ASX ANNOUNCEMENT

4 July 2025

Sparc Hydrogen Receives $2.75M Australian Government Grant

HIGHLIGHTS

- **Sparc Hydrogen and the University of Adelaide awarded A$2.75M Australian Government grant**
- **Selection followed a rigorous, competitive process validating the technology and commercial potential of Sparc Hydrogen's novel green hydrogen production process**
- **Grant funds will support operation of the Roseworthy pilot plant, R&D and commercialisation activities**
- **No additional shareholder cash contributions are required**
- **Sparc Hydrogen's second successful grant application under Australia's Economic Accelerator (AEA) grant program**

Sparc Technologies Limited (**ASX: SPN**) (**Sparc, Sparc Technologies** or the **Company**) is pleased to announce that Sparc Hydrogen and the University of Adelaide have been awarded A$2.75M in grant funding under Australia's Economic Accelerator (**AEA**) Innovate grant program. Sparc Hydrogen is a partnership between Sparc Technologies, Fortescue Ltd and the University of Adelaide, which has been developing patented photocatalytic water splitting (**PWS**) reactor technology since 2022.

The AEA grant was awarded following a rigorous and highly competitive selection process, with Sparc Hydrogen's application chosen from a large number of proposals nationally — providing strong validation of the technology's innovation and commercial potential.

AEA grant funds will support operation of Sparc Hydrogen's first-of-its kind PWS pilot plant at Roseworthy in South Australia along with research & development and commercialisation activities. The cash grant covers a 24 month period and will be fully supported by matched financial and in-kind commitments from Sparc Hydrogen and its shareholders – all within the existing Stage 2 scope and budget and funded from already committed cash resources. This grant follows A$470,511 funding awarded to the University of Adelaide and Sparc Hydrogen under the AEA Seed round in 2023.

Sparc Managing Director, Mr Nick O'Loughlin commented:

> *"We are delighted to see Sparc Hydrogen receive this significant grant from the Federal Government's highly competitive AEA Innovate program to accelerate development of its novel green hydrogen production technology. This funding allows Sparc Hydrogen to do more with the existing Stage 2 shareholder funding committed by Sparc Technologies and Fortescue earlier this year. It also builds on Sparc's track record of success under the AEA program and highlights our commitment to working with Australian universities to develop and commercialise novel technologies."*

The AEA program will initially run over ten years from 2023 to 2032, supported by a A$1.6bn investment from the Australian Government. The program is part of the Australian Government's University Research Commercialisation Action Plan, and forms part of its efforts to supercharge commercialisation of Australia's world leading research in the university sector. Applications for the AEA Innovate round closed in October 2024 and is for projects with technology readiness levels (**TRL**) of 5 - 7[1].

Commercialisation of Sparc Hydrogen's PWS reactor technology could help Australia drive the emerging green hydrogen industry, expected to be worth US$1.4 trillion per year in 2050 requiring US$9.0 trillion of cumulative investment[2]. The potential for Sparc Hydrogen's technology to produce both hydrogen and industrial heat (low grade steam) is also significant and could unlock additional markets.

Roseworthy Pilot Plant

Construction of Sparc Hydrogen's first-of-its kind pilot plant at the University of Adelaide's Roseworthy Campus is progressing on schedule and budget, with commissioning expected to commence during July 2025.

Sparc Hydrogen expects the factility to be a globally significant site for R&D and commercialisation of PWS, reinforcing its first mover position in this emerging direct solar to hydrogen production technology. Once operational, Sparc Hydrogen will test different reactor designs and photocatalyst materials at Roseworthy under real world conditions in order to support and validate laboratory testing. Sparc Hydrogen is not aware of any similar facilities for testing and scale up of PWS under concentrated solar conditions.

Key objectives of the Roseworthy pilot plant (as detailed in the 7 January 2025 announcement of Stage 2):

- Advance Sparc Hydrogen's PWS reactor from TRL-5 to at least TRL-6 via semi-continuous operation of an 'on-sun' pilot plant using concentrated solar mirrors.
- Real world demonstration of a concentrated solar field integrated with photocatalytic water splitting for green hydrogen production.
- R&D tool allowing on-sun testing of Sparc Hydrogen's PWS reactors, alternate photocatalysts and balance of plant.
- Benchmarking photocatalyst performance and durability under concentrated solar conditions against laboratory testing.
- Verify detailed optical, thermal and production modelling.
- Understand design and engineering issues to guide further scale up.
- Understand operability of key equipment.
- Establish safety protocols and operating procedures.
- Guide further patenting opportunities.
- Showcase technology to new and existing stakeholders and funding bodies.
- Facilitate engagement with key equipment suppliers.
- Solidify Sparc Hydrogen's leading position in the development of concentrated solar based PWS reactors with ability to test under real world conditions.

Advantages of Photocatalytic Water Splitting (PWS)

Sparc Hydrogen's novel utilisation of PWS technology sets it apart from conventional approaches in the production of green hydrogen. Crucially, PWS removes the reliance on solar and/or wind farms and expensive electrolysers, to produce green hydrogen from water. This addresses a fundamental issue in the nascent

[1] ARENA, Technology Readiness Levels for Renewable Energy Sectors, Commonwealth of Australia (Australian Renewable Energy Agency) 2014
[2] Green hydrogen: Energizing the path to net zero, Deloitte's 2023 global green hydrogen outlook (figures have been expressed in Australian dollars)

green hydrogen industry - the cost of renewable electricity. Sparc Hydrogen's pioneering technology employs a photocatalyst and sunlight to produce green hydrogen directly from water. Hydrogen produced from PWS can serve as a clean fuel or feedstock to decarbonise hard-to-abate industries, including as a replacement green solution for the current market uses for hydrogen, totalling ~100Mtpa.

Through commissioning and utilisation of the pilot plant, Sparc Hydrogen will aim to test and demonstrate the following key potential advantages of producing green hydrogen via PWS over solar PV with electrolysis, which include:

- Photocatalysis does not use electricity to split water into hydrogen and oxygen, decoupling green hydrogen production from power costs.
- The simplified direct solar to hydrogen process offers the potential for very low production costs.
- Sunlight is the sole energy input into the PWS reactor, delivering emissions free hydrogen and industrial heat.
- Sparc Hydrogen uses commercially available, scalable and flexible concentrated solar infrastructure.
- PWS has a comparative advantage over electrolysis in off-grid and remote locations.

		Sparc Hydrogen Photocatalysis	Solar PV Electrolysis	Implications for potential end uses
Use case determinants	High solar resource	✓	✓	• Lowest cost production is suited to high solar (DNI) regions
	Remote and/or off-grid	✓	✗	• Photocatalysis can serve mine sites, remote power & refuelling, agriculture where electrolysis can't
	Flexible scale & modularity	✓	✗	• Photocatalysis is better suited to onsite / near site industrial uses
	Comingled gas product	✓	✗	• Suits combustion use cases assuming safety can be managed
	Industrial heat co-product	✓	✗	• Dual H2, heat product users may include alumina, paper & pulp, ammonia

Figure 1: Comparison of Sparc Hydrogen's PWS process and solar PV coupled with electrolysis by key end use determinants.

-ENDS-

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About Sparc Hydrogen

Sparc Hydrogen is a joint venture between Sparc Technologies, the University of Adelaide and Fortescue developing next generation green hydrogen technology using a process known as photocatalytic water splitting. This process requires only sunlight, water and a photocatalyst to produce green hydrogen, without an electrolyser. Sparc Hydrogen's patented reactor utilises concentrated sunlight to improve the economics of PWS and to deliver a modular, scalable system. Given lower infrastructure requirements and electricity use, PWS has the potential to deliver a cost and flexibility advantage over electrolysis.

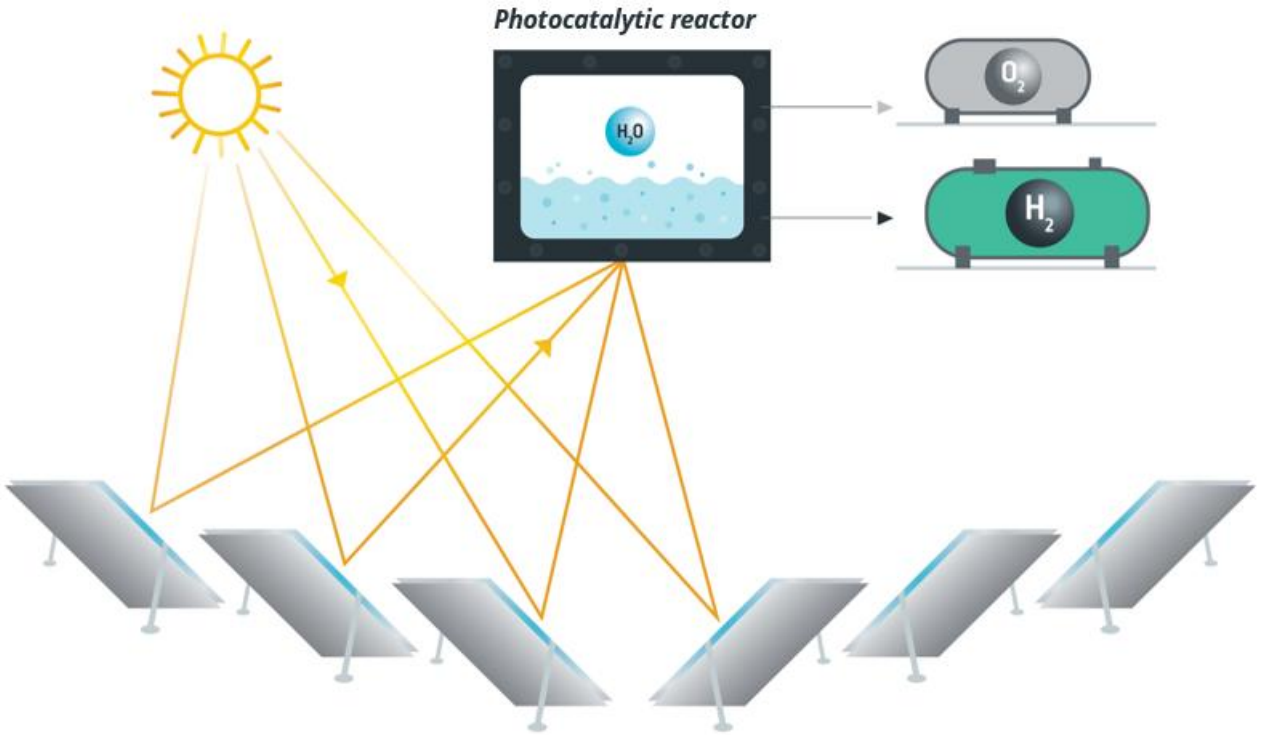
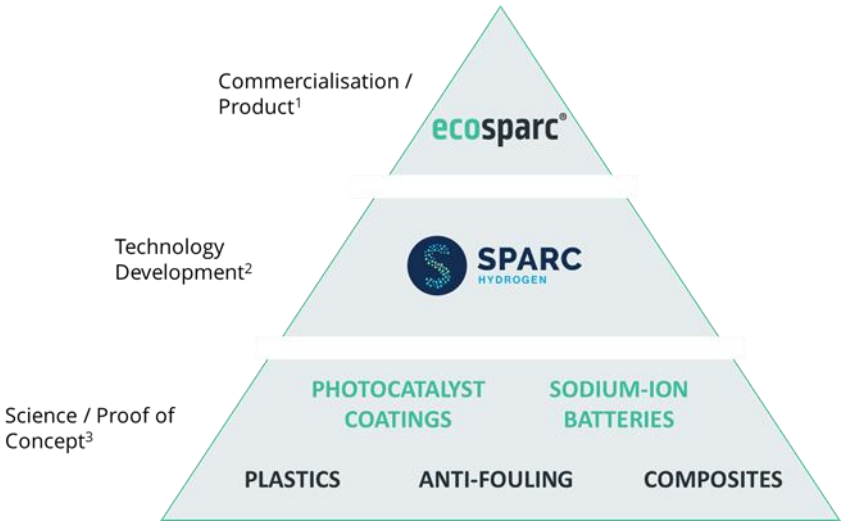


Figure 2: Sparc Hydrogen schematic demonstrating combination of concentrated solar and photocatalytic water splitting

About Sparc Technologies



Sparc Technologies Limited ('Sparc', ASX: SPN) is an Australian technology company developing solutions that enhance environmental and sustainability outcomes for global industries. Sparc has two transformative technology areas in which it works: green hydrogen and graphene enhanced materials. Sparc conducts research and development in-house and has extensive engagement and relationships with the university sector in Australia and globally.

1. **Sparc Hydrogen** is a joint venture between Sparc Technologies, Fortescue Ltd and the University of Adelaide which is pioneering next-generation green hydrogen production technology. Photocatalytic water splitting (PWS) is an emerging method to produce green hydrogen without electrolysers - using only sunlight, water and a photocatalyst. Given lower infrastructure requirements and energy use, PWS has the potential to deliver cost and flexibility advantages over existing hydrogen production methods.

2. Sparc has developed and is commercialising a **graphene based additive** product, **ecosparc®**, which at low dosages significantly improves the performance of commercially available epoxy-based protective coatings. Sparc has commissioned a manufacturing facility to produce **ecosparc®** and is engaging with global coatings companies and large asset owners on testing, trials and commercial partnerships.

For more information about the company please visit: sparctechnologies.com.au

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