



HYDROGEN SOLUTIONS UPDATE / DECEMBER 2023

Welcome,

This is the second update to all Direct Energy investors. With these updates we will keep you informed of our activities and achievements in bringing truly inspiring innovation to the hydrogen sector. Your interest and commitment are what fuels it all, contributing to next generation products designed to deliver real change to the energy sector globally.

DIRECT ENERGY

As reported in the previous update, we have completed an agreement to move the IP and future work to the UK and have acquired the assets of Direct Energy Pty which contains over a decade's investment in the fuel cell/electrolyser industry producing ground-breaking IP.

This agreement will allow Hydrogen Solutions Ltd to complete the R&D, life testing and commercialization with the UK company and Government sponsored universities. We are launching the UK R&D program to develop the HOT BOX product under the sub-brand name *Electrocel*. Work will begin in Q1, 2024

The Australian team origins date back to the original Ceramic Fuel Cell Company being the base of IP contained now in this project. They had established relations, research history and lab infrastructure with both the University of Queensland and the Australian Government over the last decade of consistent R&D in Solid Oxide Fuel Cell (SOFC) and Solid Oxide Electrolysis Cell (SOEC) technologies.

Their IP has been verified by Independent Industry Expert Professor Nigel Brandon (Founder of Ceres Power and Dean of the Faculty of Engineering Imperial College London) as "Real and Credible" within a select Global Group where there are few available investor entry points.

Based on strong recommendations from Professor Brandon, our team has chosen to focus technology development on a SOEC in the next 2 - 3 years (for the purpose of producing green hydrogen), to be followed by SOFC development later.



Green hydrogen (“e-Hydrogen”) is produced when renewable energy powers the electrolysis of water. Green hydrogen looks poised to become a once-in-a-generation opportunity: Goldman Sachs* estimates it could give rise to a \$10trn addressable market globally by 2050 for the Utilities industry alone.

The stats* on the necessary uplift in electrolyser development and manufacture required to meet international net-zero targets are sobering and urgent:

>650x Increase in the European electrolyser market by 2030 (vs today), based on the EU Hydrogen Strategy

>8,000x Increase in the European electrolyser market by 2050 (vs today), based on the EU Hydrogen Strategy

This is why *Electrocel*'s development is so critical and your support so vital and timely.

*Goldman Sachs, *Green Hydrogen, The next transformational driver of the Utilities industry*, Equity Research, September 2022

NATIONAL COMPOSITES CENTRE

We are finalizing our collaboration with the National Composites Centre (NCC) at the University of Bristol, the University of Nottingham, the University of Lincoln, and others in the hydrogen catapult cluster of UK leading research centres. The NCC will host our lab and be the principal location of our development efforts.

Hydrogen Solutions has put together a personal plan to include the engineers, technicians, channel partner experts and other support personal required. The hiring plan will build up slowly over the next two years and include about 18 people by the end of year two. At that time, we anticipate having channel partners onboard and starting licensing the hot box technology to these partners. We have also outlined all the equipment need for the lab and the equipment of the NCC that we will jointly use with them.

ENTERPRISE INVESTMENT SCHEME

Our team has filed all the paperwork with HMRC for certification of the Enterprise Investment Scheme (EIS). The EIS offers significant tax reliefs to encourage individuals to invest money in qualifying shares issued by qualifying unquoted companies. We anticipate EIS approval before year-end.

EIS offers income tax reliefs and capital gains tax (CGT) reliefs to individual investors who subscribe to new shares in such companies.

A subscription for eligible shares of a qualifying EIS company is therefore a tax efficient investment for the individual. The investor can benefit from the following tax reliefs:



- EIS income tax relief
- CGT exemption
- Loss relief against CGT or income tax
- CGT deferral relief

We will be offering equity under the EIS program and equity and debt for non-EIS investors.

I look forward to updating you all with further news approximately once a quarter.

James Busche, CEO

