

Stakeholder Update

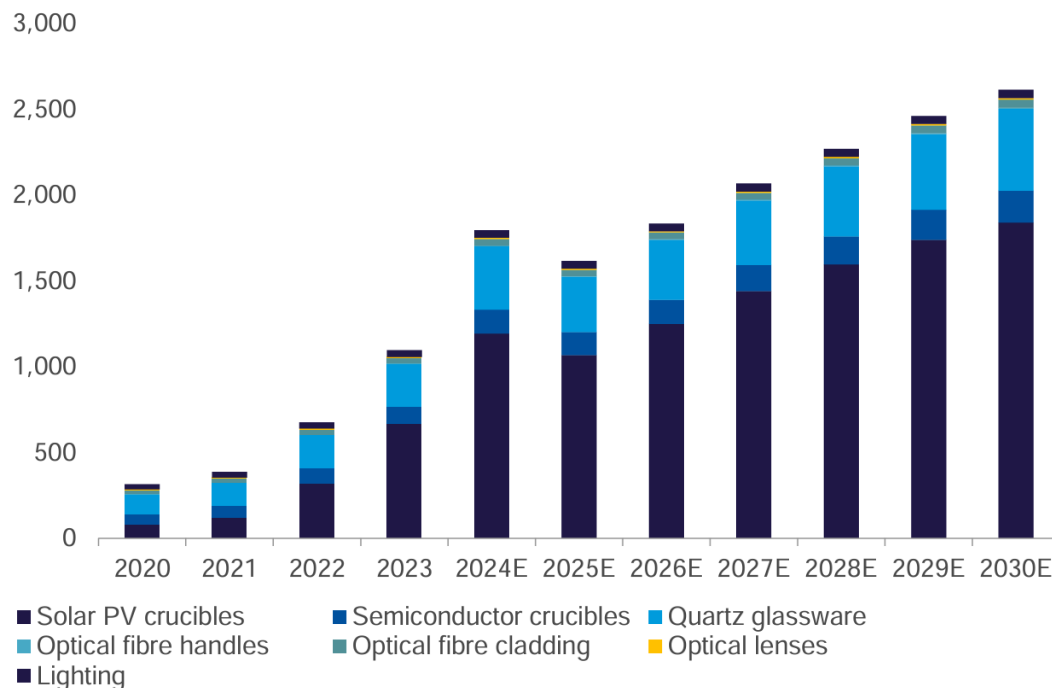
UHPQ Production, Battery Materials & Capital

ULTRA HIGH PURITY QUARTZ

THE PERFECT STORM

Ultra High Purity Quartz ("UHPQ") is used in the solar industry and other high-end applications including optical fibre and semiconductors. The significant growth in the solar industry and high end applications for UHPQ has resulted in high demand and stable high prices.

The global supply of UHPQ has been impacted by Hurricane Helene and security of supply for consumers has been impacted by US sanctions and tariffs. Vytas' timing is well received by off take parties.



Graph: The Hyper and Ultra High Purity Quartz industry is forecasted for significant growth
(Source: CRU and Exawatt)

JANUARY 2025

VYTAS' FLOW SHEET – A GAME CHANGER FOR THE INDUSTRY

With the support of the Chinese solar panel industry and the UHPQ industry, Vytas adopted and optimised an industry standard flow sheet in November 2023.

This achievement provided Vytas with the confidence to commence the bulk scale production program in early 2024. Bulk Scale Production produces product using the same scale as full scale production (the transition to full scale requires the addition of processing trains rather than larger equipment). As Bulk Scale Production is operating at scale, the fugitive emissions testing, safety procedures, permitting and optimisation form major activities within this program.

However, in parallel to Bulk Scale Production, we maintained the focus to improve the flow sheet with the goal of reducing operating costs, improving environmental outcomes and delivering lower risk operations from a safety perspective.

This goal was achieved in early December of 2024, eliminating the need for two of the strongest reagents. This achievement not only achieves the goal stated but separates Vytas from industry peers who use hazardous reagents and dump the reagents into the Norwegian Sea.

BULK SCALE PRODUCTION UPDATE

With the new flow sheet, Vytas completed samples for off take parties and the Bulk Scale Production recommenced in January 2025. The goal is to produce and deliver the bulk scale production material (being 350kg batch runs using full scale equipment) with off take parties in Asia post Chinese New Year.

The equipment utilised for the Bulk Scale Production program will be the same as full scale production, meaning full scale production requires the addition of modules, rather than larger equipment, reducing scale-up risk.



Image: Ultra High Purity Quartz samples under magnification highlighting the clarity of the material.

JANUARY 2025

UHPQ GLOBAL SUPPLY IMPACTED BY HURRICANE

The world's largest producers of Ultra High Purity Quartz suitable for the solar industry source their material from Spruce Pine in North Carolina, USA. Hurricane Helene has significantly impacted the Spruce Pine mine, infrastructure and the local community.



Image: Impact of Hurricane Helene to access roads and infrastructure

The hurricane has caused widespread flooding, power outages, communication disruptions, and damage to critical infrastructure in the area. As of September 26th, mining operations were halted at the Spruce Pine facilities in response to these challenges which results in a medium term supply shock and a long term impact on security of supply risk management.

TRUMP, US TARIFFS & SANCTIONS

The USA currently has a world monopoly on the supply of UHPQ suitable for the solar industry and semiconductor industry (an industry the USA seeks to maintain dominance). Whilst China has a world monopoly on solar panel production and the ambition to build a semiconductor industry.

It is likely customers in China and other parts of the world may seek supply chain security from non-US sources to mitigate the impacts of tariffs.

JANUARY 2025

OFF TAKE SUPPORT

Vytas' UHPQ strategy has been demand-driven for the supply of UHPQ. The Company is of the belief it represents an ethical producer of environmentally sustainable high purity products from a low risk jurisdiction.

Off takers have visited Vytas' facilities and mine sites as part of their due diligence and assisted Vytas develop the flow sheet by opening their Asian facilities for Vytas to inspect.

Vytas has received "Invitations to treat" from potential off-takers, allowing Vytas to 'test' its product at off-taker facilities. and have included verbal offers of funding support, sufficient to meet Vytas' anticipated CAPEX, through non-dilutionary prepayments. Vytas will be exploring this funding opportunities once we have received confirmation from the off takers that they are satisfied with the 350kg batches quality and performance. Whilst we note that any non-dilutionary funding is not guaranteed, we are hopeful that the macro factors mentioned above allow us to turn verbal offers into reality.

HENDERSON PRODUCTION FACILITY

Vytas' 2,800m² commercial scale production facility is in Henderson, Western Australia. The facility was chosen given its proximity to Fremantle Port, surrounded by similar permitted operations, access to appropriately skilled labour and synergistic businesses.

The permitting process for the facility is being completed in parallel with the demonstration scale production. The goal is to move seamlessly from demonstration scale production to commercial operations.

An opportunity for a tour of the facility will be offered by Vytas in the near future.

PRODUCTION & OPERATING TEAM

The operations team has expanded in recent months with Vytas securing well trained and experienced team members with the closure and or lay off's that have occurred in the aluminium & nickel industry. Vytas offers reliable employment without the demands of fly in fly out rosters.

BATTERY ANODE MATERIAL

CARBON FREE NANO POROUS SILICON

Vytas achieved a milestone with battery materials in December 2024, with the support of Curtin University and guidance provided by a UK appliance company, a German auto manufacturer and their battery experts. The goal of the testing was to develop a material with a high charge density with a commercial competitive advantage to existing technologies.

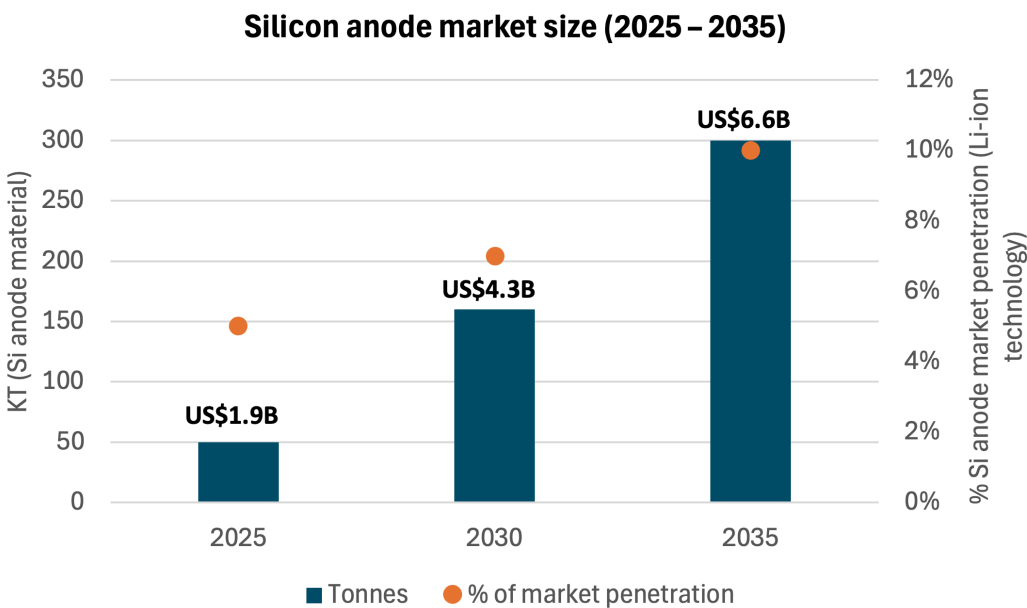
Standard anode material (graphite) delivers around 350mAh/g (cost - USD\$5k-10/t) and currently the world's best anode material is approximately 2,200mAh/g (cost - USD\$50k/t). Vytas' maiden test result was 2,150mAh/g and the second improved material delivered 2,700mAh/g.

This provides Vytas the confidence to progress to the next phase of testing being the addition of polymer coatings to understand the cycle life of the material.

WHAT ARE SILICON ANODE LITHIUM-ION BATTERIES?

Silicon anode lithium-ion batteries are a type of rechargeable battery where silicon replaces the conventional graphite in the anode. Silicon has a theoretical capacity of about 4,200 mAh/g compared to graphite’s 372 mAh/g.

Vytas will continue work to improve Vytas’ silicon anode material charge density from 2,700mAh/g towards theoretical capacity but this result exceeded our expectations on the maiden attempt.



Graph: The adoption of silicon anode material is expected to grow rapidly due to superior performance to graphite and other traditional materials. Source: SNE Research (2024)

NEXT STEPS

Vytas will work with third parties including the CSIRO, Curtin University and industry to assist optimisation. The CSIRO awarded Vytas a small grant covering 50% of the costs of the next phase of testing and will complete a program on coatings, seeking to test the charge density on repeated cycles.

The work relating to batteries will also benefit our Green Hydrogen On Demand and Carbon Free Silane programs.

What is becoming clear is Western Australia and Vytas have a global competitive advantage in materials for the solar industry, batteries, PFAS Free Hydrogen and semiconductors.

JANUARY 2025

CAPITAL & CAPITAL RAISING

Vytas has raised \$2M at \$0.24 welcoming a cornerstone investor. Existing shareholders or associated parties interested in participating in this round are welcome to contact Vytas.

The company's cash and receivables at the date of this update is circa \$4.5M, being an excellent position ahead of project financing.

TRADITIONAL OWNERS, GOVERNMENT, INDUSTRY & STAKEHOLDER SUPPORT

Vytas would like to thank the Western Australian and Federal Government, the US Government, the Traditional Owners, and the many important local stakeholders for their continued support.

Vytas would also like to thank the Western Australian Chamber of Commerce team for its significant effort to engage with and understand our business.

Regards



David Cornell
Managing Director



vytas.com.au