QuotedData BY MARTEN & CO

INVESTOR

HydrogenOne Capital Growth

Investment Companies | Update | 23 April 2024

Momentum building despite discount

While the share price performance of HydrogenOne Capital Growth (HGEN) remains frustrating, investors should be buoyed by the ongoing growth of the portfolio and the accelerating development of the green hydrogen sector.

Despite challenging macro-economic conditions (including stubborn inflation and still elevated interest rates), HGEN's net asset value (NAV) grew 5.8% over 2023, while the portfolio generated aggregate revenue growth of 125%. This momentum reflects the rapidly accelerating demand for green hydrogen products and services, with many of HGEN's companies investing heavily to increase productive capacity to cope with growing backlogs. Industry dynamics also remain supportive as investment flows into the sector while government funding programmes provide further support.

Given the growing confidence of those within the sector and the ongoing fundamental performance of its companies, it is difficult to see how such a wide discount to NAV has opened up. We believe this is more a symptom of negative market sentiment, and as economic conditions steadily improve it is possible that we will see a significant re-rating of HGEN's shares.

Diversified green hydrogen exposure

HGEN aims to deliver an attractive level of capital growth by investing, directly or indirectly, in a diversified portfolio of hydrogen and complementary hydrogen-focused assets.

Sector	Renewable energy infrastructure
Ticker	HGEN LN
Base currency	GBP
Price	44.30
NAV[1]	103.0p
Premium/(discount)	(57.0%)
Yield	Nil

Note 1) Morningstar estimate, last published as at 31 December 2023

Solid NAV growth and the fundamental momentum of the sector are increasingly reassuring

HGEN now has exposure to HH2E's Lubmin project

Sunfire has seen 10x revenue growth since HGEN's initial investment

Contents

Domicile	England & Wales
Inception date	30 July 2021
Manager	JJ Traynor Richard Hulf
Market cap	57.07m
Shares outstanding (exc. treasury shares)	128.82m
Daily vol. (1-yr. avg.)	184,819 shares
Net gearing	Nil

Click for our most recent update note

Click for an updated HGEN's factsheet

Click here for HGEN's peer group analysis

Analysts

Andrew Courtney
ac@quoteddata.com

James Carthew
jc@quoteddata.com

Matthew Read
mr@quoteddata.com

Click to provide feedback to the company

Click if you are interested in meeting HGEN's managers

Click for links to share trading websites

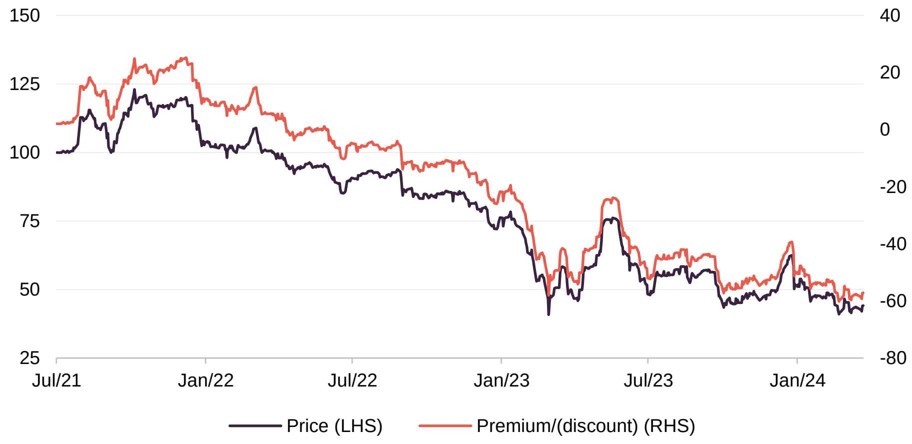
At a glance

Share price and discount

Over the 12 months ended 31 December 2023, HGEN's shares traded on an average discount to NAV of 41.5%, moving within a range of 17.6% to 58.1%. As of publishing, the discount stood at 57%.

As noted, we don't believe this is a fair reflection of the underlying quality of the company's assets, or the overall health of the green hydrogen sector. Promisingly, the share price can respond rapidly to changes in sentiment, as we saw in May last year, shown in Figure 6.

Share price and premium/(discount)

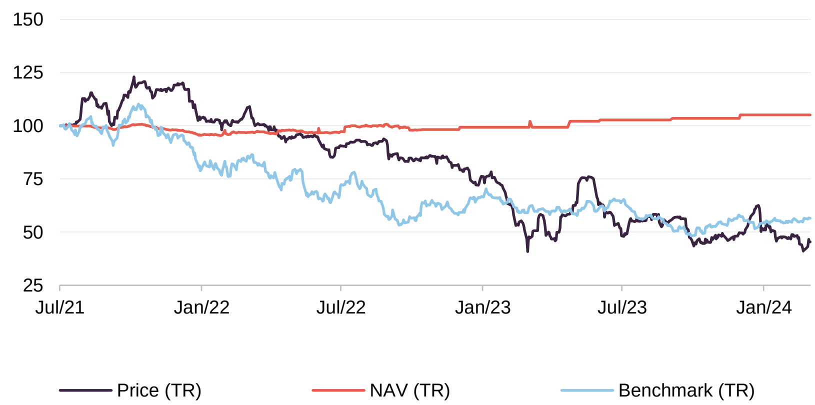


Source: Morningstar, Marten & Co

Performance over five years

Despite generating solid NAV growth over the course of the year, HGEN's share price has continued to struggle. This reflects the challenges faced by both the renewable energy sector and its immediate listed green hydrogen peers. While this remains frustrating, solid NAV growth and the fundamental momentum of the sector (including strong revenue growth and improving profitability) are increasingly reassuring. We believe this should eventually support a significant re-rating of the company's shares, particularly if we see ongoing improvements in economic conditions.

Performance since launch



Source: Morningstar, Marten & Co

Period ended	Share price total return (%)	NAV total return (%)	Benchmark[2] total return (%)	MSCI ACWI total return (%)
31/03/2022[1]	**8.8**	**(3.2)**	**(14.7)**	**4.5**
31/03/2023	**(56.6)**	**5.4**	**(27.0)**	**(1.4)**
31/03/2024	**(4.0)**	**3.0**	**(9.4)**	**20.6**

Source: Morningstar, Marten & Co. Note 1) period from launch on 30 July 2021. 2) Benchmark is Solactive Hydrogen Economy Index.

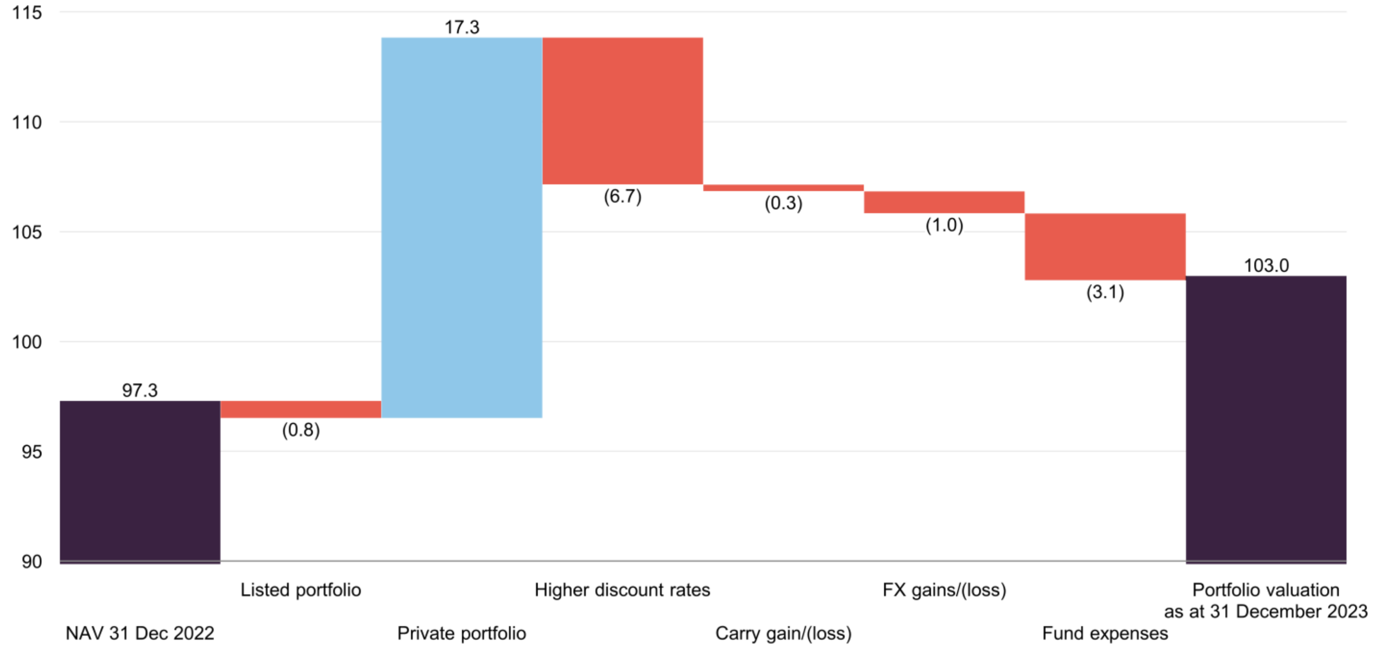
Annual results and market backdrop

Our initiation note – funding a green revolution – describes HGEN's investment approach and the fundamentals of the green hydrogen sector

On 18 April 2024, HGEN published its annual results for the year ended 31 December 2023. Over the 12-month period, the company's NAV increased by 5.8% to £132.7m thanks to the strong performance of its portfolio companies. Despite the positive returns the share price fell 37%, widening the discount to 52%.

While not reflected in the share price, the outlook for the company continues to improve as the adoption of green hydrogen accelerates, supported by investment from some of the world's largest companies. In 2023, some $17bn flowed into green hydrogen projects, a 400% year on year increase, highlighting the nascent value of the sector which, while rapidly advancing, remains a technology yet to fully reach commercialisation. Several of HGEN's investments also saw significant developments over the course of the year, which we discuss in detail on page 5. This included progress on HH2E's Lubmin project which, if approved, would mark a significant milestone for green hydrogen production in Europe.

Figure 1: Contributions to change in NAV over 12 months to 31 December 2023 (pence per share)



Source: HGEN, Marten & Co.

As we covered in detail in our initiation note, the opportunity for industrial-scale green hydrogen is vast with estimates suggesting a third of all greenhouse gas (GHG) emissions today could be addressed by the technology, particularly in hard to decarbonise sectors of the market such as power generation and transport.

Accelerating industry dynamics are reflected in the performance of HGEN's portfolio, with aggregate revenue up 125% from the year prior. In many cases, this is a result of these companies converting developing technologies into orders from customers, with investment flowing into productive capacity to match growing order books.

As has been well documented, investors have remained wary of more growth orientated companies due to the challenges created by stubbornly high inflation and interest rates, in addition to the wider negative sentiment surrounding the UK economy. That is reflected in the increase in the discount rate used to value HGEN's portfolio. Promisingly, however, there have been signs of improvement, with inflation in particular falling dramatically from the average levels seen over 2023.

While uncertain macro-economic conditions continue to be a challenge, the potential upside for the sector remains one of the highest in the investment trust universe given the potential for green hydrogen to revolutionise energy use. Thanks to its diverse portfolio invested across the green hydrogen supply chain, HGEN provides an excellent platform to invest in this fast-growing sector, with the opportunity made even more attractive given current discounts.

Asset allocation

As of 31 December 2023, HGEN had deployed the majority of its available capital, with 95% of the portfolio invested in private assets, 2% in listed assets and 3% in cash. This is a significant shift in its position from 12 months ago where almost 15% of the portfolio was still held in cash.

The investment activity over the year focused predominantly on strategic follow-on investments (further investments in the same company) alongside both existing and new investors such as Cemex, HD Hyundai, and Baker Hughes. There was one new investment made earlier the year, the Thierbach project in Germany.

In total, £10.6m of investments were made, which we discuss in the portfolio developments section on page 6.

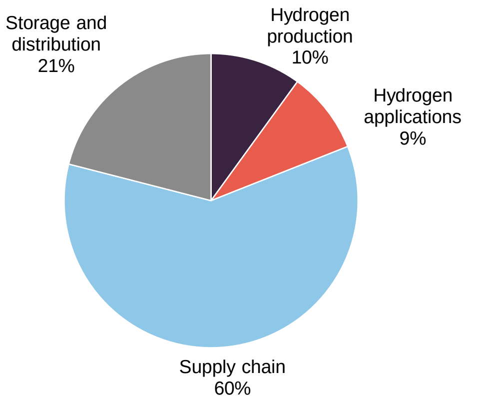
While frustratingly, HGEN's discount has limited the ability for the company to raise new capital, the investment adviser remains happy with the state of the existing portfolio. In addition, the team has identified exit opportunities for a number of private portfolio companies, some of which have already engaged with the market. The adviser remains confident that these companies can achieve targeted exit multiples and we expect this would further validate HGEN's NAV (by providing a valuation against which to benchmark the company's other investments) and could provide a catalyst for the re-rating of the company's shares. Any exits will also provide additional capital for the ongoing development of the portfolio.

Figure 2: HGEN portfolio as at 31 December 2023

	Country	Sector	Value as at 31/12/23 (£m's)	Amount invested in 2023 (£m's)	Revalue from 31/12/22 (£m's)	% of NAV as at 31/12/23 (%)	% of NAV as at 31/12/22 (%)
Sunfire	Germany	Electrolyser producer	27.1	1.8	3.5	20.4	20
Elcogen	United Kingdom	Solid oxide fuel cells	24.4		4.0	18,4	19
Strohm	Netherlands	Thermoplastic composite pipe	19.7	0.5	7.6	14.9	11
HiiROC	United Kingdom	Clean hydrogen technology	13.7		0.8	10.3	12
Bramble Energy	United Kingdom	PCB fuel cells	10.6		0.6	8.0	9
Cranfield Aerospace Solutions	United Kingdom	Hydrogen powered aircraft	11.9	3.5	2.1	8.9	7
NanoSUN[1]	United Kingdom	Mobile hydrogen storage and refuelling	5.4	2.5	(8.6)	4.1	11
HH2E AG	Germany	Green hydrogen producer	7.0		1.8	5.3	5
Gen2 Energy	Norway	Green hydrogen producer	4.4	0.4	0.6	3.3	3
HH2E Thierbach phase 1	Germany	Green hydrogen project	1.9	1.9	0	1.5	-
Portfolio valuation			128.5	10.6	12.4	96.8	81.7
Cash and cash equivalents			4.8				
Other net assets			(0.6)				
Total			132.7				100

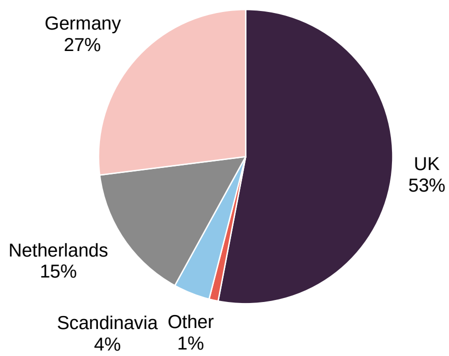
Source: HGEN, Marten & Co. Note 1) since restructured to become Swift Hydrogen

Figure 3: HGEN portfolio by theme as at 31 December 2023



Source: HGEN

Figure 4: HGEN portfolio split by geography as at 31 December 2023



Source: HGEN

Major portfolio developments

Sunfire

Sunfire has seen 10x revenue growth since HGEN's initial investment

Industry-leading electrolyser manufacturer, Sunfire, remains HGEN's largest investment and continues to go from strength to strength, delivering a number of key milestones over the past year. Notably, Sunfire has seen impressive revenue growth from a growing global customer base, with this increasing over 10x since HGEN's initial investment back in October 2021.

The company received a significant boost in August following a purchase order for a 100 MW pressurised alkaline electrolyser. This supply agreement, with a leading European refinery, marks a key milestone, supplying one of the world's largest electrolyser systems.

This announcement followed the launch of the company's new production facility in Solingen, Germany earlier in the year as Sunfire seeks to keep up with the growing demand for its products. The expansion of this facility has helped increase the company's total capacity to 500MW of alkaline electrolysis with plans to expand this to 1GW in due course.

Both the increasing scale and demand for electrolysers reflects the fast-moving dynamics of the green-hydrogen industry, which we discussed in detail in our initiation note and which you can find here. Recognising the opportunity, HGEN invested a further £1.8m early in 2023, highlighting the manager's confidence in its largest position.

Sunfire has secured a €500m funding package

Crucially, Sunfire continues to receive additional funding to drive forward development, receiving €169m under the EU IPCEI scheme (projects that support cross border infrastructure and innovation initiatives), to establish the first industrial series production of its solid oxide and pressurised alkaline electrolysis technologies. The company's capital position was supported further by an announcement in March 2024 of an equity funding round which was part of a wider funding package totalling more than €500m. The success of this round underscores both HGEN's strategy of backing the leading innovators in the hydrogen industry, and its current valuation of Sunfire. As part of the funding round, HGEN exercised its rights to make a follow-on investment of £0.3m which mitigates the potential impact of dilution from the investment round, leaving the company's stake in Sunfire unchanged.

Elcogen

Elcogen has external funding for its new plant in Estonia

Elcogen is another of HGEN's major electrolyser investments. It continues to benefit from its track record and established position with over 60 industrial customers worldwide. The company's existing footprint and potential for scalability has helped attract ongoing strategic investment. This includes Korea Shipbuilding & Offshore Engineering, a member of HD Hyundai Group, which invested €45m in the fourth quarter of 2023, and Baker Hughes who in April 2024 announced a strategic investment as part of an overall funding package totalling €140m. The money will help fund a new factory facility in Tallinn, Estonia, where preparations for construction have now commenced. Initially, the facility will have capacity of 100MW, but the plan envisages capacity of 360MW in time.

In addition to these investments, Elcogen intends to collaborate on green hydrogen production solutions with the two companies going forward. For HD Hyundai, the focus will be on marine propulsion systems and stationary power generation, with the intent to manufacture products in South Korea.

Other significant developments during the year included a supply and research and development (R&D) collaboration agreement with the French company Genvia. It was also awarded funding from IPCEI for a €25.4m project to accelerate the deployment of its solid oxide technology.

Strohm

Tripling of capacity at Strohm's Dutch plant

HGEN's third largest holding, Dutch-based pipeline company Strohm, was one of the main drivers of HGEN's NAV improvement over 2023. The company continues to execute its growth strategy, responding to rapidly accelerating demand and a record order book by tripling the capacity of its Dutch plant to 140km/year.

Strohm's clients feature multi nationals ExxonMobil, TotalEnergies, and PRIO with projects including natural gas pipeline installations off the coast of Brazil and Congo and a more recently announced development in Guyana which was the largest contract ever secured by Strohm. The Guyana project was also a technological success with Strohm successfully installing its first deep-water / high pressure TCP jumper (a flexible connection for wellheads and manifolds) at water depths of 1,700m, opening up the possibility of a range of potential markets.

These deals reflect the value of its unique, Thermoplastic composite pipe technology (see our initiation note for more details) which can be used across conventional energy, as well as renewable applications, greatly reducing the associated technology risk.

Strohm achieved profitability ahead of schedule

Notably, the company has achieved profitability ahead of schedule, converting exceptional year on year revenue growth of 200% into positive EBITDA in the fourth quarter of 2023. It also continues to benefit from strong regulatory tailwinds, having been selected as a partner for the Hydrogen Offshore Production for Europe project and OFFSET project.

The company's ongoing execution saw HGEN invest a further £0.5m in November 2023.

Cranfield Aerospace

The £3.5m follow-on investment in UK-based passenger flight innovator, Cranfield Aerospace, was the largest made by HGEN in 2023. This was done alongside Safran Corporate Ventures and the Strategic Development Fund, with the fresh capital injection reflecting the de-risking of its hydrogen-electric turbo-prop technology and the introduction of the Dronamics platform, the world's first cargo drone airline using hydrogen fuel cell propulsion.

De-risking hydrogen-powered turboprop passenger flight and introduction of cargo drones

During the year, the company also unveiled its newly refurbished hangar and R&D facility while announcing a change in its strategic direction. This related to a previously announced plan for a merger with Britten-Norman (discussed in our last note, which you can read here). This has been updated, with the intention now to further strengthen the strategic co-operation between these two separate parties.

Swift Hydrogen

Post period end, in Feburary 2024, NanoSUN was relaunched as Swift Hydrogen to support a lower cost base and simplified capital structure. It received £2.5m of follow-on funding from HGEN in 2023, reflecting the ongoing development of its hydrogen distribution and mobile refuelling equipment. Swift Hydrogen continues to generate the fastest top-line growth (growth in gross sales or revenues) of HGEN's investments, expanding revenue by over 90x since December 2021.

HH2E & Thierbach investments

HGEN invested in HH2E (the German developer of hydrogen production plants) in May 2022 and provided £1.9m of finance to the HH2E Thierbach project in 2023.

Post period end, HGEN agreed to a restructuring of HH2E in order to streamline its business ahead of its planned third-party fundraising efforts. As a result, HGEN has essentially swapped stakes in project special purpose vehicles (SPVs) for equity. While its equity share stays at 11%, HGEN now has direct exposure to the Lubmin project which is designed for an initial input capacity of 100 MW, producing 7,000 tonnes per annum of REDII-compliant green hydrogen from 2026. It is expected to be the first final investment decision (FID) out of the block for HH2E with the value impact for HGEN expect to come following the financial close of the project within the next 12 months.

HGEN now has exposure to HH2E's Lubmin project

On completion, this would mark a significant milestone for HGEN and increase green hydrogen's technological footprint in Europe.

The development of these projects, which are supported by institutional investors such as DHL Group and Sasol, continues to provide validation to HGEN's investment thesis. There remains significant growth potential for these assets and HH2E continues to secure contracts covering power procurement, hydrogen distribution, and offtake arrangements, alongside forming strategic alliances with notable entities such as 50hertz, Gascade, DHL, and H2 Mobility.

Performance

As noted, despite generating solid NAV growth over the course of the year, HGEN's share price has continued to struggle. This reflects the challenges faced by both the renewable energy sector and its immediate listed green hydrogen peers. While this remains frustrating, solid NAV growth and the fundamental momentum of the sector are increasingly reassuring.

We believe this should eventually support a significant re-rating of the company's shares, particularly if we see ongoing improvements in economic conditions. Supporting this view is the portfolio's current revenue multiple of 9.8x (share price to revenue). When taken together with accelerating revenue growth of over 100%, this appears very reasonable, particularly when considering the potential scalability of many of the company's assets.

Figure 5: Total return cumulative performance over various time periods to 31 December 2023

	3 months (%)	6 months (%)	1 year (%)	Since launch (%)
HGEN share price	(8.7)	(18.0)	(4.0)	(54.7)
HGEN NAV	0.0	2.3	3.0	5.1
Solactive Hydrogen Economy Index	(1.5)	6.0	(9.4)	(43.5)
MSCI ACWI	9.2	16.1	20.6	24.2

Source: Morningstar, Marten & Co.

Premium/(discount)

Over the 12 months ended 31 December 2023, HGEN's shares traded on an average discount of 41.5%, moving within a discount range of 17.6% to 58.1%. As of publishing, this stood at 57%.

As noted, we don't believe this is a fair reflection of the underlying quality of the company's assets, or the overall health of the green hydrogen sector. Promisingly, the share price can respond rapidly to changes in sentiment, as we saw in May last year, shown in Figure 6.

Figure 6: HGEN premium/(discount) since launch

Source: Morningstar, Marten & Co

ESG

HGEN is an Article 9 fund, the most sustainable classification under EU SFDR, with 92% of its portfolio aligned with EU taxonomy. In 2023, the company produced its first standalone sustainability report aligned with the IFRS International Sustainability Standards Board as an early adopter. This showed that as a result of its activities, 91,116 tonnes of CO_2e greenhouse gas emissions were avoided over FY 2023, and 141,695tCO_2e have been avoided since it initial public offering (IPO).

Fund profile

More information is available on the trust's website: hydrogenonecapitalgrowthplc.com

HGEN is the first London-listed fund investing in clean hydrogen for a positive environmental impact. It aims to deliver an attractive level of capital growth by investing, directly or indirectly, in a diversified portfolio of hydrogen and complementary hydrogen-focused assets whilst integrating core environmental, social and governance (ESG) principles into its decision-making and ownership process.

HGEN compares its NAV performance to the Solactive Hydrogen Economy Index.

HGEN's AIFM is FundRock Management Company (Guernsey) Limited (formerly Sanne Fund Management (Guernsey) Limited). It is advised by HydrogenOne Capital LLP, whose lead managers are JJ Traynor and Richard Hulf.

HGEN can hold both listed and unlisted (private) investments, however the majority of the portfolio is invested in unlisted hydrogen assets. In both cases, HGEN aims to be a long-term investor. The early portfolio was established with a liquidity reserve of cash and listed hydrogen assets, with the intention of giving investors exposure to the sector from day one.

HGEN holds its unlisted investments through a 100% stake in a limited partnership, HydrogenOne Capital Growth Investments (1) LP.

Previous publications

Readers interested in further information about HGEN may wish to read our previous note – Sky is the limit for HGEN – published on 3 May 2023, and our initiation note provided in Figure 7 below.

Figure 7: QuotedData's previously published notes on HGEN

Title	Note type	Date
Funding a green revolution	Initiation	3 May 2023
Sky is the limit for HGEN	Update	17 October 2023

Source: Marten & Co

IMPORTANT INFORMATION

Marten & Co (which is authorised and regulated by the Financial Conduct Authority) was paid to produce this note on HydrogenOne Capital Growth.

This note is for information purposes only and is not intended to encourage the reader to deal in the security or securities mentioned within it.

Marten & Co is not authorised to give advice to retail clients. The research does not have regard to the specific investment objectives financial situation and needs of any specific person who may receive it.

The analysts who prepared this note are not constrained from dealing ahead of it but, in practice, and in accordance with our internal code of good conduct, will refrain from doing so for the period from which they first obtained the information necessary to prepare the note until one month after the note's publication. Nevertheless, they may have an interest in any of the securities mentioned within this note.

This note has been compiled from publicly available information. This note is not directed at any person in any jurisdiction where (by reason of that person's nationality, residence or otherwise) the publication or availability of this note is prohibited.

Accuracy of Content: Whilst Marten & Co uses reasonable efforts to obtain information from sources which we believe to be reliable and to ensure that the information in this note is up to date and accurate, we make no representation or warranty that the information contained in this note is accurate, reliable or complete. The information contained in this note is provided by Marten & Co for personal use and information purposes generally. You are solely liable for any use you may make of this information. The information is inherently subject to change without notice and may become outdated. You, therefore, should verify any information obtained from this note before you use it.

No Advice: Nothing contained in this note constitutes or should be construed to constitute investment, legal, tax or other advice.

No Representation or Warranty: No representation, warranty or guarantee of any kind, express or implied is given by Marten & Co in respect of any information contained on this note.

Exclusion of Liability: To the fullest extent allowed by law, Marten & Co shall not be liable for any direct or indirect losses, damages, costs or expenses incurred or suffered by you arising out or in connection with the access to, use of or reliance on any information contained on this note. In no circumstance shall Marten & Co and its employees have any liability for consequential or special damages.

Governing Law and Jurisdiction: These terms and conditions and all matters connected with them, are governed by the laws of England and Wales and shall be subject to the exclusive jurisdiction of the English courts. If you access this note from outside the UK, you are responsible for ensuring compliance with any local laws relating to access.

No information contained in this note shall form the basis of, or be relied upon in connection with, any offer or commitment whatsoever in any jurisdiction.

Investment Performance Information: Please remember that past performance is not necessarily a guide to the future and that the value of shares and the income from them can go down as well as up. Exchange rates may also cause the value of underlying overseas investments to go down as well as up. Marten & Co may write on companies that use gearing in a number of forms that can increase volatility and, in some cases, to a complete loss of an investment.

QuotedData is a trading name of Marten & Co, which is authorised and regulated by the Financial Conduct Authority.

50 Gresham Street, London EC2V 7AY
0203 691 9430

www.QuotedData.com

Registered in England & Wales number 07981621,
2nd Floor Heathmans House,
19 Heathmans Road, London SW6 4TJ

Edward Marten (em@quoteddata.com)
Nick Potts (np@quoteddata.com)
Colin Edge (ce@quoteddata.com)
Eiman Ali (ea@quoteddata.com)
Aiman Shaikh (as@quoteddata.com)

INVESTMENT COMPANY RESEARCH:

Matthew Read (mr@quoteddata.com)
James Carthew (jc@quoteddata.com)
David Johnson (dj@quoteddata.com)
Andrew Courtney (ac@quoteddata.com)
Richard Williams (rw@quoteddata.com)
Harry Hartigan (hh@quoteddata.com)