ASX ANNOUNCEMENT
27 October 2021

JV SIGNED WITH UNIVERSITY OF ADELAIDE TO DEVELOP ULTRA-GREEN HYDROGEN TECHNOLOGY

HIGHLIGHTS

- **Sparc Technologies executes non-binding Term Sheet with its strategic partner and cornerstone shareholder the University of Adelaide to form a Joint Venture (JV) hydrogen technology company**
- **Next generation hydrogen technology to employ photocatalysis and solar radiation to deliver Ultra-Green Hydrogen (UGH)**
- **Targeting industry leading low capital costs (CAPEX) and low operating costs (OPEX)**
  - **No wind farm or solar farms required**
  - **No electrolyser and therefore no electrical energy for conversion required**
- **Sparc Technologies to hold 72% and University of Adelaide 28% of JV company, Sparc Hydrogen Pty Ltd.**
- **Sparc Hydrogen to have exclusive licence to 100% of University of Adelaide's Project IP including Patent Application**
- **Sparc Technologies to focus on developing graphene coatings for use in conjunction with photocatalysts**
- **Lab Prototype of Photocatalytic Water Splitting Reactor operating under simulated solar conditions**
- **Firm commitments received for $2.8m share placement (before costs) at $0.70 per share**

Sparc Technologies Limited (**ASX: SPN**) (**Sparc** or the **Company**) confirms that the Company has entered a joint venture (**JV**) agreement with its strategic partner and cornerstone shareholder, the University of Adelaide, to jointly progress a project that will deliver a unique process with the aim of producing commercially viable ultra-green hydrogen (**UGH**) (the **Project**). The Ultra-Green Hydrogen technology has been developed by the University of Adelaide and Flinders University .

The Project will seek to further develop a process known as Thermo-Photocatalysis, which employs the suns radiation and thermal properties to convert water into hydrogen and oxygen. Adopting this process to produce ultra-green hydrogen means that renewable energy from wind farms, and/or photovoltaic solar panels, does not need to be exploited for hydrogen production, nor does the process of electrolysis need to be employed.

As such, Capital Expenditure (CAPEX) and Operational Expenditure (OPEX) costs are anticipated to be significantly lower, supporting the production of ultra-green commercially viable energy in the form of hydrogen. Furthermore, without the need of the footprint associated with massive scale wind and/or solar farms, this technology can also be adopted remotely and for onsite use, thereby reducing the reliance on long distance hydrogen transportation and/or electricity transmission.

Sparc Executive Chairman, Stephen Hunt, commented:

> *"Green hydrogen energy has often been touted as being able to provide base load electricity, however it has struggled to compete economically against conventional fossil fuel base load electricity. This globally significant project offers a realistic pathway to achieving economically feasible green hydrogen energy and to advancing industry to net-zero. Developing additional graphene applications in the ultra-green hydrogen energy space is also a very important growth opportunity for Sparc.*
>
> *There are a multitude of positive attributes with this technology and Sparc is extremely excited to be entering this potentially game-changing UGH technology, alongside our partner, the University of Adelaide, and to develop it commercially for a greener world.*

University of Adelaide Executive Director, Innovation & Commercial, Dr Stephen Rodda, commented:

> *"This joint venture is a perfect example of the University of Adelaide's internationally regarded research being brought to a commercial outcome, which we hope will have benefits for industry and the community. We are proud to be the leading university involved in this venture, applying our research and innovation in responding to one of the great challenges of our times: the development of green energy solutions for our planet.".*

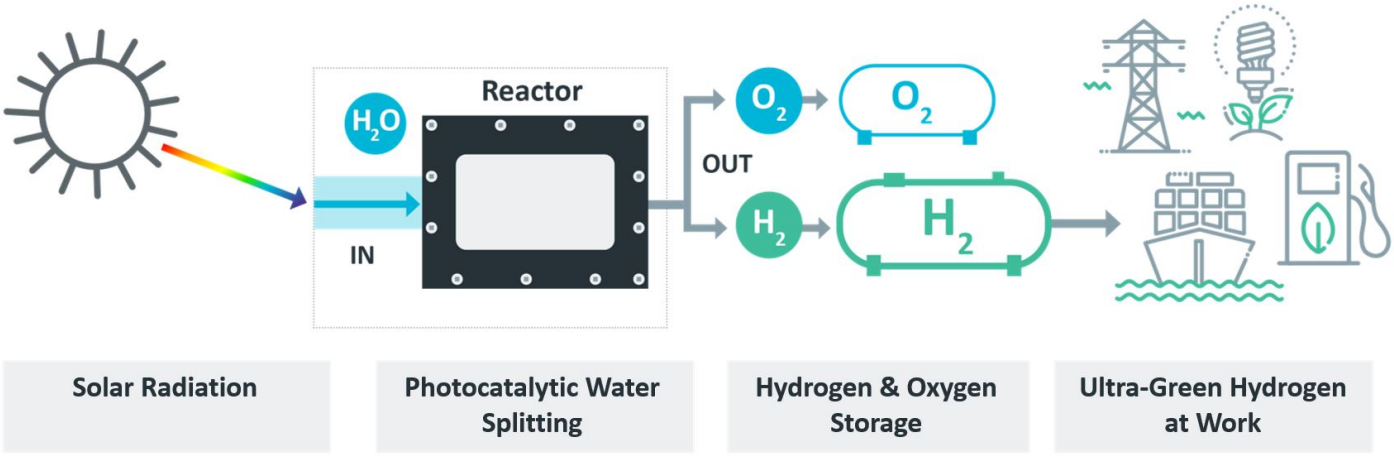

Figure 1: Sparc Ultra-Green Hydrogen Process

It is important to note that, an electrolyser is not required so no electricity is used to split the water into oxygen and hydrogen. A provisional patent (Australian Provisional Patent Application No. 2021900997 – Photocatalytic Apparatus) was submitted by University of Adelaide in April 2021 for the use of the entire solar spectrum to increase the Solar To Hydrogen (STH) percentage rate.

In keeping with Sparc's expertise in graphene, Sparc will seek to develop graphene coatings to be used in conjunction with photocatalysts.

Photocatalysis

Photocatalysis is the acceleration of a photoreaction in the presence of a catalyst. In catalysed photolysis, light is absorbed by an adsorbed substrate. In photogenerated catalysis, the photocatalytic activity depends on the ability of the catalyst to create electron–hole pairs, which generate free radicals (e.g., hydrogen) able to undergo secondary reactions.

Photocatalytic water splitting is an artificial photosynthesis process with photocatalysis in a photoelectrochemical cell used for the dissociation of water into its constituent parts, hydrogen (H_2) and oxygen (O_2), using light. Theoretically, only light energy (photons), water, and a catalyst are needed. This topic is the focus of much research, but thus far no technology has been commercialised.

Project to date

The technology developed to date was supported by ASTRI (Australian Solar Thermal Research Institute), with contributions totalling A$2.5m over a 5 year period from University of Adelaide and Flinders University. The research is focused on using the entire solar spectrum to increase the STH (Solar to Hydrogen) percentage. The Lab Prototype demonstrated significant increase in hydrogen production under optimised conditions.

Provisional patent (Australian Provisional Patent Application No. 2021900997 – Photocatalytic Apparatus) over the technology was submitted in April 2021.

Further research has been undertaken on the use of graphene to be used in conjunction with the photocatalyst – journal article published by University of Adelaide.

Key Terms

The material terms of the proposed JV remain subject to the parties entering into a formal joint venture agreement and are summarised below:

a) The equity structure of the of the Joint Venture will see University of Adelaide retain 28% of the Joint Venture, with Sparc holding 72% at completion of Stage 2.

b) Sparc to issue the University of Adelaide 3,000,000 SPN New Shares, plus expenditure of $4,750,000 over 4.5 years towards the JV.

c) Total cash contributions of $4,750,000 to be made throughout the period of the project (4.5 years), comprising:

   i. Stage 1 commitment over the first 2.5 years of $2,000,000 (“Stage 1”); and

   ii. Stage 2 over 2.0 years of $2,500,000 (“Stage 2”). The Parties may mutually terminate the JV agreement at the completion of Stage 1 by way of notice.

   iii. Additionally, $250,000 to be paid to University of Adelaide for operations set-up and a scholarship.

Placement

The Company is pleased to announce it has received firm commitments to raise $2.8m (before costs) through a placement (Placement) of four (4) million shares at an issue price of $0.70 per share. The funding will support the company's continued development of its graphene based technology projects, assist funding the cash contribution within the Stage 1 commitment under the JV, working capital and costs of the proposed transaction.

Discovery Capital Partners and Westar have been engaged by the Company to act as Joint Lead Managers to the Placement and will receive a total fee of 6% of the total proceeds raised under the Placement.

The Placement shares will be issued pursuant to the Company's existing annual placement capacity under Listing Rule 7.1A and are expected to be issued and commence trading on or about 3 November 2021.

The Placement issue price of A$0.70 per share represents:

- 21.8% discount to the last traded price on 22 October 2021 ($0.895)
- 16.9% discount to the 5-day VWAP price ($0.842)
- 10.8% discount to the 10-day VWAP price ($0.785)

ASX has confirmed that Listing Rules 11.1.2 and 11.1.3 do not apply to the entry into the JV.

-ENDS-

Authorised for release by: Stephen Hunt, Executive Chairman.

For more information:

Stephen Hunt
Executive Chairman
+61 402 956 205
Stephen.hunt@sparctechnologies.com.au

Mark Flynn
Investor Relations
+61 416 068 733
mark.flynn@sparctechnologies.com.au