

# HydrogenOne Capital Growth plc

Q1 2023



Investing in clean hydrogen for a climate-positive impact

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### **Fund overview**



### Investing in clean hydrogen for a climate-positive impact; SFDR Article 9



**10-15% average** NAV growth



invested, generating £106m £33m revenues 2022 (+110%)



investment pipeline supported by macro tailwinds

# INEOS Energy Strategic investor

### Clean hydrogen is a >US\$2tn global opportunity

- Replace polluting 'grey' hydrogen feedstock in chemicals, fertilizer and refining
- Replace polluting fossil fuels in transport and power sectors

### HydrogenOne's strategy

- Specialist investor in diversified hydrogen assets world-wide
- Deploy capital in supply chains and hydrogen production
- Generate returns through IPO or trade sale of invested positions
- Invest for 'avoided GHG emissions'

### **Team**



#### **Investment Adviser**



**Dr JJ Traynor** (Managing Partner)

Former senior executive at Shell, BP and Deutsche Bank.



Ben Tidd (CFO)

ACA qualified former senior executive at Eight Roads (Fidelity), Henderson Group and KPMG.



Eva Bezruchko (External Affairs)

Former senior manager and consultant to listed companies in the energy sector.



**Strategic Adviser** 

Global engineering and consulting company





Richard Hulf (Managing Partner)

Former Fund Manager at Artemis and senior executive at EY and Exxon.



Elena Costea Lehmann (Portfolio Manager)

Portfolio management and accounting professional. Previously with Capricorn Capital Partners, working on private equity portfolio.



Jonathan Chui (Analyst)

Top 20 global ranked Financial Modeler, formerly with Cubico Sustainable Investments, UPP, and Operis.



8 Advisors: Capital markets, energy and hydrogen sectors

#### **Plc Board**



Simon Hogan (Chairman)

Former Managing Director of Morgan Stanley and COO across Commodities, Fixed income and Equity divisions.



**Afkenel Schipstra** 

COO of Energy at First Hydrogen. Former SVP of Business Development for Netherlands Hydrogen at ENGIE.



**Abigail Rotheroe** 

Former Investment Director at Snowball Impact Management and Director of Threadneedle Investment.



David Bucknall (Nominee of INEOS Energy)

CEO of INEOS Energy. Former head of the global oil & low carbon trading businesses at BP.

# Strong macro tailwinds underpin hydrogen investment case



### Structural drivers of the hydrogen economy...



Energy **Transition** 

Hydrogen policies in 39 countries for Net Zero



Air Quality Hydrogen fuel in heavy transport and power



Energy Security

**Distributed renewables** and storage

### ...step change in policies





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

### >300GW

REPowerEU 2030 hydrogen target increased from 80GW

### 10GW



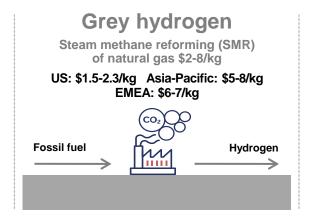
UK 2030 hydrogen target doubled



Japan 2030 hydrogen target

# The colours of hydrogen





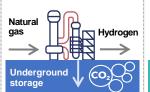


### \$175 billion "grey" market today...

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

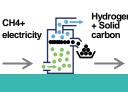
### Blue hydrogen

SMR with carbon capture and storage (CCS) \$3-11/kg



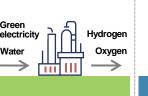
# Turquoise hydrogen

Methane pyrolysis Thermal plasma electrolysis \$2-4/kg



# **Green** hydrogen

Water electrolysis (AEM/PEM/SOEC) c.\$1-6/kg\*



# **Emerging technologies**

e.g. Waste-to-H/ PEC cells





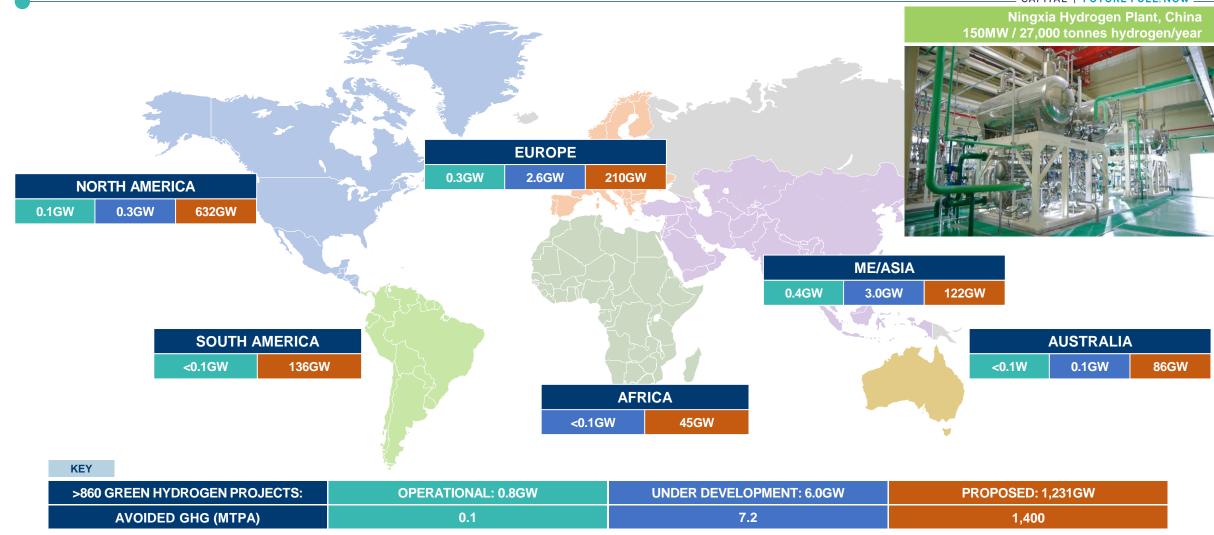
### ...and >\$2 trillion clean hydrogen growth

- 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

# Large-scale clean hydrogen deployment is underway



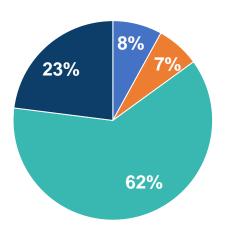


HydrogenOne has investment rights on >7GW of green hydrogen projects in Germany and Norway

# Distinctive and unique hydrogen portfolio

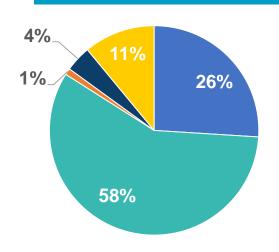


# Portfolio segmentation by theme



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

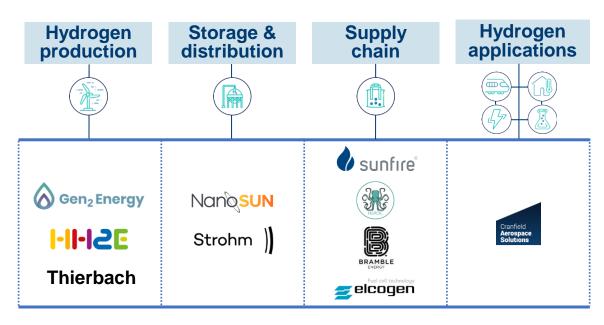
# Portfolio segmentation by geography



- Germany
- UK
- France
- Scandinavia
- Netherlands

#### Where we invest

- Revenue-generating equipment businesses
- Hydrogen production projects
- Co-investing with industrial strategics and institutions
- Diversified portfolio and geography



### Investing alongside blue-chip industrials and funds



#### **Invested companies**

Hydrogen production





Storage & distribution















Hydrogen applications



#### Co-investors























































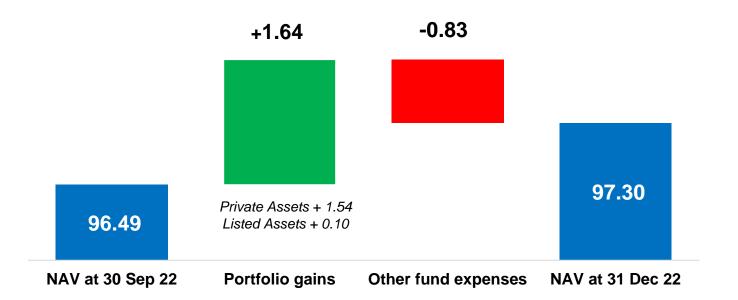


# **Key portfolio movements**



125

#### NAV movements for the quarter to 31 Dec 22 (pence per share)



#### **Top fund holdings**

**Net Asset Value** 

Company	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%
Others	30	25%
Total investments	108	86%
Net current assets (Inc cash)	17	14%

100%

# **ESG** update



- SFDR Article 9 classification and signatory of UN PRI
- Strong ESG commitment and robust ESG strategy, with key considerations for climate change mitigation, the SFDR's Principal Adverse Impact indicators, the EU Taxonomy regulation and regulatory requirements
- Completed EU taxonomy alignment assessment on the private portfolio
- Reporting in accordance with the SFDR and ISSB frameworks (2022 Annual Report)
- Avoided GHG emissions reporting to commence FY22



HydrogenOne's sustainable development goals















**ESG KPIs** 

£106 million

Invested in low-carbon growth and avoided GHG emissions

# **Sunfire GmbH investment (Supply chain)**



Company description  Sunfice	German industrial electrolyzer producer
www.sunfire.de	- 000 × / O + 1 × 04 / 470/ × (NIN)/
Investment size / date	• £20m / October 21 / 17% of NAV
Co-investors	<ul> <li>Planet First Partners, Lightrock, SMS, Neste, CIP, Carbon Direct Capital Management, Blue Earth Capital, Amazon</li> </ul>
	<ul> <li>Material, established electrolyzer producer with strong technology and growth potential</li> </ul>
Why invested	• +10 year track record
	<ul> <li>500MW / annum electrolyzer production site in EU – with a further extension to gigawatt-scale already in planning</li> </ul>
<b>Total Addressable Market</b>	• >£40bn (by 2030)
Recent developments	<ul> <li>Amazon and CIP investment to complete E195m D Series round</li> <li>Delivered a 250kw solid oxide electrolyser to RWE – world's largest to date</li> <li>Manufacturing JV agreed with Vitesco</li> </ul>
Key milestones	<ul> <li>Conversion of strong revenue growth to EBITDA to underpin exit</li> <li>&gt;GW scale alkaline + SOEC manufacturing scale up</li> </ul>



Sunfire's alkaline electrolyzer installed at the MPREIS food center in Völs, Austria



Sunfire's solid oxide cell electrolyzer

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



Company description	
Strohm )	Netherlands-based hydrogen pipeline company
www.strohm.eu	
Investment size / date	• £10m / Aug & Dec 22 / 9% of NAV
Co-investors	Shell Ventures, Chevron Technology Ventures, Evonik Venture Capital, ING
	<ul> <li>Industry leaders in offshore hydrogen and CO2 pipelines, where we see significant market growth</li> </ul>
Why invested	<ul> <li>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.</li> </ul>
	<ul> <li>TCP's flexibility, lack of corrosion, fatigue and embrittlement make it the superior pipeline solution for offshore wind farms, generating hydrogen</li> </ul>
Total Addressable Market	• c. £700m (2030) to >£1.7b (2040)
	Completed a €29m investment round including ING
Recent developments	<ul> <li>ECOnnect contract for 11km of TCP for the TES Wilhelmshaven Green Gas Terminal in Germany</li> </ul>
Key milestones	<ul> <li>Grow revenues from energy transition including hydrogen to over 50% by 2025</li> </ul>





# **HiiROC Limited investment (Storage & Distribution)**



Company description  www.hiiroc.com	UK-based thermal plasma electrolysis developer
Investment size / date	• £10m / November 21 / 10% of NAV
Co-investors	Melrose Industries, Centrica, Hyundai, Kia, Wintershall Dea, VNG, Cemex
Why invested	<ul> <li>Unique technology to clean up natural gas and biomethane into solid carbon and hydrogen</li> <li>Application in natural gas grids and global imperative to halt gas flaring</li> <li>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</li> </ul>
Total Addressable Market	• >£40bn (by 2030)
Recent developments	<ul> <li>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</li> </ul>
Key milestones	<ul> <li>Pilot units contracted for deployment from late 2022 through 2023 across a wide range of hydrogen use cases</li> </ul>





# **HH2E & Thierbach investments (Hydrogen Production)**



Description  I-II-I2E  Thierbach  www.hh2e.de	Green hydrogen project developer with a focus on industrial customers in Germany. Operator of the Thierbach green hydrogen development project, in which HGEN has a direct investment.
Investment size / date	<ul> <li>HH2E: £5m / May 22 / 4% of NAV</li> <li>Thierbach project: £2m / Jan 23</li> </ul>
Co-investors	Foresight Group LLP
Why invested	<ul> <li>Assessing 5 new projects for Final Investment Decision ("FID")</li> <li>Provides HGEN with investment rights in multiple large-scale industrial decarbonization projects, with first project investment completed (Thierbach)</li> </ul>
Total Addressable Market	• >£100bn
Recent developments	<ul> <li>EUR 13m spend on Front End Engineering and Design (FEED), land purchase, key equipment (Thierbach)</li> </ul>
Key milestones	<ul> <li>FID – 2023 (Thierbach)</li> <li>Phase 1 (100MW): c.6,000Htpa ~ 60,000tpa avoided GHGs (Thierbach)</li> </ul>





### **Exclusivity on 10 green hydrogen projects**

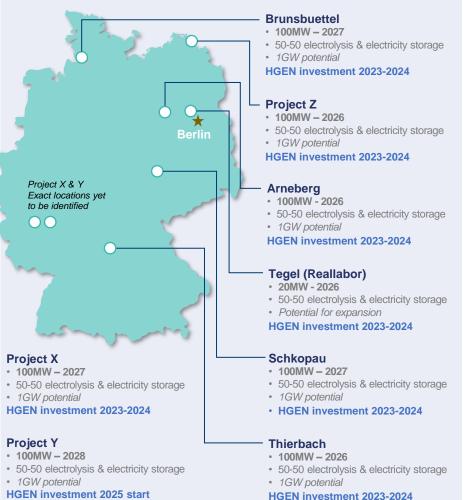


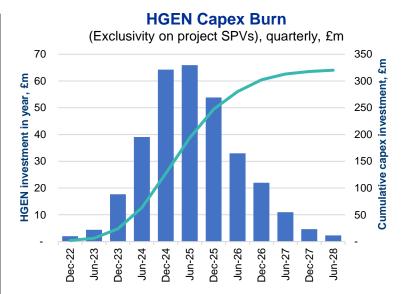


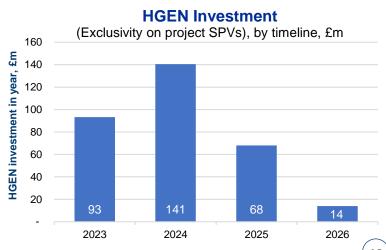


Total HGEN investment 2023-2024: >£200 million

# Germany |-||-|2E



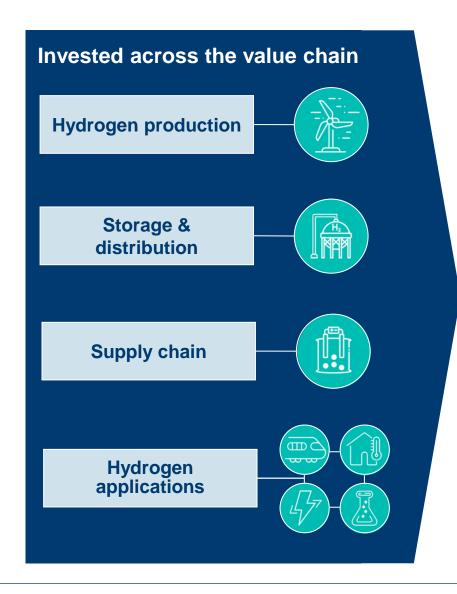




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### **Investment pipeline**

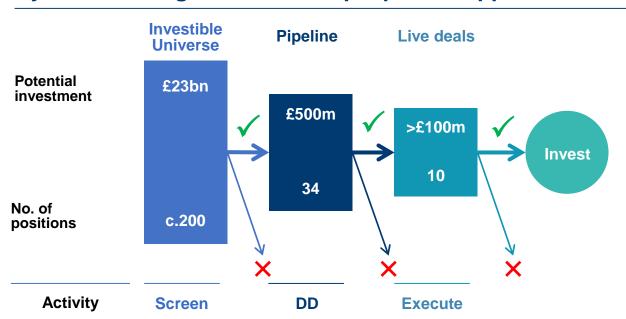




### >£20bn private Investible Universe >> £500m private Pipeline

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

### Dynamic management of multiple private opportunities



### Well established investment process and access to deal flow





### 1. Specialist insights into deal flow

- Investment Adviser networks and track record
- Building out opportunities via our investments
- First mover... "see everything"
- Investing alongside industrials, ESG funds and VC

### 2. Investment Policy

- Hydrogen and related growth assets
- OECD mandate
- Fossil fuels production excluded

### 3. ESG Policy

- Investing in low-carbon growth and avoided GHG emissions
- ESG policy integrated in investment decisions and asset monitoring
- Article 9 climate impact fund robust ESG screening and due diligence, including EU taxonomy assessment

#### 4. Transaction

- Autonomy in investment selection and allocation
- Detailed DD including Advisory Board, Arup and other 3rd parties
- Board / AIFM review ahead of completion



# Identifying the best investment opportunities

Strong management teams Revenuegenerating equipment suppliers

Distinctive project developers

Avoided GHG potential

10-15% target return<sup>1</sup>



Specialist team

Active stewardship

Grow EBITDA and exit

>£500m pipeline

# 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 in the Investment Trust and should decide for themselves 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.

### **Contact us**



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