

Sparc Hydrogen Commences Prototype Testing at CSIRO Energy Centre

HIGHLIGHTS

- **Commencement of testing of Sparc Hydrogen's photocatalytic water splitting reactor at the CSIRO Energy Centre in Newcastle, NSW**
- **World leading demonstration of on-sun photocatalytic water splitting under concentrated sunlight**
- **Prototype testing will provide valuable information for ongoing R&D and pilot plant design**

Sparc Technologies Limited (**ASX: SPN**) (**Sparc, Sparc Technologies** or the **Company**) is pleased to provide an update on Sparc Hydrogen's prototype testing at the CSIRO Energy Centre in Newcastle.

The prototype photocatalytic water splitting (**PWS**) reactor unit has been mounted in place on the solar tower and connected to water, power and communications. Calibration work with the heliostat field and preliminary tests have been completed and the formal testing program commenced on 13 September 2023. Sparc intends to update the market upon completion of the testing program.

Key aims of the prototype testing remain as outlined in Sparc's prior announcement ([ASX Release 3 July 2023](#)) on this activity, being to:

- Advance the TRL of Sparc Hydrogen's PWS reactor from 4 to 5¹ which is one level closer to a commercially deployable product.
- Provide valuable data and information for pilot plant reactor design.
- Enable benchmarking of laboratory testing under simulated solar conditions with real world results.
- Further establish Sparc Hydrogen as a world leading proponent of PWS technology and particularly as having a viable reactor to test new and better photocatalysts under development by leading research groups around the world.

Sparc Hydrogen has received funding of \$28,688 through the CSIRO Kick-Start Program to contribute towards the costs of the prototype testing. Kick-Start is an initiative designed to support innovative Australian start-ups and small businesses in accessing CSIRO's research expertise and capabilities to foster growth and development. Sparc Hydrogen is grateful for the opportunity to work with the CSIRO on this world leading demonstration of PWS.

¹ ARENA, Technology Readiness Levels for Renewable Energy Sectors, Commonwealth of Australia (Australian Renewable Energy Agency) 2014





Figure 1: View up to PWS reactor (illuminated) from ground

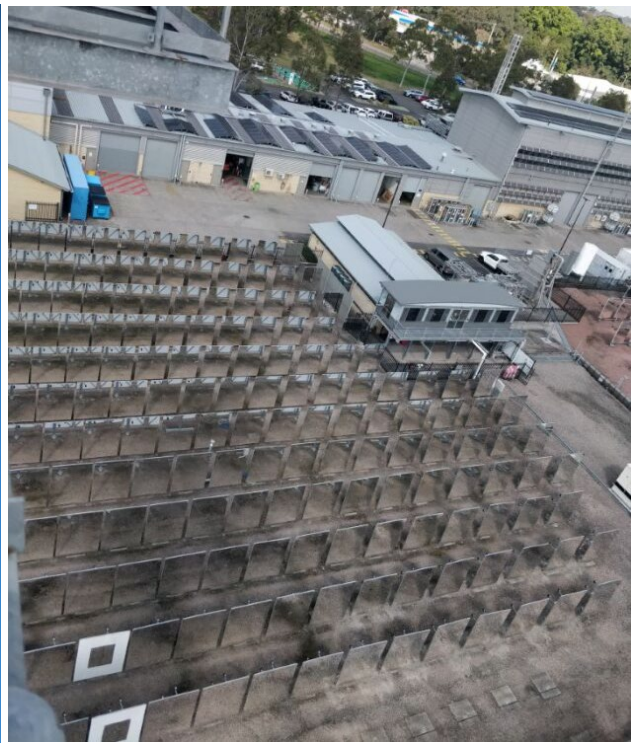


Figure 2: View down to heliostats from tower platform

About Sparc Hydrogen

Sparc Hydrogen is a joint venture (Sparc Technologies 52%, The University of Adelaide 28% and Fortescue Future Industries 20%), developing next generation green hydrogen technology using a process known as photocatalytic water splitting (PWS). This process is an alternative to producing green hydrogen via electrolysis, using only sunlight, water and a photocatalyst. Sparc Hydrogen's patent pending PWS reactor has the potential to improve the efficiency of PWS to obtain hydrogen from water using concentrated solar. Given lower infrastructure requirements and energy use, the 'Sparc Green Hydrogen' process has the potential to deliver a cost and flexibility advantage over electrolysis.

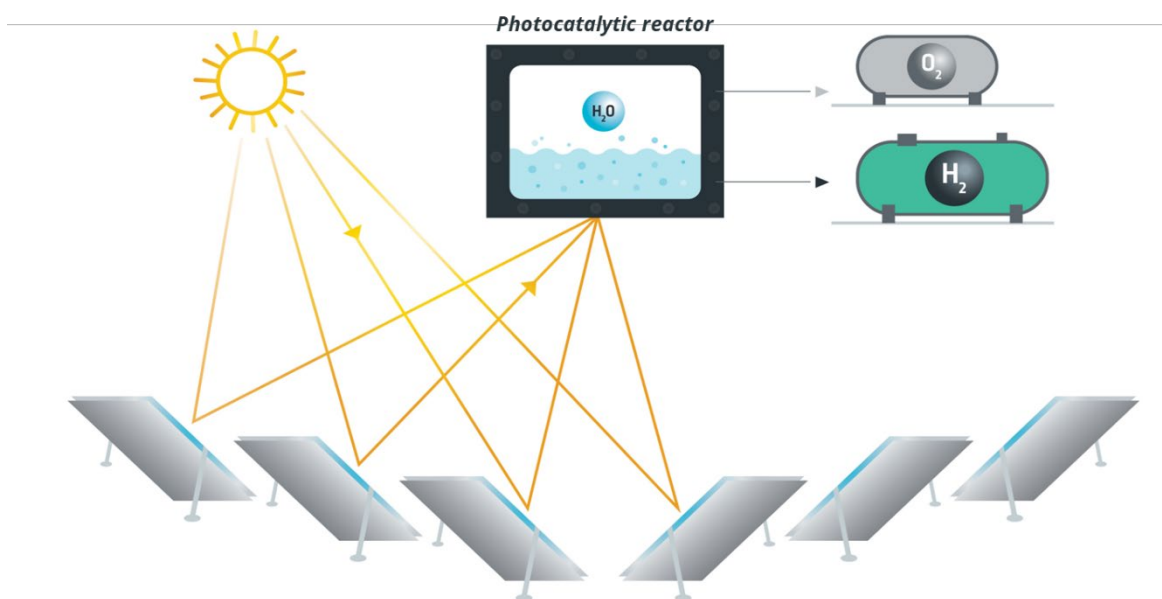


Figure 3: Sparc Green Hydrogen schematic demonstrating combination of concentrated solar and photocatalytic water splitting



-ENDS-

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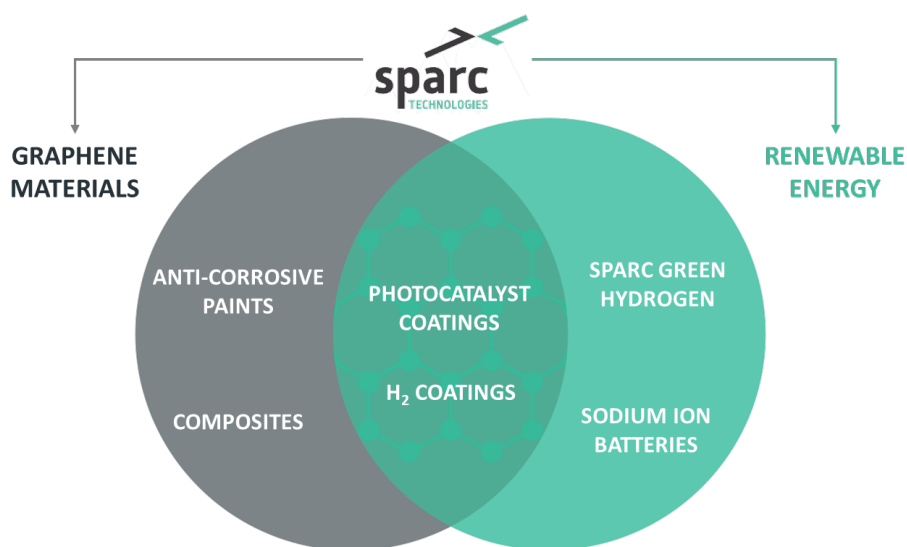
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About Sparc Technologies



Sparc Technologies Limited ('Sparc', ASX: SPN) is an Australian company pioneering new technologies to disrupt and transform industry while seeking to deliver a more sustainable world. Sparc has established offices in Australia, Europe and North America and is focused on three core areas of technology development.

1. Sparc has spent over 4 years developing a **graphene based additive** product, **ecosparc**[®], which has demonstrated up to 40% anti-corrosion improvement in commercially available epoxy coatings. Sparc recently commissioned a manufacturing facility to produce **ecosparc**[®] and is engaging with global paint companies and end users to advance commercial scale trials.
2. Sparc is a majority shareholder of **Sparc Hydrogen** which is a company pioneering the development of **photocatalytic water splitting** ('PWS') green hydrogen production technology. PWS is an alternative to producing green hydrogen via electrolysis, using only sunlight, water and a photocatalyst. Given lower infrastructure requirements and energy use, the process has the potential to deliver a cost and flexibility advantage over electrolysis.
3. Sparc is also developing **sodium ion battery technology** in partnership with Queensland University of Technology.

For more information please visit: sparctechnologies.com.au

