"Annexure A"

REPORT NO. 613

APPLICATION FOR AN INCREASE IN THE GENERAL RATE OF CUSTOMS DUTY ON CRYSTALLINE SILICON PHOTOVOLTAIC MODULES OR SOLAR PANELS

The International Trade Administration Commission herewith presents its Report No. 613: **APPLICATION FOR AN INCREASE IN THE GENERAL RATE OF CUSTOMS DUTY ON CRYSTALLINE SILICON PHOTOVOLTAIC MODULES OR SOLAR PANELS,** with recommendations.

Nzimande

MELULEKI NZIMANDE
CHIEF COMMISSIONER

PRETORIA
18/02/2021

REPUBLIC OF SOUTH AFRICA

INTERNATIONAL TRADE ADMINISTRATION COMMISSION OF SOUTH AFRICA

REPORT NO. 613

APPLICATION FOR AN INCREASE IN THE GENERAL RATE OF CUSTOMS DUTY ON CRYSTALLINE SILICON PHOTOVOLTAIC MODULES OR SOLAR PANELS

Synopsis

Amisec (Pty) Ltd, trading as ARTsolar, applied for an increase in the general rate of customs duty on crystalline silicon photovoltaic modules (PV modules/solar panels), classifiable under tariff subheading 8541.40.10, from free of duty to the WTO bound rate of 10% *ad valorem*, by way of creating an 8-digit tariff subheading.

The subject products are used to convert energy from the sun directly into electricity by photovoltaic effect. Solar panels are made of individual solar cells consisting of various layers of material such as crystalline silicon, which are joined together to form solar power systems.

The Commission considered the application in light of the information at its disposal. In particular, the Commission took the following factors into account:

- As a first step towards reversing historical dependence on fossil fuels for energy generation, government pledged to reduce the country's greenhouse gas emissions over the coming decades;
- In parallel, government realised that renewable energy generation could become a highly significant catalyst for industrial development and job creation;
- A electricity tariffs rise, it is expected that more electricity users will seek for alternatives and migrate away from the grid;

- The SACU PV module industry is still in its infancy stage. However, a significant number of local manufacturers have already shut down due to strong competition from low-priced imports;

- The significant decline in the level of production, sales and capacity utilisation of the domestic industry manufacturing PV modules/solar panels;

- The significant decline in market share and worsening profitability coupled with escalating production costs experienced by the domestic industry;

- The domestic industry manufacturing PV modules/solar panels is experiencing substantive price disadvantages vis-à-vis similar imported subject products;

- The significant decline in domestic employment and investment opportunities; and

- A 10% customs duty on PV modules or solar panels will assist in protecting the remaining local manufacturers, attract new investments into the industry and encourage the deepening of the value chain through localisation of certain inputs.

The Commission concluded that tariff support would enable the domestic industry manufacturing PV modules/solar panels to improve its production capacity utilisation achieve economies of scale and create both direct and indirect jobs.

The Commission recommended that the rate of customs duty on PV modules/solar panels, classifiable under tariff subheading 8541.40.10, be increased from free of duty to 10% *ad valorem,* by way of creating an 8-digit tariff subheading. The Commission further recommended that the proposed duty structure be reviewed after a period of three years from the date of implementation unless determined otherwise by the Commission to assess the industry's performance.

THE APPLICATION AND TARIFF POSITION

1. Amisec (Pty) Ltd, trading as ARTsolar ("ARTsolar"), applied or an increase in the general rate of customs duty on PV modules/solar panels, classifiable under tariff subheading 8541.40.10, from free of duty to the WTO bound rate of 10% *ad valorem*, by way of creating an 8-digit tariff subheading.

2. As motivation for the increase in the general rate of customs duty the applicant cited, *inter alia*, the following:

    - There is currently no protection for PV module manufacturers in the SACU region;
    - Unlike USA and Europe, the SACU region does not have duties to protect local manufacturers from unfair trade;
    - JA Powerway (Pty) Ltd, Soliare Direct (Pty) Ltd, SMA Inventers Manufacturers (Pty) Ltd and Jinko Solar (Pty) Ltd have ceased PV module production operations in the SACU region due to high competition from low-priced imports;
    - Local manufacturers have no meaningful local work since the last Renewable Energy Independent Power Producer Programme (REIPPP) project ended due to the market being flooded with low-priced imports of PV modules/ solar panels; and
    - The tariff increase requested would result in retention of employment, increase in capacity utilisation and possible investment into the domestic industry

3. The application was published in the Government Gazette on 29 March 2019, for interested parties to comment, as follows:

INCREASE IN THE GENERAL RATE OF CUSTOMS DUTY ON:

"Crystalline silicon photovoltaic modules or panels classifiable under tariff subheading 8541.40.10, by way of creating an 8-digit tariff subheading, from free of duty to 10% ad valorem".

4. The existing tariff structure for the subject products is as follows:

Table 1: Current tariff structure for the subject products

Tariff heading	Tariff subheading	Description	Unit of measurement	Rate of duty				
				General	EU	EFTA	SADC	MERCOSUR
85.41		Diodes, transistors and similar semi-conductor devices; photosensitive semiconductors devices, including photo-voltaic cells whether or not assembled in modules or made up into panels; light-emitting diodes (LED) mounted piezo-electric crystals:						
8541.40		Photosensitive semiconductor devices, including photo-voltaic cells whether assembled or not assembled in modules or made up in into panels; light-emitting diodes(LED):						
	8541.40.10	Photo-voltaic cells whether or not assembled in modules or made up into panels	u	Free	Free	Free	Free	Free

Source: SARS 2019

5. The subject products are currently imported free of duty. The WTO bound rate is 10% *ad valorem*.The tariff structure as requested by the applicant is as follows:

Table 2: Requested tariff structure for the subject products

Tariff heading	Tariff subheading	Description	Unit of measurement	Rate of duty				
				General	EU	EFTA	SADC	MERCOSUR
85.41		**Diodes, transistors and similar semi-conductor devices; photosensitive semiconductors devices, including photo-voltaic cells whether or not assembled in modules or made up into panels; light-emitting diodes (LED) mounted piezo-electric crystals:**						
8541.40		**Photosensitive semiconductor devices, including photo-voltaic cells whether assembled or not assembled in modules or made up in into panels; light-emitting diodes(LED):**						
	8541.40.xx	Photo-voltaic cells not assembled in modules or made up into panels	U	Free	Free	Free	Free	Free
	8541.40.xx	Photo-voltaic cells assembled into modules or made up into panels	U	10%	Free	Free	Free	10%

Source: SARS 2019

6. Table 2 above, shows the requested tariff position and the suggested separate 8-digit tariff subheading provided by SARS for administration purposes. The nature of the current tariff classification is such that the PV modules are classified with solar cells. The suggested tariff subheading and the wording will separate solar cells not assembled into modules or made up into panels from solar cells that are already imported assembled into modules or made up into panels.

INDUSTRY AND MARKET

7. The subject products are crystalline silicon photovoltaic modules or solar panels used to convert energy from the sun directly into electricity by photovoltaic effect. Solar panels are made of individual solar cells consisting of various layers of material such as

crystalline silicon, which are joined together to form solar power systems, ranging from a few watts of electricity output to multi-megawatt power stations.

Figure 1: Solar panel

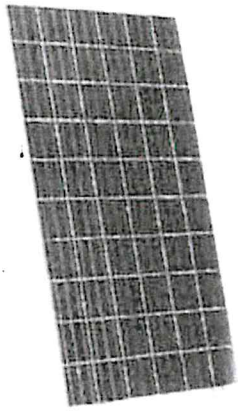
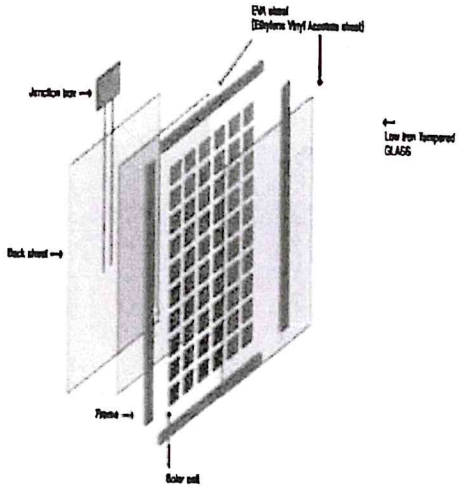


Figure 2: Structure of a Solar panel



Source: ARTsolar, 2018

8. Figure 1 above depicts a fully assembled solar panel. Figure 2 above is a diagram of the structure of the PV module/solar panel depicting the main components.

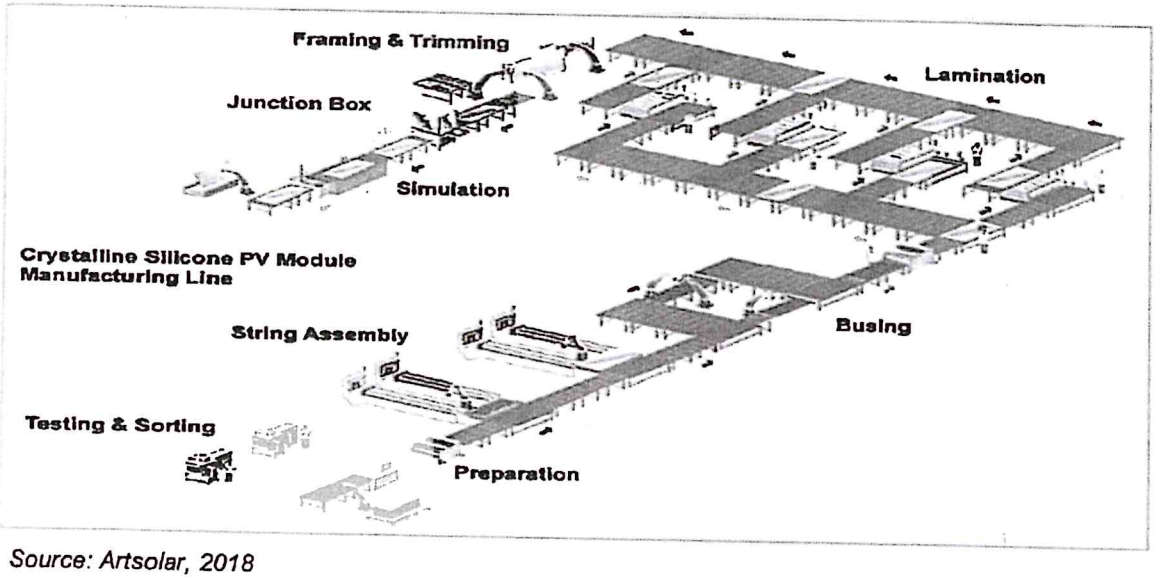
9. Figure 2 above, shows that the main inputs used in the manufacture of the subject product are PV low iron glass, Ethylene Vinyl Acetate (EVA) encapsulate, solar cells, back sheet, aluminium frame, and junction box. The other inputs include silicone sealant, tinned copper ribbon, cross connectors, diodes and cables.

10. Solar cells are the main input material used in the manufacture of solar panels as they constitute the highest percentage of the total raw material costs. The majority of the input materials are imported from China. However, Seraphim Solar South Africa (Pty) Ltd (Seraphim) has invested in a fully automated solar cell factory in Coega.

11. As shown in Figure 3 below, a PV module is first made as a laminate comprising of low iron tempered glass, EVA, solar cells which are connected to each other with soldered on copper conductors and a back sheet.

12. The laminate is then heated in a vacuum, which removes potential air bubbles while the EVA melts and then cools. Once cooled, the laminate is framed with extruded aluminium, which is bonded in place with silicone sealant. Thereafter, a junction box is applied which has flexible power cable to conduct the power from the module to where it will be used.

Figure 3: Standard production process flow for solar panels



Source: Artsolar, 2018

13. An electroluminescence test is performed in order to identify cracks and perform production quality control. Lastly, a flash test or sun simulation projects an exact quantity of bright light onto the completed module to test output current and voltage. The combination of these parameters indicates the power in Watt Peak.

14. The New Growth Path Framework (NGP) identifies the green economy as one of the key job drivers. The emphasis is on programmes to encourage local production of some of the green goods and relevant components.

15. The latest iteration of the Industrial Policy Action Plan highlights that, as a first step towards reversing historical dependence on fossil fuels for energy generation, government has pledged to reduce the country's greenhouse gas emissions over the coming decades. In parallel, the government realised that renewable energy generation could become a highly significant catalyst for industrial development and job creation.

16. In an initial move to develop the country's renewable energy sector, government introduced the REIPPP. The REIPPP contracts private power producers to supply energy to the national grid through a 20-year purchase agreement with Eskom. The REIPPP establishes local content requirements for projects to encourage growth of the local industry. Furthermore, the subject products are designated in terms of the Preferential Procurement Policy Framework Act (PPPFA).

17. In terms of the global trends, the United Nations report on Global Trends in Renewable Energy Investment (2018) notes that there has been an extraordinary surge in solar investment around the world and China has been the leading destination for renewable energy investment accounting for approximately 45% of the global total of $279.8 billion in 2017. China also accounted for just over half of the new global solar capacity in 2017.

18. The Integrated Resource Plan (IRP) 2010–2030, which was promulgated in March 2011, identifies the preferred generation technology required to meet expected demand growth up to 2030. The current IRP shows that, coal will continue to play a significant role in electricity generation in South Africa as it is the largest base of the installed generation capacity. However, the solar component of the national energy mix is expected to grow significantly due to the current energy crisis. As electricity tariffs rise, it is expected that more electricity users will seek for alternatives like rooftop PV systems or utility scale PV generation and migrate away from the grid.

19 Due to the versatile nature of the PV technology, there are several market segments which can be distinguished in terms of sizes, end-user markets, grid connections and mounting structures. For the purpose of this submission the focus is on grid connections and end-user markets.

20. In terms of the grid connections, two types of PV technology and are described as follows:

    a) **A grid connected system** implies that PV module is connected to the national electricity network and any excess electricity generated by the PV system is fed back into the grid; and

    b) **An off-grid system** is a standalone system that is not grid-tied and supplies

electricity directly to the user.

21 The market segments can also be distinguished from the four end-user perspective i.e. utility-scale, industrial applications, commercial applications and residential applications.

22. It is generally argued that the SACU PV module market is in its infancy stage. ARTsolar and Seraphim are the only remaining manufacturers of the subject product in the SACU region.

23. Several local manufacturers of the subject products have shut down i.e. Jinko Solar (Pty) Ltd, Solaire Direct (Pty) Ltd, SetSolar, SunPower Energy Systems Southern Africa (Pty) Ltd, JApowerway (Pty) Ltd and SMA Inventers Manufacturers (Pty) Ltd. The major reasons for ceasing local production included, amongst others: high local manufacturing costs; low demand for locally manufactured solar panels; and strong competition from low-priced imports.

24 The local PV module market is dominated by importers, which have extensive experience and expertise in developing, constructing, and operating projects. The identified importers include the following: Jinko Solar (Pty) Ltd; Solaire Direct (Pty) Ltd; SetSolar (Pty) Ltd; SunPower Energy Systems Southern Africa (Pty) Ltd; JApowerway (Pty) Ltd; SMA Inventers Manufacturers (Pty) Ltd; Meiji New Energy (Pty) Ltd; The Green Energy Warehouse CC; Energise Solar Solutions (Pty) Ltd; Nuvision Electronics (Pty) Ltd; Yekani Manufacturing (Pty) Ltd; Canadian Solar International Limited; Rubicon Electrical Distributors (Pty) Ltd; Segen Solar (Pty) Ltd; Electrolink (Pty) Ltd; and BYD SA Company (Pty) Ltd.

25. The PV module downstream activities comprise of system and technology integrators, installers, maintenance providers, project owners and users.

COMPETITIVE POSITION

26. The investigation revealed various challenges facing the domestic industry manufacturing PV modules and they are summarised as follows:

a) Delays in REIPPP project approvals;

b) High upfront cost as the implementation of renewable energy technologies needs

significant initial investment;

c) High cost of capital compared to conventional energy supplies;

d) High local manufacturing costs;

e) Lack of consumer awareness on benefits and opportunities of renewable energy; and

f) Low demand for locally manufactured PV modules due to increasing import volumes into the SACU region.

27. The development of the PV industry can bring significant socio-economic benefits in the SACU region, which would include improving energy security and job creation potential. The following opportunities have been identified with regards to the development of the local PV module industry:

a) Growing electricity demand;

b) Recent rising electricity tariffs;

c) Increasing pressure to reduce carbon emissions globally;

d) Increasing consumer awareness even though it is at a slow pace;

e) Significant creation of jobs in the manufacturing, installation, maintenance and servicing segment; and

f) SACU positioning itself as the gateway to Africa with a potential emerging market for exports of finished products.

28. According to the information at the Commission's disposal, the domestic industry manufacturing PV modules/solar panels experiences substantive price disadvantages vis-à-vis similar imported products.

COMMENTS RECEIVED

29. Comments in support of the application were received from interested parties including the Advanced Manufacturing Sector Desk of the Department of Trade and Industry (thedti), the Department of Energy (DoE), Seraphim, a manufacturer of solar panels, and Jinko Solar (Pty) Ltd.

30. The main reasons cited for support for an increase in customs duty on the subject products centred on the following reasons: increasing the customs duty on PV modules will protect the remaining local manufacturers and attract new investments into the industry; Chinese producers have extensive economies of scale as a result of the financial support that they receive in the form of export subsidies; local manufacturers are forced to import certain components which attract duties as a result the producers face higher manufacturing costs; the planning of the procurement roll-out needs to be reviewed so that it is aligned the development of local industrial capacity and capabilities; and a minimum threshold of local content should be enforced.

31. Comments objecting the application were received from various interested parties which included the following: Building Energy South Africa (Pty) Ltd; Cyracom (Pty) Ltd, Hyperion Solar Development (Pty) Ltd; Nomispan (Pty) Ltd; Nomispark (Pty) Ltd; Scuitdrift Solar (Pty) Ltd; Sol Invictus (Pty) Ltd; Rubicon Electrical Distributors (Pty) Ltd; IBC Solar South Africa (Pty) Ltd; Segen Solar (Pty) Ltd; Gransolar (Pty) Ltd and Canadian Solar International Limited; and South African Photovoltaic Industry Association (SAPVIA).

32. The reasons cited for objecting the increase in customs duty on subject products include the following: limited local capacity; the cost-raising effect of the duty increase; policy certainty with regards to designation is required; the focus should not be on manufacturing as more jobs are created in project development, construction and installation, and operations and maintenance; there are international examples where import tariffs or local content regulations for solar cells/modules have resulted in jobs losses; the local manufacturers should produce for the international markets; other incentives offered by government must be explored to support local manufacturers instead of increasing customs duty.

33. The Association for Renewable Energy Practitioners (AREP) commented on the application providing insights into the industry's challenges and opportunities. AREP submitted a report which cites amongst others, the following: the increase in market growth is largely driven by load-shedding coupled with grid-parity; the government tenders should give preference to local manufacturing; jobs in the renewable power generation are concentrated in the services, construction and manufacturing sectors; the largest number of jobs will be created within the solar PV rooftop space and not necessarily within

the REIPPP or utility scale sector; and the domestic industry should also focus at manufacturing various components used in the manufacture of the subject products.

FINDINGS

34. The Commission considered the application in light of information at its disposal. In particular, the Commission took the following factors into account:

- As a first step towards reversing historical dependence on fossil fuels for energy generation, government pledged to reduce the country's greenhouse gas emissions over the coming decades;
- In parallel, government realised that renewable energy generation could become a highly significant catalyst for industrial development and job creation;
- A electricity tariffs rise, it is expected that more electricity users will seek for alternatives and migrate away from the grid;
- The SACU PV module industry is still in its infancy stage. However, a significant number of local manufacturers have already shut down due to strong competition from low-priced imports;
- The significant decline in the level of production, sales and capacity utilisation of the domestic industry manufacturing PV modules/solar panels;
- Worsening profitability coupled with escalating production costs experienced by the domestic industry;
- The domestic industry manufacturing PV modules/solar panels is experiencing substantive price disadvantages vis-à-vis similar imported subject products;
- The significant decline in domestic employment and investment opportunities; and
- A 10% customs duty on PV modules or solar panels will assist in protecting the remaining local manufacturers, attract new investments into the industry and encourage the deepening of the value chain through localisation of certain inputs.

35. The Commission concluded that tariff support would enable the domestic industry manufacturing PV modules/solar panels to improve its production capacity utilisation achieve economies of scale and create both direct and indirect jobs.

RECOMMENDATION

36. In light of the foregoing, the Commission recommended that the rate of customs duty on crystalline silicon photovoltaic modules/solar panels, classifiable under tariff subheading 8541.40.10, be increased from free of duty to the WTO of 10% ad valorem, by way of creating an 8-digit tariff subheading.

37. The Commission further recommended that the proposed duty structure be reviewed after a period of three years from the date of implementation to assess the industry's performance, unless determined otherwise by the Commission.