ASX ANNOUNCEMENT

27 May 2025

Investor Webinar

Sparc Technologies Limited (**ASX: SPN**) (**Sparc, Sparc Technologies** or the **Company**) Managing Director, Nick O'Loughlin, will host an investor webinar to provide an update on Sparc Hydrogen's green hydrogen technology and pilot plant development.

Please refer to the presentation herein.

Webinar Details:

- **Date:** 27th May 2025
- **Time:** 11.30AM AEST / 9.30AM WST
- **Registration Link:** https://us02web.zoom.us/webinar/register/WN_D09Zf4sxQ_yCGXk08Oe7uw

-ENDS-

Authorised for release by: Nick O'Loughlin, Managing Director.

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Transformational Technologies for Global Industries

May 2025

ASX: SPN

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Innovating For A Sustainable Future

Sparc Technologies is an ASX listed (SPN) developer of two transformative technologies

SPARC HYDROGEN

Leading the Next-Generation Green Hydrogen Revolution

- **Disruptive Technology:** Sparc's photocatalysis technology uses only sunlight and water to produce green hydrogen — without electrolysers.
- **World-Class Partners:** Sparc is partnered with **Fortescue** and the **University of Adelaide** within the Sparc Hydrogen JV.
- **Scalable and Low-Cost:** Solar-driven process requires less energy and infrastructure and offers significant potential cost advantages.
- **Key Catalysts:** First-of-its-kind pilot plant under construction in Roseworthy, South Australia, with completion expected in mid-2025.

ecosparc®

Tackling the Global Corrosion Challenge using Graphene

- **Global Market Opportunity:** Additive for the **US$43 billion** anti-corrosion coatings market, for extending steel asset longevity.
- **Real-world Trials:** With the **SA Govt**, **BHP Mitsubishi**, **Santos** and **29Metals** to validate **ecosparc®** enhanced coatings on infrastructure.
- **Key Benefits:** 46x ROI for asset owners via extended time between maintenance events plus CO_2 savings.
- **Key Catalysts:** Positive results from **ecosparc®** field trials reported in April 2025, with further trial outcomes expected in H1 2025, positioning the technology for commercialization in FY26.

Corporate Snapshot

110m
Shares on issue

$18m
Market Cap*

$0.16
Share price*

$2.7m
Cash**

~42%
Top 20 s/holders

6.0%
University of Adelaide

Board & Management

Nick O'Loughlin
Managing Director

Simon Kidston
Non-Exec Chair

Daniel Eddington
Non-Exec Director

Dr Denis Wright
GM Graphene

Kristen Kubank
CFO

Paul Baccanello
Business Dvmt

Key Partners

Fortescue

The University of Adelaide

Flinders University

* As at 26 May 2025

** As at 7 May 2025 following settlement of T1 Placement Shares referred to in ASX announcement on 1 May 2025 Link

Share Purchase Plan

- On 1 May 2025 Sparc announced a Placement and Share Purchase Plan (SPP) to raise up to A$2.7 million (before costs) from the issue of up to 18m new Sparc shares at **A$0.15 per new share** (Offer Price).
  - **Placement:** A$2.2 million placement to professional and sophisticated investors completed under Sparc's existing LR 7.1 and 7.1A capacity[1].
  - **Share Purchase Plan[1]:** Non-underwritten SPP seeking to raise up to A$500K. Eligible shareholders are offered the opportunity to subscribe for **up to A$30,000** worth of Sparc shares at the Offer Price.
- Sparc reserves the right to accept oversubscriptions under the SPP.

Event	Time (AEST) / Dates
Trading halt and capital raise launch	Tuesday 29 April 2025
SPP Record Date	7.00pm Wednesday 30 April 2025
Announce completion of placement and trading halt lifted	Thursday 01 May 2025
Dispatch of SPP Offer Booklet and SPP opening date	Thursday 08 May 2025
SPP closing date	**5:00pm Thursday 29 May 2025**
Announcement of SPP results and issue of SPP Shares	Thursday 05 June 2025

Note: The above timetable is indicative only and subject to change.

Proceeds from the capital raise are intended to be used to:

- Advance field trials and commercialisation activities for **ecosparc®** following positive initial results;
- Support Sparc's investment in Sparc Hydrogen;
- Continue R&D and patent-related activities; and
- General working capital.

Sparc Hydrogen is fully funded through to mid-2026, following Stage 2 investment proceeds from Sparc and Fortescue received in Q1 2025.

1. Includes the subscription of A$60,000 worth of new Sparc shares in the Placement by Sparc's Directors, which will be issued subject to shareholder approval under ASX Listing Rule 10.11.
2. Further information regarding the SPP is provided in the SPP booklet dispatched to eligible shareholders and released to ASX on 8 May 2025.

SPARC HYDROGEN

Next Generation Green Hydrogen Technology

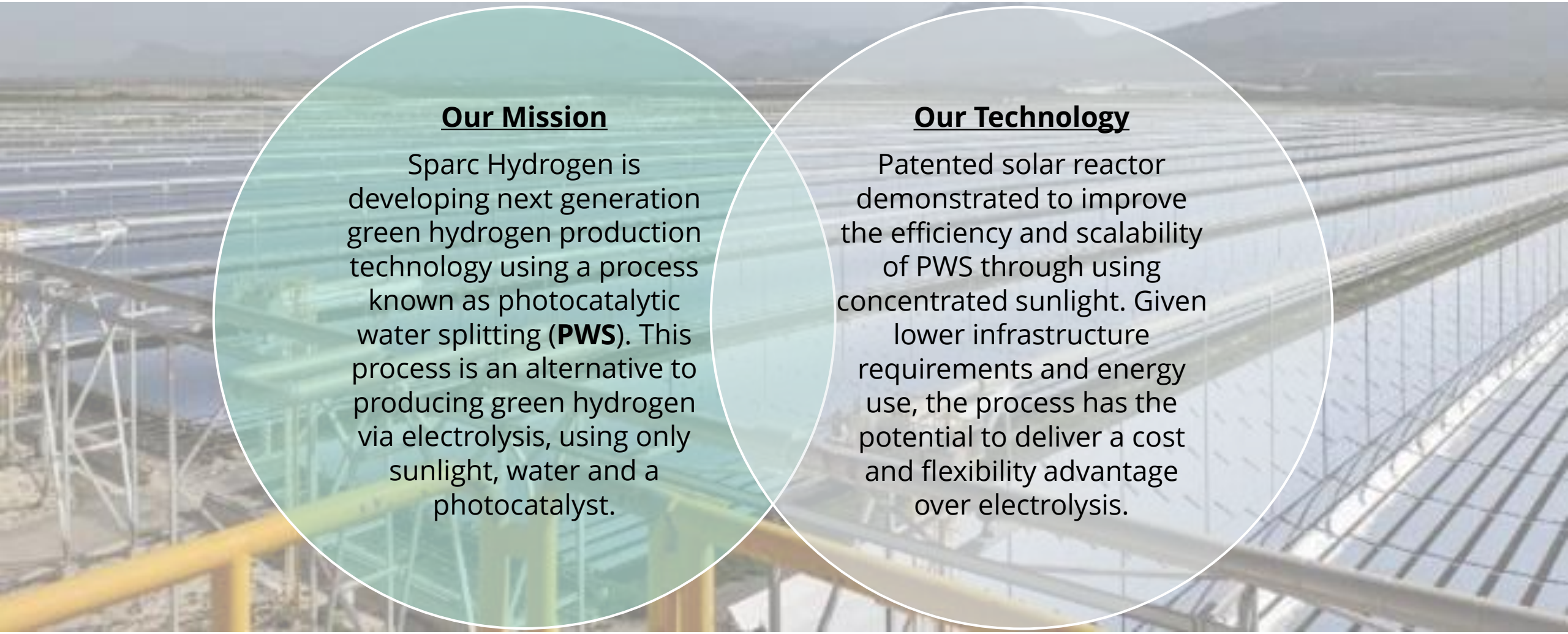
sparc TECHNOLOGIES

Fortescue

THE UNIVERSITY of ADELAIDE

Flinders University

Introduction To Sparc Hydrogen



Our Mission

Sparc Hydrogen is developing next generation green hydrogen production 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.

Our Technology

Patented solar reactor demonstrated to improve the efficiency and scalability of PWS through using concentrated sunlight. Given lower infrastructure requirements and energy use, the process has the potential to deliver a cost and flexibility advantage over electrolysis.

Positioned To Deliver: Best-in-Class Partners

Funding for the joint venture is secured until mid-2026 with potential for additional grants

sparc TECHNOLOGIES

- JV management and coordination
- Technology commercialisation

36%

Fortescue

- Global leader in green hydrogen
- Project development, R&D, end use

36%

THE UNIVERSITY of ADELAIDE

- Developer and contributor of IP[1]
- Leading R&D work and providing lab facilities

28%

SPARC HYDROGEN

1. Together with Flinders University

Positioned to Deliver: World Class R&D Team

Professor Gregory Metha

Research Lead

Greg is the founder of Sparc Hydrogen's PWS reactor technology and has been working in photocatalysis for over a decade.

Greg is a former head of Chemistry at the University of Adelaide and has over 40 years' experience studying the interaction between light and molecules. He is a leading figure in PWS globally:

- Australian Director of US NSF-CSIRO Global Centre for Hydrogen Production (HyPT)
- Sub-task leader for the IEA's Technology Collaboration Programme for Renewable H2
- Australian Lead, Mission Innovation Sunlight-to-X community
- Acting Director, Centre for Energy Technology at the University of Adelaide

Professor Gunther Andersson

Research Collaborator

Gunther is an academic based at Flinders University in South Australia. He is a Deputy Director for Flinders' Institute of Nanoscale Science and Technology.

Gunther's research areas are: photocatalytic water splitting, colloid surfaces, organic photovoltaics and high-temperature corrosion resistance.

He has published more than 210 papers and book chapters he holds three patents.

Vinodhan Gopalan

Project Manager

Vinod has ~20 years of experience working in the design, engineering and construction of thermal power projects.

Vinod's most recent experience prior to joining Sparc Hydrogen was developing an Energy from Waste project with Re.Group in NSW.

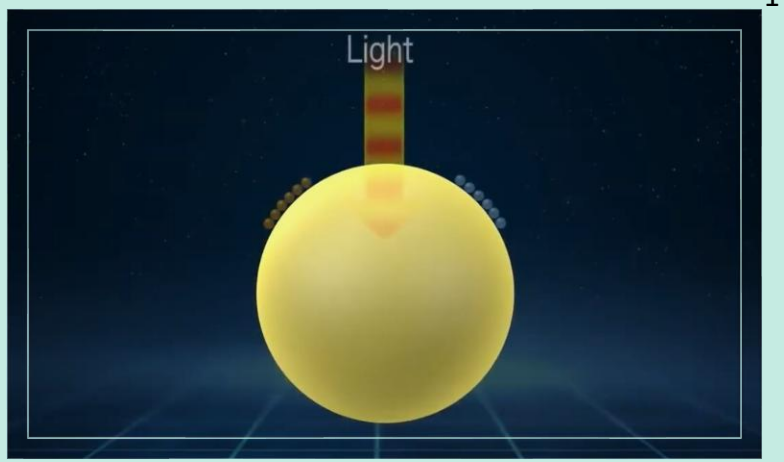
Vinod has a degree in Energy Engineering from the University of Leeds and manages all aspects of the Sparc Hydrogen joint venture including having overall responsibility for delivery of the Roseworthy pilot plant.

In addition, the Sparc Hydrogen Research Team consists of three senior researchers and two PhD Students

What Is Photocatalytic Water Splitting?

Sparc Hydrogen is seeking to commercialise a process called photocatalytic water splitting (PWS) which splits water into hydrogen and oxygen, using only sunlight

- PWS is an artificial photosynthesis process used for the dissociation of water into hydrogen (H_2) and oxygen (O_2), using light.
- The three key ingredients for successful PWS are:
  - Sunlight
  - Water
  - High efficiency, durable photocatalyst materials
- Sparc Hydrogen is developing scalable, low cost reactors in order to commercialise PWS using concentrated sunlight.



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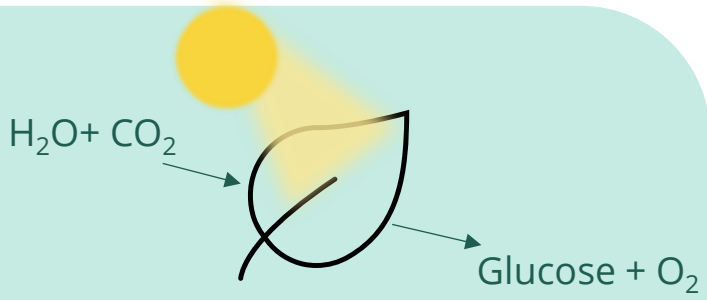
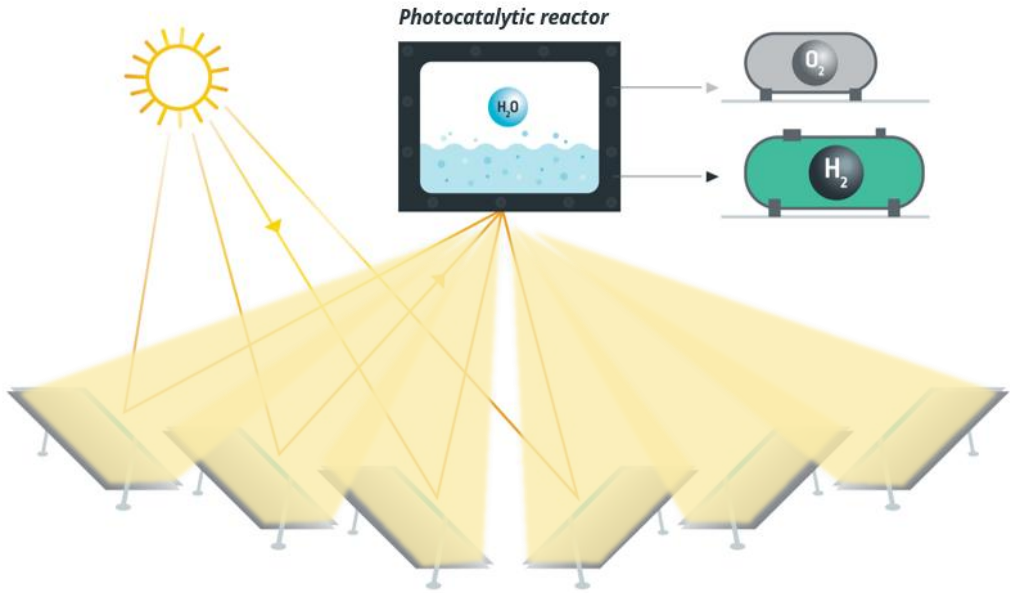
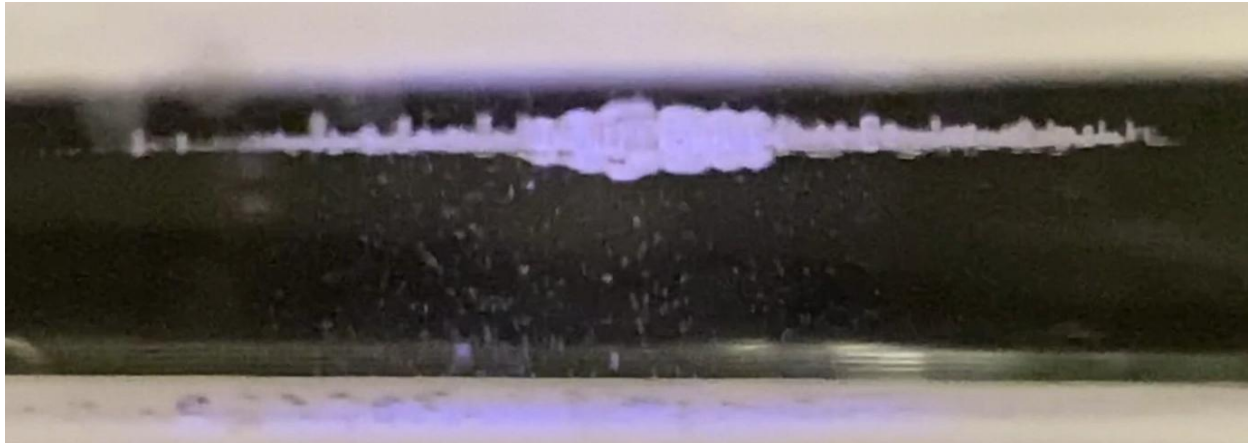


This process mimics **natural photosynthesis** in plants, but instead of making sugars and oxygen, it **produces clean hydrogen fuel**.

1. "(English) Decarbonization Demo to the World: Japan's 100-m2 Artificial Photosynthesis Field Test." Youtube,NEDO Channel, https://www.youtube.com/watch?v=SMp3uxQwHlw

Sparc Hydrogen's Unique Approach To PWS

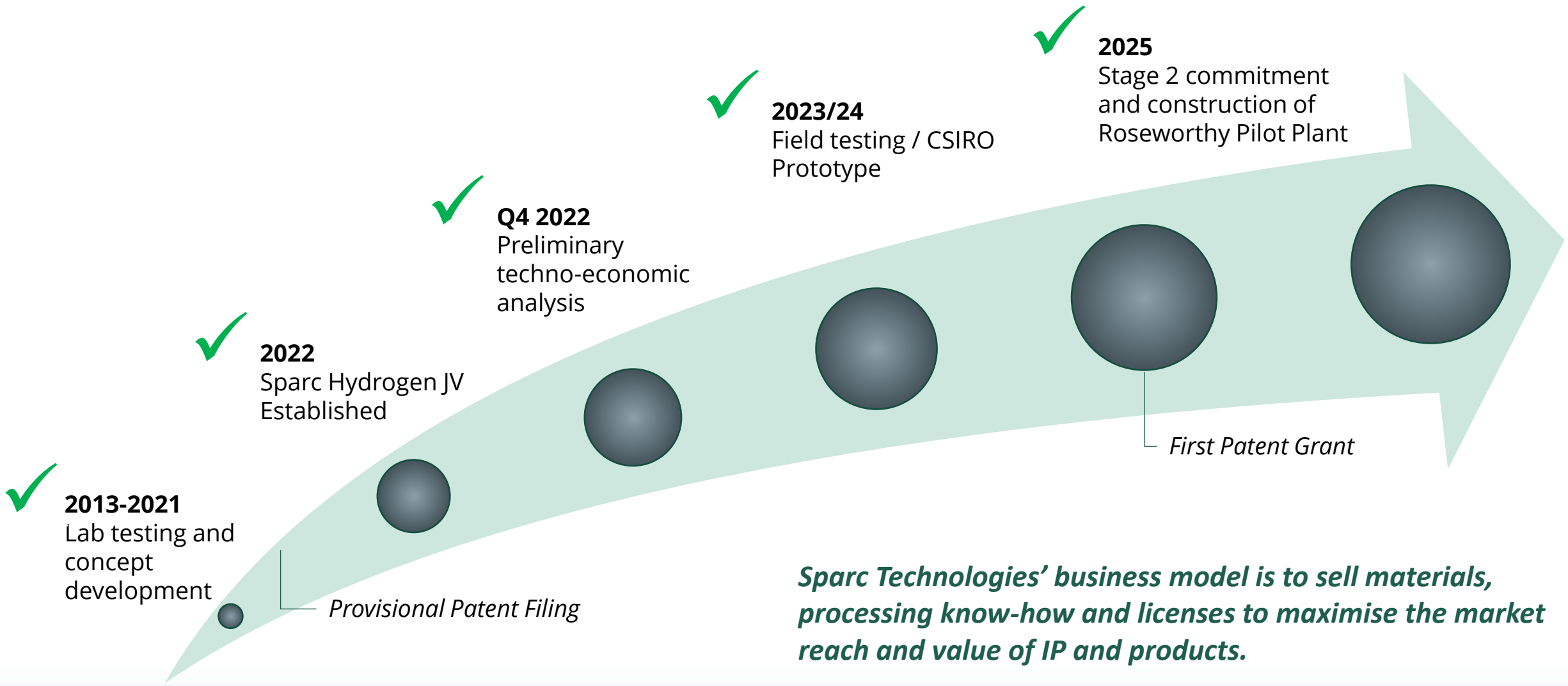




Lab scale video showing increased H2/O2 production with increased light intensity

- Advantages of Sparc Hydrogen's **unique approach to PWS**:
  - Reduced photocatalyst use -> More H2 production per unit of photocatalyst.
  - Simple integration with modular and scalable mirror (concentrated solar) fields -> Key infrastructure is already commercial.
  - Increased efficiencies and heat generation -> Ability to monetise heat / steam as a by-product of green hydrogen.
- The first **patent for Sparc Hydrogen's PWS reactors was granted** in January 2025 with 17 jurisdictions under review.

Development Pathway



Sparc Technologies' business model is to sell materials, processing know-how and licenses to maximise the market reach and value of IP and products.

Roseworthy Pilot Plant Progress

Pilot plant construction is progressing to schedule and budget with mechanical completion expected by mid-year and commissioning during Q3 2025.

LFR delivery to site

LFR manufacturing overseas

LFR erection at site

Civil works completed

Roseworthy Completion Expected Mid-2025

Key objectives of Sparc Hydrogen's Roseworthy Pilot Plant include:

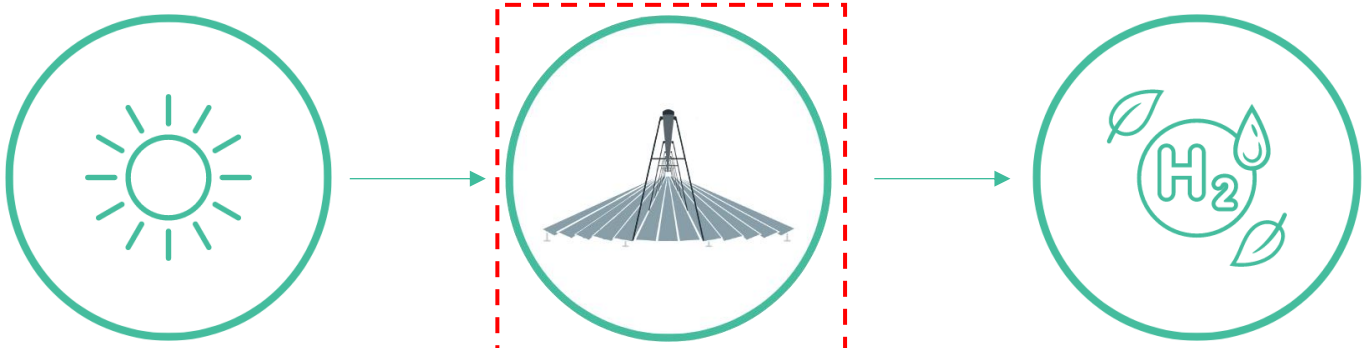
- **Advance** Sparc Hydrogen's PWS reactor technology from TRL-5 to TRL-6/7[1] via semi-continuous operation of an 'on-sun' pilot plant using commercially available concentrated solar mirrors.
- **Derisk** development of and establish operating conditions for a larger commercial scale plant based on Sparc Hydrogen's PWS technology.
- **Establish** a **globally leading facility** for R&D and commercialisation of photocatalytic water splitting allowing testing of different reactor designs and materials.
- **Solidify** Sparc Hydrogen's leading position in the development of concentrated solar based PWS reactors with ability to test under real world conditions.
- **Showcase** Sparc Hydrogen's PWS technology to new and existing stakeholders and funding bodies.

LFR Installation at the Roseworthy pilot plant during mid May 2025

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

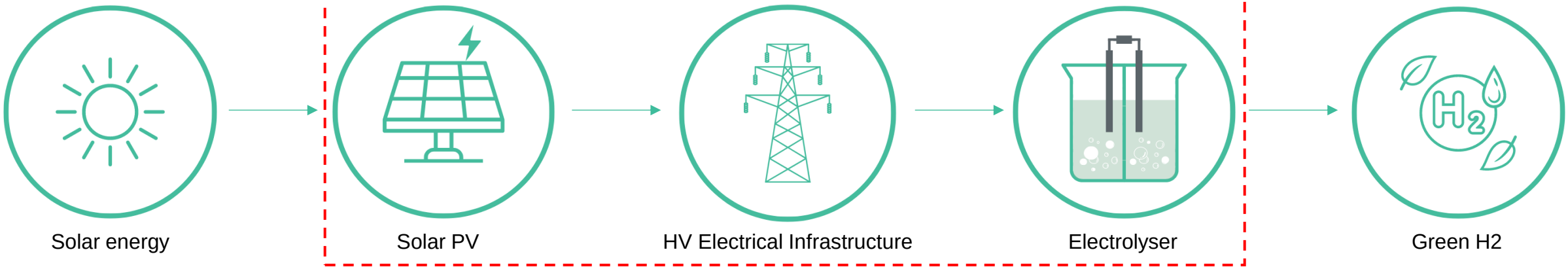
Simplicity Drives Low-Cost Potential

Photocatalysis



Low infrastructure requirements / capex

Electrolysis

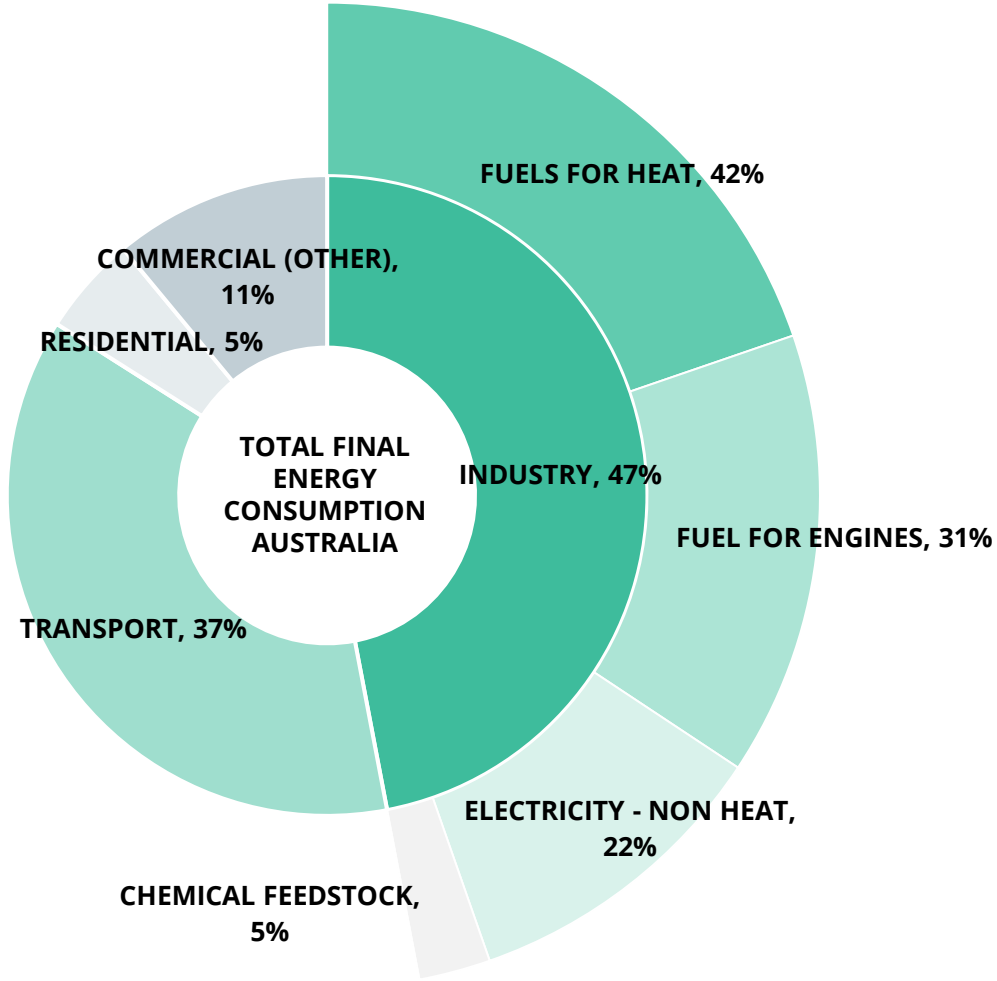


Modularity Drives Ability To Scale Quickly

Commercial scale linear Fresnel field in Spain (28 x ~1km mirror rows) generating ~30MW electricity

Green Heat Provides Alternate Revenue Source

- Sparc Hydrogen's PWS reactors can produce both green **hydrogen and heat / steam** providing **alternative revenue streams** to support **technology deployment**.
- Industrial process heat is a significant consumer of energy in Australia (~20% of total energy use) with the majority currently sourced from natural gas and coal.
  - The indicative value of the process heat market in Australia is **~A$10 billion/annum**[1].
  - Industrial process heat requirements are typically **harder to electrify / decarbonise** and are therefore referred to as 'hard-to-abate' emissions.[2]
- Process heat is classified by temperature with lower temperatures (<250 degrees C) representing approximately half of the market.
  - Heat / steam production from LFR concentrated solar farms can directly address this market which includes alumina digestion, food and beverage and other processing requiring steam input.
- Higher temperature process heat (>600 degrees C) is also a significant market driven by alumina calcining, metal refining and cement manufacturing.
  - Combustion of green fuels such as hydrogen is one of few viable options for decarbonizing these hard-to-abate processes.
- By way of example, Sparc Hydrogen's PWS reactors offer the potential to provide both green hydrogen (for calcination) and green steam (for digestion) for alumina production, which is one of the largest and most carbon intensive energy users globally.



Industrial heat use of Australia's energy demand [1]

1. ITP Thermal, THE AUSTRALIAN INDUSTRIAL PROCESS HEAT MARKET (Apr-2025)
2. McKinsey Global Institute, Ten physical realities the energy transition must tackle (Apr-2025)

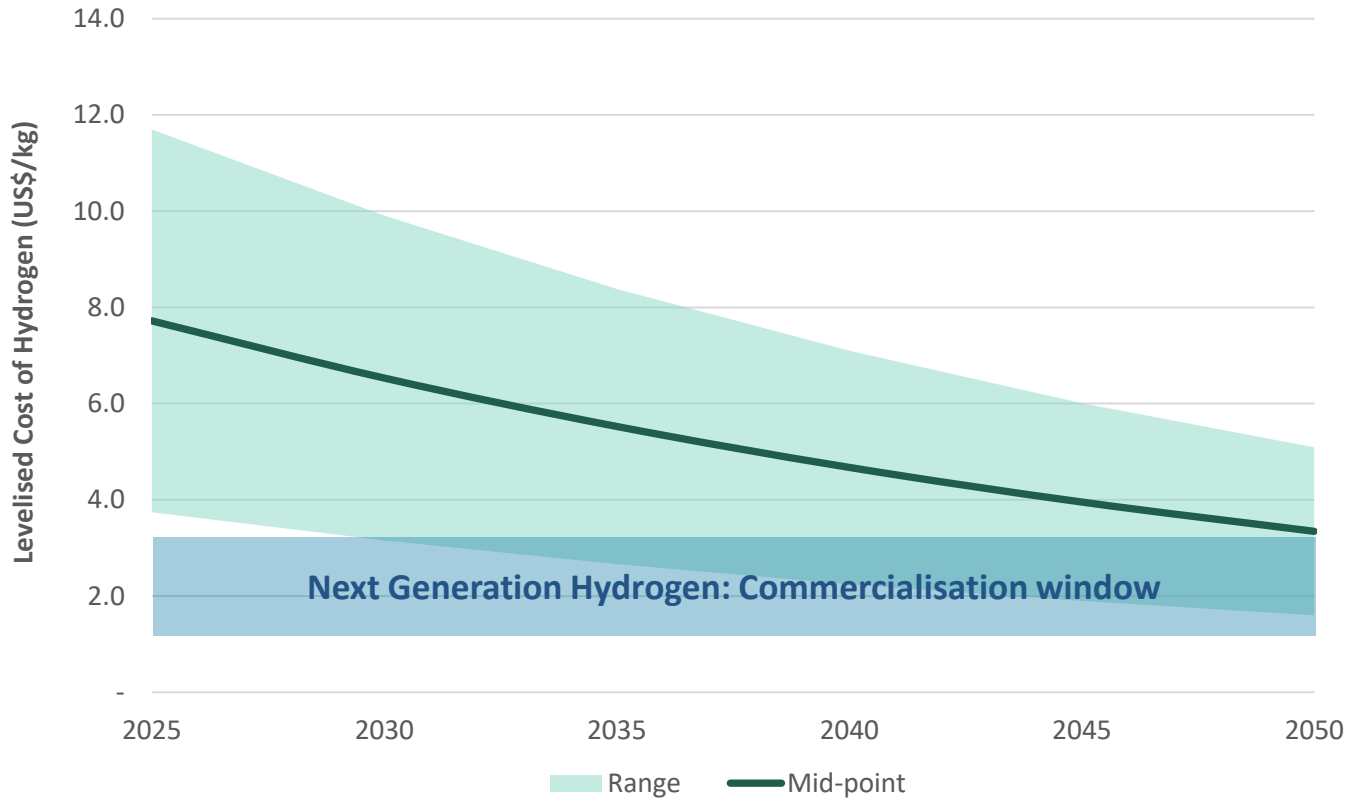
Broad Potential Use Cases

		Sparc Hydrogen PWS Reactor	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 better serve mine sites, remote power & refuelling, agriculture
	Flexible scale & modularity	✓	✗	• Photocatalysis is better suited to onsite / near site industrial locations
	Comingled gas product	✓	✗	• Suits combustion (high temperature) use cases like steel and cement making
	Industrial heat co-product	✓	✗	• Dual product industrial users may include alumina, paper & pulp, ammonia

The Green Hydrogen Race Is On…

- Hydrogen (H_2) is a **~95Mtpa** existing industry, primarily used in ammonia production for fertilisers, methanol for plastics and to remove sulfur from fuels.
- Conventional green hydrogen (electrolysis) projects will not reach industry and Government cost targets until well into the 2030s, at the earliest.
- As the costs and limitations of electrolysis projects have become clear, there is an increasing push **towards developing new technologies** which can unlock the substantial opportunity for green hydrogen to decarbonize existing hydrogen use cases and other hard to abate industries.

Green hydrogen production costs using electrolysis[1]



1. Bloomberg New Energy Finance, Green Hydrogen Goes From Hyped to Humbled on Eye-Popping Costs (Dec-24)

...The Future Is Photocatalysis

Zero-electricity Photocatalysis produces H_2 from H_2O without electricity

Low cost The simplicity of photocatalysis drives potential for very low costs

Solar driven Sunlight is the only energy input driving the reaction

Scalable Utilises a concentrated solar system which is inherently scalable

Industrial heat Green heat by-product provides additional revenue potential

Emission-free Water + sunlight = green hydrogen

INVESTMENT OPPORTUNITY

Momentum Building With Delivery

2025 is a transformative year for Sparc Technologies – Green hydrogen derisking and ecosparc® commercialisation

☑	Appointment of Genex Founding Director Simon Kidston to the Board (Dec-24)[1]
☑	Sparc Hydrogen Proceeds to Stage 2 Pilot Plant (Jan-25)[2]
☑	Sparc Hydrogen Secures First Patent (Jan-25)[3]
☑	ecosparc® field trial with BHP Mitsubishi Alliance (Feb-25)[4]
☑	Construction of first-of-its kind pilot plant commences (Mar-25)[5]
☑	Positive ecosparc® field trial results at Streaky Bay (Apr-25)[6]
☑	Successful A$2.2 million placement plus Share Purchase Plan (May-25)[7]
Q2 25	Grant funding results
Mid 25	Pilot plant completion and commissioning
FY26	ecosparc® commercial acceptance and adoption

1. ASX Announcement 6 December 2024 Link
2. ASX Announcement 7 January 2025 Link
3. ASX Announcement 16 January 2025 Link
4. ASX Announcement 7 February 2025 Link
5. ASX Announcement 12 March 2025 Link
6. ASX Announcement 28 April 2025 Link
7. ASX Announcement 1 May 2025 Link

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