parallel anti-subsidy Implementing Regulation (EU) 2017/366) (Annex II)	36,2	
All other companies	53,4	B999

[1] Commission Implementing Regulation (EU) 2017/366 of 1 March 2017 imposing definitive countervailing duties on imports of crystalline silicon photovoltaic modules and key components (i.e. cells) originating in or consigned from the People's Republic of China following an expiry review pursuant to Article 18(2) of Regulation (EU) 2016/1037 of the European Parliament and of the Council and terminating the partial interim review investigation pursuant to Article 19(3) of Regulation (EU) 2016/1037 (see page 1 of this Official Journal).

3. Unless otherwise specified, the provisions in force concerning customs duties shall apply.

4. Where any new exporting producer in the People's Republic of China provides sufficient evidence to the Commission that:

— it did not export to the Union the product described in paragraph 1 in the period between 1 July 2011 and 30 June 2012 (original investigation period),

— it is not related to any exporter or producer in the People's Republic of China which is subject to the anti-dumping measures imposed by this Regulation,

— it has actually exported to the Union the product concerned after the investigation period on which the measures are based, or it has entered into an irrevocable contractual obligation to export a significant quantity to the Union,

the Commission may amend paragraph 2 by adding the new exporting producer to the cooperating companies not included in the sample and thus subject to the weighted average duty of not exceeding 41,3 %.

Article 2

1. Imports declared for release into free circulation for products currently falling within CN code ex 8541 40 90 (TARIC codes 8541 40 90 21, 8541 40 90 29, 8541 40 90 31 and 8541 40 90 39) which are invoiced by companies from which undertakings are accepted by the Commission and whose names are listed in the Annex to Implementing Decision 2013/707/EU, as subsequently amended, shall be exempt from the anti-dumping duty imposed by Article 1, on condition that:

(a) a company listed in the Annex to Implementing Decision 2013/707/EU, as subsequently amended, manufactured, shipped and invoiced directly the products referred to above or via its related company also listed in the Annex to Implementing Decision 2013/707/EU either to their related companies in the Union acting as an importer and clearing the goods for free circulation in the Union or to the first independent customer acting as an importer and clearing the goods for free circulation in the Union; and

(b) such imports are accompanied by an undertaking invoice which is a commercial invoice containing at least the elements and the declaration stipulated in Annex III to this Regulation;

(c) such imports are accompanied by an Export Undertaking Certificate according to Annex IV to this Regulation;

(d) the goods declared and presented to customs correspond precisely to the description on the undertaking invoice.

2. A customs debt shall be incurred at the time of acceptance of the declaration for release into free circulation:

(a) whenever it is established, in respect of imports described in paragraph 1, that one or more of the conditions listed in that paragraph are not fulfilled; or

(b) when the Commission withdraws its acceptance of the undertaking pursuant to Article 8(9) of Regulation (EU) 2016/1036 in a Regulation or Decision which refers to particular transactions and declares the relevant undertaking invoices as invalid.

Article 3

The companies from which undertakings are accepted by the Commission and whose names are listed in the Annex to Implementing Decision 2013/707/EU, as subsequently amended, and subject to certain conditions specified therein, will also issue an invoice for transactions which are not exempted from the anti-dumping duties. This invoice is a commercial invoice containing at least the elements stipulated in Annex V to this Regulation.

Article 4

1. The definitive anti-dumping duty applicable to 'all other companies' imposed by Article 1(2), is extended to imports of crystalline silicon photovoltaic modules and key components (i.e. cells) consigned from Malaysia and Taiwan whether declared as originating in Malaysia and in Taiwan or not, currently falling within CN codes ex 8501 31 00, ex 8501 32 00, ex 8501 33 00, ex 8501 34 00, ex 8501 61 20, ex 8501 61 80, ex 8501 62 00, ex 8501 63 00, ex 8501 64 00 and ex 8541 40 90 (TARIC codes 8501 31 00 82, 8501 31 00 83, 8501 32 00 42, 8501 32 00 43, 8501 33 00 62, 8501 33 00 63, 8501 34 00 42, 8501 34 00 43, 8501 61 20 42, 8501 61 20 43, 8501 61 80 42, 8501 61 80 43, 8501 62 00 62, 8501 62 00 63, 8501 63 00 42, 8501 63 00 43, 8501 64 00 42, 8501 64 00 43, 8541 40 90 22, 8541 40 90 23, 8541 40 90 32, 8541 40 90 33), with the exception of those produced by the companies listed below:

Country	Company	TARIC additional code
Malaysia	AUO — SunPower Sdn. Bhd.	C073
	Flextronics Shah Alam Sdn. Bhd.	C074
	Hanwha Q CELLS Malaysia Sdn. Bhd.	C075
	Panasonic Energy Malaysia Sdn. Bhd.	C076
	TS Solartech Sdn. Bhd.	C077

Country	Company	TARIC additional code
Taiwan	ANJI Technology Co., Ltd	C058
	AU Optronics Corporation	C059
	Big Sun Energy Technology Inc.	C078
	EEPV Corp.	C079
	E-TON Solar Tech. Co., Ltd	C080
	Gintech Energy Corporation	C081
	Gintung Energy Corporation	C082
	Inventec Energy Corporation	C083
	Inventec Solar Energy Corporation	C084
	LOF Solar Corp.	C085
	Ming Hwei Energy Co., Ltd	C086
	Motech Industries, Inc.	C087
	Neo Solar Power Corporation	C088
	Perfect Source Technology Corp.	C089
	Ritek Corporation	C090
	Sino-American Silicon Products Inc.	C091
	Solartech Energy Corp.	C092
	Sunengine Corporation Ltd	C093
	Topcell Solar International Co., Ltd	C094
	TSEC Corporation	C095
	Win Win Precision Technology Co., Ltd	C096

2. The application of exemptions granted to the companies specifically mentioned in paragraph 1 of this Article or authorised by the Commission in accordance with Article 2(2) shall be conditional upon presentation to the customs authorities of the Member States of a valid commercial invoice issued by the producer or consignor, on which shall appear a declaration dated and signed by an official of the entity issuing such invoice, identified by his/her name and function. In case of crystalline silicon photovoltaic cells this declaration shall be drafted as follows: 'I, the undersigned, certify that the (volume) of crystalline silicon photovoltaic cells sold for export to the European Union covered by this invoice was manufactured by (company name and address) (TARIC additional code) in (country concerned). I declare that the information provided in this invoice is complete and correct.' In case of crystalline silicon photovoltaic modules

this declaration shall be drafted as follows: 'I, the undersigned, certify that the (volume) of crystalline silicon photovoltaic modules sold for export to the European Union covered by this invoice was manufactured

(i) by (company name and address) (TARIC additional code) in (country concerned); OR

(ii) by a subcontracted third party for (company name and address) (TARIC additional code) in (country concerned)

(delete as appropriate one of the two above options)

with the crystalline silicon photovoltaic cells manufactured by (company name and address) (TARIC additional code [to be added if the country concerned is subject to original or anti-circumvention measures in force]) in (country concerned). I declare that the information provided in this invoice is complete and correct.' If no such invoice is presented and/or one or both of the TARIC additional codes are not provided in the above-mentioned declaration, the duty rate applicable to 'all other companies' shall apply and shall require the declaration of TARIC additional code B999 in the customs declaration.

3. Unless otherwise specified, the provisions in force concerning customs duties shall apply.

Article 5

The partial interim review initiated pursuant to Article 11(3) of Regulation (EU) 2016/1036 of the anti-dumping measures applicable to imports of crystalline silicon photovoltaic modules and key components (i.e. cells) originating in or consigned from the People's Republic of China ([104]) is hereby terminated.

Article 6

This Regulation shall enter into force on the day following its publication in the *Official Journal of the European Union*. It shall be in force for a period of 18 months.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 1 March 2017.

For the Commission
The President
Jean-Claude JUNCKER

([104]) Notice of Initiation of a partial interim review of the anti-dumping and countervailing measures applicable to imports of crystalline silicon photovoltaic modules and key components (i.e. cells) originating in or consigned from the People's Republic of China (OJ C 405, 5.12.2015, p. 33).

ANNEX I

Name of the Company	TARIC additional code
Anhui Schutten Solar Energy Co. Ltd Quanjiao Jingkun Trade Co. Ltd	B801
Anji DaSol Solar Energy Science & Technology Co. Ltd	B802
Canadian Solar Manufacturing (Changshu) Inc. Canadian Solar Manufacturing (Luoyang) Inc. CSI Cells Co. Ltd CSI Solar Power (China) Inc.	B805
Changzhou Shangyou Lianyi Electronic Co. Ltd	B807
CHINALAND SOLAR ENERGY CO. LTD	B808
CEEG Nanjing Renewable Energy Co. Ltd CEEG (Shanghai) Solar Science Technology Co. Ltd China Sunergy (Nanjing) Co. Ltd China Sunergy (Shanghai) Co. Ltd China Sunergy (Yangzhou) Co. Ltd	B809
Chint Solar (Zhejiang) Co. Ltd	B810
ChangZhou EGing Photovoltaic Technology Co. Ltd	B811
ANHUI RINENG ZHONGTIAN SEMICONDUCTOR DEVELOPMENT CO. LTD CIXI CITY RIXING ELECTRONICS CO. LTD HUOSHAN KEBO ENERGY & TECHNOLOGY CO. LTD	B812
CNPV Dongying Solar Power Co. Ltd	B813
CSG PVtech Co. Ltd	B814
DCWATT POWER Co. Ltd	B815
Dongfang Electric (Yixing) MAGI Solar Power Technology Co. Ltd	B816
EOPLLY New Energy Technology Co. Ltd SHANGHAI EBEST SOLAR ENERGY TECHNOLOGY CO. LTD JIANGSU EOPLLY IMPORT & EXPORT CO. LTD	B817
Zhejiang Era Solar Technology Co., Ltd	B818
ET Energy Co. Ltd ET Solar Industry Limited	B819
GD Solar Co. Ltd	B820
Guodian Jintech Solar Energy Co. Ltd	B822
Hangzhou Bluesun New Material Co. Ltd	B824

Name of the Company	TARIC additional code
Hangzhou Zhejiang University Sunny Energy Science and Technology Co. Ltd Zhejiang Jinbest Energy Science and Technology Co. Ltd	B825
Hanwha SolarOne Co. Ltd	B929
Hanwha SolarOne (Qidong) Co. Ltd	B826
Hengdian Group DMEGC Magnetics Co. Ltd	B827
HENGJI PV-TECH ENERGY CO. LTD	B828
Himin Clean Energy Holdings Co. Ltd	B829
Jetion Solar (China) Co. Ltd Junfeng Solar (Jiangsu) Co. Ltd Jetion Solar (Jiangyin) Co. Ltd	B830
Jiangsu Green Power PV Co. Ltd	B831
Jiangsu Hosun Solar Power Co. Ltd	B832
Jiangsu Jiasheng Photovoltaic Technology Co. Ltd	B833
Jiangsu Runda PV Co. Ltd	B834
Jiangsu Sainty Machinery Imp. And Exp. Corp. Ltd Jiangsu Sainty Photovoltaic Systems Co. Ltd	B835
Jiangsu Seraphim Solar System Co. Ltd	B836
Changzhou Shunfeng Photovoltaic Materials Co. Ltd Jiangsu Shunfeng Photovoltaic Electronic Power Co. Ltd Jiangsu Shunfeng Photovoltaic Technology Co. Ltd	B837
Jiangsu Sinski PV Co. Ltd	B838
Jiangsu Sunlink PV Technology Co. Ltd	B839
Jiangsu Zhongchao Solar Technology Co. Ltd	B840
Jiangxi Risun Solar Energy Co. Ltd	B841
Jiangyin Hareon Power Co. Ltd Taicang Hareon Solar Co. Ltd Hareon Solar Technology Co. Ltd Hefei Hareon Solar Technology Co. Ltd Jiangyin Xinhui Solar Energy Co. Ltd Altusvia Energy (Taicang) Co. Ltd	B842
Jinggong P-D Shaoxing Solar Energy Tech Co. Ltd	B844
Juli New Energy Co. Ltd	B846
Jumao Photonic (Xiamen) Co. Ltd	B847

Name of the Company	TARIC additional code
Kinve Solar Power Co. Ltd (Maanshan)	B849
GCL Solar Power (Suzhou) Limited GCL-Poly Solar Power System Integration (Taicang) Co. Ltd GCL Solar System (Suzhou) Limited GCL-Poly (Suzhou) Energy Limited Jiangsu GCL Silicon Material Technology Development Co. Ltd Jiangsu Zhongneng Polysilicon Technology Development Co. Ltd Konca Solar Cell Co. Ltd Suzhou GCL Photovoltaic Technology Co. Ltd GCL System Integration Technology Co., Ltd	B850
Lightway Green New Energy Co. Ltd Lightway Green New Energy (Zhuozhou) Co. Ltd	B851
Motech (Suzhou) Renewable Energy Co. Ltd	B852
Nanjing Daqo New Energy Co. Ltd	B853
LEVO SOLAR TECHNOLOGY CO. LTD NICE SUN PV CO. LTD	B854
Ningbo Jinshi Solar Electrical Science & Technology Co. Ltd	B857
Ningbo Komaes Solar Technology Co. Ltd	B858
Ningbo Osda Solar Co. Ltd	B859
Ningbo Qixin Solar Electrical Appliance Co. Ltd	B860
Ningbo South New Energy Technology Co. Ltd	B861
Ningbo Sunbe Electric Ind Co. Ltd	B862
Ningbo Ulica Solar Science & Technology Co. Ltd	B863
Perfectenergy (Shanghai) Co. Ltd	B864
Perlight Solar Co. Ltd	B865
Phono Solar Technology Co. Ltd Sumec Hardware & Tools Co. Ltd	B866
RISEN ENERGY CO. LTD	B868
SHANDONG LINUO PHOTOVOLTAIC HI-TECH CO. LTD	B869
SHANGHAI ALEX NEW ENERGY CO. LTD SHANGHAI ALEX SOLAR ENERGY SCIENCE & TECHNOLOGY CO. LTD	B870
BYD (Shangluo) Industrial Co. Ltd Shanghai BYD Co. Ltd	B871

Name of the Company	TARIC additional code
Shanghai Chaori Solar Energy Science & Technology Co. Ltd	B872
Propsolar (Zhejiang) New Energy Technology Co. Ltd Shanghai Propsolar New Energy Co. Ltd	B873
Lianyungang Shenzhou New Energy Co. Ltd Shanghai Shenzhou New Energy Development Co. Ltd SHANGHAI SOLAR ENERGY S&T CO. LTD	B875
Jiangsu ST-Solar Co. Ltd Shanghai ST-Solar Co. Ltd	B876
Shanghai Topsolar Green Energy Co. Ltd	B877
Shenzhen Sacred Industry Co. Ltd	B878
Leshan Topray Cell Co. Ltd Shanxi Topray Solar Co. Ltd Shenzhen Topray Solar Co. Ltd	B880
Shanghai Sopray New Energy Co. Ltd Sopray Energy Co. Ltd	B881
Ningbo Sun Earth Solar Energy Co. Ltd NINGBO SUN EARTH SOLAR POWER CO. LTD SUN EARTH SOLAR POWER CO. LTD	B882
TDG Holding Co. Ltd	B884
Tianwei New Energy (Chengdu) PV Module Co. Ltd Tianwei New Energy Holdings Co. Ltd Tianwei New Energy (Yangzhou) Co. Ltd	B885
Wenzhou Jingri Electrical and Mechanical Co. Ltd	B886
Winsun New Energy Co. Ltd	B887
Wuhu Zhongfu PV Co. Ltd	B889
Wuxi Saijing Solar Co. Ltd	B890
Wuxi Solar Innova PV Co. Ltd	B892
China Machinery Engineering Wuxi Co. Ltd Wuxi Taichang Electronic Co. Ltd Wuxi Taichen Machinery & Equipment Co. Ltd	B893
Shanghai Huanghe Fengjia Photovoltaic Technology Co. Ltd State-run Huanghe Machine-Building Factory Import and Export Corporation Xi'an Huanghe Photovoltaic Technology Co. Ltd	B896

Name of the Company	TARIC additional code
Wuxi LONGi Silicon Materials Co. Ltd Xi'an LONGi Silicon Materials Corp.	B897
LERRI Solar Technology (Zhejiang) Co. Ltd	B898
Yuhuan BLD Solar Technology Co. Ltd Zhejiang BLD Solar Technology Co. Ltd	B899
Yuhuan Sinosola Science & Technology Co. Ltd	B900
Yunnan Tianda Photovoltaic Co. Ltd	B901
Zhangjiagang City SEG PV Co. Ltd	B902
Zhejiang Global Photovoltaic Technology Co. Ltd	B904
Zhejiang Heda Solar Technology Co. Ltd	B905
Zhejiang Jiutai New Energy Co. Ltd Zhejiang Topoint Photovoltaic Co. Ltd	B906
Zhejiang Kingdom Solar Energy Technic Co. Ltd	B907
Zhejiang Koly Energy Co. Ltd	B908
Zhejiang Longbai Photovoltaic Tech Co. Ltd	B909
Zhejiang Mega Solar Energy Co. Ltd Zhejiang Fortune Photovoltaic Co. Ltd	B910
Zhejiang Shuqimeng Photovoltaic Technology Co. Ltd	B911
Zhejiang Shinew Photoelectronic Technology Co. Ltd	B912
Zhejiang SOCO Technology Co. Ltd	B913
Zhejiang Sunflower Light Energy Science & Technology Limited Liability Company Zhejiang Yauchong Light Energy Science & Technology Co. Ltd	B914
Zhejiang Tianming Solar Technology Co. Ltd	B916
Zhejiang Trunsun Solar Co. Ltd Zhejiang Beyondsun PV Co. Ltd	B917
Zhejiang Wanxiang Solar Co. Ltd WANXIANG IMPORT & EXPORT CO. LTD	B918
Zhejiang Xiongtai Photovoltaic Technology Co. Ltd	B919
ZHEJIANG YUANZHONG SOLAR CO. LTD	B920
Zhongli Talesun Solar Co. Ltd	B922
ZNSHINE PV-TECH CO. LTD	B923
Zytech Engineering Technology Co. Ltd	B924

ANNEX II

Name of the Company	TARIC additional code
Jiangsu Aide Solar Energy Technology Co. Ltd	B798
Alternative Energy (AE) Solar Co. Ltd	B799
Anhui Chaoqun Power Co. Ltd	B800
Anhui Titan PV Co. Ltd	B803
TBEA SOLAR CO. LTD Xi'an SunOasis (Prime) Company Limited XINJIANG SANG'O SOLAR EQUIPMENT	B804
Changzhou NESL Solartech Co. Ltd	B806
Dotec Electric Co. Ltd	B928
Greenway Solar-Tech (Shanghai) Co. Ltd Greenway Solar-Tech (Huaian) Co. Ltd	B821
GS PV Holdings Group	B823
Jiangyin Shine Science and Technology Co. Ltd	B843
King-PV Technology Co. Ltd	B848
Ningbo Best Solar Energy Technology Co. Ltd	B855
Ningbo Huashun Solar Energy Technology Co. Ltd	B856
Qingdao Jiao Yang Lamping Co. Ltd	B867
SHANGHAI SHANGHONG ENERGY TECHNOLOGY CO. LTD	B874
Shenzhen Sungold Solar Co. Ltd	B879
SUZHOU SHENGLONG PV-TECH CO. LTD	B883
Worldwide Energy and Manufacturing USA Co. Ltd	B888
Wuxi Shangpin Solar Energy Science and Technology Co. Ltd	B891
Wuxi UT Solar Technology Co. Ltd	B894
Xiamen Sona Energy Co. Ltd	B895
Zhejiang Fengsheng Electrical Co. Ltd	B903
Zhejiang Yutai Photovoltaic Material Co. Ltd	B930
Zhejiang Sunrupu New Energy Co. Ltd	B915

ANNEX III

The following elements shall be indicated in the Commercial Invoice accompanying the Company's sales to the European Union of goods which are subject to the Undertaking:

1. The heading 'COMMERCIAL INVOICE ACCOMPANYING GOODS SUBJECT TO AN UNDERTAKING'.

2. The name of the Company issuing the Commercial Invoice.

3. The Commercial Invoice number.

4. The date of issue of the Commercial Invoice.

5. The TARIC additional code under which the goods on the invoice are to be customs-cleared at the European Union frontier.

6. The exact plain language description of the goods and:

   — the product code number (PCN),

   — technical specifications of the PCN,

   — the company product code number (CPC),

   — CN code,

   — quantity (to be given in units expressed in Watt).

7. The description of the terms of the sale, including:

   — price per unit (Watt),

   — the applicable payment terms,

   — the applicable delivery terms,

   — total discounts and rebates.

8. Name of the Company acting as an importer to which the invoice is issued directly by the Company.

9. The name of the official of the Company that has issued the Commercial Invoice and the following signed declaration:

   'I, the undersigned, certify that the sale for direct export to the European Union of the goods covered by this invoice is being made within the scope and under the terms of the Undertaking offered by [COMPANY], and accepted by the European Commission through Implementing Decision 2013/707/EU. I declare that the information provided on this invoice is complete and correct.'

ANNEX IV

Export Undertaking Certificate

The following elements shall be indicated in the Export Undertaking Certificate to be issued by CCCME for each Commercial Invoice accompanying the Company's sales to the European Union of goods which are subject to the Undertaking:

1. The name, address, fax and telephone number of the China Chamber of Commerce for Import & Export of Machinery & Electronic Products (CCCME).

2. The name of the company mentioned in the Annex to Implementing Decision 2013/707/EU issuing the Commercial Invoice.

3. The Commercial Invoice number.

4. The date of issue of the Commercial Invoice.

5. The TARIC additional code under which the goods on the invoice are to be customs cleared at the European Union frontier.

6. The exact description of the goods, including:

   (1) the product code number (PCN),

   (2) the technical specification of the goods, the company product code number (CPC) (if applicable),

   (3) CN code,

7. The precise quantity in units exported expressed in Watt.

8. The number and expiry date (three months after issuance) of the certificate.

9. The name of the official of CCCME that has issued the certificate and the following signed declaration:

   'I, the undersigned, certify that this certificate is given for direct exports to the European Union of the goods covered by the Commercial Invoice accompanying sales made subject to the undertaking and that the certificate is issued within the scope and under the terms of the undertaking offered by [company] and accepted by the European Commission through Implementing Decision 2013/707/EU. I declare that the information provided in this certificate is correct and that the quantity covered by this certificate is not exceeding the threshold of the undertaking.'

10. Date.

11. The signature and seal of CCCME.

ANNEX V

The following elements shall be indicated in the Commercial Invoice accompanying the Company's sales to the European Union of goods which are subject to the anti-dumping duties:

1. The heading 'COMMERCIAL INVOICE ACCOMPANYING GOODS SUBJECT TO ANTI-DUMPING AND COUNTERVAILING DUTIES'.

2. The name of the Company issuing the Commercial Invoice.

3. The Commercial Invoice number.

4. The date of issue of the Commercial Invoice.

5. The TARIC additional code under which the goods on the invoice are to be customs-cleared at the European Union frontier.

6. The exact plain language description of the goods and:

   — the product code number (PCN),

   — technical specifications of the PCN,

   — the company product code number (CPC),

   — CN code,

   — quantity (to be given in units expressed in Watt).

7. The description of the terms of the sale, including:

   — price per unit (Watt),

   — the applicable payment terms,

   — the applicable delivery terms,

   — total discounts and rebates.

8. The name and signature of the official of the Company that has issued the Commercial Invoice.