



29 June 2023



STRATEGIC RESEARCH INITIATIVE WITH UNSW

Highlights:

- **New Research to Investigate Market Opportunities for Recycling End-of-Life Solar Panel Glass in Australia**
- **Collaboration agreement with the University of New South Wales**
- **Project funded through the Australian Centre for Advanced Photovoltaics.**

[VRX Silica Limited](#) (VRX) is pleased to announce a new partnership agreement with the School of Photovoltaic and Renewable Energy Engineering ([SPREE](#)) of the University of New South Wales (UNSW), on a strategic research project investigating the market potential for a local, low carbon, solar panel glass recycling program in Australia. .

The pilot phase of this work received funding from the Australian Renewable Energy Agency ([ARENA](#)), carried out through the Australian Centre for Advanced Photovoltaics (ACAP) at UNSW. ACAP is now able to take this work to its next phase with the support of a highly credentialed industry partner specialising in the sustainability of the material critical to solar panel production – silica sand, which is becoming increasingly scarce.

To advance the sector's sustainability, the project will perform a techno-economic analysis of a proposed closed-loop photovoltaic (PV) glass industry in Australia, built on recycling the glass component of solar panels once they reach their end-of-life. A necessary condition for this industry will be the recreation of a local, low-iron, flat glass manufacturing industry, where solar panel cover glass could be returned as cullet–[crushed glass](#).

Specifically, the agreement aims to support modelling of possible low-iron glass recycling and manufacturing pathways in Australia, with activities potentially located near the Company's Muchea Silica Sand Project in Western Australia.

ASX: VRX

Capital Structure

Shares on Issue:

560.4 million

Unlisted Options:

48.5 million

Corporate Directory

Paul Boyatzis

Non-Executive Chairman

Bruce Maluish

Managing Director

Peter Pawlowitsch

Non-Executive Director

David Welch

Non-Executive Director

Ian Hobson

Company Secretary

Silica Sand Projects

Arrowsmith Silica Sand Projects, 270km north of Perth, WA.

Muchea Silica Sand Project, 50km north of Perth, WA.

Boyatup Silica Sand Project, 100km east of Esperance, WA.

The Company is actively assessing other silica sand projects in Australia.

VRX Managing Director Bruce Maluish said:

“VRX is pleased to collaborate with the University of New South Wales and the Australian Renewable Energy Agency in this initiative to investigate the potential recycling of components of solar panels.

“This part of the life cycle of a solar panel is insufficiently studied but is increasingly required to complete the cycle for the use of solar panels.”

Dr Richard Corkish, Chief Operating Officer of the [Australian Centre for Advanced Photovoltaics](#), said:

“We at the UNSW node of ACAP are delighted to be partnering with VRX to build on our existing, ARENA-backed work exploring the opportunities for maximising the value of end-of-life solar panel glass. This work will also help reduce future waste volumes and to extend the life of reserves of low-iron silica sand.”

How Solar Panel Glass Recycling Could Work in Australia

The silica sand at Muchea, in particular, has very low iron content, making it highly suitable for use in manufacturing solar panel glass. Existing rail access increases the feasibility of the low-carbon transport of sand to ports for export, or to a nearby future glass factory. It is also suitable for the transport of cullet from all over Australia to a potential new glass factory.

Basic methods have already been established for separating PV cover glass from other module materials, with some already in use in Australia, or with orders having been placed for equipment to do so.

VRX will share data with ACAP researchers on its Muchea silica sand deposit, including all related to progress made towards the development of the deposit, the requirements for sand, cullet and other input materials for low-iron glass manufacture in Western Australia, and information about global sand availability and value, as well as broader industry insights on the glass manufacturing sector.

UNSW will provide information on PV glass recovery activities in Australia and elsewhere, including projected glass demand for the global PV industry and the results of techno-economic modelling.

The Project term is two years commencing 1 July 2023. There is no cash funding obligation on VRX.

This announcement has been authorised for release to ASX by the Managing Director, Bruce Maluish.

Further information:

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About VRX Silica Limited

VRX Silica Limited (ASX: VRX) is the most advanced pureplay silica sand company listed on the ASX, developing its 100% owned silica sand projects at Arrowsmith (North, Brand and Central), Muchea and Boyatup in Western Australia.

Silica sand is the most used commodity on the planet after air and water. It is the main ingredient in all types of glassmaking, including specialty solar panel and high-tech glass, and foundry casting. It is a finite resource that is running out, with the Asia-Pacific region experiencing an ever-growing supply shortfall that is driving up prices.

Arrowsmith is located 270km north of Perth. Arrowsmith North boasts a minimum 25-year mine life capable of producing more than 2Mt tonnes per year of high-grade (99.7% SiO₂)* silica sand for export to the foundry, container glass and flat glass markets in Asia, with permitting well advanced, and will lead production.

Muchea, located 50km north of Perth, is an ultra-high-grade (99.9% SiO₂)* silica sand project capable of producing sand required for ultra-clear glass for solar panels and other high-tech glass applications.

Boyatup, located 100km east of Esperance, is under development and capable of producing sand for the glass market.



*Information relating to grades are extracted from releases to ASX on 28 August 2019 and 11 November 2022 (Arrowsmith North) and 18 October 2019 (Muchea). The company is not aware of any new information or data that materially affects this information.