



**INVESTIGATION NO. 239**

**ALLEGED DUMPING OF CERTAIN CRYSTALLINE SILICON  
PHOTOVOLTAIC MODULES OR PANELS  
EXPORTED FROM THE PEOPLE'S REPUBLIC OF CHINA**

**VISIT REPORT - AUSTRALIAN INDUSTRY**

**TINDO MANUFACTURING PTY LTD**

**THIS REPORT AND THE VIEWS OR RECOMMENDATIONS CONTAINED THEREIN  
WILL BE REVIEWED BY THE CASE MANAGEMENT TEAM AND MAY NOT REFLECT  
THE FINAL POSITION OF ANTI-DUMPING COMMISSION**

**May 2014**

<b>CONTENTS</b>
-----------------

<b>CONTENTS.....</b>	<b>2</b>
<b>ABBREVIATIONS.....</b>	<b>4</b>
<b>1 BACKGROUND AND PURPOSE.....</b>	<b>5</b>
1.1 BACKGROUND.....	5
1.2 PURPOSE OF VISIT .....	5
1.3 MEETING DETAILS .....	5
1.4 INVESTIGATION PROCESS AND TIMEFRAMES .....	6
1.5 VISIT REPORT .....	7
<b>2 THE GOODS.....</b>	<b>8</b>
2.1 DESCRIPTION .....	8
2.2 TARIFF CLASSIFICATION.....	9
2.3 STANDARDS.....	9
<b>3 THE AUSTRALIAN INDUSTRY .....</b>	<b>11</b>
3.1 CORPORATE, ORGANISATIONAL AND OWNERSHIP STRUCTURE.....	11
3.2 ACCOUNTING STRUCTURE AND DETAILS OF ACCOUNTING SYSTEMS.....	11
3.3 RELATIONSHIP WITH SUPPLIERS AND CUSTOMERS .....	12
3.4 MANUFACTURING FACILITIES AND PRODUCT RANGE .....	13
3.5 PRODUCTION PROCESS .....	14
3.6 LIKE GOODS.....	15
3.7 EMPLOYMENT NUMBERS .....	16
3.8 ANNUAL TURNOVER .....	16
3.9 CAPACITY.....	16
<b>4 AUSTRALIAN MARKET.....</b>	<b>17</b>
4.1 BACKGROUND.....	17
4.2 MARKET SEGMENTATION.....	17
4.3 MARKETING AND DISTRIBUTION.....	17
4.4 IMPORTS BY APPLICANT .....	18
4.5 DEMAND VARIABILITY .....	18
4.6 MARKET SIZE .....	18
<b>5 SALES .....</b>	<b>20</b>
5.1 GENERAL .....	20
5.1 ORDERING, INVOICING AND DELIVERY ARRANGEMENTS .....	20
5.2 PRICING .....	21
5.3 LEVEL OF TRADE AND RELATED VS UNRELATED CUSTOMERS .....	21
5.4 VERIFICATION OF SALES DATA TO FINANCIAL STATEMENTS .....	21
5.5 VERIFICATION OF SALES DATA TO SOURCE DOCUMENTS.....	22
5.6 EXPORT SALES .....	24
5.7 SALES – CONCLUSION.....	24
<b>6 COST TO MAKE AND SELL.....</b>	<b>25</b>
6.1 GENERAL .....	25
6.2 VERIFICATION OF COST TO MAKE AND SELL DATA TO AUDITED FINANCIAL STATEMENTS .....	25
6.3 VERIFICATION OF PRODUCTION COSTS TO SOURCE DOCUMENTS .....	29
6.4 VERIFICATION OF SELLING, GENERAL AND ADMINISTRATION COSTS TO SOURCE DOCUMENTS.....	33
6.5 COSTS TO MAKE AND SELL – CONCLUSION .....	34
<b>7 ECONOMIC CONDITION .....</b>	<b>35</b>

## PUBLIC RECORD

7.1	APPLICANT’S INJURY CLAIMS .....	35
7.2	COMMENCEMENT OF INJURY .....	35
7.3	VOLUME TRENDS .....	35
7.4	PRICE SUPPRESSION AND DEPRESSION .....	36
7.5	PROFITS AND PROFITABILITY .....	37
7.6	OTHER ECONOMIC FACTORS .....	38
7.7	CONCLUSION .....	39
<b>8</b>	<b>CAUSAL LINK .....</b>	<b>40</b>
8.1	PRICE EFFECTS.....	40
8.2	VOLUME EFFECTS.....	42
8.3	FACTORS OTHER THAN DUMPING .....	42
<b>9</b>	<b>UNSUPPRESSED SELLING PRICE AND NON-INJOURIOUS PRICE.....</b>	<b>44</b>
<b>10</b>	<b>GENERAL COMMENTS AND OTHER MATTERS .....</b>	<b>45</b>
10.1	FORMS OF DUTY .....	45
10.2	SAMPLING EXPORTERS.....	45
10.3	GOVERNMENT ASSISTANCE PROVIDED TO TINDO .....	45
10.4	SUDDEN INCREASE IN IMPORTS.....	45
<b>11</b>	<b>APPENDICES AND ATTACHMENTS.....</b>	<b>46</b>

## PUBLIC RECORD

### ABBREVIATIONS

\$	Australian dollars
ADN	Anti-Dumping Notice
COGS	Cost of goods sold
FOB	Free On Board
NIP	Non-injurious Price
PAD	Preliminary Affirmative Determination
SEF	Statement of Essential Facts
The Act	<i>Customs Act 1901</i>
The applicant	Tindo Manufacturing Pty Ltd
The Commission	Anti-Dumping Commission
The goods	Certain crystalline silicon photovoltaic modules or panels
the Parliamentary Secretary	the Parliamentary Secretary to the Minister for Industry
USP	Unsuppressed Selling Price

## 1 BACKGROUND AND PURPOSE

### 1.1 Background

On 4 February 2014, Tindo Manufacturing Pty Ltd (Tindo) lodged an application requesting that the Parliamentary Secretary to the Minister for Industry (Parliamentary Secretary) publish a dumping duty notice in respect of certain crystalline silicon photovoltaic modules or panels (PV modules or panels) exported to Australia from the People's Republic of China (China).

In the application Tindo alleged that the Australian industry had suffered material injury caused by certain PV modules or panels exported to Australia from China at dumped prices.

The applicant claimed that the industry has been injured through:

- lost sales revenue;
- price depression;
- price suppression;
- loss of profit; and
- reduced profitability.

Public notification of the initiation of the investigation was made on 14 May 2014 in *The Australian* newspaper and was published on the Anti-Dumping Commission's (the Commission) website.

### 1.2 Purpose of visit

The purpose of the visit was to:

- obtain general information about the Australian market for certain PV modules or panels;
- gain a greater understanding of the company's manufacturing, marketing and distribution processes;
- verify information provided in the application;
- obtain additional financial data about the claimed injury to the Australian industry; and
- gather information relevant to assessing whether the allegedly dumped imports had caused material injury to the Australian industry.

### 1.3 Meeting details

Company	Tindo Manufacturing Pty Ltd Unit 5, 6-8 Second Avenue, Mawson Lakes, SA 5095
Dates of visit	26 May 2014 to 28 May 2014

## PUBLIC RECORD

The following people were present at various stages of the meetings:

Tindo	Mr Adrian Ferraretto – Managing Director Mr Ben Kerry – Manager, Finance and Operations Mr Richard Inwood – Manager – People and Business
Consultant	Arthur Vlahonasios - Australian Industry Group
The Commission	Ms Joanne Reid – Case Director Mr Sanjay Sharma – Case Manager Ms Chris Kunaratnam – Senior Investigator

### 1.4 Investigation process and timeframes

We advised Tindo of the investigation process and timeframes as follows.

- The investigation period is from 1 July 2012 to 31 December 2013.
- The injury analysis period is from 1 January 2010 to 31 December 2013 for the purpose of analysing the condition of the Australian industry.
- A preliminary affirmative determination (PAD) may be made no earlier than day 60 of the investigation (i.e. after 13 July 2014) and provisional measures may be imposed at the time of the PAD or at any time after the PAD has been made.

The Commission will not make a PAD until (and if) it becomes satisfied that there appears to be, or that it appears there will be, sufficient grounds for the publication of a dumping duty notice.

- The Statement of Essential Facts (SEF) for the investigation is due to be placed on the public record by 1 September 2014 or such later date as the Parliamentary Secretary allows under s.269ZHI of the *Customs Act 1901* (the Act).

The SEF will set out the material findings of fact on which the Commission intends to base its recommendations to the Parliamentary Secretary, and will invite interested parties to respond, within 20 days, to the issues raised therein.

- Following receipt and consideration of submissions made in response to the SEF, we will provide its final report and recommendations to the Parliamentary Secretary.

This final report is due no later than 16 October 2014, unless an extension to the SEF and Final Report is provided by the Parliamentary Secretary.

## **1.5 Visit report**

We explained to the company that we would prepare a report of our visit (this report) and provide it to the company to review its factual accuracy, and to identify those parts of the report it considers to be confidential.

We explained that, in consultation with Tindo, we would prepare a non-confidential version of the report, and place this on the investigation's Public Record.

## 2 THE GOODS

### 2.1 Description

The goods, the subject of the application (the goods) are:

Certain crystalline silicon photovoltaic modules or panels, whether exported assembled or unassembled, and whether or not they have an inverter capable of producing any power in terms of watt.

Exclusions:

The following product types are excluded from the application:

- cells and wafers of the type used in PV modules or panels;
- solar chargers that consist of less than six cells, are portable and supply electricity to devices or charge batteries; and
- PV 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).

The application contains the following additional information in relation to the goods the subject of the application.

*A PV module is a packaged, connected assembly of PV cells. A PV cell is an electrical device that converts the energy of light directly into electricity by the photo-electric effect. It is a form of photoelectric cell which, when exposed to light, can generate and support an electric current without being attached to any external voltage source, but does require an external load for power consumption.*

*The two key species of silicon crystalline cells in commercial use are polycrystalline (also known as multi crystalline) and mono crystalline cells. Both PV modules composed of poly crystalline and mono crystalline silicon cells are the goods the subject of this application.*

*A PV panel (or array) is a set of PV modules electrically connected and mounted on a supporting structure. The PV module can be used as a component of a larger PV system to generate and supply electricity in commercial and residential applications.*

*The two forms of power generated by the two different types of PV modules or panels are alternating current (AC) and direct current (DC). The AC modules or panels are ready to be plugged into the grid by use of an on-board micro-inverter, while the DC PV modules or panels need to be connected to a separate inverter that converts the electricity generated to AC power. Both the AC and DC PV modules or panels are included in the description of the goods.*



## 2.2 Tariff classification

The goods are classified to the following tariff subheadings in Schedule 3 to the *Customs Tariff Act 1995*: 8541.40.00, statistical code 53;

- 8501.61.00, statistical codes 33 and 24;
- 8501.62.00, statistical code 34;
- 8501.63.00, statistical code 40; and
- 8501.64.00, statistical code 41.

The Australian Customs and Border Protection Service's (ACBPS) tariff branch has advised that the goods can be imported under tariff classifications 8541 and 8501. We note that the goods under consideration are defined by the description, not the tariff classification.

The rate of Customs duty payable under each of the tariff subheadings is as follows:

- 8541.40.00 (statistical code 53); 8501.63.00 (statistical code 40) and 8501.64.00 (statistical code 41) are duty free; and
- 8501.61.00 (statistical codes 33 and 24) and 8501.62.00 (statistical code 34) have a duty rate of 5 per cent for all countries except for DCS countries (4 per cent) and DCT (5 per cent). China is defined as DCS therefore duty is payable at the rate of 4 per cent.

There is currently no tariff concession order (TCO) applicable to the goods.

## 2.3 Standards

Standards Australia is a standards organisation which is recognised through a Memorandum of Understanding (MOU) with the Australian government as the peak non-government standards development body in Australia. Standards Australia is Australia's representative on the International Electrotechnical Commission (IEC). The IEC is a non-profit, non-governmental international standards organisation that prepares and publishes international standards for all electrical, electronic and related technologies. According to the Clean Energy Council (CEC), all PV modules above 240W are covered by AS5033. AS5033 requires certification to IEC61730 and IEC61215 for all modules installed in Australia at the point of installation. CEC maintains the list of AS5033 compliant PV modules and operates the approval system.

The Tindo Karra-250 (the model manufactured by Tindo during the investigation period) has been independently certified to IEC-61730 and IEC-61215 (**Confidential Attachment GEN 1** refers). CEC approval of the modules is currently valid until 29 May 2015. Tindo would need to apply for re-approval by CEC at that time subject to the third party certification to IEC61730 and IEC61215 remaining valid.

At the verification, Tindo advised that reliability of the PV modules or panels is neither defined nor covered by the existing IEC standards. A document entitled '*Basic Understanding of IEC Standard Testing for PV modules or panels* (**Confidential Attachment GEN 2** refers) states that it is common practice in the market to buy and sell

## **PUBLIC RECORD**

PV modules covered by a 20+ year warranty. The warranty is to cover safe operation (no electrical, thermal, mechanical and fire hazards) and acceptable level of performance. IEC 61215 states that reliability is not addressed therein, thus the design qualifications to those standards do not imply the PV modules or panel's reliability.

### 3 THE AUSTRALIAN INDUSTRY

#### 3.1 Corporate, organisational and ownership structure

Tindo is the Australian producer of like goods to the goods the subject of this application.

Tindo Solar Pty Ltd (Tindo Solar) is the supplier of the Australian like goods into the, predominately and primarily into the Australian residential market, as a retailer

Tindo Commercial Pty Ltd (Tindo Commercial) is the supplier of the Australian like goods into the Australian commercial market. It was established in July 2013 although had very little activity in the six months to 31 December 2013.

Tindo Equipment Leasing Pty Ltd (Tindo Equipment)

[REDACTED] the Australian like goods. [*description of business activity*]

All of the above companies are wholly owned subsidiaries of

[REDACTED]. [*ownership structure*]

Tindo was formed in 2010 and construction of the plant was completed January 2012. Tindo commenced operating in April 2012. Commercial sales commenced in July 2012.

#### 3.2 Accounting structure and details of accounting systems

Tindo's financial year is from 1 July to 30 June.

Tindo is not required to have its financial statements audited. During the verification visit, Tindo provided the following financial reports for the year ended 30 June 2013:

- Tindo Manufacturing;
- Tindo Solar; and
- Tindo Equipment.

These reports are at **Confidential Attachments GEN 3, 4 and 5.**

Tindo also provided the following management reports for the 6 months ending 31 December 2013:

- Tindo Manufacturing;
- Tindo Solar;
- Tindo Equipment; and
- Tindo Commercial.

These reports are at **Confidential Attachment GEN 6.**

Tindo's also provided monthly Business Activity Statements (BAS) for the period 1 July 2012 to 31 December 2013 (**Confidential Attachment GEN 7** refers).

## PUBLIC RECORD

Tindo stated that financial reports for the year ended 30 June 2013 for Tindo Commercial has not been prepared because it commenced trading in July 2013.

During the verification visit, Tindo provided an overview of its accounting and enterprise resource planning systems:

- QuickBooks – Enterprise version is used for purchasing, invoicing, maintenance, costing, accounts payable, the fixed assets register and inventory valuation
- Quality Management System (QMS) is used for quoting, invoicing and production and inventory control with the invoice data being uploaded into QuickBooks.

Tindo submitted that for the purpose of the application it has consolidated the financial data of Tindo, Tindo Solar, Tindo Equipment and Tindo Commercial given that they are all involved with the manufacture and/or sale of the goods in Australia.

For accounting and tax purposes the accounts are not consolidated and there are various inter-company transactions:

- All sales by Tindo Manufacturing are to Tindo Solar and to Tindo Commercial and are shown as cost of goods sold (COGS). Tindo Manufacturing transfers the goods at resell price;
- Tindo Manufacturing – purchases the raw materials and manufactures the PV modules or panels and incurs all manufacturing costs;
- Tindo Solar and Tindo Commercial – incur selling, general and administrative expenses and all installation expenses for the modules sold to the residential and commercial markets respectively; and
- Tindo Equipment

[redacted] *.[business activities of entity]*

### 3.3 Relationship with suppliers and customers

Tindo imports all the raw materials to manufacture PV modules or panels. Raw materials largely comprise of PV cells, anti-reflective glass, sealant, polymeric backing sheets, junction boxes, and micro-inverter (where applicable for the AC units) and aluminium extruded framing.

Tindo purchases the major raw materials 'PV cells' from various suppliers including [redacted] *[supplier names]* (with the latter [redacted]). Tindo mostly uses poly-crystalline cells instead of mono-crystalline cells unless specifically requested by the customer. This is because Tindo claims that poly-crystalline cells have better temperature tolerance and greater energy yield in Australian conditions.

Other key raw material suppliers of PV modules or panels are:

•



[supplier details]

The major component of the AC modules is the micro-inverter that comprises around [REDACTED] (per cent) of the total cost to make. Micro-inverters are currently supplied by Solarbridge. The previous supplier was [REDACTED]. [supplier details]

Tindo Solar commenced operations as a wholesaler to the residential market, by supplying PV modules or panels to the installers, who then on-sell the PV modules in a contract to supply and install the goods to the residential roof tops. Tindo now also supplies directly to residential users, either with or without a contract to install.

Tindo Commercial supplies to the small-scale commercial and industrial markets. It has had some success to a local council and schools.

Tindo stated that in the investigation period while it participated in some large scale utility projects through the tendering process, it had not been successful.

### 3.4 Manufacturing facilities and product range

#### 3.4.1 Range

Tindo advised that it is certified to sell for installation the following AC and DC PV modules or panels within Australia

- Karra-215W
- Karra-220W
- Karra-225W
- Karra-230W
- Karra-235W
- Karra-240W
- Karra-245W
- Karra-250W
- Karra-255W
- Karra-260W

Notwithstanding with the above certification, Tindo submitted that since commencing sales it has only produced and sold Karra 240W and Karra 250W AC and DC PV modules or panels. Tindo also advised that it is able to supply PV modules or panels of up to 300W as it only involves adding additional PV cells to the modules.

In the investigation period Tindo advised that it has designed and produced 54 and 60 cell PV modules.

## PUBLIC RECORD

At the commencement of its business, Tindo supplies mostly 'kits' to wholesalers which included mostly railing, screws, clamps and other PV components used in installation of PV modules or panels on the roof tops. Since early 2013, Tindo supplies 'complete set' which includes PV modules or panels and installation kits.

### 3.5 Production process

During the visit, we toured Tindo's PV manufacturing factory located in Mawson Lakes, South Australia. We observed the following production process:

- Cells are loaded into the Tabbing Machine;
- The Tabbing Machine automatically picks up, positions and solders the cells into strings;
- The Lay-up machine arranges the strings into the required panel configuration;
- The bussing machine utilises robotics to solder the ribbons to the front and back of the cell. The automation process is extremely precise and monitors pre-heating and soldering temperatures to ensure a consistent and reliable electrical connection;
- The cells are then positioned on glass and a sheet of Ethylene Vinyl Acetate (EVA). A second layer of EVA is cut, positioned and taped into position over the cells;
- A back sheet cutter/loader cuts the backsheet which is placed on the panel and holes are cut in the backsheet for the junction box connection;
- Electroluminescence (EL) testing is undertaken for all PV modules or panels to ensure that any cells defects are detected;
- The laminator cooks the panel and cures two sheets of EVA on the panel;
- After laminating, a visual inspection is undertaken where the operator exposes the panel to light and checks for visible defects.;
- An aluminium frame is pressed onto the panel and an operator installs the junction box to the rear of the module;
- A PV Simulation Test is then undertaken to ensure that the panel is generating power as rated to its specifications;
- For AC modules, an operator then attaches a micro-inverter to the rear of the panel and connects to the junction box;
- The panel is ready for dispatch after the final good is recorded in the daily production record register.

Tindo advised that both the AC and DC PV modules or panels are manufactured using the same process. The only difference is that the AC modules or panels are ready to be plugged into the grid by use of an on-board micro-inverter, while the DC module needs to be connected to a separate inverter that converts the energy generated to AC power.

Both AC and DC PV modules or panels perform the same function, which is to convert light energy to a form of electrical current. Tindo mainly manufactures AC PV modules or panels and manufactures DC modules when specifically requested by the customer.

Tindo provided a flow chart diagram of its manufacturing process (**Confidential Attachment GEN 8** refers).

### **3.6 Like goods**

Tindo advised that it is the sole Australian manufacturer of like goods to the goods the subject of the application.

The basis for this claim by Tindo is that the PV modules or panels it manufactures:

- are alike in physical appearance;
- compete directly in the same market;
- are directly substitutable; and
- have the same end-uses

as imported PV modules or panels.

Based on information available, as well as discussions and verification with Tindo, we consider:

- the primary physical characteristics of the goods and locally produced goods are similar;
- the goods and locally produced goods are commercially alike as they are sold to common users, and directly compete in the same market;
- the goods and locally produced goods are functionally alike as they have a similar range of end-uses; and
- the goods and locally produced goods are manufactured in a similar manner.

The application contains a table setting out the range of PV modules or panels measured in terms of power output (wattage) that are either currently produced, or are certified to be produced, by Tindo and comparing them to the imported goods. The application claims that the goods currently produced by Tindo that are slightly above or slightly below the range imported are considered to be 'like' goods even though they produce slightly higher or lower power output. This is because the number of PV modules or panels can be varied to achieve the same level of power output. For example to produce 10,000W of power; either 40 x 250W or 50 x 200W PV modules or panels are required. During the visit Tindo advised that, if required it can make any panel size because it can reduce or increase the number of cells in the module without major modification to its equipment. All PV modules or panels manufactured by Tindo in the investigation period have power output between 240W and 250W. In order to manufacture PV modules or panels with power output greater than 250W, say, 300W or greater. Tindo needs to get the design for those PV modules or panels tested and certified by IEC. Given past experience with the certification of their models, Tindo submitted that the process takes approximately 3 months, and the company indicated that it would do so if it was able to secure an order for 300W or greater PV modules.

In light of the above, we are satisfied that the Australian industry produces like goods to the goods the subject of the application, as defined in section 269T of the Act. The issue of like goods will continue to be assessed throughout the investigation.

During consideration of the application, the Commission became aware that there may be another Australian industry producing like goods to the goods the subject of this

application. We sought clarification with Tindo regarding this matter. Tindo advised that the company identified by the Commission has not produced PV modules or panels in Australia since 2012. It further claims that currently the only function performed by that company is the framing of imported PV modules or panels and that it does not consider this to be a substantial process in the manufacturing of like goods.

### 3.7 Employment numbers

Tindo  
employs

[REDACTED]  
[REDACTED]  
[REDACTED] [employment details]

### 3.8 Annual turnover

Tindo Solar, reported sales revenue of \$ [REDACTED] for FY2013 and \$ [REDACTED] for the six months ended 31 December 2013.

Tindo also sold 'kits and accessories' used in the installation of PV modules or panels on the roof tops domestically in the Australian market. Kits and accessories comprised approximately 13 percent of total sales during the investigation period (**Confidential Attachment SALES 1** refers).

### 3.9 Capacity

Tindo's manufacturing facility is located at Mawson Lakes, in Adelaide.

During the visit, Tindo advised that on average, it produced [REDACTED] [number] PV modules per day in a single eight hour shift, or [REDACTED] [number] panels per hour. In the investigation period, Tindo's maximum output was [REDACTED] [number] PV modules in a single shift.

Tindo usually holds inventory of around [REDACTED] [number] PV modules. These are usually stored [REDACTED] on pallets and at its warehouse.

Tindo claims the large utility project tenders it lost did not had any concerns regarding Tindo's capacity to supply large quantities of PV modules.



## 4 AUSTRALIAN MARKET

### 4.1 Background

Australia had a strong tradition in the manufacture of solar PV modules. BP Solar and later Silex Solar manufactured PV modules at various facilities in Homebush Sydney for a number of years before the plant was closed in 2012.

To encourage cleaner energy sources, both Federal and State governments provided incentives in the form of rebates, feed-in-tariffs, mandatory renewable energy targets and subsidy funding to households and businesses to encourage the installation of PV modules or panels on their houses and building roof tops.

According to the Clean Energy Regulator's database<sup>1</sup>, between April 2001 and February 2014, Australia produced 3.2 gigawatts (GW) of power using installed PV modules or panels. Furthermore, the agency's website states that PV modules or panels installed in the preceding 12 months produced 700 megawatts (MW) of power. At a capacity factor of 14 per cent, this would contribute 1.1 per cent of Australia's electrical energy. The Australian Renewable Energy Agency's (AREA) website states that the volume of installed PV modules or panels in Australia has increased 10-fold between 2009 and 2011.

### 4.2 Market segmentation

Tindo explained that the key market segments for PV modules or panels are the residential (80 percent) and commercial/ industrial (20 percent) sectors. The commercial/industrial sector can be distinguished between the following segments:

- commercial-scale system (>30kW); and
- small-scale systems (<30kW).

Tindo submitted that PV modules or panels sold into the commercial-scale and small-scale systems market segments may be either rooftop or ground mounted installations..

### 4.3 Marketing and distribution

#### 4.3.1 General

Up until around November 2012, Tindo sold PV modules or panels to a network of more than 150 dealers however these distributors stopped buying PV modules or panels because, according to Tindo, the Chinese imports prices were cut dramatically.

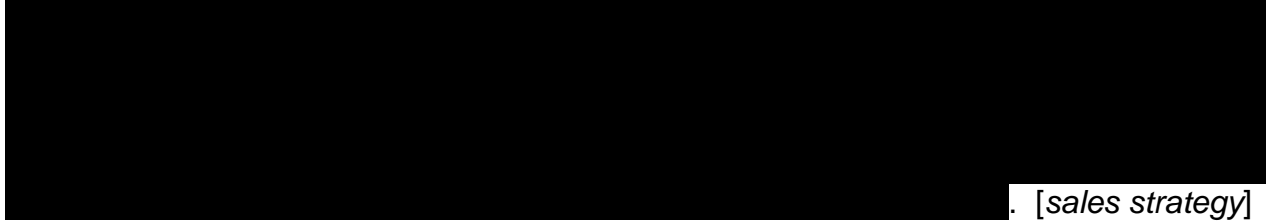
Tindo Solar and Tindo Commercial now supply PV modules or panels directly to end users in the residential and commercial sectors respectively. Tindo also continues to supply PV modules or panels albeit at much smaller volumes to retailers and electrical installers, who in turn on-sell the PV modules or panels to residential or commercial consumers.

---

<sup>1</sup> Source: <http://pv-map.apvi.org.au/analyses>

Tindo stated that about 70 percent of its customers are from South Australia, 25 percent in Victoria and the remaining 5 percent are from other states and Territories. In NSW and WA, Tindo supplies PV modules or panels only to wholesalers however they have installed systems in these regions in its capacity as a retailer.

Tindo stated in addition to its direct sales, Tindo hires 'Energy Consultants'



#### **4.4 Imports by applicant**

Tindo did not import any PV modules or panels in the investigation period. However, Tindo imported the majority of the raw materials to manufacture PV modules or panels.

#### **4.5 Demand variability**

Feed-in tariffs (introduced by that Australian State and Territory governments to increase the amount of PV power generation) and mandatory renewable energy targets were designed to assist renewable energy commercialisation in Australia have largely contributed to the rapid increase of PV panel installations between 2009 and 2012.

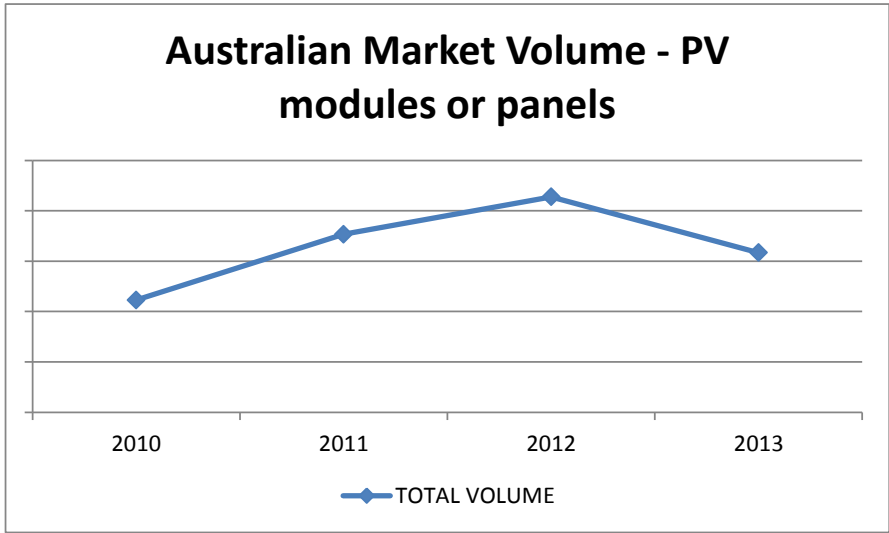
Since mid-2012, feed-in-tariffs were phased out by the Australian State and Territory governments.

#### **4.6 Market size**

Tindo estimated that the market size of the PV modules or panels in Australia for calendar year 2013 to be 830MW with a total value of around \$670 million. Tindo stated that it was not able to obtain reliable import trade data for the period 1 July 2013 to 31 December 2013.

Figure 1 below indicates the volume of sales (units) for PV modules or Panels from 1 January 2010 to 31 December 2013 using ACBPS import database and Tindo's revised sales volume (units) from 1 July 2012 to 31 December 2013.

**PUBLIC RECORD**

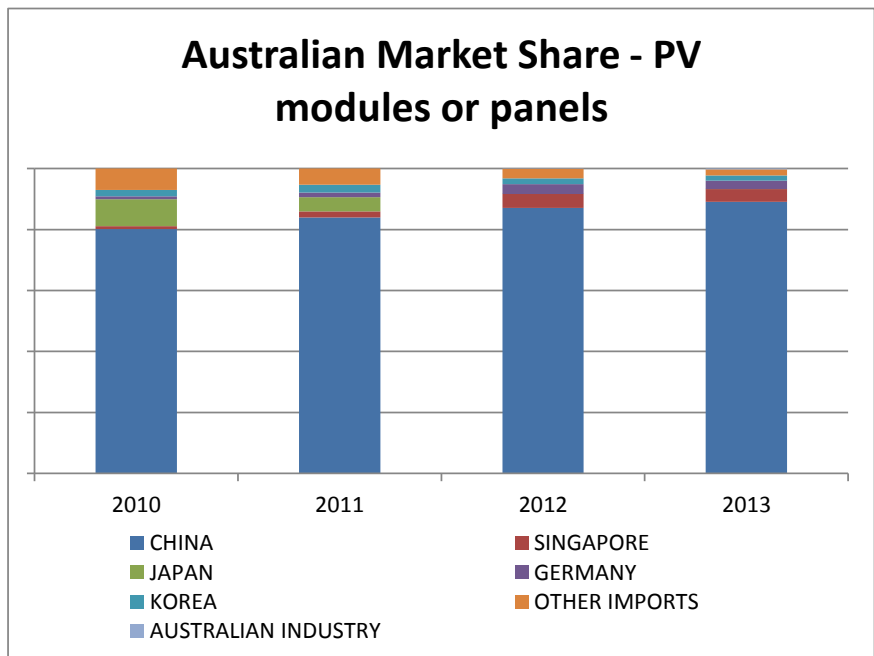


**Figure 1: sales volume of PV modules or panels**

Figure 1 illustrates that the sales of PV modules or panels reached its peak in 2012 and declined in 2013.

Tindo claims that the Australian market for PV modules or panels is supplied by imports predominantly from China.

The following figure illustrates the Australian market share using the revised sales data submitted by Tindo (from 1 July 2012 to 31 December 2013) and the ACBPS import database from 1 January 2010 to 31 December 2013.



**Figure 2 – Australian market share**

Figure 2 illustrates that China dominates the PV modules or panels market in Australia and that Tindo’s market share remains relatively low compared to the imports



and provide a quote and potentially a Purchase Order. The usual practice is that a Purchase Order is raised by a sales person/ installer once sale terms and conditions are agreed. Tindo issues an invoice a day before the shipment of the PV modules or panels.

For all deliveries, the PV modules or panels are bubble-wrapped and placed on a pallet.. Interstate and regional deliveries are via road transport providers.

Many retail installers collect the PV modules or panels themselves from the factory (EXW). PV modules or panels can easily be transported in utility trucks.

## **5.2 Pricing**

### **5.2.1 Pricing system**

Tindo provided us with copies of its wholesale price lists. The price lists are for the PV modules and for a 'kits and accessories' which includes the various accessories needed for installation. The price lists are reviewed by Tindo every month. Tindo claims that Tindo's price for the PV modules was reduced between 30 percent and 40 percent over the investigation period (**Confidential Attachment SALES 2**).

### **5.2.2 Discounts and rebates**

Given the need to achieve sales and the competitive nature of its business, Tindo management has authorised discounting to achieve its sales results, in the expectation of achieving additional business. Tindo claims that some of its salespeople have been known to reduce their own margins to achieve sales.

We noted that in the investigation period

[REDACTED] . [marketing strategies]

Small-scale Technology Certificates (STC's) are a tradeable commodity attached to eligible installations of renewable energy systems, such as PV modules or panels. STC's can be assigned to a registered PV modules agent (such as a retailer and/or an installer like Tindo) in exchange for a financial benefit, such as partial payment for the invoice price. Many retail customers prefer to do this as it is easier for them although they would not be benefitting from the full financial benefit of installing PV modules or panels.

## **5.3 Level of trade and related vs unrelated customers**

In the investigation period, Tindo sold PV modules or panels to the Australian domestic residential and commercial customers. We confirmed that none of the sales invoices examined were to Tindo's related customers.

## **5.4 Verification of sales data to financial statements**

To assess sales data for completeness and relevance, verification to the financial statements was undertaken.

## PUBLIC RECORD

Tindo advised that sales are recorded and invoiced through the QuickBooks system. Tindo provided a 'Sales by Item Summary' for the period 1 July 2012 to 30 June 2013 as well as the quarterly breakdown. The spreadsheet contained details of all sales value, quantity (units), average selling price, COGS, Average COGS, and the gross margin. These documents are at **Confidential Attachment SALES 3 and Confidential Attachment SALES 4**.

The Sales by Item Summary was reconciled to the BAS statements for the Tindo's group of companies for FY2013. We noted a difference of \$ [REDACTED] related to the STCs, which were not included in the BAS. The company advised that this is because GST input tax credits cannot be claimed on STCs.

We then reconciled the BAS statements to Tindo Solar's financial statements. After taking into account the STC adjustments, the difference was less than [REDACTED] % percent and hence deemed immaterial.

We also reconciled the quantity of PV modules or panels sold for the relevant period with the information provided in revised Confidential Appendix A4 (**Confidential Attachment SALES 5**).

We did not verify the management reports for the six months to 31 December 2013 as we were satisfied with the accuracy of the results for the FY2013.

### **5.4.1 Completeness and relevance of sales data - conclusion**

During the visit, it was observed that because Tindo Commercial had only commenced trading on 1 July 2013, it was not included in the BAS for the Tindo group and its sales were not captured in confidential Appendices A4 for the investigation period that was provided as part of the application. Subsequent to the visit, Tindo provided revised Confidential Appendices A4 including the sales data for Tindo Commercial for the investigation period (**Confidential Attachment SALES 1** refers).

Having regard to the above, we consider that the Confidential Appendix A4 revised sales data represents reasonably complete and relevant accounts of the sales of PV modules or panels during the period from 1 July 2012 to 31 December 2013.

### **5.5 Verification of sales data to source documents**

To assess sales data for accuracy, verification to source documents was undertaken.

Prior to the verification visit, we selected the following ten invoices from the confidential Appendix A4.

[REDACTED]

[REDACTED]

[REDACTED]

## PUBLIC RECORD

The selected transactions covered various quarters, products, discounts, rebates and customers within the investigation period. We advised Tindo to prepare and provide supporting source documentations for each selected invoices.

At the visit, Tindo provided the following documents in relation to the ten selected invoices.

- Tax invoices
- Correspondence in relation to any discounts or rebates offered
- Purchase orders and quotes (not for all)
- STC assignment forms
- Bank statements (for proof of payment)

These documents are at **Confidential Attachment SALES 6**.

During the visit, we selected two customers of Tindo Commercial for the 6 month period ending 31 December 2013 for verification of the information. The source documents for the two selected invoices are at **Confidential Attachment SALES 7 and Confidential Attachment SALES 8**.

### 5.5.1 Invoice and general sales despatch details

We noted that the tax invoices contained sufficient detailed product information, including the quantity and type of PV modules or panels and accessories supplied. We were able to reconcile the transaction details reported in the detailed sales spreadsheet at confidential Appendix A4, including dates, volumes and sales value.

During the verification process, some errors were observed when we tried to reconcile the purchase orders raised with Invoices. Tindo explained that in some instances the installer would need to install a different PV module size to that originally ordered (e.g. given roof configurations etc). The installer may not always raise a new Purchase Order however a revised invoice was re- issued to reflect the change.

We also noted that a purchase order was not always issued to Tindo's retail customers. Tindo explained that for some invoices where the orders came through emails or were 'known customers', Tindo did not require a purchase order from the customer.

### 5.5.2 Proof of payment

Tindo showed us evidence from Quickbooks of funds being credited to its account for the selected invoices.

For each invoice we observed that the net invoice amount reconciled with the amount credited into Tindo's account in a bank statement provided by Tindo (**Confidential Attachment SALES 9** refers).

### 5.5.3 STC's and net price

We noted that where STC Assignment forms were completed, thereby assigning the subject STC's to Tindo, that the original invoice price was recorded in the QuickBooks

system. However, the partial payment was made by the STC and the remaining amount was paid in cash.

We noted that the STC's were summarised in a monthly credit adjustment (**Confidential Attachment SALES 10** refers).

#### **5.5.4 Accuracy of sales data - conclusion**

Having regard to all of the above we consider the sales data provided in the revised Confidential Appendix A4 is reasonably accurate account of the sales of PV modules or panels during the period from 1 July 2012 to 31 December 2013.

#### **5.6 Export sales**

There were no export sales.

#### **5.7 Sales – conclusion**

We consider that Tindo's Confidential Appendix A4 sales data is a reasonably complete, relevant and accurate reflection of the sales of certain crystalline silicon photovoltaic modules or panels during the period from 1 July 2012 to 31 December 2013.

Accordingly, we consider that the Tindo's sales data in Confidential Appendix A4 is suitable for analysing the economic performance of its certain crystalline silicon photovoltaic modules or panels during the period from 1 July 2012 to 31 December 2013.



## 6 COST TO MAKE AND SELL

### 6.1 General

Tindo Manufacturing (Tindo), Tindo Solar and Tindo Commercial have their own accounting system as explained in section 3.2 of this report. Each company keeps its accounting records separately. Whilst the end-of-year financial records (balance sheet, profit and loss statement and tax return) are prepared by an independent accountant, they are not audited.

Tindo explained that the accounting system for Tindo Commercial that was established in July 2013 is in a development phase and not all information and reports could be extracted for Tindo Commercial at the time of the visit. We were provided with summary of all sales by customer and profit and loss statement for Tindo Commercial for the period 1 July 2013 to 31 December 2013 (**Confidential Attachment CTMS 1 refers**).

Tindo's accounts are not consolidated for income tax purposes but the companies are Grouped for GST purposes. Tindo Manufacturing is the head company registered for GST purposes.

Tindo is responsible for purchasing the raw materials and manufacturing PV modules or panels. Tindo adds a profit margin and sells the completed goods to Tindo Solar for sales to the residential sector and to Tindo Commercial for sales to the commercial sector. Tindo stated that all sales of the PV modules or panels to its two related entities are at arm's length. Tindo Solar and Tindo Commercial are responsible for selling and marketing the products and organising the installations.

### 6.2 Verification of cost to make and sell data to audited financial statements

To assess the cost to make and sell data for completeness and relevance, verification to financial statements was undertaken.

We compared the total units of PV modules produced for quarter 4 of 2013, shown in Confidential Appendix A6 of the application, to the total number of PV modules recorded in the production report. A copy of the production report for quarter 4 of 2013 is at **Confidential Attachment CTMS 1**.

We noted that [REDACTED] DC PV modules and [REDACTED] AC modules were recorded in the production report for this quarter, a combined total of [REDACTED] modules. In Confidential Appendix A6 a total of [REDACTED] modules were reported for the same quarter. We then compared the total volume of PV modules produced in the financial year ending 30 June 2013 as shown in the production report to Confidential Appendix A6. Both records showed that Tindo produced a total of [REDACTED] modules in the FY2013. No variance was noted.

Tindo provided quarterly management reports for Tindo (**Confidential Attachment CTMS 2 refers**) for the FY2013. We compared the number of modules produced in each quarter in FY2013 with the data provided in Confidential Appendix A6. We noted that

## PUBLIC RECORD

there were some minor variances between the number of PV modules produced and recorded on a quarterly basis, however the total PV modules produced for the FY 2013 reconciled between the two records

We also compared the total cost of production for FY2013 by adding the cost of production for each quarter in Confidential Appendix A6 and compared that with the costs recorded in the Tindo's QuickBooks accounting system. We noted a difference of \$ [REDACTED] (understated in Confidential Appendix A6). Tindo explained that the difference was due to end of year inventory adjustment.

Tindo provided a summary of 'Transaction Detail by Account' for the net adjustment of \$ [REDACTED]. Tindo also showed us the details of the transactions on a computer screen from the QuickBooks system. We noted that a net positive adjustment of \$ [REDACTED]. From the transaction list we also noted a positive adjustment [REDACTED] units of 250W PV modules for the value of \$ [REDACTED]. Tindo explained that the difference was picked up during the end of year stocktake. Tindo stated that during the establishment phase of the business, Tindo used to stocktake its inventory on a 6 monthly basis and a detailed stocktake was only done at the end of the financial year.

A copy of 'Transaction Details by Account' report and supporting documents is at **Confidential Attachments CTMS 3**.

Tindo provide a revised Confidential Appendix A6 (**Confidential Attachment CTMS 4** refers).

### Raw Materials

'Raw materials' in Confidential Appendix A6 refers to the imported components used in the manufacture of PV panels.

Tindo explained that actual rather than standard costs are used in production. Its accounting system does not record the cost of manufacture but only the cost of sales. Costs are recognised in Tindo Manufacturing only when Tindo Solar (or Tindo Commercial) sells the modules.

We compared the cost of imported material for Quarter 4 of 2013 from Confidential Appendix A6 with the costs recorded in the QuickBooks accounting system. We found a variance of approximately 1per cent. Tindo explained that QuickBooks generates the cost data using a moving weighted average cost basis. This is further discussed in section 6.3 of this report.

For completeness, we compared the cost of imported raw materials shown for each quarter in the management accounts provided by Tindo with the Confidential Appendix A6. We noted a variance of \$ [REDACTED], which equates to [REDACTED] percent. The cost of raw materials in Confidential Appendix A6 was understated.

We asked and Tindo agreed to make the above adjustment in the revised Confidential Appendix A6 to reflect these adjustments (**Confidential Attachment CTMS 4** refers).

Variable manufacturing costs

Tindo classified variable overheads as all expenses in Tindo Manufacturing other than imported materials. We compared the variable overhead costs shown in Confidential Appendix A6 for quarter 4 of 2013 with that shown in the management accounts. We noted a variance of \$ [REDACTED] which equates to a difference of approximately [REDACTED] percent. The variable cost calculated in Confidential Appendix A6 was understated.

Tindo explained that a number of reconciliation journals were prepared for FY2013 after the data in Appendix A6 was prepared. It showed evidence of a journal for an amount of \$ [REDACTED], being for an additional expense item, and an inventory adjustment of \$ [REDACTED] that were not included in the Confidential Appendix A6. A copy of reconciliation journals are at **Confidential Attachment CTMS 5**

We noted that the Tindo Manufacturing costs classified as 'variable costs' in Confidential Appendix A6 included items such as staff salaries, consulting fees and a small amount of accounting fees. We also noted that Tindo included 'other costs' that included landed costs of \$ [REDACTED] for the FY 2013 associated with the importation of rails and kit items. The details of landed costs from the QuickBooks for the FY2013 are at **Confidential Attachment CTMS 6**.

We advised Tindo to amend its Confidential Appendix A6 to re-classify these amounts from variable overheads to selling, general and administrative costs and to eliminate the landed costs associated with the importation of rails, kits and other accessories.

Tindo revised Confidential Appendix A6 to include the above amendments (**Confidential Attachment CTMS 4 refers**).

Fixed manufacturing costs

The fixed manufacturing costs were recorded in Tindo Equipment accounts. Fixed manufacturing costs comprised of overhead, depreciation and finance charges. All expenses of Tindo Equipment have been allocated to like goods.

Fixed overhead

The overhead amount represents the balancing item of all Tindo Equipment's expenses less depreciation and finance charges.

We compared the fixed overhead amount for quarter 4 of FY2013 from the management accounts with the Confidential Appendix A6. We noted a small variance of \$ [REDACTED] of [REDACTED] per cent.

For completeness, we compared the overhead costs for FY2013 from the management accounts with the total fixed overhead costs shown in Confidential Appendix A6. The same dollar variance of \$ [REDACTED] was noted, which represents a variance of less than [REDACTED] per cent over the year.

## PUBLIC RECORD

Tindo included above adjustments in the revised Confidential Appendix A6 with the revised data (**Confidential Attachment CTMS 4 refers**)

### Depreciation

As explained in section 3.1 of this report, Tindo Equipment owns all the assets used in the manufacture of PV modules or panels. At the visit Tindo provided a depreciation schedule for Tindo Equipment.

We noted that in Confidential Appendix A6 Tindo used a fixed number (\$ [REDACTED]) for all four quarters of the FY2013 and in the first 2 quarters of the FY2014. Tindo explained that it used the annual depreciation expense and divided it equally across each quarter in FY2013. It advised that there were no changes in the assets in the first two quarters of FY2014, so it used the same amount for those quarters in Confidential Appendix A6.

We compared the total depreciation value shown in Confidential Appendix A6 with the depreciation schedule provided for FY2013. The total depreciation value in Appendix A6 was \$ [REDACTED] while the value in the depreciation schedule was \$ [REDACTED], a minor variance of less than [REDACTED] per cent.

In the depreciation schedule we noted that other than one item,

[REDACTED]

method. This was further confirmed by Tindo's accountant. The depreciation schedule and Tindo's accountant's email confirmation confirming the depreciation method is at **Confidential Attachment CTMS 7**.

### Finance Charges

Tindo explained that the Tindo group of companies was financed

Based on the

[REDACTED]

[REDACTED] shown in the Confidential Appendix A6.

### Selling, general and administration costs

The selling, general and administration SG&A was accounted for in Tindo Solar's accounts. Tindo explained that the SG&A expenses

[REDACTED]. As discussed above, we noted that 'variable overheads' included costs that were in relation to SG&A. Tindo re-classified these amounts from variable overheads to SG&A costs.

## PUBLIC RECORD

Tindo revised Confidential Appendix A6 to include the above amendments (**Confidential Attachment CTMS 4** refers).

We compared the revised SG&A expenses in Confidential Appendix A6 with the SG&A expenses in Tindo Solar's financial statement for the FY2013. We noted a variance of approximate [REDACTED] percent being overstated in the Confidential Appendix A6. Tindo explained the variance was because of the above adjustments where Tindo's sales consultant's salary of \$ [REDACTED] and operating sales expenses in relation to the PV modules of \$ [REDACTED] was re-allocated to the Confidential Appendix A6. We added the sales consultant's salary and operating sales expenses to Tindo Solar's SG&A in the financial statement for the FY2013 and compared it with Confidential Appendix A6. We noted a minor variance of [REDACTED] percent being understated in the revised Confidential Appendix A6.

We noted a similar adjustment for the SG&A expenses was made for the 6 months ending 31 December 2013 in the **Confidential Appendix A6**.

### 6.2.1 Completeness and relevance of cost to make and sell data - conclusion

Having regard to the above, we consider that the cost to make and sell data in the revised Confidential Appendix A6 provided by Tindo represents reasonably complete and relevant accounts of the fully absorbed costs to manufacture and sell PV modules or panels during the period from 1 July 2012 to 31 December 2013.

### 6.3 Verification of production costs to source documents

To assess production cost data for accuracy, verification to source documents was undertaken.

Quickbooks records inventory items using [REDACTED] method. The two relevant reports from Quickbooks that we used to verify cost information are

[REDACTED] reports. The [REDACTED] provides a transaction listing of purchases of material and withdrawal from inventory as it is used in production. A copy of [REDACTED] and the [REDACTED] report is at **Confidential Attachment CTMS 8**.

When Tindo issued an invoice for the sale of PV modules the cost is recognised and items are taken from the inventory account. Tindo has a bill of materials (BOM) for each model that sets out the quantity of each material required. The item costs in the BOM are taken from the last invoice entered for the purchase of each item, not the moving average cost.

Quickbooks does not keep historical records of what the BOM for a particular model looked like at any point in time, nor is there an audit trail of what changes were made to the individual components. At the visit the BOMs we sighted were therefore the current BOM for each model based on current componentry and costs.

When an invoice is issued and Quickbooks is assigning a cost, it will ordinarily obtain the cost of the relevant inputs (based on quantities in the BOM) from the inventory valuation

## PUBLIC RECORD

report. For panels sold in the early part of the investigation period (up to the June quarter of 2013), when the Quickbooks system was new, PV modules were invoiced in Quickbooks before the inputs had been entered in inventory. Where this situation occurs, that is there are no items in inventory for Quickbooks to draw down on, Quickbooks will use the cost from the current BOM rather than the cost from the inventory valuation report.

The above circumstances resulted in us observing

[REDACTED]

Tindo was able to demonstrate for us how

[REDACTED]

Tindo explained that differences between the amounts recorded in cost of goods sold in the income statement and the moving average cost from the inventory valuation report were overcome by way of inventory adjustment journals. For example for one of the PV modules we selected the cost of goods sold figure generated on the sale was \$ [REDACTED] per panel. Using the inventory valuation report the PV module should have been costed at \$ [REDACTED], meaning for that sale the cost of goods sold was understated by \$ [REDACTED] (there were [REDACTED] PV modules in the sale). However the inventory valuation adjustment, which is recognised as an expense in the income statement and is based on a comparison of the value of stock actually on hand to that recorded in inventory, would have been higher by the same amount. The total cost recognised in the income statement is therefore an accurate reflection of the actual cost of sales.

Inventory valuation adjustments of this type were not required post 30 June 2013 as Tindo began properly recording the purchase of inventory items as they occurred such that Quickbooks is accurately recording the moving average cost of items at the time of recognising the cost associated with a sale. We verified that the inventory adjustment amount for the six months ended 31 December 2013 was substantially less (if pro-rated) than the annual inventory adjustment for FY2013.

We are satisfied based on our interrogation of the Quickbooks system, the explanations and evidence provided that the costs recorded in Tindo are financial accounts and carried over to Confidential Appendix A6 are an accurate reflection of the cost of production.

From the costing data presented, we calculated the proportion of total costs represented by each of the main raw materials used in the production of PV modules or panels as shown in Table 1 below.

■  
**Table 1 – proportion of major raw materials used by cost**

From Table 1 above, we noted that PV cells and inverters used in the production of AC and DC PV modules or panels are the major raw materials.

**PUBLIC RECORD**

Tindo purchased PV cells from the following suppliers during the investigation period:

- [REDACTED]

Tindo stated that since mid-2013 its [REDACTED], has been the sole supplier of PV cells. Tindo stated that

[REDACTED]

The suppliers of inverters in the investigation period were as follows:

- [REDACTED] Solarbridge inverters.

**6.3.1 Imported materials**

To verify the cost of imported materials to source documents, Tindo explained how it imports the goods and records and calculates the COGS using the BOM as explained in section 6.3.

To test the QuickBooks calculations, we selected invoice number [REDACTED], dated 15/04/2013, for [REDACTED], 250W AC modules. The total cost of production attributed to the sale in the inventory valuation summary was \$[REDACTED]. The cost per module (unit) was therefore calculated as \$[REDACTED]. In the BOM, the cost per module as calculated by the QuickBooks system was \$[REDACTED], a difference of [REDACTED] per cent.

Considering that this may be a one-off variation we selected the following additional invoices to verify how the cost of the module is calculated in the BOM and to reconcile it to the inventory valuation summary as reported. Copies of the selected invoices are at **Confidential Attachment CTMS 9**.

The results of the comparison are shown below:

Date of invoice	Invoice number	Type of Modules	Number of modules	COGS	Cost per module	Cost recorded in BOM	Difference
14/04/2013	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
10/06/2013	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
30/06/2013	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

## PUBLIC RECORD

31/12/2013								
------------	--	--	--	--	--	--	--	--

**Table 2 – Sample of invoices used to reconcile BOM and inventory valuation summary**

From our sample, we noted that the costs recorded in the BOM and the inventory valuation summary did not reconcile. Tindo explained that the cost in the BOM is updated in Quickbooks each time an inventory item is updated. Quickbooks does not keep historical records of each BOM and it is unable to provide an audit trail to show what the costs were during the investigation period.

For example, looking at the BOM for the invoice dated 31 December 2013 it shows a certain type of cell being used in the model. However that type of cell was not purchased between August 2013 and February 2014 (Tindo showed us evidence of this from the system) therefore the module sold in December 2013 would have used a different type of cell ( ). If the cost of an ( ) is replaced with the cell cost showing in the BOM for this model the difference between the BOM unit cost and the unit cost from the inventory valuation summary is around \$ ( ).

We selected a recent invoice outside the investigation period (dated 30 April 2014, invoice number ( )) to see if that showed a closer match between the BOM and the inventory valuation summary, given that presumably little or no changes to the value of individual inventory items would have occurred. We noted a minor difference of \$ ( ) (less than ( ) per cent) between the BOM and the inventory valuation summary. This supports the statement that the differences observed during the investigation period are due to a current BOM being compared to historical costs from the inventory valuation system.

### PV Cells

PV cells have been identified as one of the major inputs used in the production of PV modules or panels as shown in Table 1 above.

We sought to verify the cost of PV cells used in the production of PV modules or panels. We selected Tindo's sales invoice number ( ), dated 15 April 2013. We drilled down on the components of the module, which showed that ( ) cells were used.

Tindo provided proof of payment for the total sales invoice value of USD ( ), which contained ( ) units of ( )% cells and ( ) units of ( )% cells. Tindo stated that any loss or gain from the foreign exchange is recorded in profit and loss statement (**Confidential Attachment CTMS 10 refers**).

### Micro-invertors

Micro-invertors used in the AC PV modules have been identified as another major input used in the production of the AC PV modules or panels as shown in Table 1 above.



**PUBLIC RECORD**

From the inventory valuation detail report we selected two invoices for verification. Both invoices selected were for micro-invertors supplied by [REDACTED]. The details are as follows:



Tindo provided all the supporting source documents in relation to the above two invoices. These include copies of the two invoices, proof of payment and OZForex deal confirmation.

To test how the moving average cost for the two invoices was calculated by QuickBooks, we manually calculated the value of the micro-invertors by adding the closing stock to the new purchases (from the two invoices) and divided by the total quantity to calculate the moving average cost per unit. We compared it with the inventory valuation detail report. The calculated moving average matched the moving average calculated by QuickBooks ([REDACTED] per unit). The copies of invoices and supporting source documents are at **Confidential Attachment CTMS 11**.

**6.3.2 Accuracy of production costs - conclusion**

Having regard to the above we consider the revised production cost data provided is a reasonably accurate account of the actual costs to manufacture PV modules or panels during the period from 1 July 2012 to 31 December 2013.

**6.4 Verification of selling, general and administration costs to source documents**

To assess selling, general and administration (SG&A) cost data for accuracy, verification to source documents was undertaken.

We verified the SG&A expenses for quarter 4 of 2013. The sales revenue for quarter 4 of 2013 for PV panels only was approximately [REDACTED] percent (\$ [REDACTED] sale of PV modules only divided by total sales of \$ [REDACTED]) of total sales revenue. Other items included sales of kits and accessories used for installation of PV modules or panels mostly on roof tops. Using a similar methodology, the SG&A was calculated for each quarter as shown in the table below:

Quarter	Percentage of SG&A
Quarter 1	[REDACTED]
Quarter 2	[REDACTED]

## PUBLIC RECORD

Quarter 3	■
Quarter 4	■

We noted that in Confidential Appendix A6, the SG&A value in quarter 1 of FY2013 was omitted. Tindo explained that the reason for the omission was that there were no sales in that quarter to the retail sector. There were only sales to the wholesalers and distributors. We explained to Tindo that the SG&A was for all sales and not only to certain segments of the market.

While discussing the calculation of SG&A, Tindo also explained that it has omitted the salary of the dedicated sales team from SG&A in Confidential Appendix A6.

Tindo provided a revised SG&A including the salary adjustments of the sales team (**Confidential Attachment 4 refers**).

### **6.4.1 Accuracy of selling, general and administration costs - conclusion**

Having regard to the above we consider the selling, general and administration cost data provided is a reasonably accurate account of the actual costs to sell PV modules or panels during the period from 1 July 2012 to 31 December 2013.

### **6.5 Costs to make and sell – conclusion**

We consider that Tindo's cost to make and sell data in the revised Confidential Appendix A6, is a reasonably complete, relevant and accurate reflection of the actual costs to manufacture and sell PV modules or panels during the period from 1 July 2012 to 31 December 2013.

Accordingly, we consider the Tindo's cost to make and sell data in revised Confidential Appendix A6 is suitable for analysing the economic performance of its PV modules or panels operations from 1 July 2012 to 31 December 2013.

## 7 ECONOMIC CONDITION

### 7.1 Applicant's injury claims

Tindo alleges that the Australian industry has suffered material injury caused by certain PV modules or panels exported to Australia from China at dumped prices. Tindo claims the industry had been injured through:

- lost sales revenue;
- price depression;
- price suppression;
- loss of profit ; and
- reduced profitability.

### 7.2 Commencement of injury

Tindo alleges that material injury and material hindrance to its establishment caused by dumped imports of PV modules or panels from China commenced in July 2012.

Tindo submitted that the sale of like goods produced by the Australian industry has remained unprofitable since its establishment in July 2012. Furthermore Tindo submitted that it sold the goods below the cost of production to enter the market that was predominantly supplied by China. Tindo provided its revised sales and costs data on a quarterly basis from 1 July 2012 to 31 December 2013 (**Confidential Attachment CTMS 4**).

Tindo claims that the market pricing conditions contained in its Business Plan, were undercut by the dumped imports from July 2012. A copy of the Business Plan forms **Confidential Attachment CAUS 6**.

### 7.3 Volume trends

Tindo has not claimed injury from overall lost of sales volume. The data provided shows that its overall sales have grown since its establishment in July 2012. However, Tindo stated that its sales to wholesalers has declined in the investigation period. As a result of this decline Tindo was forced to change its business strategy to start marketing and supplying directly to residential and commercial customers. Tindo's provided sales volume data of its top 20 wholesale customers from its database during the investigation period as shown in Figure 3 below.

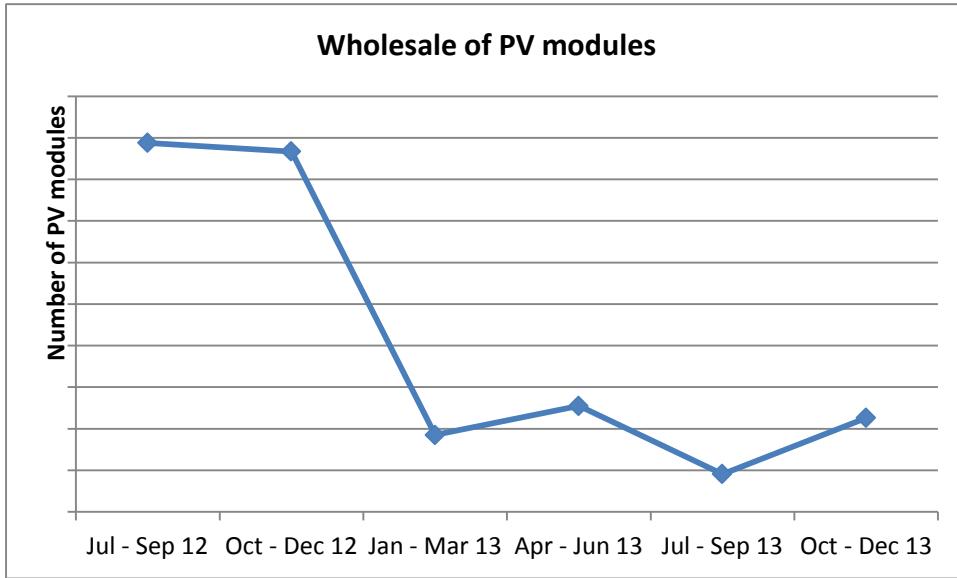


Figure 3 – Tindo’s wholesale of PV modules or panels

From Figure 1 above, we noted that the Tindo’s sales volume of PV modules or panels to the wholesalers has considerably declined in the investigation period.

### 7.4 Price suppression and depression

Price depression occurs when a company, for some reason, lowers its prices. Price suppression occurs when price increases, which otherwise would have occurred, have been prevented. An indicator of price suppression may be the margin between revenues and costs.

Based on the revised data submitted by Tindo, total revenue was below total costs for the entire 18 month period ending 31 December 2013 as shown in Figure 4 below.

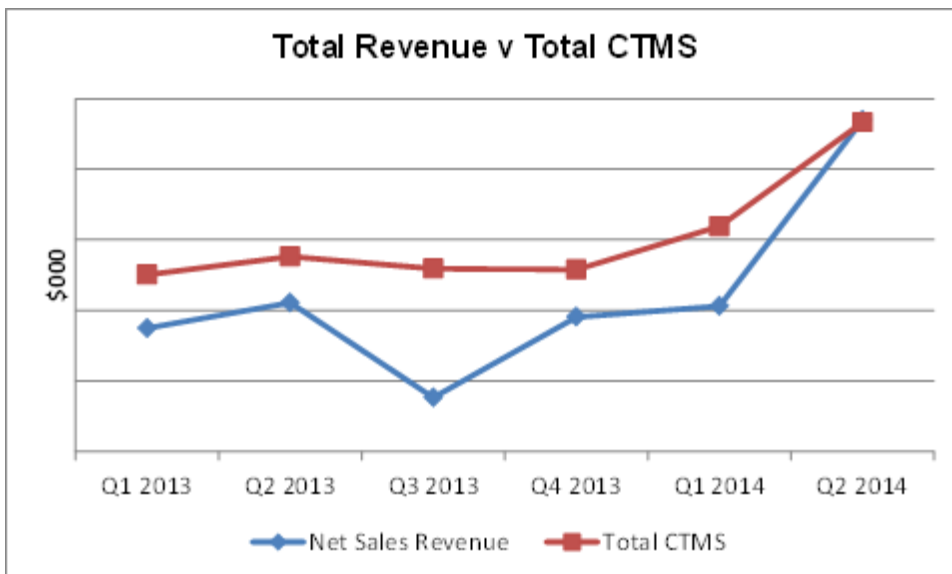


Figure 4 – Tindo’s Total Sales v Total CTMS of PV modules

We noted that based on the quarterly data submitted by Tindo that while total costs remained higher than total revenue for the 18 months to 31 December 2013, in the last quarter (quarter 4 of 2013) the total cost and total revenue were almost breakeven with total costs only slightly higher.

From the revised data revenue and costs data provided by Tindo, we analysed the unit revenue and unit cost in the investigation period as shown in Figure 5 below.

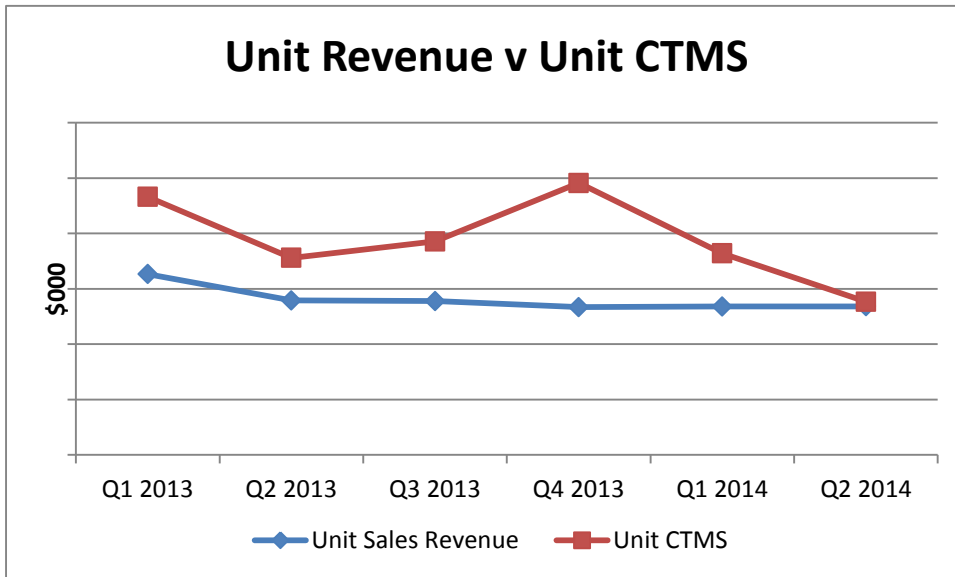
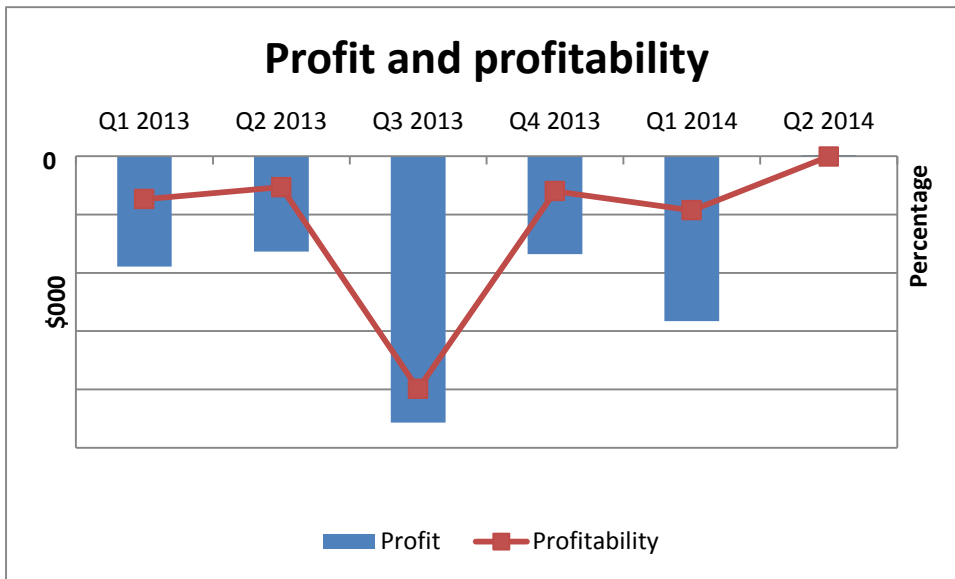


Figure 5 – Tindo’s unit sale v unit CTMS of PV modules

From the data provided it is evident that the Australian industry was not able to increase its unit prices above the unit CTMS in the 18 month period ending 31 December 2013. For successful bids Tindo provided evidence that it revised its original quotations downwards by between 2 percent and 26 percent in order to compete with exported PV modules or panels from China at alleged dumped prices (**Confidential Attachment GEN 12** refers).

### 7.5 Profits and profitability

Based on revised data submitted by Tindo, we calculated the total profit and profitability for the 18 month period ending 31 December 2013. We also calculated profit and profitability of the Australian industry on a quarterly basis as shown in Figure 6 below.



**Figure 6 – Tindo’s Profit and profitability**

As shown in Figure 6 above, Tindo incurred a loss and had negative profitability for the entire 18 month period. We noted that on a quarterly basis, while Tindo incurred losses and negative profitability for most quarters, its sales were profitable and it had a profitability of approximately 0.6 percent in quarter 2 of FY2014.

## 7.6 Other economic factors

Tindo completed Confidential Appendix A7 for PV modules or panels for the period 1 July 2012 to 31 December 2013.

Given that Tindo has only been in operation since 1 July 2012, there is no trend that can be meaningfully examined from the other economic factors in Appendix A7. However from the quarterly data submitted, the following observations were made:

### Revenue

Revenue from the sale of PV modules or panels increased overall since Tindo’s establishment in July 2012.

### Capacity utilisation

The capacity utilisation in relation to PV modules or panels has increased to approximately 37 percent since Tindo’s establishment. We noted that Tindo’s capacity utilisation was still well below its full capacity in the investigation period.

### Employment

Employment numbers increased by approximately 70 percent during the investigation period.

Stocks

Stock levels at the end of each quarter have increased.

**7.7 Conclusion**

Based on an analysis of the information contained in the application and obtained and verified during our visit, we consider that Tindo has experienced injury in the form of:

- lost sales volume;
- price depression;
- price suppression;
- loss of profit ; and
- reduced profitability.

## 8 CAUSAL LINK

We discussed with Tindo whether the alleged dumping of imported PV modules or panels could be demonstrated to be causing material injury to the Australian industry.

### 8.1 Price effects

Tindo commenced operations in July 2012. The Australian market for PV modules or panels is supplied by Tindo and by imported products. Tindo submitted that it constantly monitors the price offerings and issued price lists of its competitors supplying imported PV modules or panels from China and responds to those prices by undercutting its own price offers to compete with those Chinese suppliers.

Tindo provided confidential attachments with its application that indicated that the prices offered by Chinese suppliers undercut Tindo's price by between 50 percent and 57 percent (**Confidential Attachments A-9.5.18 and A-9.5.19** of the application refers)

Tindo also provided evidence of an ex-works price for a poly-crystalline PV modules (AUD/W) from a local Sydney distributor who sourced the goods from China in the investigation period. The local distributor's price is substantially lower than Tindo's price for a similar model of PV panel.

At the visit, Tindo provide a newspaper advertisement from Euro Solar that showed advertised prices well below Tindo's price. From the information available on its website we noted that Euro Solar sources the PV modules or panels from China. A copy of this advertisement is at **Non -Confidential Attachment CAUS 1**.

Tindo stated that in some instances where it was unsuccessful in making a sale, its potential customers informed it that the successful bidder sourced the goods from a Chinese supplier whose quote was cheaper than Tindo's. At the visit detailed verbal information was provided by one of Tindo's energy consultants, who provided examples of where Tindo had lost sales due to price undercutting by Tindo's competitors. The energy consultant believes, based on his market intelligence, that the goods were sourced from China.

For some successful bids, Tindo provided evidence that it revised its original quotations downwards by between 2 per cent and 26 per cent. Tindo stated that in the course of its price negotiations, the identities of its competitors' suppliers were disclosed and the goods were sourced from China.

At the visit, Tindo provided a confidential email about a tender to supply PV modules for a utility project [REDACTED]. [REDACTED] was selected as the contractor for the Solar farm project. [REDACTED] invited tenders from suppliers of PV module or panels including Tindo to supply PV modules or this project. The email exchange between Tindo and [REDACTED] showed that, in addition to the requirement for Tindo to get its modules tested and certified by [REDACTED], Tindo was expected to achieve a target price of price of USD 0.56 per watt. In the email exchange provided to the Commission, [REDACTED] confirmed to Tindo that there were some Chinese suppliers who were able to supply the PV modules or panels at [REDACTED]'s target price of USD 0.56 per watt. Tindo did not proceed further with this project as the price of USD 0.56 per watt



## PUBLIC RECORD

was not achievable by Tindo. A copy of the email is at **Confidential Attachment CAUS 2**.

Tindo also provided the following quotations and emails showing evidence of what it believes are sales lost to Chinese suppliers. The details are as follows:

- (i) [REDACTED] (Q6502, 4Kw AC) – this was lost to a Chinese supplier, Zen, that undercut Tindo’s price by \$ [REDACTED] for a similar model AC module.
- (ii) [REDACTED] (Q6621, 3Kw AC) - this was lost to another Chinese supplier ‘Say Solar’ for a similar model AC module.
- (iii) [REDACTED] - from its intelligence and telephone enquiries Tindo believes that [REDACTED] was supplied by a Chinese supplier, Zen, which was \$ [REDACTED] cheaper for a similar model to Tindo’s.

A copy of above quotations and emails are at **Confidential Attachment CAUS 3**.

At the visit Tindo provided a published price list from R F Industries Pty Ltd (RFI), an importer and re-seller of PV panels, as at 2 September 2013. RFI sources PV modules or panels from the Chinese suppliers Trina Solar, Suntech Power, CNPV, Hanwha QCells and Jinko Solar. The following prices were noted from RFI’s price list. The PV modules or panels models imported by RFI closely resemble PV modules produced by Tindo.

Chinese Supplier	Type of PV module	Price per watt (AUD) – September 2013 (Price per pallet)	Price per watt (AUD) – September 2013 (Price per single unit)
Trina Solar	TSM-250PC05A-1/MC4 (Multi) with power output 250W for 29 modules	0.86	NA
Suntech Power	STP -250WD/MC4 (Multi) with power output of 250W for 30 modules	0.84	NA
CNPV	CNPV 250W (Multi) premium for 30 modules	0.86	0.88
Hanwha QCells	250W QPROG3 (Multi) for 29 modules	1.09	1.12

A price list for RFI was also provided for July 2011. RFI’s price lists are at **Confidential Attachment CAUS 4**.

From the September 2013 price list, it was evident that Trina Solar, Suntech Power and CNPV undercut Tindo’s prices by around [REDACTED] percent. Tindo’s wholesale price for a similar model was AUD [REDACTED] watt.

Tindo provided the published price list of another importer and re-seller, Redset, for the months of October 2012 and June 2013. Redset sourced PV modules or panels from China and Europe. We compared the prices of the imported PV modules or panels supplied by the following Chinese suppliers that closely resemble Tindo’s PV modules:

## PUBLIC RECORD

Chinese Supplier	Type of PV module	Price per watt (AUD) – October 2012	Price per watt (AUD) – June 2013
Canadian Solar	240W power output (Multi) for 24 modules	0.81	0.84
Solar Park	235W power output (Multi) for 30 modules	0.94	NA
EC Solar	250W power output (Multi) for 28 modules	0.72	NA
Phono Solar	250W (Multi) for 28 modules	NA	0.75
Zeus Apollo	250W (Multi) for 48 units	NA	0.68

The above named Chinese suppliers undercut Tindo's price by between by ■■■ percent and ■■■ percent in the investigation period.

Tindo also provided Redset's installer's price list dated 22 March 2011. Redset's price lists are at **Confidential Attachment CAUS 5**.

### 8.2 Volume effects

Tindo was only able to grow the volume of its sales and market share in the residential and commercial sectors through direct sales and by selling at a loss and at negative profitability.

As discussed in sub-section 7.3, Tindo lost sales in the wholesale market for PV modules or panels as it was not able to compete with the PV modules or panels supplied at alleged dumped prices from China.

### 8.3 Factors other than dumping

Tindo acknowledges that it entered the Australian market at around the same time that the state governments started to withdraw the feed-in tariff grants as detailed in section 4.5 of this report.

Tindo stated that withdrawal of feed-in-tariff grants by state and territory governments may have initially hindered its establishment in the initial phase. However, Tindo claims that it factored this into its business plan and it had projected to become profitable from January 2013. A copy of Tindo's business plan, including detailed forecasting and analysis is at **Confidential Attachment CAUS 6**.

Tindo also referred to a survey that it conducted with its customers to determine what factors influenced their PV modules or panels purchase decisions. Tindo submitted that the results of the survey indicated that price was a major driver. The general feedback from its customers was that Tindo needed to better match the prices of the goods offered by its competitors. Some of the respondents who participated in the survey named their suppliers that were of Chinese origin, while others indicated that their suppliers sourced

## **PUBLIC RECORD**

the goods from China without identifying the names of their suppliers. A summary of the survey results is at **Confidential Attachments CAUS 7**.

## **9 UNSUPPRESSED SELLING PRICE AND NON-INJURIOUS PRICE**

We explained to Tindo the concepts of unsuppressed selling price (USP), non-injurious price (NIP) and the lesser duty rule.

Tindo advised that it would provide a submission on USP at a later date.

## 10 GENERAL COMMENTS AND OTHER MATTERS

Other matters discussed during the visit are as follows:

### 10.1 Forms of duty

Tindo stated that at this point in time, it considers that a fixed plus variable form of duty would be the most preferable form of duty to adequately address injury to the Australian industry.

Tindo advised that if required it will make a further submission to the Commission at a later date regarding to the most appropriate form of duty.

### 10.2 Sampling exporters

Tindo stated that the sampling method used by the Commission may allow the Chinese suppliers who are dumping by greater margins take unfair advantage of the weighted average dumping margin calculated using the data from the four sampled exporters.

Tindo claims that the four selected Chinese suppliers (Trina Solar, Renesola, ET Solar and Wuxi Suntech), being the larger and international companies, are likely to be better 'corporate citizens' and any dumping found by these four exporters may be lower than those smaller exporters that Tindo claims to be dumping the goods at a higher dumping margins.

### 10.3 Government Assistance Provided to Tindo

We enquired about the recent media article that stated that Tindo had secured a major government grant (Clean Energy Finance Corporation funded project) and that Tindo was going to install PV modules or panels on 5,000 residential rooftops in South Australia. The media article also stated that the new scheme involves the PV modules being installed on the roof tops free of charge to the home owners and homeowners paying subsidised electricity rates. After 15 years, the homeowners will own the PV module (**Non - Confidential Attachment GEN 10 refers**).

Tindo clarified that that media report did not contain all the facts. While Tindo did not deny that such a scheme was one of its projects that it was still negotiating with the South Australian Government, nothing was finalised at the time of the visit.

### 10.4 Sudden increase in imports

Tindo claims that there has been a sudden increase of imports of PV modules or panels from China due to the initiation of the dumping investigation. Tindo provided the Commission with an email from a Chinese supplier that appears to be contacting Australian importers of the goods. That email advised of the initiation of the current investigation and alerted importers of PV modules from China to place orders quickly to avoid anti-dumping measures in the near future (**Confidential Attachment GEN 11 refers**).

**11 APPENDICES AND ATTACHMENTS**

<b>Confidential Attachment</b>	<b>Description</b>
Confidential Attachment GEN 1	IES Certification
Confidential Attachment GEN 2	Understanding IES Standard Testing
Confidential Attachment GEN 3	Financial Report FY2013 – Tindo Manufacturing
Confidential Attachment GEN 4	Financial Report FY2013 – Tindo Solar
Confidential Attachment GEN 5	Financial Report FY2013 – Tindo Equipment Leasing
Confidential Attachment GEN 6	Profit and Loss and Balance Sheet statements for Tindo Manufacturing, Tindo Solar, Tindo Equipment
Confidential Attachment GEN 7	BAS Statements FY2013
Confidential Attachment GEN 8	Flow Chart Diagram of Tindo's manufacturing processes
Confidential Attachment GEN 9	Tindo – Quarterly financial results
Non -Confidential Attachment GEN 10	Recent media announcement by Tindo
Confidential Attachment GEN 11	email from a Chinese supplier
Confidential Attachment GEN 12	Tindo's revised price quotations
Confidential Attachment SALES 1	Confidential Appendix A4 - Domestic Sales
Confidential Attachment SALES 2	Tindo Solar Wholesale Price List
Confidential Attachment SALES 3	Tindo Solar – Summary of Sales – July 2012 to June 2013
Confidential Attachment SALES 4	Tindo Solar - Quarterly Sales by Item Summary- July 2012 to June 2013
Confidential Attachment SALES 5	Revised Confidential Appendix A4
Confidential Attachment SALES 6	Tindo Solar – individual customer sales verification
Confidential Attachment SALES 7	Tindo Commercial – Sales by customers 1 July 2013 to 31 December 2013
Confidential Attachment SALES 8	Tindo Commercial – individual customer sales verification

**PUBLIC RECORD**

Confidential Attachment SALES 9	Tindo's invoices to bank statement provided
Confidential Attachment SALES 10	Summary of monthly and credit adjustments
Confidential Attachment CTMS 1	Production report for quarter 4 of 2013
Confidential Attachment CTMS 2	Quarterly management reports for Tindo Manufacturing Limited
Confidential Attachment CTMS 3	Summary of Transaction Details by Account and supporting documents
Confidential Attachment CTMS 4	Revised confidential appendix A6
Confidential Attachment CTMS 5	Copies of reconciliation journals for A6
Confidential Attachment CTMS 6	Landed cost details for FY2013
Confidential Attachment CTMS 7	Depreciation Schedule and Tindo's accountants email confirmation
Confidential Attachment CTMS 8	Inventory Valuation Summary and the Inventory Valuation Detail report
Confidential Attachment CTMS 9	Copies of the selected sales invoices – Tindo
Confidential Attachment CTMS 10	Proof of payment documents for payment for [REDACTED] cell
Confidential Attachment CTMS 11	Source documents for 2 invoices for micro-inverters
Confidential Attachment SG&A 13	Revised SG&A including
Non -Confidential Attachment CAUS 1	Copy of newspaper advertisement from Euro Solar
Confidential Attachment CAUS 2	Confidential email - [REDACTED] Solar Farm negotiation
Confidential Attachment CAUS 3	Price quotations and emails showing evidence of lost sales to Chinese suppliers
Confidential Attachment CAUS 4	RFI's price lists
Confidential Attachment CAUS 5	Redset's price lists

## PUBLIC RECORD

Confidential Attachment CAUS 6	Tindo's Business plan including detailed forecast and analysis
Confidential Attachment CAUS 7	A summary of Tindo's survey results