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Lacie Midgley
+44 (0)20 7886 2769
lacie.midgley@panmure.com

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NOT RATED

HydrogenOne Capital Growth

Diversified & delivering

For economies across the World, achieving energy security is now equally important as achieving Net Zero carbon emissions and clean hydrogen's importance in accomplishing both goals has only increased over 2022. As such, HydrogenOne Capital Growth plc (HydrogenOne), the first London-listed fund hydrogen investing in clean hydrogen for a positive environmental impact, now sees a growing pipeline of investments in excess of £500m, including a near-term pipeline of over £100m.

The managers continue to execute on plans set out at IPO and an oversubscribed placing completed in April 2022 raising gross proceeds of £21.5m has enabled six more private investments over the year. The portfolio is now well-diversified across the hydrogen value chain and we view the current 5.8% discount as a highly attractive entry point for investors looking for pureplay exposure to these increasingly dominant themes.

- **The first London listed clean hydrogen fund:** HydrogenOne listed on 30 July 2021 raising gross proceeds of £107m, including a strategic cornerstone investment of £25m by INEOS Energy, the world's 3rd largest chemicals company. HydrogenOne offers growth potential in clean hydrogen and related technologies, excluding sectors such as fossil fuels producers and focusing strongly on energy transition themes, aiming to deliver attractive returns and a positive environmental impact.
- **Steady deployment of capital:** Following investments in a portfolio of public equities and private companies – Sunfire, HiiROC and NanoSUN – last year, HydrogenOne has made six further private investments since the start of 2022, in Bramble Energy Ltd for £10m, Gen2 Energy for £3.5m, Cranfield Aerospace Solutions Ltd for £7m, Elcogen for £20m, HH2E AG for £5.2m and, post interim period end, Strohm for £8.4m.
- **Delivering on strategy:** Following the £21.5m oversubscribed placing in April, invested capital represents 80% of total issued capital. Since launch, the Company has invested £103m with the portfolio now comprising nine Private Hydrogen Assets with an aggregate investment value of £98.9m, £5.4m of Listed Hydrogen Assets and £22m of investible cash (post the Strohm investment, post the interim period end).
- **NAV performance:** Today, HydrogenOne announces its interim results for the six-month period to 30 June 2022 and reports a Net Asset Value (NAV) of £124.8m or 96.8p per share, which shows an increase of 1.1% during the period. Importantly, the NAV of HydrogenOne's private investments increased by 3% during the same period, reflecting higher valuations in multiple positions.
- **Diversified across the value chain:** Most of the fund's exposure is to electrolysis and fuel cells (66%), which reflects the greater number of companies operating in this space and the current stage of the subsector i.e. technology commercialisation. Supply services, which includes mobile hydrogen refuelling (NanoSUN), represents 15% of the investment portfolio.

Rating Nature: Relative

Key Data

Share price	92.05p
Dil. NAV	98.02p
Dil. discount	5.8%
Market cap	£119.3m
52-week range	123-85p
52-week premium avg.	7.2%
Sector	Investment Funds
Stock codes	HGEN.L / HGEN LN
Last published research	5 August 2022

Priced at close 15/09/2022

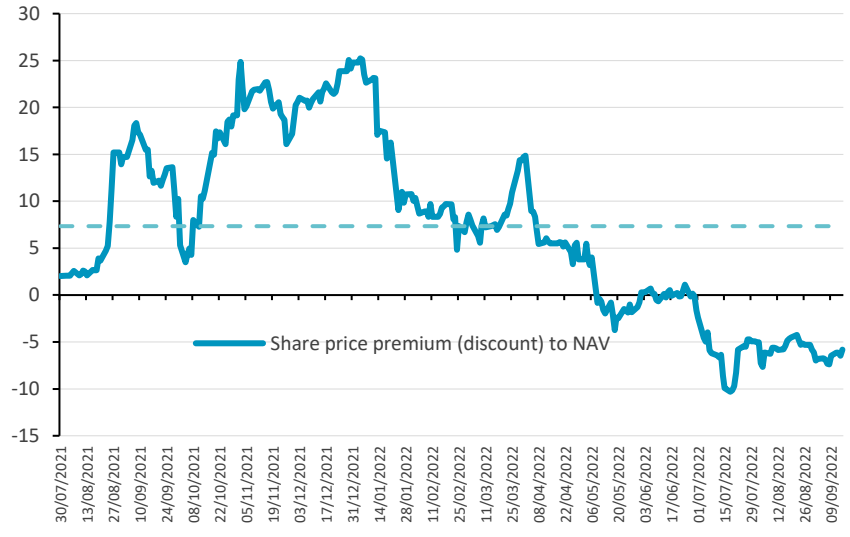
Published Research

- Please see our HydrogenOne Capital Q2 2022 Factsheet and NAV update note published in August.
- Please see our HydrogenOne Capital initiation note Fuelling Up published in December.
- For more detail on the hydrogen economy and the specific opportunity from a managed funds perspective please see our previous note Hydrogen – an emerging renewables sub-sector.

Over time, green hydrogen generation through supply services (namely clean hydrogen supply projects) will become the focus for the fund, followed by technology investments into electrolysers, fuel cells and storage. Project and infrastructure exposure has increased with recent investments into HH2E and Strohm. By asset class, Unlisted today represents 74% of the total portfolio but over the medium to long term, approximately 90% of the portfolio is expected to be invested in Private Hydrogen.

- **Strengthened macro backdrop:** Over the course of 2022, the clean hydrogen market has been propelled onto the centre stage of the global energy market with the unfortunate events in Ukraine highlighting the importance of security and further strengthening the case for a more flexible and de-risked energy supply. This is underlined by the REPowerEU energy security plan which aims to transform Europe's energy system and the US IRA that aims to make clean hydrogen produced in certain parts of the US among the cheapest in the world. In the UK, the Government has also responded by doubling its initial 5GW of blue and green hydrogen target to 10GW of low-carbon hydrogen, of which a minimum of 5GW will be green hydrogen.
- **Increasing opportunities:** Despite a backdrop of rising inflation and ongoing supply chain pressures and delays to project FIDs, a 200x increase in clean hydrogen supply is now anticipated to 2030, as the scale-up of renewable power alongside the phase-out of fossil fuels takes effect. As a result, the opportunities across the energy transition value chain available to HydrogenOne are increasing with the ongoing development of a significant pipeline of private clean hydrogen investments in excess of £500m, including a near-term pipeline over £100m. In order to facilitate future growth, the Company intends to establish a share issuance programme, which should simplify future fund raising.
- **Attractive entry point:** HydrogenOne shares reached a 25.5% premium to NAV in January 2022, but consistently traded down to a low-point of a 10.3% discount to NAV in mid-August. Since then, the discount has narrowed and has remained around 5% over the course of September. HydrogenOne remains the only UK listed investment trust with a mandate to invest in a diversified portfolio of hydrogen and complementary hydrogen-focused assets principally in developed markets, targeting a NAV total return (TR) of 10% to 15% per annum. We view the current 5.8% discount, versus an average share price premium of 7.8% since listing, as a highly attractive entry point for investors looking for pureplay exposure to the increasingly dominant themes of the energy transition and energy security.

Premium (discount) since admission (%)

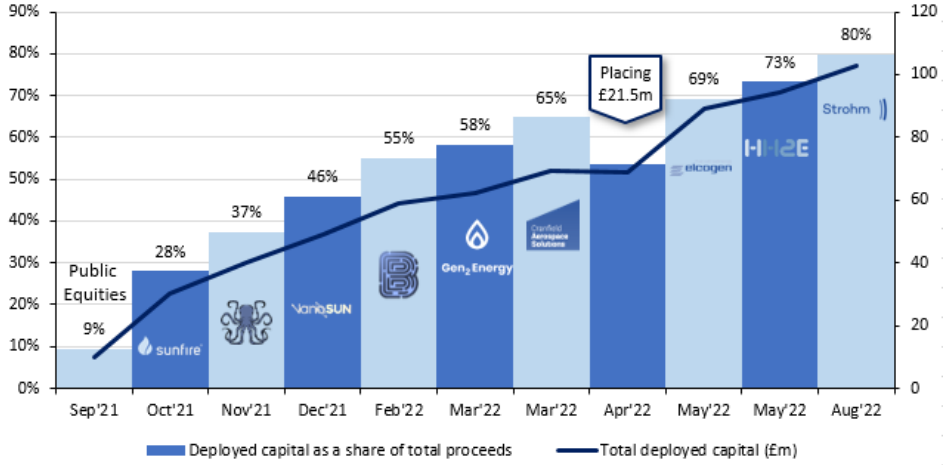


Source *Morningstar, Panmure Gordon*

PORTFOLIO

Following investments in a portfolio of public equities and private companies – Sunfire, HiiROC and NanoSUN – last year, HydrogenOne has made six further private investments since the start of 2022, in Bramble Energy Ltd for £10m, Gen2 Energy for £3.5m, Cranfield Aerospace Solutions Ltd for £7m, Elcogen for £20m, HH2E AG for £5.2m and, post interim period end, Strohm for £8.4m. Following the £21.5m oversubscribed placing in April, invested capital represents 80% of total issued capital. Since launch, the Company has invested nearly £103m with the portfolio now comprising nine Private Hydrogen Assets with an aggregate investment value of £98.9m, £5.4m of Listed Hydrogen Assets and £22m of investible cash, following the investment of Strohm, post the interim period end.

Steady deployment of capital since listing



Source *Company, Panmure Gordon*

LISTED INVESTMENTS

The Company has invested in 19 global hydrogen sector listed equities with an average market capitalisation of £1.4bn overall and a minimum market capitalisation of £200m, at the time of the investment. The aggregate value of the Listed Hydrogen Assets portfolio as at 30 June 2022 was £5.4m. These companies are key players in the electrolysis, fuel cell and clean hydrogen projects subsectors.

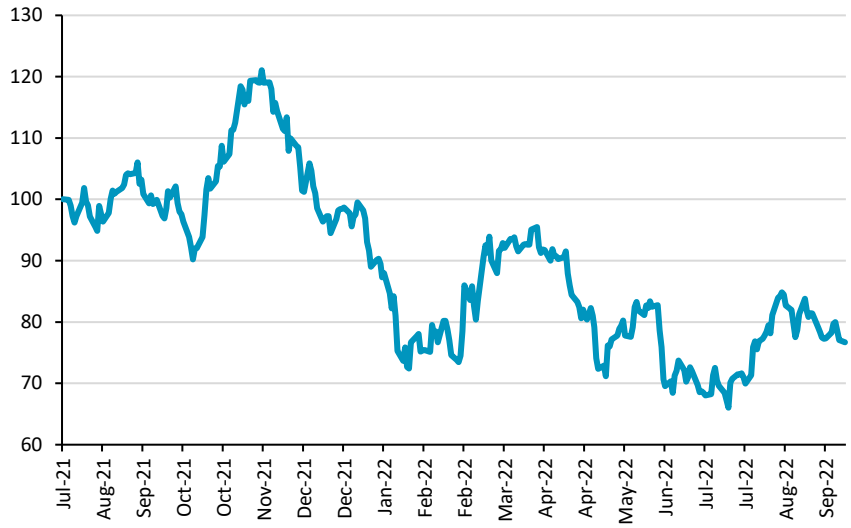
Following better performance towards the end of 2021, continued supply-side pressures and the subsequent market sell-off hampered performance of the Listed portfolio at the start of 2022. Amid rising inflation, a worsening of supply chain pressures and increasing economic uncertainty, growth sectors fell more out of favour as the year progressed, the clean hydrogen sector particularly so, despite Europe's continuing efforts to grapple with an increasingly dominant energy crisis.

However, there have been pockets of strong outperformance, particularly in the US names, which benefitted from specific pricing support on clean hydrogen in the US Inflation Reduction Act (IRA) (see "Macro Outlook" section from page 9 for more detail). Overall, over the last three months, the global clean hydrogen and fuel cells sectors, combined, have fallen on average by 18%. However, within this, US listed stocks have increased by 29%, on average, driven by Bloom Energy and Plug Power.

This relative performance has demonstrated that pricing remains a clear obstacle for investment and we believe a rerating in Europe will come when specific support measures around pricing are introduced at a regional level. The UK remains a key market to do so given Europe has taken a more active project-based approach to driving investment, for example through initiatives such as the Important Projects of Common Economic Interest (IPCEI).

HydrogenOne's listed equity investments are long-term strategic positions in companies that the managers expect to be the eventual leaders in the listed hydrogen market.

Listed portfolio performance (rebased)



Source *Refinitiv, Company, Morningstar, Panmure Gordon*

PRIVATE INVESTMENTS IN 2022

Bramble Energy – £10m (Feb'22)

On 14 February, HydrogenOne announced its fourth private investment, of £10m, in Crawley-based fuel cell company Bramble Energy as part of its Series B funding round. Bramble Energy has pioneered a patented protected printed circuit board (PCB) fuel cell solution (PCBFC™). Importantly, this solution manufactures low cost, scalable and recyclable fuel cell modules, which can be made at any PCB factory world-wide, solving key challenges in the production of hydrogen fuel cells including lead times, up-front investment, manufacturing cost and scalability. For example, one current PCB factory could manufacture more than 5GW of fuel cell modules per year using Bramble's technology – four times more than the world's total fuel cell production capacity in 2019.

This investment increases the portfolio's exposure to fuel cells, adding to the first investment in Sunfire which, although mostly electrolysers, has some fuel cell solutions too. Fuel cells are used to convert clean hydrogen into electricity and water, resulting in a power source that is free from greenhouse gas emissions, and have widespread applications such as heavy-duty and long-distance transport and portable power; a critical component in the clean hydrogen sector.

Bramble's business model centres around innovation and keeping its customer base through easy-to-use and integrated designs allowing the straightforward migration to new product lines. It has launched its portable power product range and is developing high-power-density, liquid-cooled fuel cell systems under the same scalable low-cost technology platform. It intends to deploy its fuel cell technology by ramping up the global distribution of its portable power units in partnership with BOC (a Linde Group company), which are intended as a replacement for diesel generators; a highly polluting (both emission and noise) sector with increasing regulatory pressure e.g. a 1kW petrol generator produces more emissions than 100 passenger cars. Bramble is also developing fuel cell stacks for light commercial vehicles, which is a key market, particularly in retrofit in subsectors such as Marine, given its solution can be configured into any shape and size.

HydrogenOne's investment in Bramble forms part of a c£35m fundraising round, where it has invested alongside key investors in the fuel cell space such as IP Group, BGF, Parkwalk and UCL Technology Fund. HydrogenOne has the right to a board seat.

Gen2 Energy – £3m (Mar'22)

On 3 March, HydrogenOne announced its fifth private investment, of £3.3m (NOK40m), in Gen2 Energy as part of a funding round expected to total at least NOK140m. This marked HydrogenOne's first investment into hydrogen projects, well ahead of schedule. Gen2 is a Norwegian developer company, established in 2019, dedicated to developing, building, owning and operating an integrated value chain for green hydrogen. It plans to manufacture green hydrogen, at scale, by connecting to abundant and low-cost renewable power (largely hydroelectric), which is being generated in excess of market demand in Norway. Hydroelectric power, the key constituent in the power mix in Norway, has the additional advantage of very high uptimes compared to green electricity from wind and solar sources, meaning Gen2's electrolysers could operate virtually 24/7, with lower unit costs of hydrogen as an outcome.

By converting this electricity to green hydrogen, and shipping the hydrogen to industrial customers, the company aims to become a regional supplier of low-cost clean fuel and feedstock. Starting Norway, Gen2 has a series of projects in its pipeline totalling an estimated 700MW, with FID (final investment decision) for its first project due later in 2022.

HydrogenOne is investing in Gen2 alongside HyCap, while existing industrial backers include Vitol, Höegh LNG and the Knutsen Group. HydrogenOne has the right to a board seat at Gen2 and, importantly, the right to co-invest in Gen2's projects.

Cranfield Aerospace – £7m (Mar'22)

On 24 March, HydrogenOne announced a £7m investment in Cranfield Aerospace Solutions Ltd (CAeS) alongside the corporate venture arm of Safran, the French multinational aircraft engine, rocket engine and aerospace-component and defence corporation with c€25bn in annual revenue, as part of a more than £10m funding round. In parallel with its investment, Safran will work with CAeS spanning the area of hydrogen fuel cell powered electric propulsion for aviation. Again, HydrogenOne has the right to a board seat at CAeS.

CAeS is an aerospace market leader in the design and manufacture of new aircraft design concepts, complex modifications to existing aircraft and integration of cutting-edge technologies in the aviation industry, where there is a global commitment to decarbonise. To date there have been 31 commitments from major international aviation bodies and airlines to achieve net zero emissions by 2050. CAeS has refocused the company on Project Fresson and the small, regional turboprop market, characterised by aircraft with 9-30 seats, which globally represents a total of 31,345 aircraft. Firstly, CAeS will focus on CAA certification of the Britten-Norman Islander passenger aircraft, of which 700 are in operation today, using hydrogen fuel cell power, where key milestones are a test flight in 2023 and commercial certification in 2025.

Elcogen – £20m (May'22)

On 9 March, HydrogenOne announced a £20m investment into Elcogen Plc (Elcogen), where existing shareholders include Biofuel OÜ and VNTM Powerfund II, a technology fund focused on clean power. Elcogen is a fuel cell and electrolyser company, with distinctive solid oxide technologies, and over 60 established industrial customers world-wide. It has developed a reversible ceramic technology that can convert hydrogen into emission-free electricity, or electricity into green hydrogen.

Elcogen's solid oxide fuel cell (SOFC) and solid oxide electrolyser cell (SOEC) technology can be applied to a broad range of residential, industrial and commercial applications. SOFC and SOEC can run with efficiency greater than 80% and Elcogen's core technology is distinguished by its ability to operate at lower temperatures than many competitors, resulting in what it claims are superior economics and long-life facilities.

Elcogen is planning an expansion of its facilities in Tallinn to create a new, automated production line for SOFC and stacks, initially scaled at 25MW per year, rising to 50MW per year (equivalent to 100MW-200MW in electrolysis mode).

With this purchase of a minority equity stake, HydrogenOne has the right to a board seat at Elcogen.

HH2E – £5.2m (May'22)

On 16 May, HydrogenOne announced a £5m investment in HH2E AG (HH2E), investing alongside funds managed by Foresight Group LLP, as part of a funding round expected to total at least £10m. Importantly, HydrogenOne and Foresight also signed a framework agreement giving the right to co-invest in HH2E's projects directly. They will provide a substantial part of the development and construction capital covering five large projects. These projects are expected to be at industrial locations across Germany and will cost in excess of €500m to fully develop.

HH2E is a specialist in developing projects to decarbonise industry, using green hydrogen, with associated energy storage and hydrogen power generation facilities with the intention of providing 24/7 clean energy for customers. HH2E has already identified a multi-billion and multi-gigawatt investment potential over several projects in Germany. Over the next few years, the emphasis will be on decarbonising existing industrial sites, but over time, HH2E intends to develop greenfield projects. The first project HH2E is expecting to launch is likely to be at an industrial site in Germany, where there are plans for a new facility starting up in 2025, supplying on-site industrial customers.

With this purchase of a minority equity stake, HydrogenOne and Foresight each have the right to a board seat at HH2E, in addition to the co-investment rights in HH2E's projects noted above.

Strohm – £8.4m (Aug'22; post interim period end)

Most recently and post interim period end on 12 August, HydrogenOne announced an investment of £8.4m in Strohm Holding B.V. (Strohm), investing alongside Strohm's existing investors Shell Ventures, Chevron Technology Ventures and Evonik Venture Capital, in the first close of a funding round totalling £11.8m. HydrogenOne may also invest up to a further £1.7m in the second close of this funding round, which is anticipated to be at least £5.1m in aggregate in addition, expected later in 2022.

Strohm is a private supply chain company, focused on the offshore wind-to-hydrogen sector and is developing safe and dependable pipeline solutions, whereby green hydrogen generated at offshore wind turbines can be transported to shore via Strohm's subsea pipe infrastructure.

From its base near Amsterdam, the Netherlands, Strohm is a global market leader in design and manufacturing of Thermoplastic Composite Pipe (TCP). TCP is more cost effective than steel pipe and importantly has c50% less manufacturing greenhouse gas (GHG) emissions. As TCP is a flexible pipe, it can be installed offshore easily and quickly, using the same methods as currently used for array cables. The technology can be used to safely transport hydrogen, CO_2, ammonia and water, where steel solutions suffer from embrittlement and corrosion. The fundraising is expected to enable Strohm to scale up its plant capacity in the Netherlands and deliver on its strategy as it continues to support clients towards net zero goals with its durable, lightweight and 100% recyclable pipe solution, proven to reduce the CO_2 footprint of pipeline infrastructures by up to 60%.

Over 9GW of offshore green hydrogen projects have been proposed in the North Sea basin, with further multi-GWs growth potential, alongside Carbon Capture, Utilisation and Storage (CCUS), all of which will require specialist pipeline solutions at scale. Strohm is well positioned to service the development of this offshore hydrogen and CCUS market. The investment also diversified HydrogenOne into the subsector of green hydrogen infrastructure.

Following the investment in Strohm, HydrogenOne will have the right to a board seat.

DIVERSIFIED ACROSS THE CLEAN HYDROGEN VALUE CHAIN

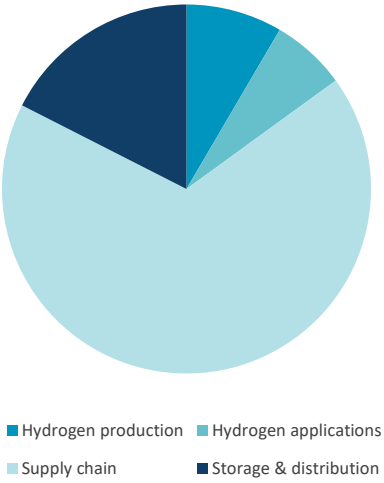
The below chart shows the investment portfolio composition by theme, this is representative of the portfolio post the interim period end and includes the fund's most recent investment of Strohm. Most of the fund's exposure is to the supply chain (67%), largely electrolysis and fuel cells, which reflects the greater number of companies operating in this space and the current stage of the subsector i.e. technology commercialisation. Storage & distribution, which includes supply services and mobile hydrogen refuelling (NanoSUN) and the most recent investment of Strohm post the interim period end, represents 18% of the investment portfolio. There is currently no direct exposure to fixed hydrogen refuelling as this is not yet matured but the managers believe this will be an important area for the future once there is higher fuel cell electric vehicle (FCEV) penetration. Over time, green hydrogen generation through supply services (namely clean hydrogen supply projects) will become the focus for the fund, followed by technology investments into electrolysers, fuel cells and storage. Included in hydrogen production are project developers Gen2 Energy and HH2E.

In terms of geography, Germany and the UK represents most of the total invested portfolio at 86%, which again reflects the level of corporate activity, particularly in the private space, in this region.

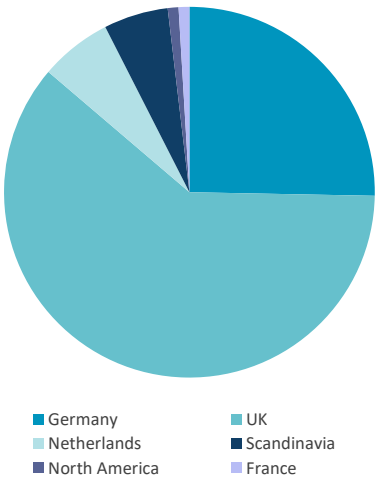
By asset class, Unlisted today represents 74% of the total portfolio but over the medium to long term, approximately 90% of the portfolio is expected to be invested in Private Hydrogen Assets (Unlisted) with the balance invested in Listed Hydrogen Assets.

Investment portfolio by…

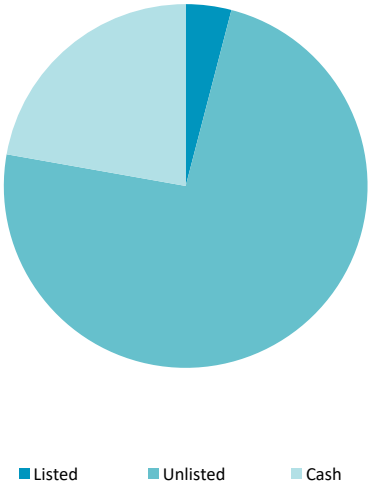
Theme



Geography



Asset class



Source *Company, Morningstar, Panmure Gordon*

MACRO OUTLOOK

Over the course of 2022, the clean hydrogen market has been propelled onto the centre stage of the global energy market with the unfortunate events in Ukraine highlighting the importance of security and further strengthening the case for a more flexible and de-risked energy supply. Nations around the world are acting to shift away from expensive fossil fuel sources as soon as possible. This is underlined by the REPowerEU energy security plan which aims to transform Europe's energy system and the US IRA that aims to make clean hydrogen produced in certain parts of the US among the cheapest in the world. In the UK, the Government has also responded by doubling its initial 5GW of blue and green hydrogen target to 10GW of low-carbon hydrogen, of which a minimum of 5GW will be green hydrogen. Despite a backdrop of rising inflation and ongoing supply chain pressures and delays to project FIDs, a 200x increase in clean hydrogen supply is now anticipated to 2030, as the scale-up of renewable power alongside the phase-out of fossil fuels takes effect.

SUPPORTIVE POLICY CONTINUES

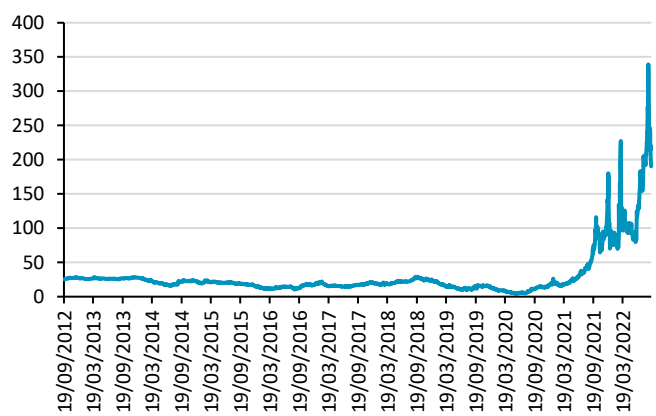
Policy makers and industry are converging on clean hydrogen as a core technology to deliver net zero, improved air quality and enhanced energy security. The Paris Agreement in 2015 led at least 39 countries to set out hydrogen policies and $70bn of funding as part of net zero targets to deliver the energy transition.

The 2022 Russian invasion of Ukraine compelled decisionmakers across the world to focus on the importance of sustained investment and policy support for domestic energy production and, crucially, less reliance on energy imports from overseas. This new drive is further amplifying the demand pull for clean hydrogen from energy transition and air quality needs. As a result, governments and industries have responded with new initiatives in 2022 to deliver affordable, secure, and sustainable low-carbon energy, with clean hydrogen set to play a vital role. Many countries are now focusing on developing energy supplies that are not reliant on imports from Russia, and at the same time an acceleration of the transition to low-carbon energy, from renewable power and clean hydrogen.

Alongside this, 2022 has seen a significant increase in fossil fuel prices, with Brent oil prices for example increasing from a range of US$60-$80 per barrel to a range of US$100-120 per barrel. This change, combined with substantial increases in regional natural gas prices, has improved the relative economics of clean hydrogen compared to grey hydrogen, which is currently the lowest cost and most polluting form of hydrogen supply. Whereas the cost of fossil fuel feedstocks used to make grey hydrogen has increased, the cost outlook for clean hydrogen continues to improve, with larger scale and more efficient electrolysers coming to the market.

Oil price ($/bbl)

Natural Gas (Dutch TTF) (€)

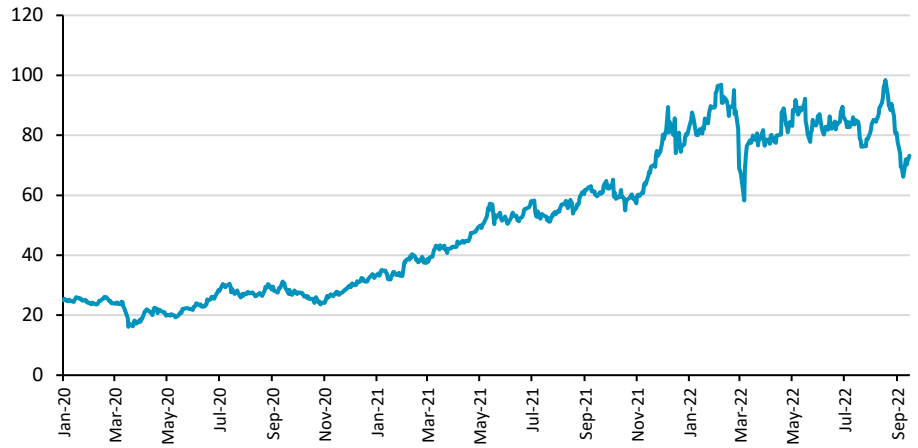


Source *Refinitiv, Panmure Gordon*

In 2022, the EU reshaped its energy policy to the REPowerEU 2030 plan, which calls for over 300GW of clean hydrogen by 2030, compared to 80GW in previous plans. Some €5.4bn in hydrogen subsidies have recently been approved under IPCEI, which are expected to unlock a further €8.8bn of private investment. The Hy2Tech scheme, also announced in 2022, links 41 projects and 35 companies building out the hydrogen sector, and has qualified for IPCEI funding.

Carbon pricing has also been key to the EU's ambition to further strengthen the carbon market as a cornerstone of its Fit-for-55 package, with this fuelling bullish sentiment and a ton of carbon nearing the €100 mark in early February 2022 and again in mid-August 2022. However, the price of carbon lost around 35% of its value since Russia's invasion of Ukraine largely due to liquidity needs and the anticipation of lower demand. Despite this, as the below chart shows, on a long-term trend, carbon prices have been on the rise, increasing 328% since the start of 2020. As a result, the price of clean, green hydrogen has become more competitive as higher carbon prices push up the price of grey hydrogen. Furthermore, following the gas price crisis, the low price volatility of Power Purchase Agreement (PPA) linked green hydrogen is becoming more apparent, which will ensure fuel security, a key driver in the energy transition.

Carbon emissions futures – December 2022 (€)



Source *Intercontinental Exchange, Inc. (ICE)*

In the US, the Department of Energy (DoE) announced a $8bn programme to develop clean regional hydrogen hubs across the country, as part of net zero ambitions by 2050. The 2022 IRA set aside $369bn for climate and energy proposals. Within this Act, there is a tax credit for clean hydrogen of $0.6-$3/kg, depending on life cycle emissions. This is expected to make green hydrogen cost-competitive with grey hydrogen and make US clean hydrogen amongst the lowest cost in the world. This will have the effect of improving the viability of a significant number of projects in the US, thereby accelerating demand for green hydrogen products.

In the UK, 2030 clean hydrogen targets were doubled this year to 10GW. The UK Government has recently announced a national clean hydrogen subsidy scheme called Hydrogen Business Model (HBM), which will use a CfD-style set-up to help fund an initial 1GW of clean hydrogen projects in 2023, as part of the target to reach 10GW of low-carbon hydrogen by 2030, in a potentially £9bn sector. This is in addition to the Net Zero Hydrogen Fund (NZHF) with up to £240m of grant funding to support the upfront costs of developing and building low-carbon hydrogen production projects.

Denmark and the Netherlands are other examples where there are specific targets of electrolysis capacity of 4-6GW and 3-4GW, respectively, by 2030. According to Bloomberg New Energy Finance, the 30 countries that have now announced hydrogen strategies plan to build a total of 73.8GW of electrolysers by 2030.

Access to clean hydrogen is a priority for refiners and steel and ammonia producers as they address GHG emissions. These heavy industries are under increasing pressure to reduce or eliminate grey hydrogen from processes, to reduce the GHG emissions that result from this. Similarly, given the role that methane plays in the food value chain, the need to improve security in general in other markets outside of energy, such as food, has also risen high on the agenda with increasing demand for green ammonia to produce fertilisers. Investment in renewables is also accelerating as governments around the world target an increasing share of renewables in their energy mix. These factors are combining to accelerate the demand for electrolysis and fuel cell equipment and clean hydrogen infrastructure.

SHORT-TERM PRESSURES DO NOT CHANGE LONG-TERM DRIVERS

However, in the short term, and across Europe for example, large projects are being delayed due to a lack of final investment decisions (FID). A number of the EU's IPCEIs in the hydrogen sector fall into this large project category and whilst EU funding is available for such projects, until factors such as subsidies and incentive schemes are announced, there remains a risk of further FID delays.

Nevertheless, a 200x increase in clean hydrogen supply is anticipated from 2019 to 2030, in order to achieve net zero, as the scale-up of renewable power alongside the phase-out of fossil fuels improves the economics of established hydrogen technologies.

Today, there are 50+ clean hydrogen projects onstream around the world with a total capacity of around 330MW, along with in excess of 110 further projects under construction, totalling at least 7GW. In addition, there are some 10GW of offshore hydrogen projects in design, in tandem with rapid growth in offshore wind.

Despite FID delays and macroeconomic uncertainties, key players in the energy market continue to expand capacity. For example, Sunfire, the industrial electrolyser manufacturer using both alkaline and solid oxide (SOEC) technologies and one of HydrogenOne's investee companies, is rapidly expanding its manufacturing capacity and has raised further funds to enable the scaling of its hydrogen technologies. Following an initial €109m ($125m) capital raise in October 2021, with backing from new investors alongside HydrogenOne such as Planet First Partners and Carbon Direct Capital Management, Sunfire has secured two additional partners, Copenhagen Infrastructure Partners (CIP) and Blue Earth Capital, in a second closing to the Series D round in March 2022 to reach a total raise of €195m ($215m).

In the listed space, electrolyser manufacturer Nel announced in August that it plans to spend €35m ($36.2m) to double the capacity of its alkaline electrolyser factory in Herøya, Norway, to 1GW, on the back of rising demand for green hydrogen production equipment and favourable political winds that extend beyond Europe to the US.

Increasingly, investors are also participating in expansion plans through partnerships and framework agreements. For example, Sunfire also entered into a significant framework agreement CIP to supply its pressurised alkaline electrolysers, with a total capacity of up to 640MW, to supply a portion of CIP's multi-GW Power-to-X project pipeline. CIP is the world's largest fund manager within greenfield renewable energy infrastructure investments with nine funds and c€16 billion of assets under management. At COP 26, CIP announced the ambition and a roadmap for increasing and accelerating its role in delivering on the energy transition by deploying €100bn into green energy investments by 2030.

As highlighted by the growing pipeline, the strengthened macroeconomic outlook and subsequent increase in corporate activity, the opportunities across the energy transition value chain available to HydrogenOne are increasing with the ongoing development of a significant pipeline of private clean hydrogen investments in excess of £500m, including a near-term pipeline over £100m. In order to facilitate future growth, the Company intends to establish a share issuance programme, which should simplify future fund raising.

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London EC4M 9AF
+44 (0)20 7886 2500
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