

HydrogenOne Capital Growth plc

FY22 Annual Results presentation



**Investing in clean hydrogen
for a climate-positive impact**

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- **Full year results for the year ending 31st December 2022**
- Portfolio update
- Appendix: Market update
- Appendix: Invested companies update

2022 highlights

£125m
NAV

97p
NAV per share

>£100m
Deployed in
low carbon
growth

6
New assets

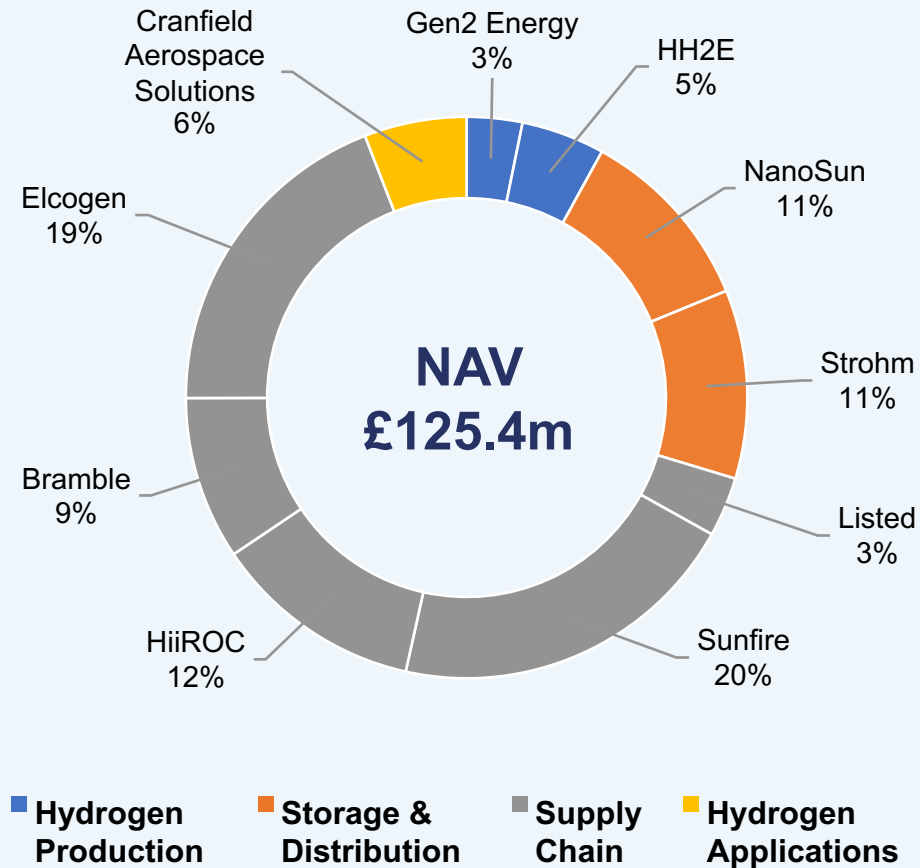
Article 9
SFDR

42,716
tCO₂e GHGs
avoided

- NAV increased by 22% from £102.8m to £125.4m from the end of 2021 to 2022, with NAV per share of 97.3p at the end of 2022
- Portfolio of companies are performing well against the backdrop of improving industry fundamentals. Private companies, which account for 97% of our portfolio, delivered £33m in revenue in 2022, an increase of 110% from 2021
- Despite challenging market conditions in 2022 and so far in 2023, the Company has raised net £21m in fresh capital over the last year, and retains a cash position of £18m at end-2022
- Invested £54m in 6 private companies in 2022, and with a further investment early in 2023. The 10 private investments offer diversified exposure to the entire clean hydrogen value chain
- Consistent approach to portfolio valuation, centred on discounted cash flows, using IPEV guidelines. The resulting private valuation has an implied forward revenue multiple of 6X (2024E), which is some 40% lower than listed multiples
- Implementation of SFDR Article 9 and PRI signature underpin our ESG policy. Sector specialism and capital discipline remain key competitive advantages for the Company

HydrogenOne has a unique and diversified portfolio, invested across the hydrogen value chain

Portfolio composition (as at 31 Dec 22)



Where we invest

- Revenue-generating equipment businesses
- Hydrogen production projects
- Co-investing with industrial strategics and institutions
- Diversified portfolio and geography
- Clear strategies to exit via IPO or trade sale

Financial and operational highlights 2022

	31 Dec 2022	31 Dec 2021	% change ^{1,2,3}
NAV per Ordinary Share	97.31p	95.75p	1.6%
NAV	£125.4m	£102.8m	21.9%
Ordinary Share price	79.4p	119.5p	-33.6%
Market cap	£102.2m	£128.3m	-20.4%
Share price premium/ (discount) to NAV ²	(18.5)%	24.8%	-43.3%
Ongoing Charges	2.51%	2.06%	26.7%
Cumulative capital deployed in low-carbon growth (since inception)	£102.9m	£48.6m	111.7%
GHG emissions avoided	42,716 tCO ₂ e	N/A	N/A

- Diversified portfolio of hydrogen assets, delivering growth for investors across the portfolio
- The NAV increase was driven primarily by valuation uplifts to the Company's portfolio of private investments, positively contributing 3.93 pence (+4.1%) per share to the NAV movement, partly offset by fund costs
- SFDR Article 9 classification and signatory of UN PRI. £102.9m capital deployed in low carbon growth has resulted in 42,716 tonnes of CO₂ equivalent of avoided GHG emissions
- Positive outlook underpinned by macro tailwinds and supportive regulatory regimes in the USA and Europe

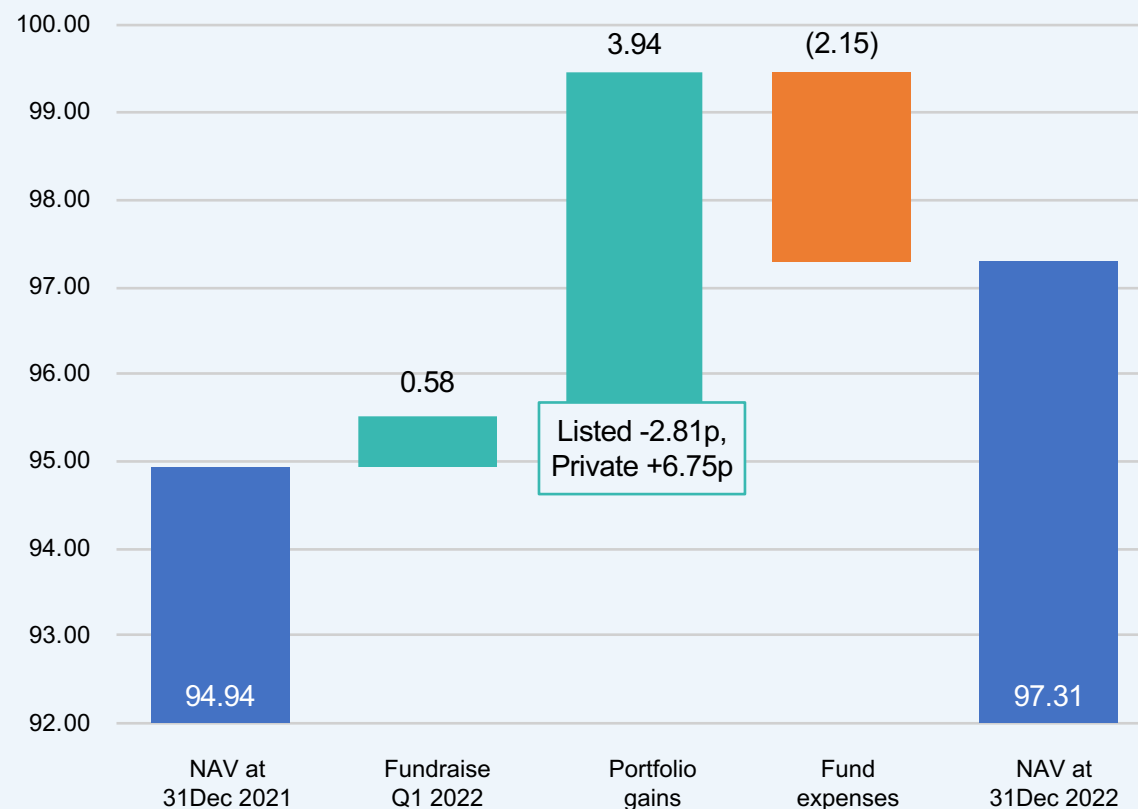
¹ Alternative Performance Measures ("APMs")

² Total returns in sterling for the 12 months to 31 December 2022

³ Includes April 2022 fundraise proceeds of £20.9 million net of costs

Growing our NAV and NAV/share in 2022

NAV movements 2021-2022 (pence per share)



- Increased NAV in multiple private assets, partly offset by lower listed valuations and fund costs

NAV (£m) and NAV pence per share, 2021-22



- Steady progression in NAV/share

Portfolio valuation changes 2021-22

Portfolio valuation changes, 12 months ended 31 December 2022





Six new private investments into leading clean hydrogen companies in 2022



£10m

Pioneer in revolutionary fuel cell design and manufacturing techniques, scaling up power output of units to 100kw



£13m

Large scale Norwegian green hydrogen project developer, up to 700MW green hydrogen projects, first project expected to launch in 2023



£7m

Developing hydrogen-powered emissions-free turboprop passenger flight, test flight aimed for 2024. Existing customer orderbook purchasing modification kits to convert Britten-Norman Islanders to hydrogen



£20m

Industry-leading innovator and supplier of solid oxide cells and stacks, generating revenues from over 60 customers worldwide. Orderbook continued to increase, with multiple agreements signed during the year



£5m

A prominent German project developer, secured attractive brownfield sites close to hydrogen offtake with grid connections capable of 1GW capacity, provides HGEN with project co-investment



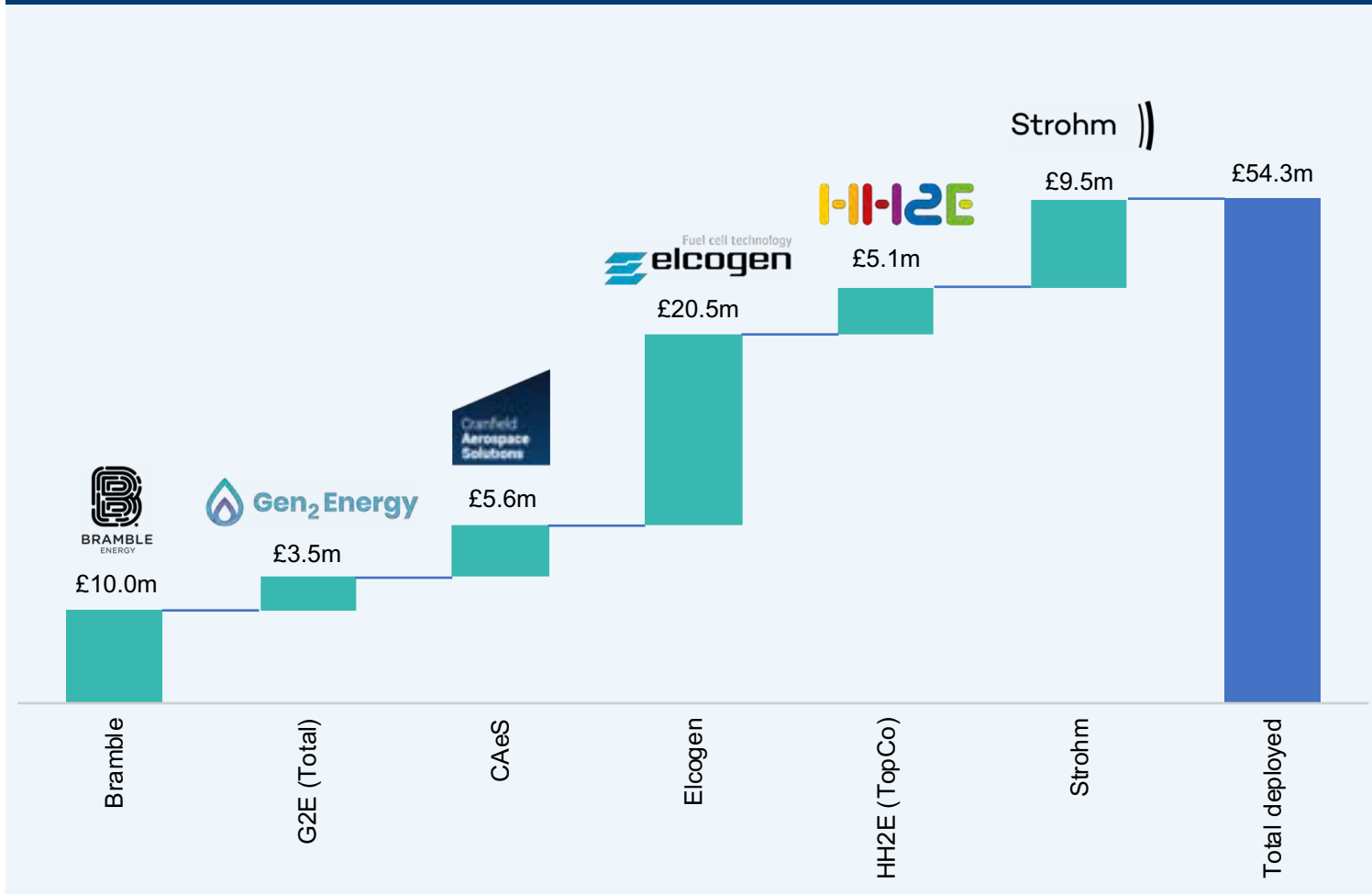
£10m

Leader in offshore hydrogen pipelines, backed by supermajors. Aiming to grow revenues from energy transition including hydrogen to over 50% by 2025

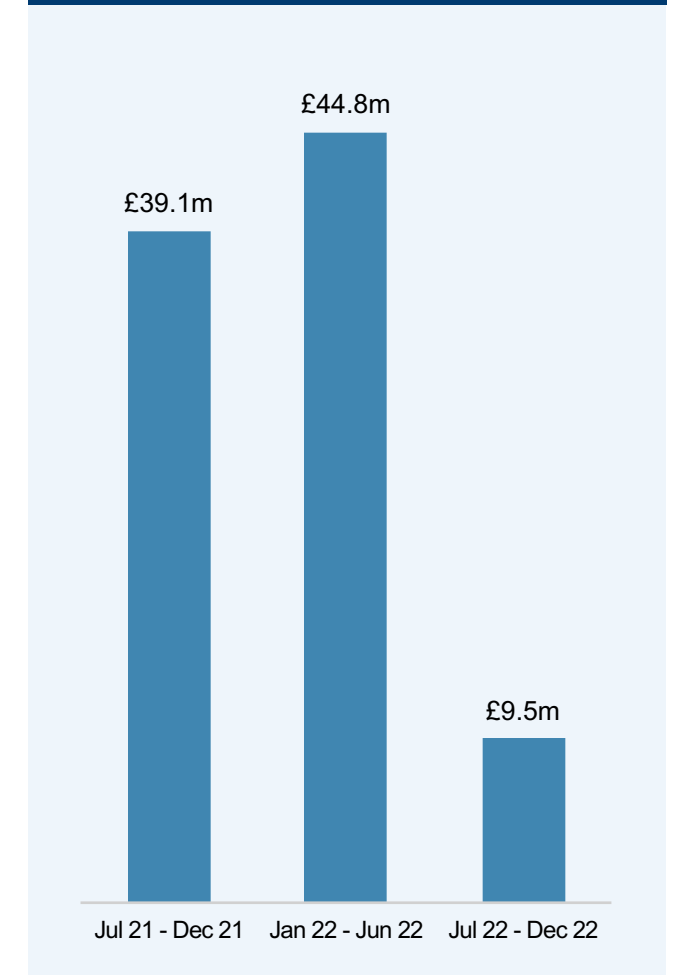
Deploying £54m in low-carbon growth in 2022

Capital deployment has slowed in H2 2022 in response to market conditions

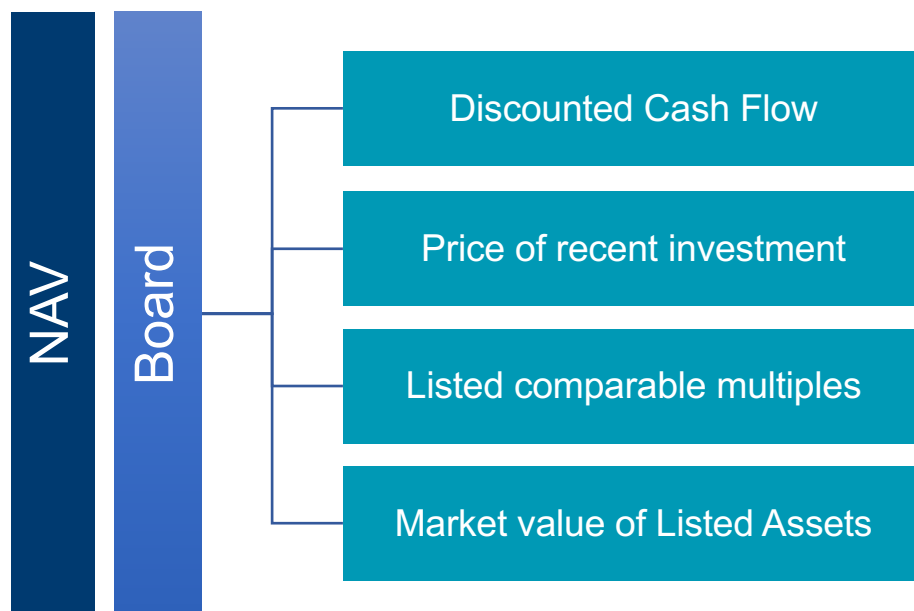
Capital deployed in the 12 months ended 31 December 2022



Total new investment deployed, Jun 2021 - Dec 2022



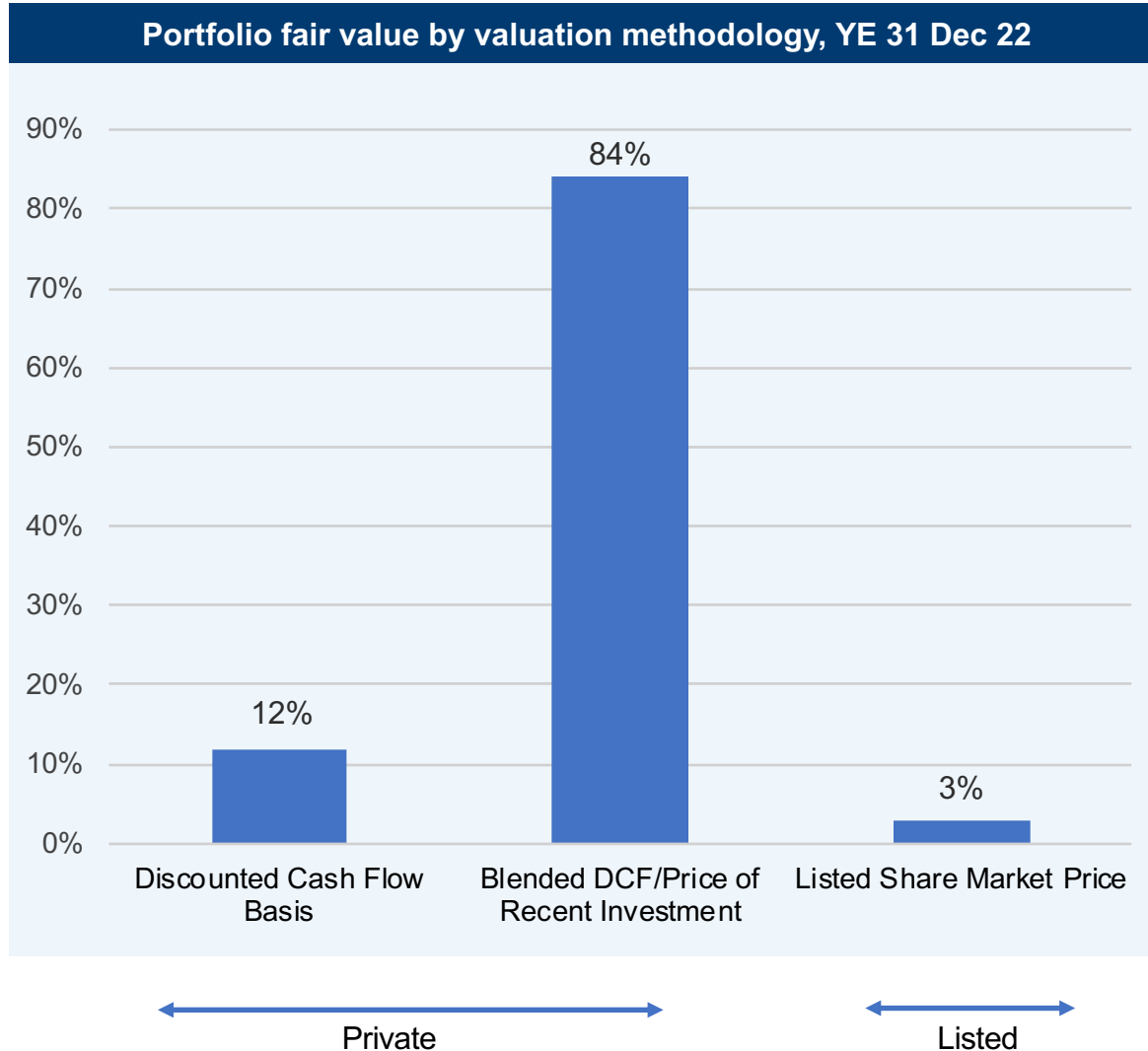
Valuations using IPEV guidelines



Consistent approach to valuation

- Valuations updated for the entire private portfolio on a quarterly basis, reviewed and approved by the AIFM and Board
- The private portfolio is principally valued using either the DCF method, or a combination of the DCF method and the price of recent investment. The DCF valuations are also benchmarked against listed peer group valuations
- Discount rates are calculated using market parameters for each investment domicile. The portfolio average discount rate for December 2022 was 12.9%, compared to 12.5% in 2021
- HGEN's valuation is audited annually by KPMG

Applying a rigorous valuation method and embed downside protections in investments



Governance and downside protection

- 100% of the private portfolio has downside protections such as anti-dilution and liquidation preferences
- 66% of the private portfolio was invested against delivery milestones
- HGEN is represented on 100% of private portfolio boards with 100% attendance record

Valuation evolution – listed vs. private companies

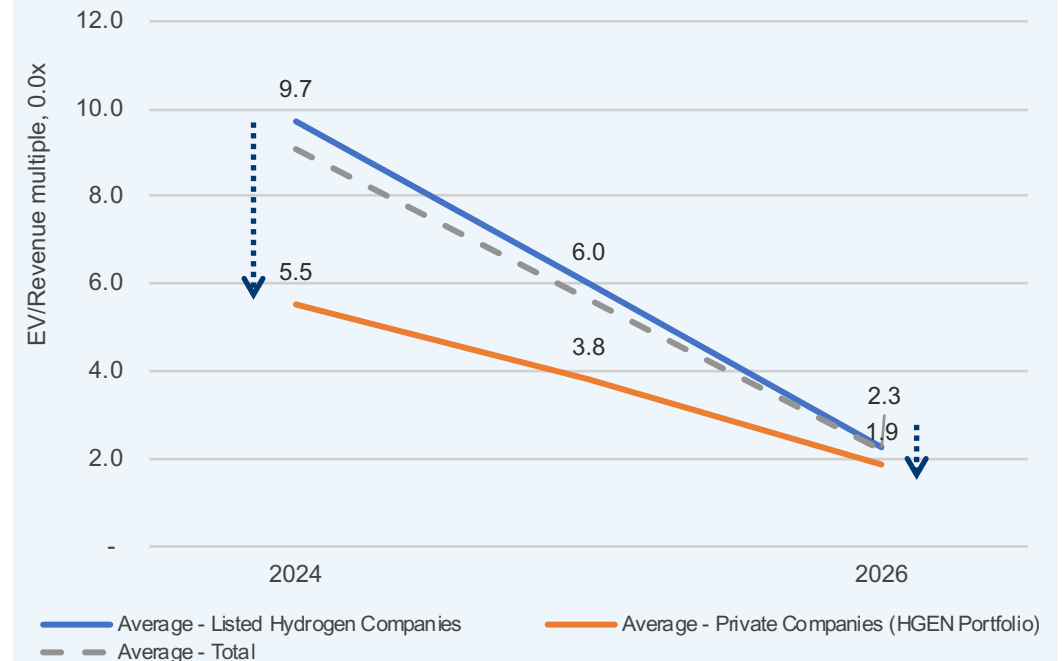
The Company's approach to valuation remains consistent while market has seen strong rise and correction

HydrogenOne NAV/share vs listed hydrogen shares
(SOLGHYD)



- Listed hydrogen company valuations have decreased in 2022, whereas HGEN NAV has been steady, reflecting our consistent valuation methodology

Implied EV/Revenue Multiple, 0.0x (2024-2026)



- HGEN private valuation >40% lower than implied listed companies in 2024, and c. 20% lower in 2026
- Should the listed hydrogen market recover, this gap should widen further

ESG integrated in investment decisions and asset monitoring

Our impact

£103 million
deployed in low-carbon
growth

89%
EU taxonomy-aligned
portfolio

42,716 tCO₂e
emissions avoided
in 2022. Carbon neutral

50,579 tCO₂e
emissions avoided
since IPO

201,000 MWh
potential clean
energy capacity in 2022

Our credentials



Signatory of:



Aligned to:



Aligned to:



Our reporting standards

Article 9 - SFDR framework

ISSB framework
(draft standards)

Greenhouse Gas Protocol

Our SDG mapping

Sustainable
development goals

SDG Target



Our ESG principles



Low-carbon
Growth

Screening and
Due Diligence

Effective
Board

Sustainable
Business Practices

ESG
at HGEN

ESG KPIs and delivery in 2022

E	S	G
<p>Capital invested in low-carbon growth:</p> <ul style="list-style-type: none"> ✓ £102.9m since IPO to 31 Dec 2022 <p>EU taxonomy alignment in private portfolio:</p> <ul style="list-style-type: none"> ✓ 89% at of 31 Dec 2022 <p>GHG emissions avoided:</p> <ul style="list-style-type: none"> ✓ 42,716 tCO₂e in FY2022 and 50,579 tCO₂e since IPO <p>GHG emissions on a look-through basis (aggregate scope 1 and 2 of portfolio companies):</p> <ul style="list-style-type: none"> ✓ 76 tCO₂e (scope 1 - 48 tCO₂e and scope 2 - 28 tCO₂e) during FY2022 <p>Potential lifetime clean energy capacity:</p> <ul style="list-style-type: none"> ✓ 201,000 MWh in FY2022 and 226,000 MWh since IPO <p>HGEN's share of MW capacity sold in fuel cells and electrolyzers:</p> <ul style="list-style-type: none"> ✓ 3.4 MW of units sold (fuel cells and electrolyzers) in FY2022 and 3.8 MW since IPO 	<p>Jobs supported:</p> <ul style="list-style-type: none"> ✓ 1,135 full-time staff employed by private portfolio <p>Board Independence and Diversity:</p> <p>HGEN:</p> <ul style="list-style-type: none"> ✓ HGEN's Board independence and 50% diversity (female directors) <p>Private portfolio:</p> <ul style="list-style-type: none"> ✓ 78% with at least one independent Board member, 56% with female representation ✓ Women account for 17% of senior roles (excludes directorships) 	<p>Positive and proactive engagement with private portfolio to deliver effective boards:</p> <ul style="list-style-type: none"> ✓ 100% representation on Boards ✓ 100% voting and board attendance <p>Encourage sustainable business practices and ethics:</p> <ul style="list-style-type: none"> ✓ A review covering supply chain due diligence, waste management and circular economy completed for all companies <p>Oversight and stewardship within private portfolio:</p> <ul style="list-style-type: none"> ✓ Site visits to 89% of invested positions (28 site visits) were made during the year ✓ Engagement to begin reporting on PAIs and key metrics to support HGEN's climate change mitigation investment objective ✓ Review of the governance structures and policy recommendations made to strengthen safeguards, including anti-bribery/corruption, human rights and tax risk

(as at 31 Dec 22)

ESG case study – Sunfire

- Sunfire's innovative and proven solutions are addressing a key challenge of today's energy system: providing renewable hydrogen and syngas as substitutes for fossil energy sources
- Their electrolyzers enable the transformation of energy-intensive sectors such as the chemical, fuel and steel industries
- Sunfire employs more than 500 people in Germany and Switzerland

Avoided emissions for Sunfire's 10 MW Alkaline electrolyser:

Net production rate:	195kg/h
Lifetime:	90,000 hours
Grid emission factor:	313 gCO ₂ /kWh
Lifetime avoided emissions:	184,570 tCO ₂ e

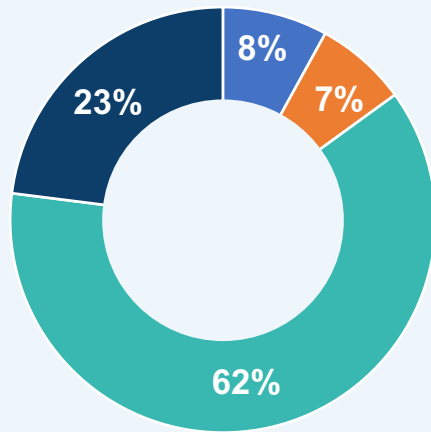


**During 2022 Sunfire sold 80MW, giving a total lifetime avoided emissions of 732,383 tCO₂e. The electrolyzers were sold to different locations with different grid emission factors. The example above is a unit sold to Germany with a grid emission factor of 313 gCO₂/kWh but other units were sold to Finland/Sweden with grid emission factors of 114 gCO₂/kWh and 25 gCO₂/kWh, respectively).*

- Full year results for the year ending 31st December 2022
- **Portfolio update**
- Appendix: Market update
- Appendix: Invested companies update

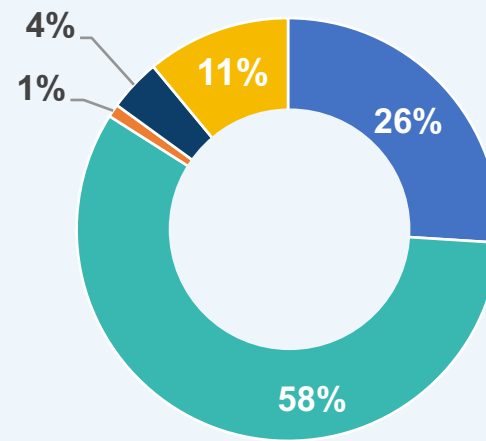
Distinctive and unique hydrogen portfolio

Portfolio segmentation
by theme



- Hydrogen production
- Hydrogen applications
- Supply chain
- Storage and distribution

Portfolio segmentation
by geography



- Germany
- UK
- Other
- Scandinavia
- Netherlands

Fund holdings (as at 31 Dec 22)

Private portfolio	NAV £m	NAV %
Sunfire GmbH	22	17%
Elcogen Plc	20	16%
HiiROC Ltd	13	10%
Strohm Holding B.V	12	9%
NanoSUN Limited	11	9%
Bramble Energy Limited	10	8%
Cranfield Aerospace Solutions	6	5%
HH2E AG	5	4%
Gen2 Energy	3	3%
Listed portfolio	4	3%

Total investments	107	85%
Net current assets (Inc cash)	18	15%
Net Asset Value	125	100%

Invested in significant manufacturing capacity and scale

Strohm's TCP pipeline plant in Ijmuiden, Port of Amsterdam

Strohm



- New expanded facility launched in 2023
- Tripled production capacity to 140km of pipe per annum
- Largest backlog in the company's history EUR60m

Sunfire's alkaline electrolyser plant in Solingen, Germany

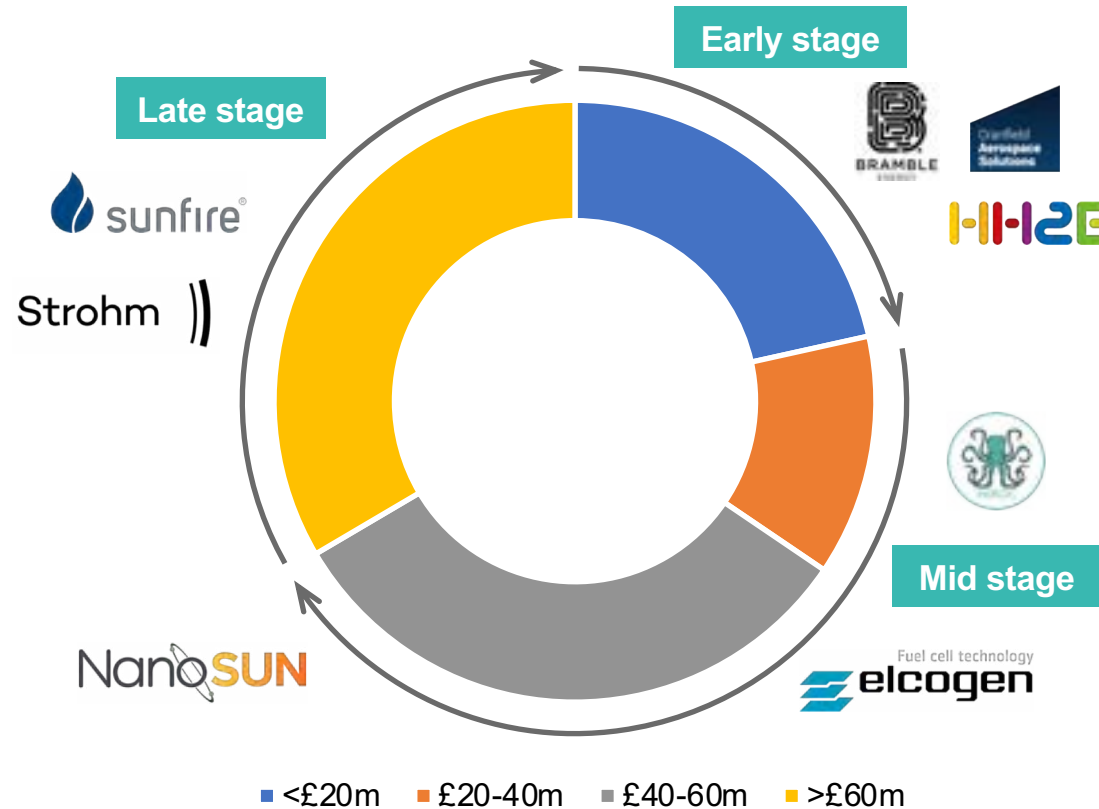
sunfire®



- Newly expanded plant in 2023 following EUR30m investment
- Serial production of electrolyzers
- 500 MW/a capacity in 2023, to be expanded to 1GW

Growing value for investors

Annual revenue of portfolio companies



Segments on NAV basis, HGEN invested stake in portfolio as of Dec 2022. 2024E revenues

10-15% average NAV growth target¹

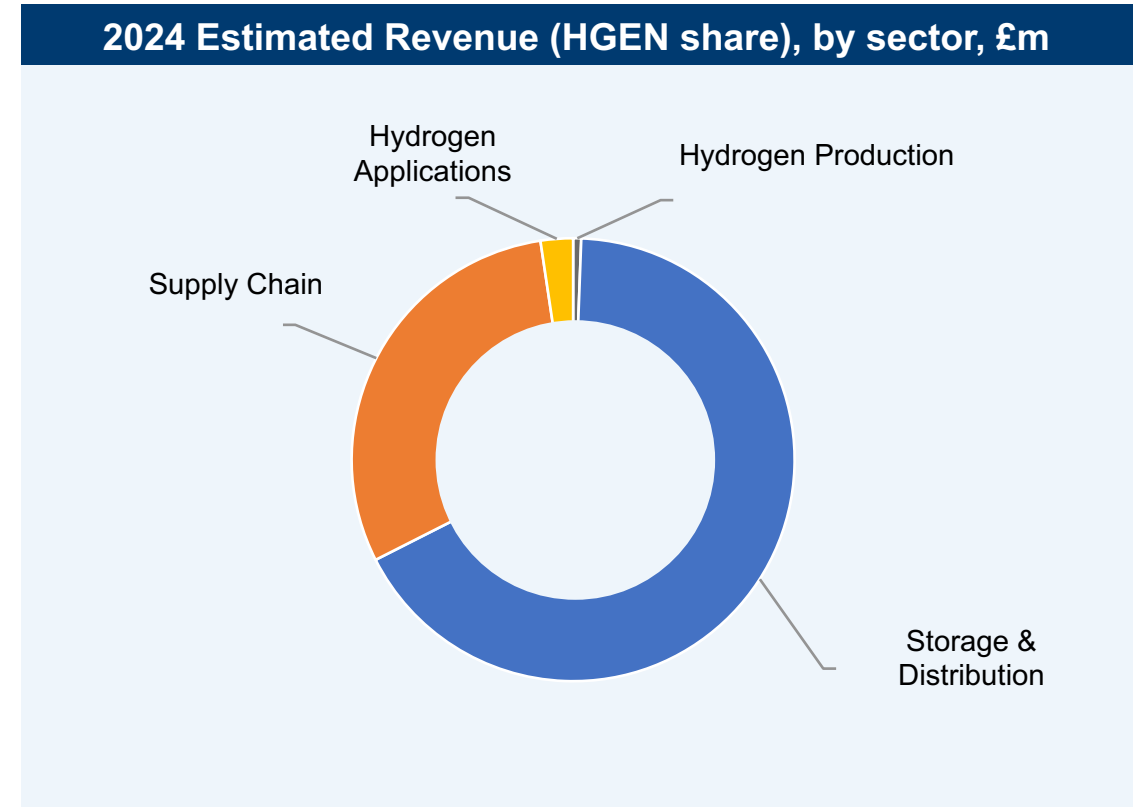
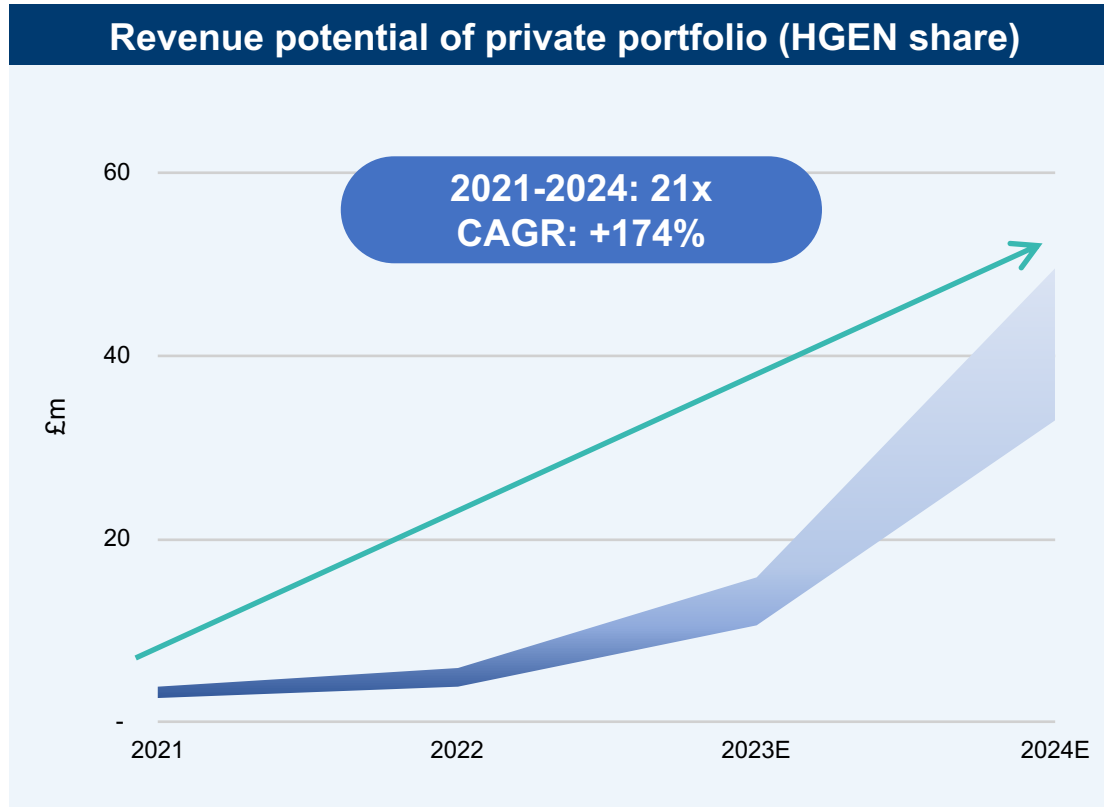
- Growth delivery in invested companies
- Follow-on investment at higher valuation
- Exit via IPO or trade sale

	% of portfolio (31.12.22)	2021-22 revenue growth (%)	Target holding period (years)
Early stage	22%	n/a	>5
Mid stage	45%	+364%	3-5
Late stage	33%	+77%	<3
		2022: £33m (+110% vs 2021)	

Private company revenues, pro-forma. 100%. Source: Investment Adviser

(1) For an investor in HGEN at IPO, the total NAV return target is a target only and not a profit forecast. There can be no assurance that this target will be met, or that the Investment Trust will make any distributions or returns at all and it should not be taken as an indication of the Investment Trust's expected future results. The Investment Trust's actual returns will depend upon a number of factors, including but not limited to the size of the Investment Trust, currency exchange rates, the Investment Trust's net income and level of ongoing charges. Accordingly, potential investors should not place any reliance on this target in deciding whether or not to invest in the Investment Trust and should decide for themselves whether or not the target total NAV return is reasonable or achievable. The illustrative returns has been calculated on the basis of various assumptions and inputs. There can be no assurance that these assumptions and/or inputs will be correct or that the associated potential revenues and returns will be generated.

Growth delivery and outlook

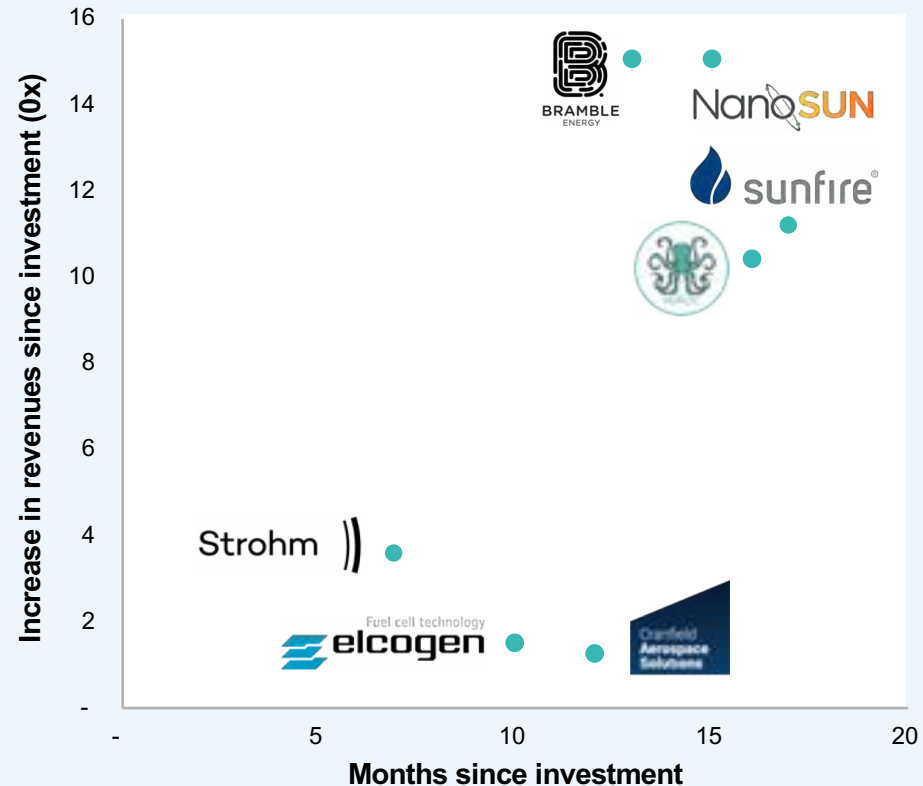


- Significant financial growth potential from portfolio companies. This is driven by expansion of production volumes in supply chains such as electrolyzers, fuel cells and transportation equipment

The projections stated are projections only and not profit forecasts. The projections are internal based on estimates and assumptions and information sourced from third parties. The projections are unaudited and inherently subject to significant uncertainties and contingencies. There can be no assurance that these projections will be met.

The portfolio is revenue generating and has produced consistent growth

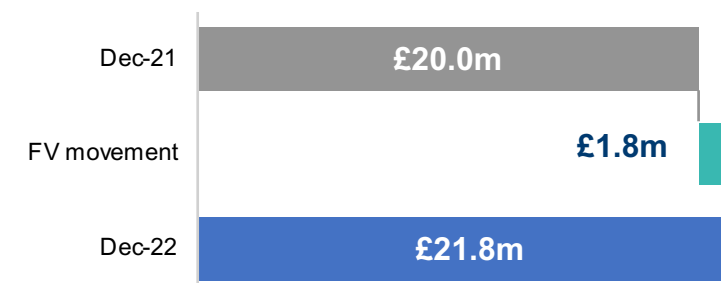
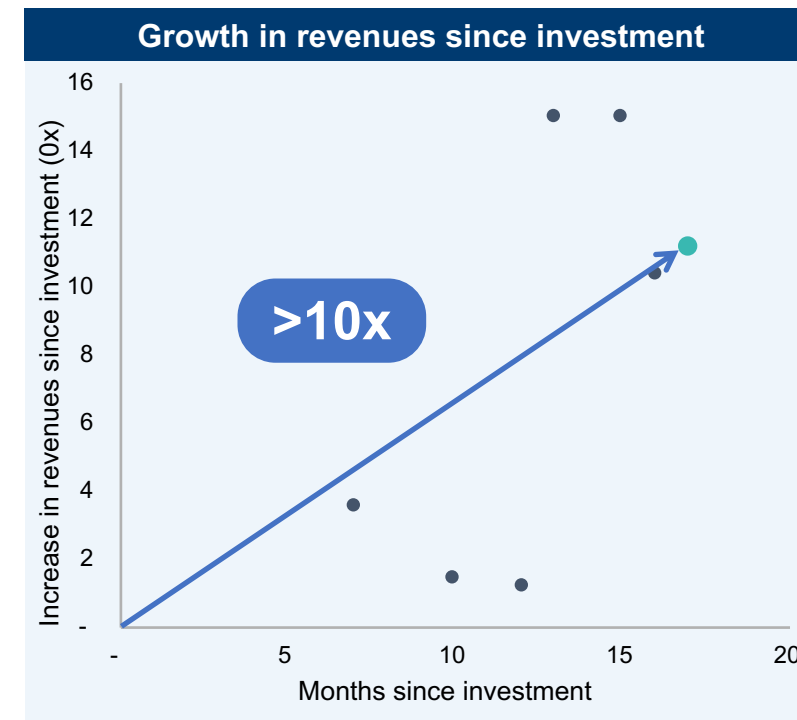
Growth in private portfolio revenues since investment



- Seven of the private investments, representing 89% the invested portfolio by value, are revenue-generating
- The aggregate revenue from these investments was c. £33m for 2022, an increase of 110% from 2021 on a pro-forma basis
- A further two private hydrogen production companies, Gen2 Energy and HH2E, representing 8% of the invested portfolio, located in Norway and Germany, are forecast to generate material cash flow from the middle of the decade as projects come on line
- Additional investment in strategic, global listed hydrogen equities representing 3% of the invested portfolio, in revenue generating businesses

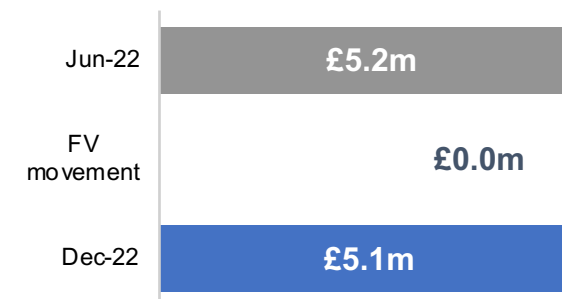
Sunfire GmbH investment (Supply chain)

Description  www.sunfire.de	German industrial electrolyzer producer, of pressure alkaline (AEL) and solid oxide electrolizers (SOEC)
Investment size / date / % of NAV	<ul style="list-style-type: none"> £20m / October 21 / 17% of NAV
Co-investors	<ul style="list-style-type: none"> Planet First Partners, Lightrock, SMS, Neste, CIP, Carbon Direct Capital Management, Blue Earth Capital, Amazon
Why we invested	<ul style="list-style-type: none"> Industry-leading electrolyser manufacturer Revenues from a growing global customer base Strong product credentials with top in-house engineering and product design 500MW / annum electrolyzer production at three sites in EU
Total Addressable Market	<ul style="list-style-type: none"> >£40bn (by 2030)
Recent developments	<ul style="list-style-type: none"> Delivered a 250kw solid oxide electrolyser to RWE – world's largest to date Manufacturing JV agreed with Vitesco Launched a new factory in Solingen – 500MW capacity
Key milestones	<ul style="list-style-type: none"> Building up alkaline capacity to >GW scale to match order book Conversion of strong revenue growth to EBITDA to underpin exit for investors



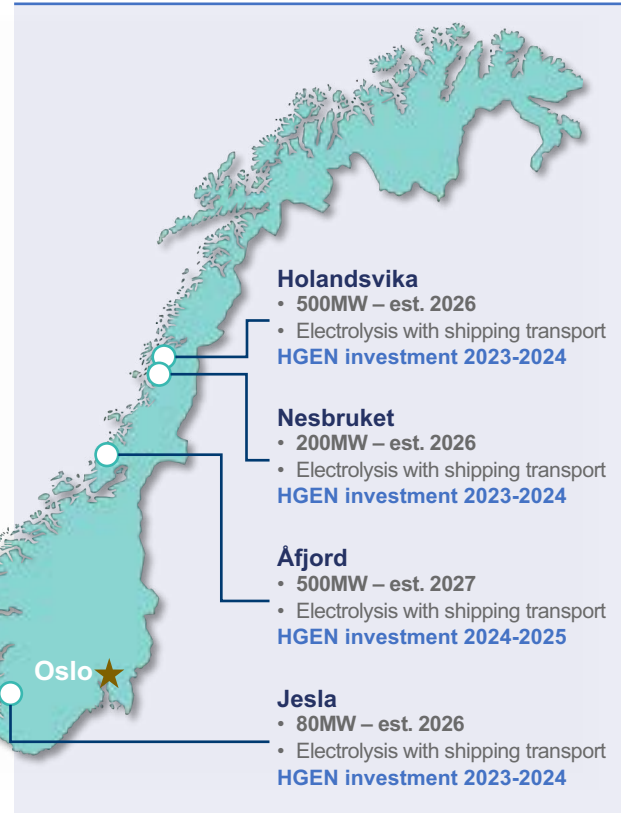
HH2E & Thierbach investments (Hydrogen Production)

Description  Thierbach www.hh2e.de	<p>German green hydrogen project developer with a focus on industrial customers. Operator of the Thierbach green hydrogen development project, in which HGEN has a direct investment.</p>
Investment size / date / % of NAV	<ul style="list-style-type: none"> • HH2E: £5m / May 22 / 4% of NAV • Thierbach project: £2m / Jan 23
Co-investors	<ul style="list-style-type: none"> • Foresight Group LLP
Why invested	<ul style="list-style-type: none"> • A prominent leader in Germany focused on green hydrogen and battery storage project development • Assessing 5 new projects for Final Investment Decision ("FID") • Provides HGEN with investment rights in multiple large-scale industrial decarbonization projects, with first project investment completed (Thierbach)
Total Addressable Market	<ul style="list-style-type: none"> • >£100bn (based on German government forecasts for green hydrogen demand by 2045)
Recent developments	<ul style="list-style-type: none"> • EUR 13m spend on Front End Engineering and Design (FEED), land purchase, key equipment (<i>Thierbach</i>)
Key milestones	<ul style="list-style-type: none"> • FID – 2023 (<i>Thierbach and Lubmin</i>), subject to funding • Phase 1 (100MW): c.6,000Htpa ~ 60,000tpa avoided GHGs (<i>Thierbach</i>)



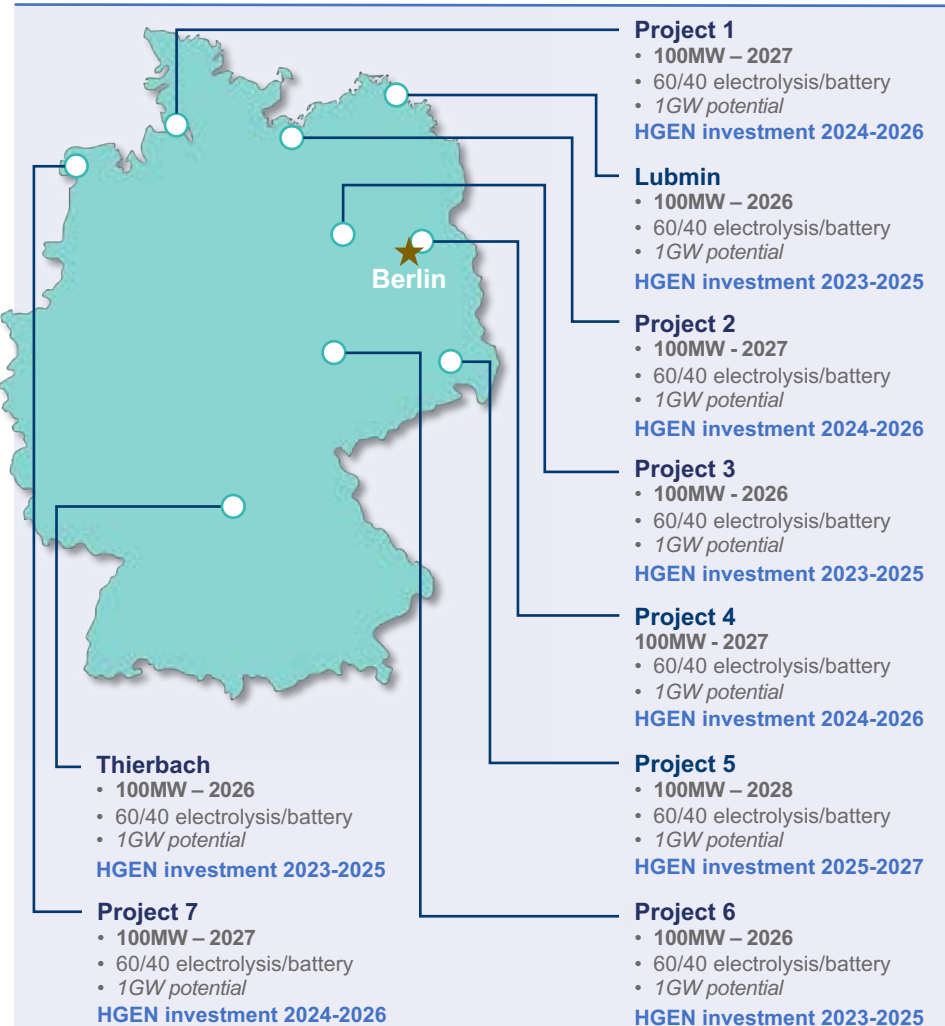
Exclusivity on 12 green hydrogen projects

Norway

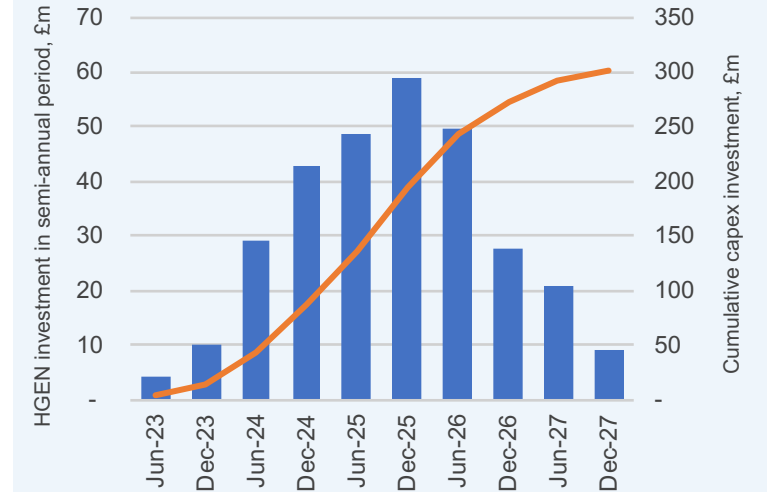


HGEN investment potential
2023-2027: >£300 million

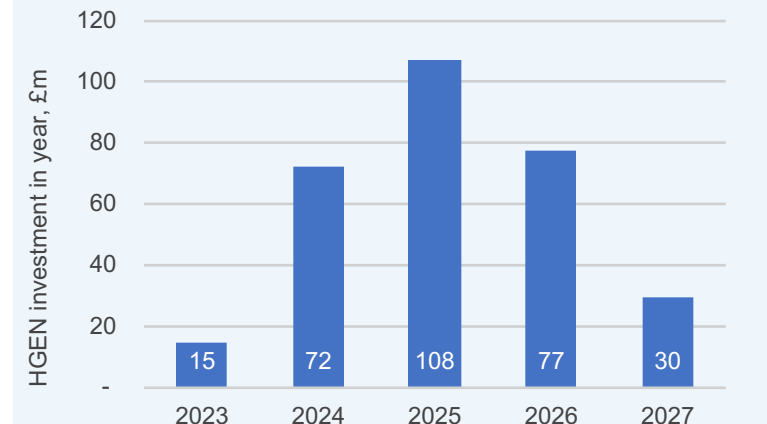
Germany



HGEN Capex Burn, semi-annual, £m



HGEN Investment, by timeline, £m



Investment pipeline

Invested across the value chain

Hydrogen production



Storage & distribution



Supply chain



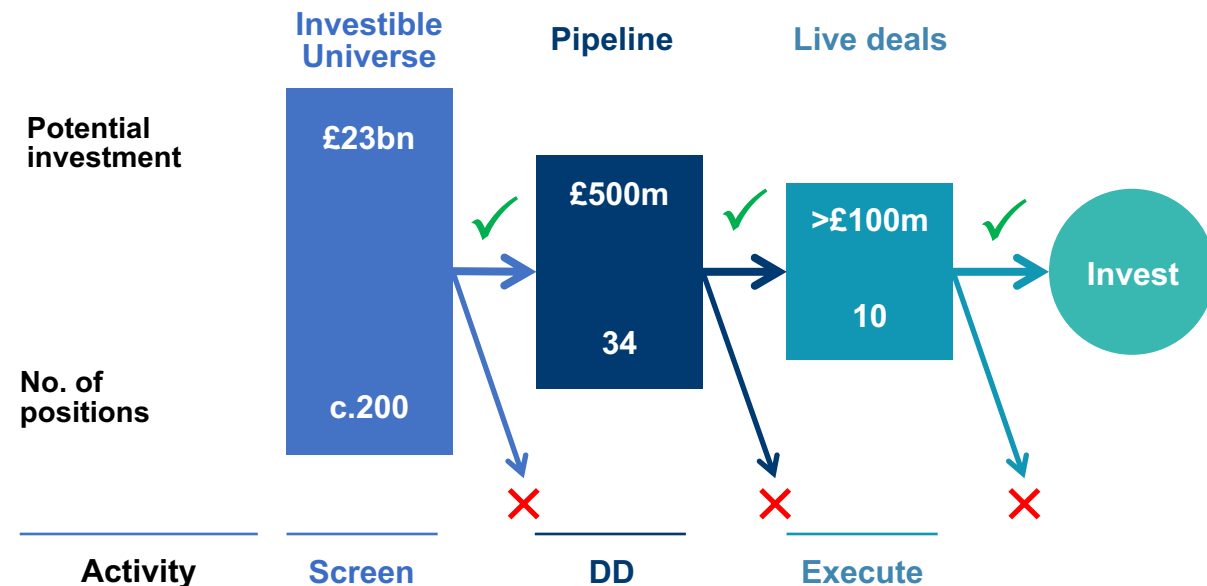
Hydrogen applications



>£20bn private Investible Universe > £500m private Pipeline

- Diversified portfolio across multiple asset classes
- Clean hydrogen supply projects
- Supply chain and developer companies
- <10% allocation to strategic listed companies in £42bn sector

Dynamic management of multiple private opportunities



Identifying the best investment opportunities

Strong management teams	Revenue-generating equipment suppliers	Distinctive project developers	Avoided GHG potential	10-15% target return ¹
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Specialist team	Active stewardship	Grow EBITDA and exit	>£500m pipeline
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Clear strategy to grow NAV

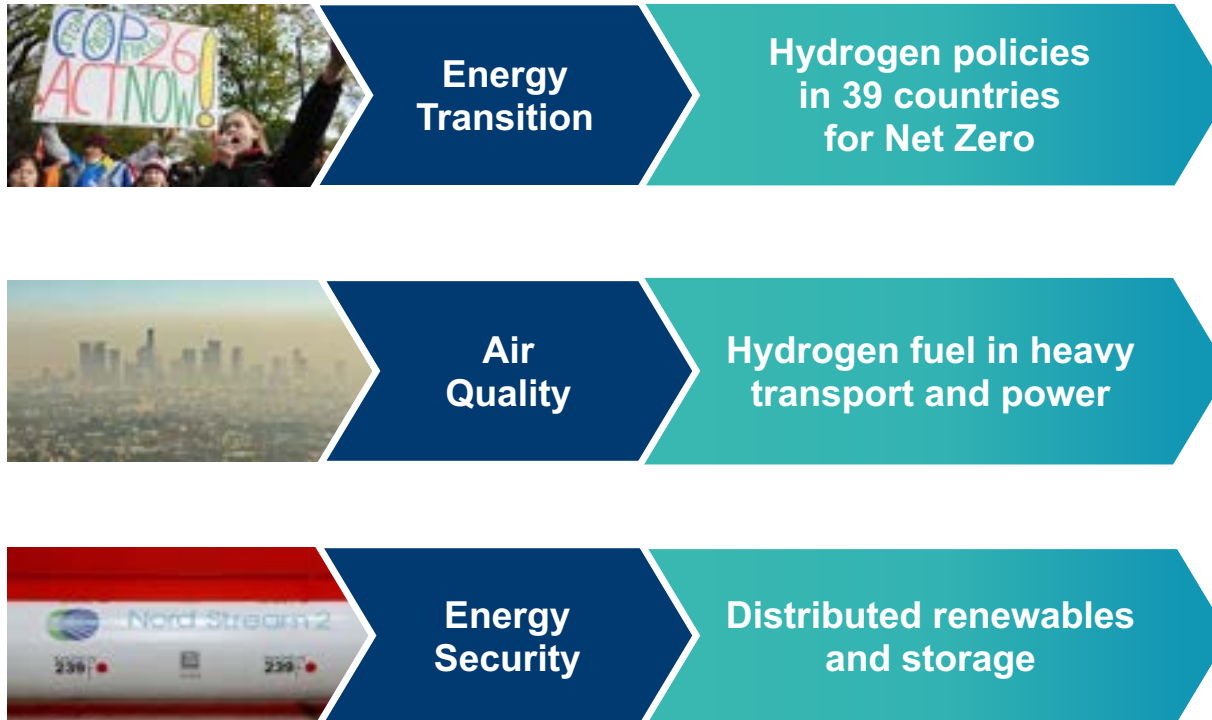
(1) For an investor in HGEN at IPO, the total NAV return target is a target only and not a profit forecast. There can be no assurance that this target will be met, or that the Investment Trust will make any distributions or returns at all and it should not be taken as an indication of the Investment Trust's expected future results. The Investment Trust's actual returns will depend upon a number of factors, including but not limited to the size of the Investment Trust, currency exchange rates, the Investment Trust's net income and level of ongoing charges. Accordingly, potential investors should not place any reliance on this target in deciding whether or not to invest in the Investment Trust and should decide for themselves whether or not the target total NAV return is reasonable or achievable. The illustrative returns has been calculated on the basis of various assumptions and inputs. There can be no assurance that these assumptions and/or inputs will be correct or that the associated potential revenues and returns will be generated.

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- Full year results for the year ending 31st December 2022
- Portfolio update
- **Appendix: Market update**
- Appendix: Invested companies update

Strong macro tailwinds underpin hydrogen investment case

Structural drivers of the hydrogen economy...



...step change in policies

\$8bn



'hydrogen hubs' +
hydrogen tax credit in
Inflation Reduction Act

>300GW



REPowerEU 2030
hydrogen target
increased from 80GW

10GW



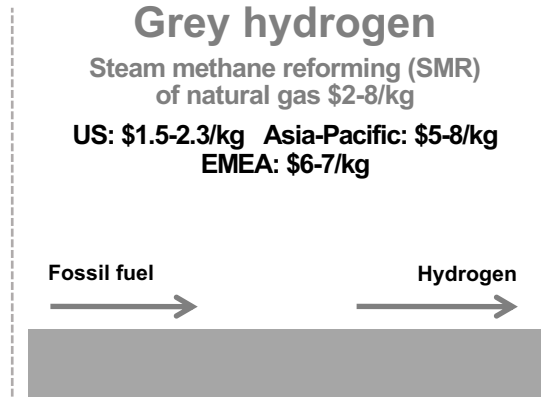
UK 2030 hydrogen
target doubled

3mtpa



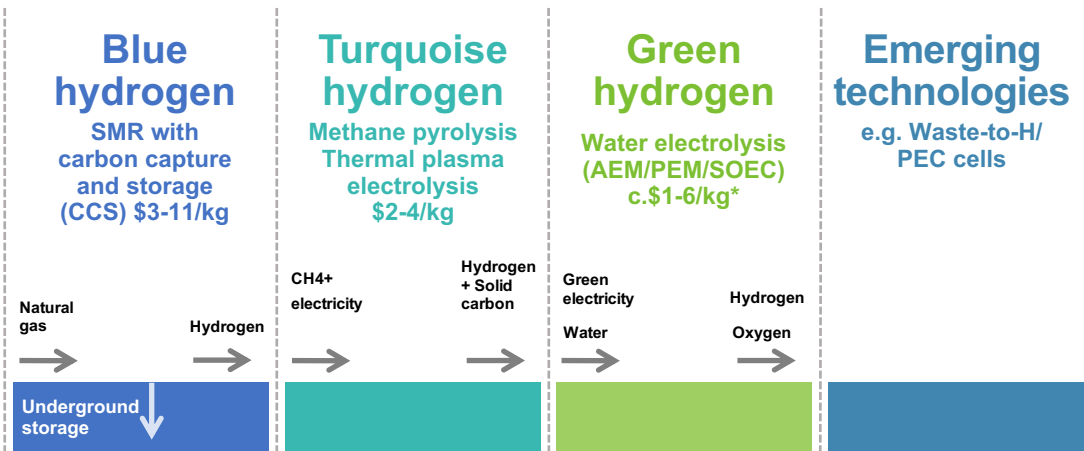
Japan 2030
hydrogen target

The colours of hydrogen



\$175 billion “grey” market today...

- Industrial gas: refining, steel, cement, ammonia
- Cleaning up 830mtpa GHG emissions



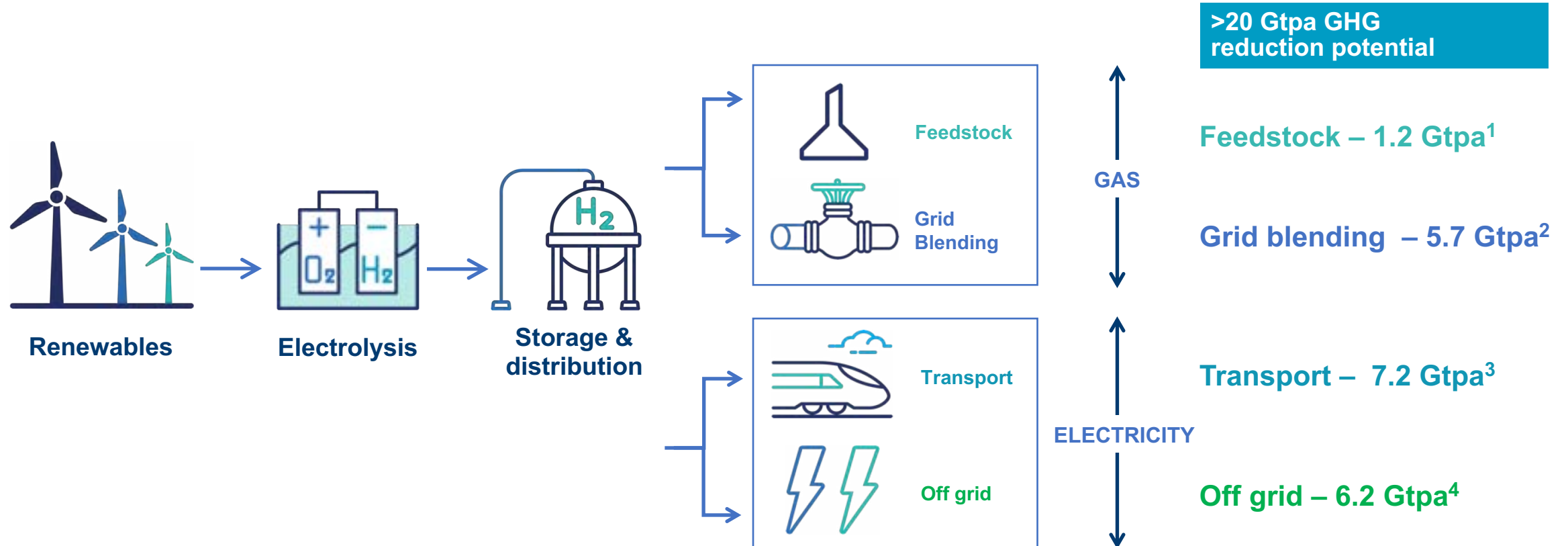
...and >\$2 trillion clean hydrogen growth

- Replacing oil: buses, trucks, ships, forklift, portable power
- Gas grid blending: eventual shift to 100% hydrogen
- Grid balancing via hydrogen storage

Total addressable market, \$b	2030	2050
Hydrogen Production	600	1,650
Storage & Distribution	20	75
Supply Chain	40	525
Hydrogen Applications	30	350
Total	690	2,600

*USA \$1-5/kg including up to \$3/kg green hydrogen tax credit (PTC) under 2022 IRA

Hydrogen's key role in avoiding GHG emissions



1GW green hydrogen: >1 Mtpa avoided CO₂ emissions⁵

¹2020 estimate. Source: https://www.pbl.nl/sites/default/files/downloads/pbl-2020-trends-in-global-co2-and-total-greenhouse-gas-emissions-2019-report_4068.pdf (4% of 2020 emissions)

²As at 2020. 20% reduction of industrial, commercial and residential. Source: <https://www.iea.org/reports/global-energy-review-co2-emissions-in-2021-2>

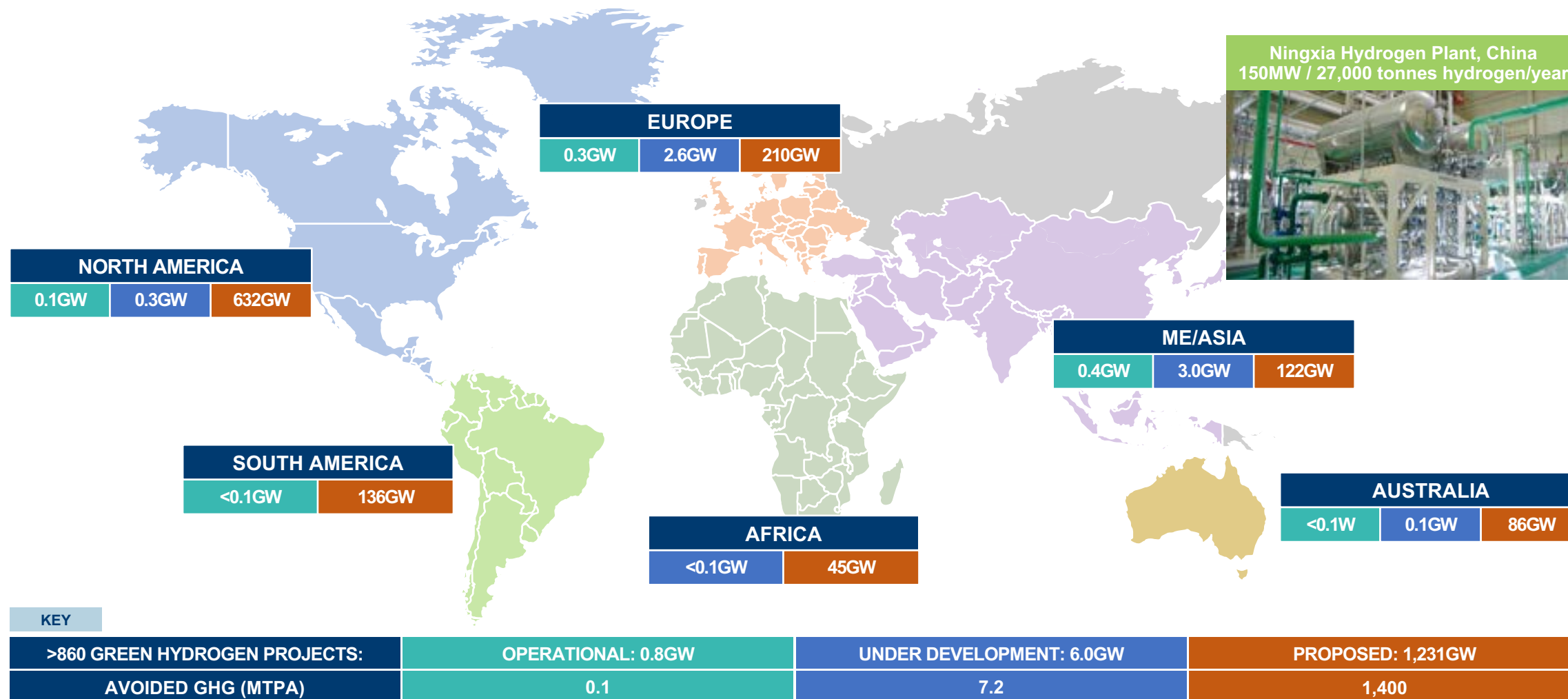
³As at 2020. Of which - aviation 0.9 Gtpa, passenger vehicles 3.6 Gtpa,

HGV 2.4 Gtpa, shipping 0.9 Gtpa. Source: <https://www.iea.org/topics/transport>

⁴Using proxy of total installed batteries in 2020 of 17 GW. Assuming 4hrs charge/day, gives 6.2 Gtpa (at 69.3kt/TJ CO₂e rate for motor oil). Source: <https://www.iea.org/reports/energy-storage>

⁵Using LHV 33.3kWh/kg. 1.26Mtpa avoided per 1GW

Large-scale clean hydrogen deployment is underway



HydrogenOne has investment rights on >7GW of green hydrogen projects in Germany and Norway


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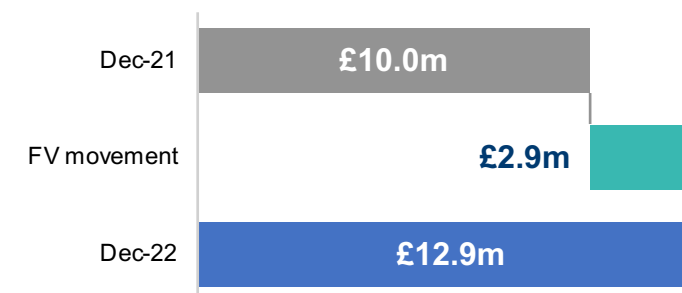
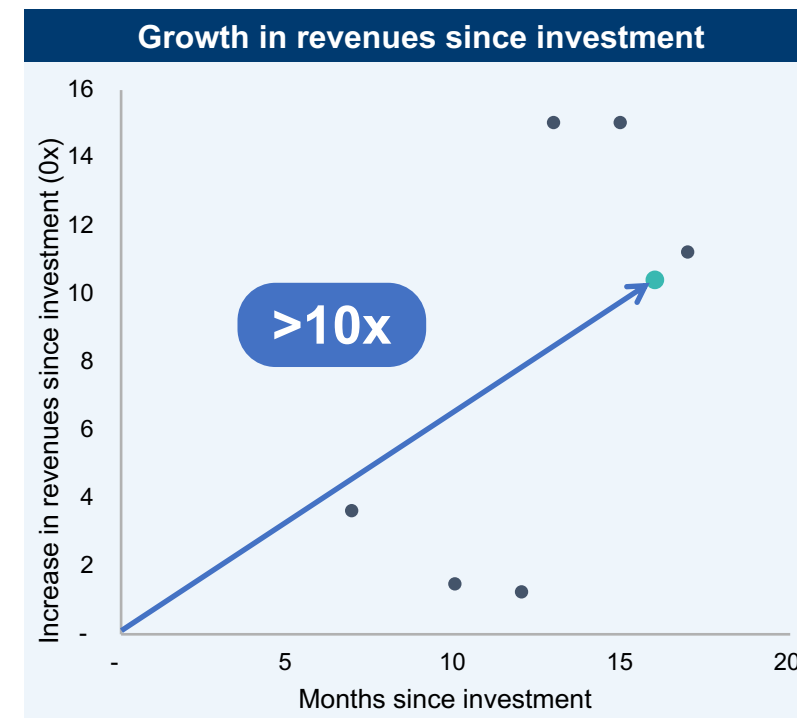
- Full year results for the year ending 31st December 2022
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Fund holdings

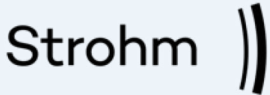
	As at 31 Dec 2022		As at 31 Dec 2021	
Private portfolio	NAV £m	NAV %	NAV £m	NAV %
Sunfire GmbH	22	17%	20	19%
Elcogen Plc	20	16%	-	-
HiiROC Ltd	13	10%	10	10%
Strohm Holding B.V.	12	9%	-	-
NanoSUN Limited	11	9%	9	9%
Bramble Energy Limited	10	8%	-	-
Cranfield Aerospace Solutions	7	5%	-	-
HH2E AG	5	4%	-	-
Gen2 Energy	3	3%	-	-
Listed portfolio	4	3%	8	8%
Total investments	107	85%	47	46%
Cash and other assets	18	15%	56	54%
Net Asset Value	125	100%	103	100%

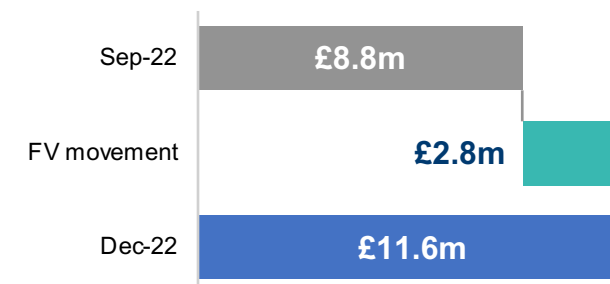
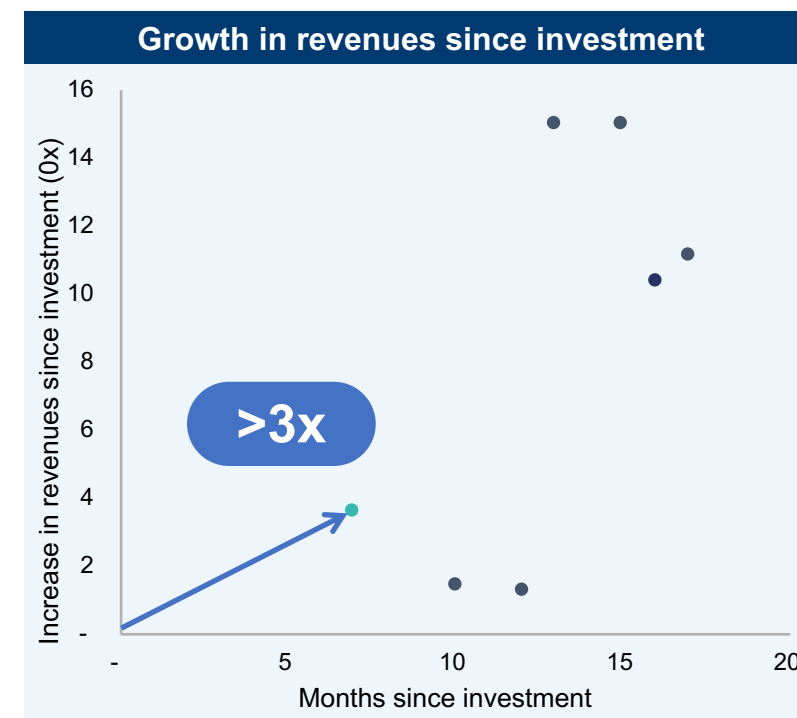
HiIROC Limited investment (Storage & Distribution)


Company description  www.hiiloc.com	UK-based thermal plasma electrolysis developer, with world-leading (IP-protected) technology for low-cost, zero-emission hydrogen, also enabling flare/waste gas mitigation and CO2 capture using biomethane
Investment size / date / % of NAV	<ul style="list-style-type: none"> £10m / November 21 / 10% of NAV
Co-investors	<ul style="list-style-type: none"> Melrose Industries, Centrica, Hyundai, Kia, Wintershall Dea, VNG, Cemex
Why invested	<ul style="list-style-type: none"> Proprietary technology to convert natural gas, flare gas and biomethane into hydrogen and solid carbon black Industrial off-takers of the product such as Centrica, Hyundai and CEMEX also on the shareholder register Highly scalable modular solution, producing 100kg / day of hydrogen from a single unit through to large plants capable of 100's of tonnes / day of hydrogen, alongside carbon black
Total Addressable Market	<ul style="list-style-type: none"> >£40bn (by 2030)
Recent developments	<ul style="list-style-type: none"> Won the first UK project with Centrica to inject hydrogen at Brigg Gas Fired Power station, as part of the Net Zero Technology Centre's £8m Open Innovation Programme
Key milestones	<ul style="list-style-type: none"> Demonstrator deployed in 2022. Pilot units contracted for deployment through 2023 across a range of hydrogen use cases

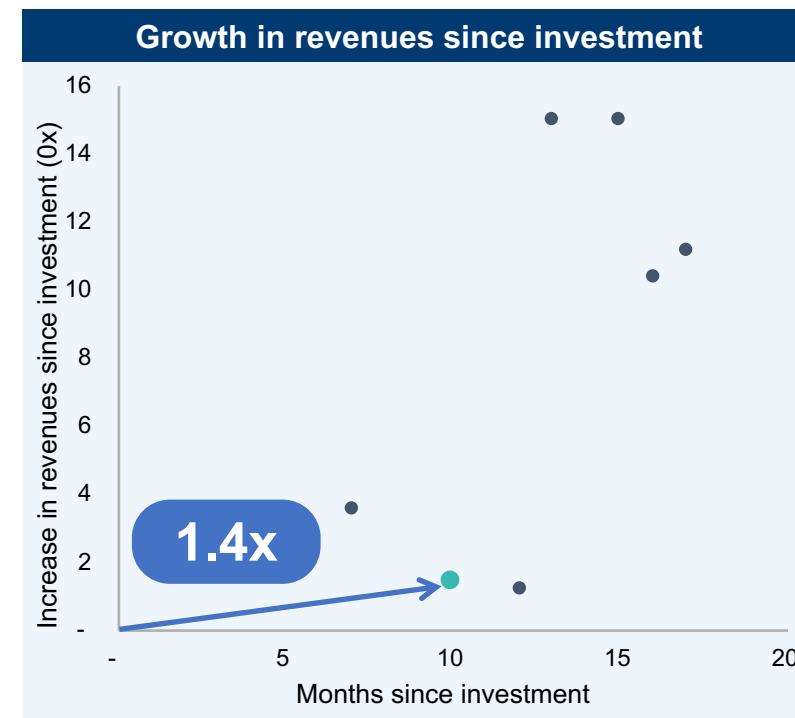


Strohm Holding B.V. investment (Storage & Distribution)


Company description  www.strohm.eu	Netherlands-based hydrogen pipeline company
Investment size / date / % of NAV	<ul style="list-style-type: none"> £10m / Aug & Dec 22 / 9% of NAV
Co-investors	<ul style="list-style-type: none"> Shell Ventures, Chevron Technology Ventures, Evonik Venture Capital, ING
Why invested	<ul style="list-style-type: none"> Industry leaders in offshore hydrogen and CO2 pipelines, where HGEN sees significant market growth Thermoplastic Composite Pipe ("TCP") has c.50% less greenhouse gas emissions than metal. Can transfer up to nine times the amount of hydrogen energy compared to a cable. TCP's flexibility, lack of corrosion, fatigue and embrittlement make it the superior pipeline solution for offshore wind farms, generating hydrogen
Total Addressable Market	<ul style="list-style-type: none"> c. £700m (2030) to >£1.7b (2040)
Recent developments	<ul style="list-style-type: none"> Completed a €29m investment round including ING EConnect contract for 11km of TCP for the TES Wilhelmshaven Green Gas Terminal in Germany
Key milestones	<ul style="list-style-type: none"> Grow revenues from energy transition including hydrogen to over 50% by 2025

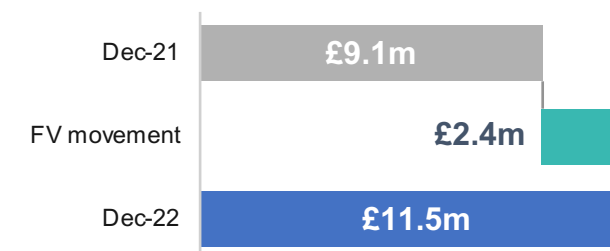
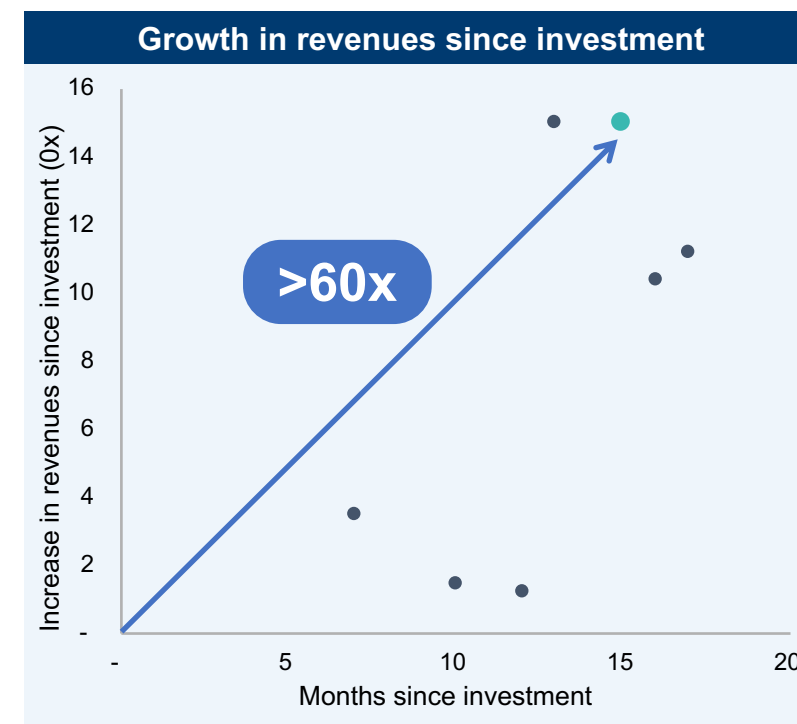



Company description  www.elcogen.com	Fuel cell and electrolyser manufacturer with presence in Estonia and Finland
Investment size / date / % of NAV	<ul style="list-style-type: none"> £20m / May 22 / 16%
Co-investors	<ul style="list-style-type: none"> Biofuel OÜ, VNTM Powerfund II
Why invested	<ul style="list-style-type: none"> Industry-leading innovator and supplier of solid oxide cells and stacks, with manufacturing facilities in Finland and Estonia, ready for expansion Over 60 established industrial customers worldwide, and > 10 year track record High-end offering based on advanced solid oxide technology with low operating temperatures and superior economics Developed a reversible ceramic technology that converts hydrogen into emission-free electricity and vice versa
Total addressable market	<ul style="list-style-type: none"> >£40bn (by 2030)
Recent developments	<ul style="list-style-type: none"> Progressing with factory expansion Strengthened leadership team
Key milestones	<ul style="list-style-type: none"> Expansion of manufacturing facilities from 100MW/year to 200MW/year

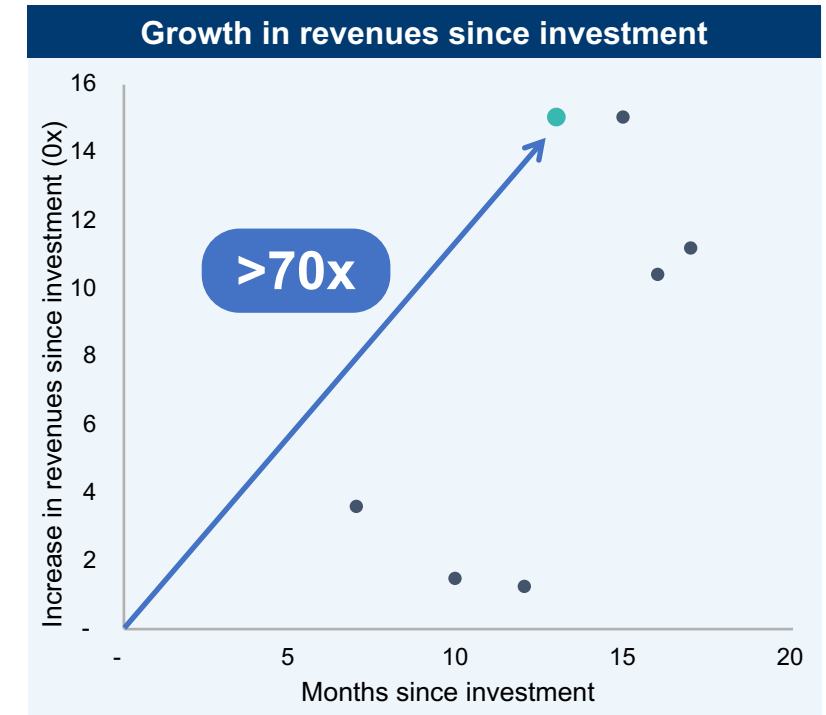


Dec-21	£20.7m
FV movement	£0.2m
Dec-22	£20.4m


Company description  www.nanosun.co.uk	UK-based developer of hydrogen distribution and mobile refueling equipment
Investment size / date / % of NAV	<ul style="list-style-type: none"> £9m / Dec 21 / 9%
Co-investors	<ul style="list-style-type: none"> Westfalen Group
Why invested	<ul style="list-style-type: none"> Provides flexible and low-cost connection between hydrogen customers such as truck stops, and concentrated hydrogen supply sources Flat-bed solution with 60% lower cost than alternative systems Accelerating large-scale roll out of fleets of hydrogen buses, trucks, vans and forklifts High quality order book with clients including Westfalen and Octopus Hydrogen
Total addressable market	<ul style="list-style-type: none"> £800m (2025 UK/EU) to >£20bn (2030 globally)
Recent developments	<ul style="list-style-type: none"> Completed the first serial production and delivery unit of its enhanced Pioneer Mobile Hydrogen Refuelling Stations Signed an agreement with Hydrogen Systems to deliver hydrogen refuelling solutions to central Europe
Key milestones	<ul style="list-style-type: none"> Continued roll out and delivery of Pioneer units to hydrogen refuelling customers, driving financial growth Germany distribution agreement pending

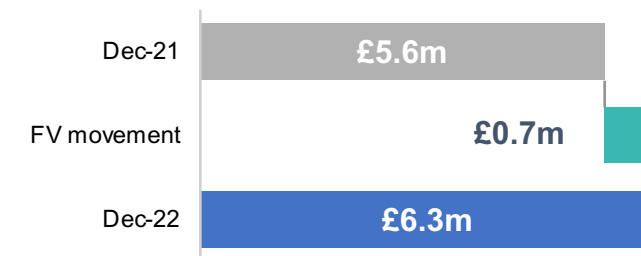
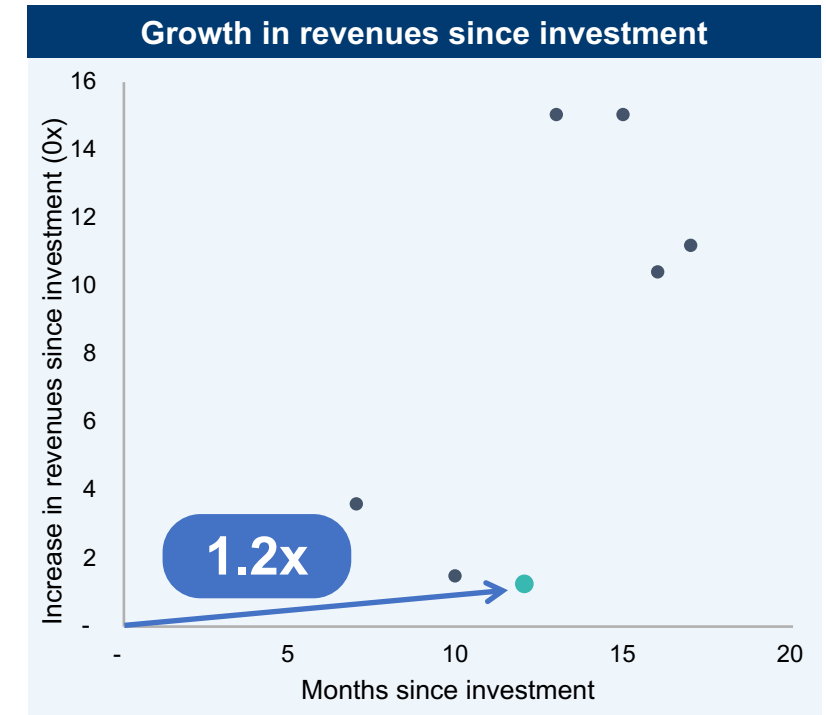


Company description  www.brambleenergy.com	UK-based fuel cell and portable power solutions company
Investment size / date / % of NAV	<ul style="list-style-type: none"> £10m / Feb 22 / 8%
Co-investors	<ul style="list-style-type: none"> IP Group, BGF, Parkwalk, UCL Technology Fund
Why invested	<ul style="list-style-type: none"> Pioneering revolutionary fuel cell design and manufacturing techniques Novel printed circuit board design - low cost, scalable and recyclable Working with leading global automotive businesses to scale-up product offering Developing high-power density, mobility fuel cell systems
Total addressable market	<ul style="list-style-type: none"> >£100bn (by 2030)
Recent developments	<ul style="list-style-type: none"> Won second round of funding to design a hydrogen powered, zero emission Uncrewed Surface Vessel Working with consortium to deliver Zero Emission Hydrogen Powered Hovercraft
Key milestones	<ul style="list-style-type: none"> Upgraded to a new facility as part of scaling up of units to 30kw-100kw Mobility technology development and testing of novel printed circuit board design by end users in automotive

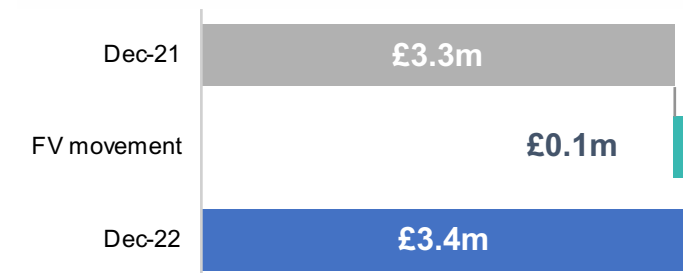
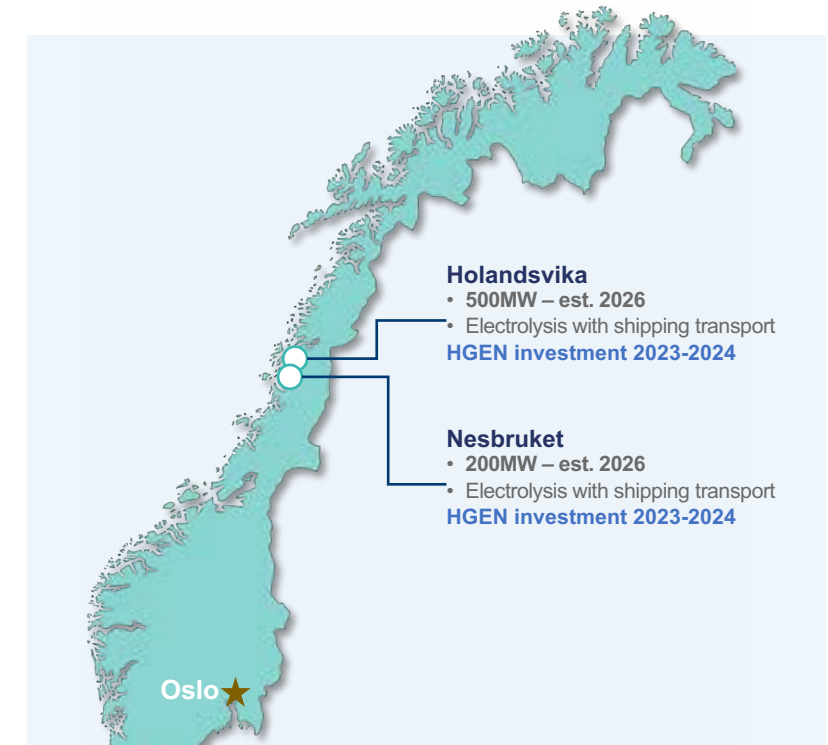


Dec-21	£10.0m
FV movement	£0.0m
Dec-22	£10.0m

Company description  www.cranfieldaerospace.com	UK-based passenger flight innovator, powering turboprop flight with hydrogen
Investment size / date / % of NAV	<ul style="list-style-type: none"> £7m / Mar 22 / 6%
Co-investors	<ul style="list-style-type: none"> Safran Ventures, Tawazun Strategic Development Fund, Motus Ventures
Why invested	<ul style="list-style-type: none"> Technology leader in delivering hydrogen powered turboprop flight Aerospace market leader in the design and manufacture of new aircraft design concepts, complex modifications to existing aircraft and integration of cutting-edge technologies Working on certification of the Britten-Norman Islander passenger aircraft using hydrogen
Total addressable market	<ul style="list-style-type: none"> £1.4bn (by 2030)
Recent developments	<ul style="list-style-type: none"> Selected as Hydrogen-aircraft partner by Air New Zealand Secured order from EVIA AERO for 15 hydrogen modification kits and ten 19-seat aircraft Agreement with MONTE Aircraft Leasing to purchase 40 hydrogen modification kits
Key milestones	<ul style="list-style-type: none"> Test flight 2024 Commercial certification 2026



Company description  www.gen2energy.com	Norwegian green hydrogen project developer
Investment size / date / % of NAV	<ul style="list-style-type: none"> £3m / Mar 22 / 3%
Co-investors	<ul style="list-style-type: none"> HyCap, Vitol, Hoegh LNG, Knutsen Group
Why invested	<ul style="list-style-type: none"> Leading green hydrogen project developer, with solid plans to convert low-cost hydroelectric power to hydrogen for export Up to 700MW green hydrogen projects in Norway, with expected production in 2025-2027 Co-invested with Norwegian LNG and ship operators that provide input to the Gen2 hydrogen export solution HGEN has follow-on investment rights in multiple project SPVs
Total addressable market	<ul style="list-style-type: none"> >£100bn
Recent developments	<ul style="list-style-type: none"> Signed an agreement with Åfjord municipality for large-scale production and shipping of green hydrogen Signed contract for development and purchase of containers for large scale transport of green hydrogen
Key milestones	<ul style="list-style-type: none"> First hydrogen project launch at Mosjøen in 2023



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