
MOU TARGETING DELIVERY OF PREMIUM SILICA TO PV GLASS INDUSTRY

Highlights

- **Two-stage non-binding MOU signed for the supply and potential refining of high purity silica sand with Shandong Hongbote Solar Technology Co., Ltd. (SHST) targeting the high growth Photovoltaic (PV) glass market in China.**
- **Stage 1 seeks to formalise an off-take agreement for up to 600,000 metric tonnes per annum of high purity silica sand from the Stockyard Project, subject to a successful definitive metallurgical testing by SHST.**
- **Stage 2 seeks to enter into a Strategic Partnership agreement with SHST for the construction of a new joint venture silica processing plant in China.**
- **In 2010, China accounted for 55% of the global solar panel manufacturing capacity. In 2021, this had increased to 84% of what is now a US\$40 billion industry that has increased year-on-year by more than 70% over the last 11 years¹.**

Perth, Australia - Industrial Minerals Limited (IND or the Company) (IND:ASX) is pleased to announce that it has signed a strategic non-binding Memorandum of Understanding (**MOU**) with Shandong Hongbote Solar Technology Co. Ltd. (SHST) with the objective of supplying high purity silica sand (**HPSS**) from the Company's flagship Stockyard Project in Western Australia to the rapidly growing photovoltaic (PV) glass sector in China. The main use of PV glass is in the manufacture of solar panels.

IND has been engaged in ongoing discussions with SHST, and the recent easing of COVID travel restrictions in China and Australia enabled SHST Founder Mr Hu Yaoguo to visit the Stockyard Project near Eneabba in Western Australia. This visit delivered the confidence required by SHST in the quality of IND's silica sand product and long-term project strategies.

Mr Hu is also the founder of Shandong Yaoguo Solar Science & Technology Co. Ltd which has been actively pursuing consistent supply of high-quality silica sand from Australia.

IND's Managing Director Jeff Sweet commented,

"The signing of this MOU with SHST is a significant milestone and a strong vote of confidence in IND's strategy to deliver high grade silica sand to the global market.

"We have already begun preparing and organising the bulk sample to be shipped to SHST. This is a critical step that will assist in determining the best end-customers for Stockyard sand.

¹ Share of Solar Panel Manufacturing Capacity by Country / Region in 2021 sourced from IEA and compiled by Visual Capital Elements

“Since the granting of the Stockyard Mining Lease and completing the environmental studies, we have been busy working with various stakeholders and consultants to complete the Scoping Study and progress towards a final decision on mining commencement.

“An off-take agreement is the natural next step after completion of successful metallurgical testing by SHST. High purity silica sand with iron levels at < 100ppm Fe₂O₃ appears to be the optimal market in terms of volume and price, and IND’s strategy is to find those deposits within close proximity to WA ports.

“Looking at the medium and long-term, IND is assessing opportunities in value-adding to our high purity silica sand projects, which potentially involve both on-shore and off-shore processing through this MOU.”



MOU signing in Perth with Mr Jeff Sweet, IND’s Managing Director, Mr Hu from SHST and Mr Ashley Pattison, IND’s Chair.

Terms of the Non-Binding Memorandum of Understanding (MOU)

The non-binding MOU signed with SHST contemplates much more than a product offtake agreement. It proposes a strategic alliance between IND and SHST comprising two stages:

- **Stage 1** – The initial supply of up to 600,000 tonnes per annum of high purity silica sand from the Stockyard project (subject to minimum quality requirements) under a formal offtake agreement, the terms of which are to be negotiated and agreed within the term of the MOU (being the period from 9 September 2022 to 31 January 2024); and
- **Stage 2** – the evaluation of a new larger joint venture owned silica refinery in China, which is already well advanced by SHST.

Although non-binding, the MOU will allow the parties to negotiate the key terms of the offtake agreement and strategic alliance in good faith during the negotiation period.

As part of the formal offtake negotiations, IND will prepare a 20 metric tonne sample that will be sent to China in the coming weeks. The bulk sample will be processed at a commercial plant traditionally used for processing hard rock quartz using conventional and acid leaching processes.

SHST aims to achieve a high purity silica sand product with an iron oxide content of **100ppm Fe₂O₃** or less. This type of product specification is highly sought after in the solar panel industries and commands a premium price from end buyers according to SHST.

Upon successful testing of the Stockyard bulk sample, SHST plans to use an existing processing plant in the Anhui region of China to supply refined silica to solar panel manufacturers in the region. Due to government environmental regulations, the hard rock quartz processors for the solar panel industry are facing increasing difficulties in sourcing reliable and economically viable supplies. IND's silica sands are potentially a direct replacement for quartz currently being used in these plants.

The anticipated continued growth in the solar panel market is a key driver in IND seeking to assess a potential joint venture with SHST in the construction of a larger silica processing plant in the medium term. China is constructing new solar panel production facilities at a rapid rate, and being part of a new production facility on the door-step of those factories is considered an opportunity for IND, given our quality silica sand projects located in close proximity to five West Australian ports.



STOCKYARD PROJECT- SITE VISIT AND SAMPLYING WITH MR HU FROM SHST

Solar Panel Supply Market

From ongoing discussions with SHST and other potential customers that have approached IND, it is becoming increasingly clear that the demand for High Purity Silica Sands is on the rise with PV glass being the main driver.

As noted in Figure 1, China accounted for 55% of the global solar panel manufacturing capacity in 2010. By 2021, this had increased to 84% of what is now a US\$40 billion industry that has increased YoY by more than 70%.

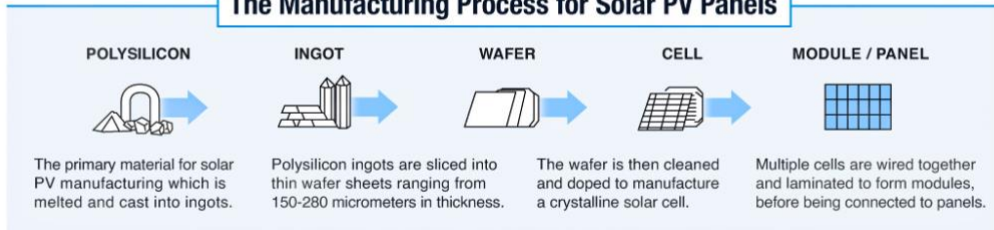
Figure 1 also shows the share of the key stages of solar panel manufacturing held by different countries and regions, using data released from the International Energy Agency (IEA) in July 2022. This highlights the growth of the solar panel industry globally and the dominance of China's position in the sector.

More important for IND and its partnership with SHST, is that Polysilicon prices have risen over 200% in 2022 amid supply shortages and this is not expected to change in the short to medium term, as reported by PV Magazine in July 2022.

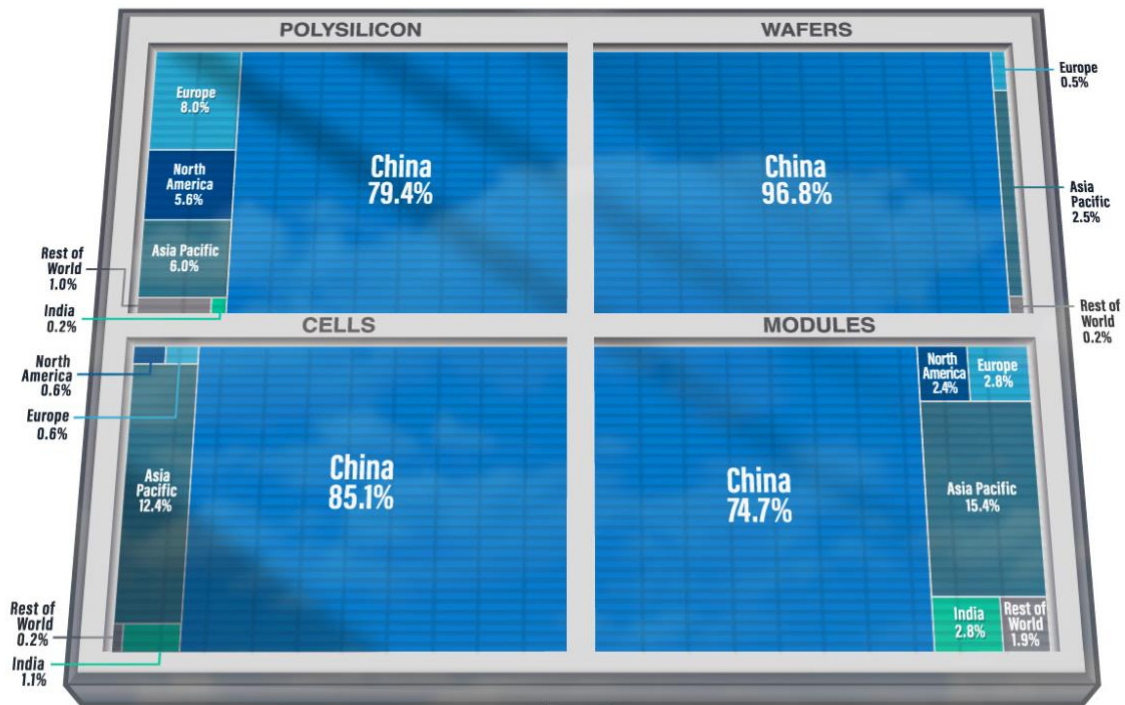



Who Controls the Solar Panel Supply Chain?

The Manufacturing Process for Solar PV Panels



Share of Manufacturing Capacity by Country/Region in 2021



 China made up **55%** of global solar panel manufacturing capacity in 2010, with its share rising to **84%** in 2021.


 The total value of global solar PV related trade increased by more than **70%** YoY to reach over **\$40B** in 2021.

Figure 1 : Share of Solar Panel Manufacturing Capacity by Country / Region in 2021 sourced from IEA and compiled by Visual Capitalist Elements.

This announcement has been approved by the Industrial Minerals Board.

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About IND

Silica Sands Projects

IND holds 100% of 19 High Purity Silica Sand (HPSS) projects across Western Australia and is focused on exploring and developing these projects, which have the potential to add significant value to investors and stakeholders.



Figure 2. Location plan displaying Industrial Minerals' Silica Sand Projects in relation to port facilities, Western Australia

The Stockyard Project is the Company's most advanced project, located 220km north of Perth, 10km west-south-west of the town of Eneabba, proximal to the Brand Highway, and 160km to the Geraldton Port. The Stockyard Project comprises five granted exploration licences covering a substantial tenure of 575km² within a region of freehold pastoral land.

Land access agreements have been executed to facilitate exploration activities and mine development across freehold properties in the region.

IND has a pipeline of high quality HPSS projects that it intends to assess through low impact and low-cost exploration activities. The Company's technical team are currently evaluating areas to be prioritised for first pass drilling/ auger sampling across its early-stage exploration projects.

The Company is also actively pursuing other suitable tenure to add to its current project portfolio.

Table 2. Industrial Minerals HPSS Project summary

PROJECT NAME	AREA (km ²)	PROXIMITY TO PORT (km)	TENEMENT STATUS
Stockyard	575.5	155	Granted
Bookara	1191.3	50	Granted
Narrikup	160.8	40	Granted
Mount Lefroy	83.7	85	Granted
Arrowsmith East	74.6	105	Granted
Mindarra	305.5	125	Granted
Unicup	48.1	135	Granted
Quins	29.4	245	Granted
Jurien	67.8	170	Granted
Mullering	35.6	220	Granted
Gingin	93.8	250	Granted/Pending
Waroona	380.1	45	Pending
Esperance West	177.0	40	Pending
Esperance East	265.5	50	Pending
North Sterlings	85.1	120	Pending
Pinjarra	60.8	110	Pending
Enneaba	149.0	160	Pending
Cataby West	79.5	240	Pending
Regans Ford	55.9	265	Pending

Strategic Industrial Minerals Projects

The Company owns five Strategic Industrial Minerals projects spanning multiple commodity types located in the northwest of Western Australia as outlined in Table 3.

Table 3. IND Strategic Industrial Minerals Projects summary

PROJECT NAME	PROXIMITY TO PORT (KM)	INDUSTRIAL MINERAL/S	DESCRIPTION
Lake MacLeod	60km from Cape Cuvier	Gypsum & Salt	Adjacent to Rio Tinto's Lake MacLeod Gypsum and Salt mining operation
			Over 160 historical drill holes have intersected high quality Gypsum in the top 2m of the project
			Indications of potential to also host potash and lithium
Karratha	40km from Dampier Port	Construction Sand & Aggregate	Previous mining for aggregates utilised for railway ballast and other high end engineering applications
Turner River (North & South)	50km from port utilising existing sealed roads	Construction Sand & Aggregate	Potential for domestic and export markets
			Extensive river sand and aggregate mining operations proximal to projects
Roebourne	50km from Dampier Port	Aggregate	
Tabba Tabba	10km from Port Hedland	Salt	Strategically located in close proximity to Port Hedland
			Existing solar marine salt operations adjacent to exploration licence
			Favourable weather conditions for solar evaporation
			Potential to leverage solar and renewable hydrogen power generation
Derby	20km to Derby Port	Construction Sand	Suitable for local and export market