



# Hydrogen Awards

The first gas awards

# The Winners 2023

media  
partner



# VIEW

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## First Gas, First Awards

### **First, let me welcome you to this first Winners book, celebrating the Winners and Finalists of the inaugural Hydrogen Awards.**

In truth, there have been a lot of firsts with these Awards.

Back in August 2021, we had this bright idea - a first in the hydrogen sector - about running a set of independent business awards that spanned the whole industry. Always with a nod to the hallowed halls of academe and to the guardians of health and safety, we wanted the Awards to be a celebration of enterprise, innovation and excellence, at first for the UK, but we quickly realised the huge international scale of the industry and opened up the Awards to the whole world.

In January 2022, we took some first promotional steps in company with media partner, H2View. Their powerful voice helped us extend the reach of the message about the Awards to companies hearing about them for the first time. H2View gave companies the confidence to enter as they were reassured by the involvement of the publication and we are grateful for that.

It was always going to be pure guesswork to assess how many entries we might receive in the first year. We had a lot of pushback across the industry with companies and trade bodies saying they wouldn't or couldn't enter or support us in the first year. "First prove the concept" came back the cry.

So we have. We didn't get all the entries we wanted in the first year, but we did get some first class entries from some great industry names. And we do know that many more companies are planning to enter for 2024.

We believe that February 23 at The Slate on the Warwick University campus proved the concept in 2023. Now, while the rush is still being felt, we are going to push hard for more entries, make more new first contacts for entries, sponsorship and future attendance and develop the Awards strongly for the next event in February 2024.

Thank you all for supporting the first Hydrogen Awards.



**Matt MacNamara**

development director  
Hydrogen Awards

## Main Judging Panel



**Ian Constance**  
CEO, Advanced  
Propulsion Centre



**Sharon George**  
Course Director,  
Keele University



**Jon Hunt**  
Hydrogen Manager,  
Toyota (GB)



**Jenny Kavanagh**  
Chief Strategy Officer,  
Cranfield Aerospace  
Solutions



**Dr Michaela Kendall**  
CEO, Adelan



**Faye McAnulla**  
Programme Director,  
HyDEX/ERA/H2 GV  
MIDS



**Harsh Pershad**  
Head of Hydrogen,  
TEVA



**Ben Richardson**  
UK&I Lead Stationary  
Fuel Cells, Bosch

## Judging Panel for the Academic Excellence in Hydrogen Research and Innovation



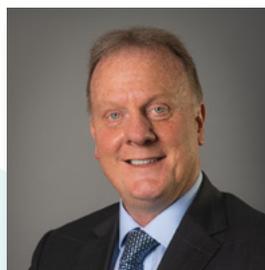
**Sharon George**

Keele University,  
Principal Investigator  
for HyDEX



**Faye McAnulla**

Programme Director  
of the Energy Research  
Accelerator & HyDEX



**Philip Sharman**

MD, Evenlode  
Associates and Chair  
of the Energy Research  
Accelerator's Industrial  
Advisory Board

This award is sponsored by the Energy Research Accelerator's HyDEX hydrogen development programme and recognises outstanding research and innovation in hydrogen. Entries are for ERA partner universities (Aston, Birmingham, Cranfield, Keele, Leicester, Loughborough, Nottingham and Warwick) and the British Geological Survey. If a university research team has developed an exciting new technology or breakthrough as a result of their research, or if a university has partnered with business to apply their research to launch a new product or process, then they are eligible to enter this award.

For further details, or if you have any questions for the 2024 Award, please email [Nick.King@era.ac.uk](mailto:Nick.King@era.ac.uk)

# CONNECT YOUR BUSINESS WITH THE HYDROGEN COMMUNITY

A **Corporate Subscription** will give members of your team access to:

- Our monthly publication, which features in-depth articles, analysis, and interviews on the latest developments in the **hydrogen economy**, including new technologies, policy frameworks and the investment climate
- Our website, which is updated daily with **breaking news**, expert insights, and interactive features or columns
- Our snap summits, which bring together leading experts and practitioners in the field to discuss the latest trends, challenges, and opportunities in the **hydrogen industry**



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# Outstanding Achievement Gold Award



## Winner

### GeoPura

GeoPura wins this gold award for presenting two excellent case studies about off grid power supply. They were for very different industries, yet the results have many similarities. The construction industry must source sustainable power solutions to help meet low-emissions requirements, while still having access to power needed for their projects. In a construction industry first, the Viking Link construction site utilised a HPU to provide off-grid power to site in 2020, providing heat and power to the construction village for approx. 6 months, saving a tonne of CO2 each week.

Filming on location poses challenges for the film and TV industry; and when the grid can't deliver, production teams are increasingly conscious of the carbon footprint left behind. The GeoPura Hydrogen Power Unit converts green hydrogen via a fuel cell, providing 100% emissions free energy to any TV or film project project that requires an off-grid or augmented supply. Making another TV first, BBC Studios Natural History Unit used an HPU to power the latest series of live Springwatch broadcasts with 100% clean energy, saving 7 tonnes of CO2.

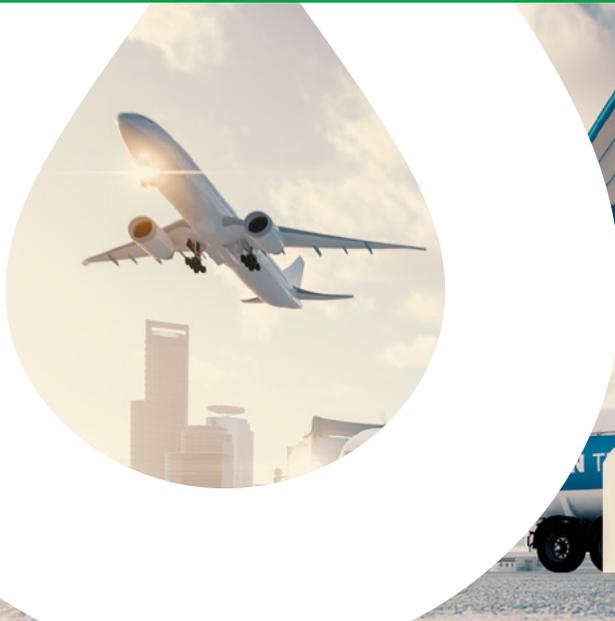


 @HyDEXMidlands

# Congratulations to all of the winners and nominees at the Hydrogen Awards 2023

We're helping to accelerate the hydrogen economy in the Midlands by providing world-class research facilities and developing skills for the hydrogen economy.

[hydrex.ac.uk](https://hydrex.ac.uk)



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# Academic Excellence in Hydrogen Research and Innovation Gold Award

## Winner

### **Dr Peter Clough, Dr Tosin Adepope and Robert Warman at Cranfield University for the HyPER project**

The head judge was extremely impressed with the outstanding quality and breadth of research and innovation demonstrated by all of the entries, and highly commends all of them, but the winner demonstrated a focussed research and pilot-scale development with good prospects of contributing to the hydrogen system, as well as application to different feedstocks. With excellent industrial collaborations already, the HyPER project technology is becoming increasingly commercially viable.



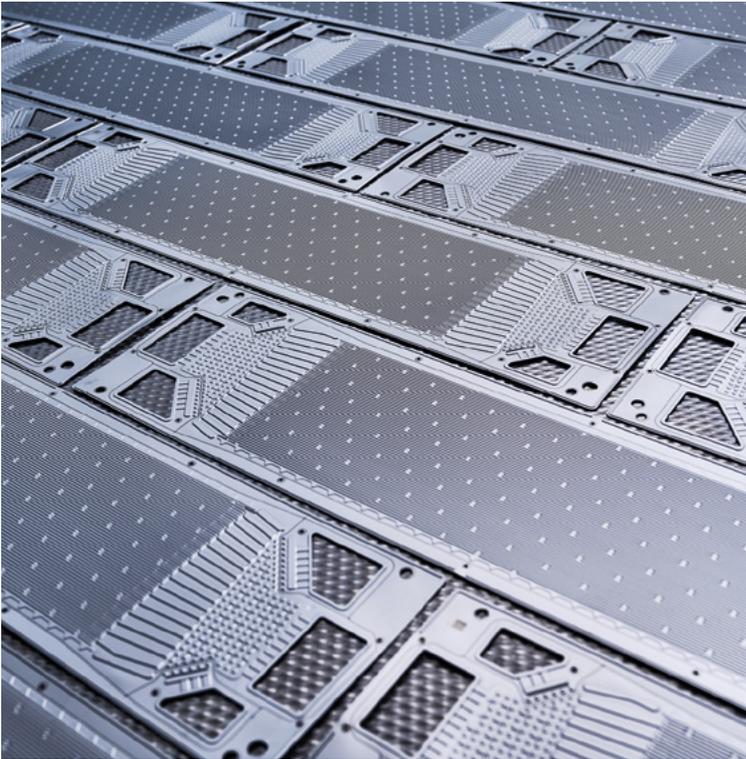
## The other nominations considered for this Award are:

- 1 Dr Shahrouz Nayeboossadri and colleagues, University of Birmingham: Metal Hydrides for hydrogen storage and renewable power generation
- 2 Dr Chai Sai Lee and colleagues, University of Nottingham: Using Super Critical Water Gasification to produce a hydrogen rich syngas
- 3 Professor Shanwen Tao and colleagues, Warwick University: Developing carbon-free direct ammonia fuel cells based on near ambient temperature solid oxide fuel cell technology
- 4 Keele University for Keele campus: a living hydrogen laboratory
- 5 Tim Miller and colleagues, Aston University: The Urban Biochar & Sustainable Materials demonstrator - creating hydrogen and biochar to benefit local communities
- 6 Professor Dani Strickland and colleagues, Loughborough University: Using battolysers to develop green hydrogen

sponsored by



## Automotive (from motorcycles, through cars, pickup trucks and vans, to coaches and buses)



# SCHAEFFLER

### Winner

## Schaeffler Technologies

Schaeffler Technologies' novel nanocoating, EnerTECT PC+, enables steel to be used on a mass scale for components of high-efficiency fuel cells. This is highly relevant especially for the core of fuel cells, the stack. The coating protects the low-cost steel components of the stack from corrosive attacks and increases efficiency through improved electrical conductivity. At the same time, the coating works without precious metals - i.e. it makes low-cost steel usable while significantly reducing the carbon footprint of the fuel cell. Thus, coating EnerTECT PC+ has the potential to become a game-changer in the electrification of mobility.

### Finalists:

Advanced Hydrogen Technologies Group  
FuelCell Energy  
HVS

*Image: Metal bipolar plates are key elements in fuel cell stacks.  
Credit: Photo © Schaeffler*

## Aerospace

### Winner

#### H2 Clipper

H2 Clipper, Inc. is an aerospace and alternative energy company developing uniquely capable hydrogen-powered airships and end-to-end hydrogen infrastructure solutions focused on reshaping how the world will transport hydrogen. In 2008, H2 Clipper founder, Rinaldo Brutoco, foresaw the need to conceive a better way to transport hydrogen in cryogenic form. Since then, he has developed and patented a hydrogen transportation solution that will deliver green hydrogen from remote areas where hydrogen can be most inexpensively produced to places where clean energy is most needed.



## Marine

### Winner

#### CMB.TECH

CMB.TECH's "HydroCat 48" Crew Transfer Vessel is the world's first vessel of its type to be built and class/flag approved by the UK, powered by 2 hydrogen dual-fuel engines, co-developed with MAN. It uses CMB.TECH's patented dual-fuel calibration and hydrogen delivery system, and is a new build designed around enough hydrogen storage (207Kg at 350bar) to support a full day's operation. To support bunkering, the company also built a mobile refuelling trailer capable of storing 950Kg of Hydrogen at 500bar. Sea trial and engine test data demonstrate average journey CO<sub>2</sub> emissions savings of between 30-50% and, in places, as high as 80%



## Mass Transit (locomotives and bus and coach fleets serving the public)



**LOOP**<sup>™</sup>  
ENERGY

### Winner

#### **Loop Energy**

Since commercializing its fuel cell offerings in 2018, Loop Energy's focus has been commercial mobility. A key segment of this customer base is transit and coach buses, which presents the opportunity to rapidly reduce carbon emissions and remove pollutants from our urban environments. The back-to-base model many bus fleet operators employ creates a low dependence on fueling infrastructure, making hydrogen-electrification a high-performing and cost-effective zero-emissions solution. Loop Energy has partnered with international OEMs to support the integration of high-efficiency and affordable fuel cell systems into electric buses for fleet operators. As a result, its fuel cell engines are now the driving force behind zero-emissions buses globally.

### Finalist:

**IBERDROLA**

## Road Haulage (all types of trucks for haulage of goods)



### Winner

#### **HVS**

The UK has declared a Climate Change Emergency and has ambitions to achieve net-zero by 2050. While good progress is being made with cars and LCVs, the HGV transport sector is seen as one of the most difficult to decarbonise. This is reflected in the DfT's Decarbonising Transport report, which targets the end of sales of non-zero emission HGVs by 2040 or earlier if feasible. HVS aims to develop and deliver a range of zero-emission hydrogen-electric commercial vehicles, covering all HGV applications.

### Finalists:

**Advanced Hydrogen  
Technologies Group  
CMB.TECH**

## Utility (including on and off-grid applications)

### Winner

#### GeoPura

On-location, off-grid renewable energy for the film & TV industry. Filming on location poses challenges for the industry; and when the grid can't deliver, production teams are increasingly conscious of the carbon footprint left behind. The GeoPura Hydrogen Power Unit converts green hydrogen via a fuel cell, providing 100% emissions free energy to any TV or film project project that requires an off-grid or augmented supply. Delivering a genuine alternative to diesel generation supports the industry in being able to make and meet bold environmental targets with regards to its net zero ambitions. Making another TV first, BBC Studios Natural History Unit used an HPU to power the latest series of live Springwatch broadcasts with 100% clean energy, saving 7 tonnes of CO2.



### Finalists:

Advanced Hydrogen Technologies Group  
FuelCell Energy

## Industrial (including petrochemical, textiles, glass and metallurgy)

### Winner

#### Progressive Energy

HyNet will meet the major challenge of reducing carbon dioxide emissions, providing low carbon power for industry, transport and low carbon heating for our homes and businesses. Based across the North West and North Wales, HyNet brings together major industrial partners and industries. The real success of HyNet is the network of passionate and committed businesses who have come together to reduce CO2 emissions and switch to using locally produced hydrogen. HyNet is also focusing on the future workforce to outline the skills and demands required in the future hydrogen economy.



## HyNet

### Finalist:

IBERDROLA

## Domestic

### Winner

#### Advanced Hydrogen Technologies Group

AHT Chimera is the future of central heating systems, green, clean, affordable off grid and carbon neutral power.

Chimera is a Hydrogen generator that replaces the need for natural gas to "power" a gas boiler. Its size means it fits inside a standard 500mm kitchen cabinet and as Chimera produces the hydrogen on demand there is no need for storage, so it is safer, with no need for costly or timely infrastructure upgrades. It's just clean affordable power for all!



### Finalist:

FuelCell Energy

## Construction

### Winner

#### GeoPura

The construction industry must source sustainable power solutions to help meet low-emissions requirements, while still having access to power needed for their projects.

The GeoPura Hydrogen Power Unit converts green hydrogen via a fuel cell, providing 100% emissions free energy to any construction project that requires an off-grid supply. By delivering a genuine alternative to diesel generation, the company is supporting the construction industry in being able to make and meet bold environmental targets with regards to their net zero ambitions.

In a construction industry first, the Viking Link construction site utilised a HPU to provide off-grid power to site in 2020, providing heat and power to the construction village for approx. 6 months, saving a tonne of CO2 each week.



## Installation, Service and Maintenance

### Winner

#### FuelCell Energy

The FuelCell Energy Trigeneneration platform will leverage renewable natural gas at a commercial level to generate green hydrogen, zero carbon electricity and provide produced water delivering sustainable solutions to drive de-carbonization. The innovative platform will provide the green hydrogen needed to create a zero-emissions hydrogen truck and car fueling depot, along with a zero-carbon footprint Toyota facility and a net producer of water in support of its operations. The additional benefit of the project is that the platform will generate water that will be used for Toyota's car washing operations, furthering its environmental stewardship in an arid region.



## Distribution and Marketing and Communications

### Winner

#### Loop Energy

In 2018, Loop Energy commercialized its fuel cell offerings, which it had developed for the past 18 years. When it was listed on the TSX and raised \$100 million in public funding, Loop Energy had little more than a logo and a 2-page pdf website to promote its products. The addition of Chief Commercial Officer, George Rubin and Marketing Director, Ethan Hugh was the beginning of the transformation of Loop Energy's marketing efforts. With dedicated team members for graphics, communications and events, Loop Energy has delivered various new initiatives that have seen 2022 sales surpass 2021 sales.



# Production

## Winner

### Bloom Energy

Bloom Energy recently launched the Bloom Electrolyzer, the most energy-efficient electrolyzer to produce clean hydrogen today. This product has since been recognized by S&P Global Platts as “Emerging Technology of the Year” for its technological contributions to the energy industry. Based on and building from Bloom Energy’s leading solid-oxide platform, the Bloom Electrolyzer operates at high temperatures to maximize efficiency. Significantly more efficient than competitors on the market today, it can run on a variety of inputs, using 15 percent less electricity than other electrolyzers on the market, substantially reducing the cost of clean hydrogen production.



**Bloomenergy**

## Finalists:

- FuelCell Energy
- GenHydro
- Kiwa

# Storage

## Winner

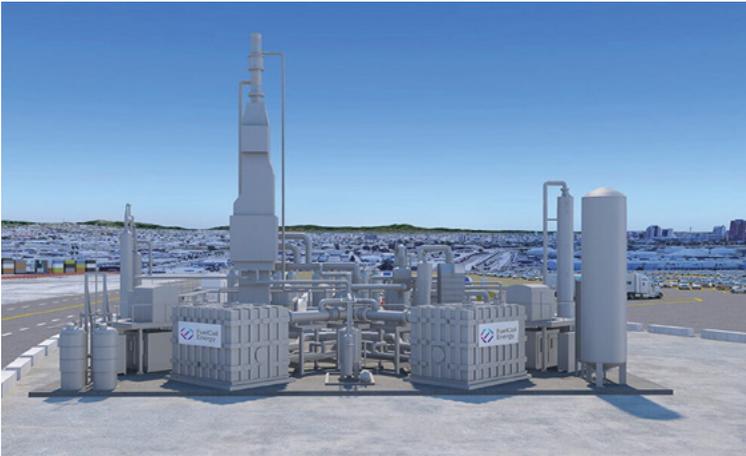
### Hy Stor Energy

Hy Stor Energy is facilitating the transition to a fossil-free energy environment by developing and advancing renewable hydrogen at scale through the development, commercialization, and operation of renewable hydrogen hub projects. The company defines green hydrogen as only that which has produced from renewables – as set forth by the Green Hydrogen Organization. Large, fully integrated projects produce, store, and deliver 100% carbon-free, energy, providing customers with safe and reliable renewable energy on-demand. Developed as part of an integrated hub, these projects couple on-site renewable hydrogen production with integrated long-duration storage and distribution – using scale to reduce costs and tackle the most difficult to abate industrial sectors.



**HY  
STOR**  
ENERGY

## Distribution



**FuelCell  
Energy**

### Winner

#### **FuelCell Energy**

The FuelCell Energy Trigenation platform will leverage renewable natural gas at a commercial level to generate green hydrogen, zero carbon electricity and provide produced water delivering sustainable solutions to drive de-carbonization. The innovative platform will provide the green hydrogen needed to create a zero-emissions hydrogen truck and car fueling depot, along with a zero-carbon footprint Toyota facility and a net producer of water in support of its operations. The additional benefit of the project is that the platform will generate water that will be used for Toyota's car washing operations, furthering its environmental stewardship in an arid region.





# Hydrogen Awards

The first gas awards

Call for entries opens:

**May 1, 2023**

Closing date for entries:

**September 30, 2023**

Judging:

**October/November 2023**

Finalist companies announced:

**November 1, 2023**

Awards dinner and ceremony:

**February 22, 2024** (venue TBC)

**[hydrogenawards.com](https://hydrogenawards.com)**