

# HydrogenOne Capital Growth plc

## H1 2022 Results Presentation

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

## Investing in clean hydrogen for a climate-positive impact, >90% private equity

10-15%

Target 10-15%/year  
NAV growth<sup>1</sup>

>£103m

Deployed in low-  
carbon growth for  
avoided GHG

>£500m

Investment pipeline

- Gross proceeds of £128m raised in 2021 IPO and Q2 2022 Accelerated Bookbuild
- Completed 5 private investments in H1 2022, totalling £46.2 million
- >£100m near term opportunities / >£500m pipeline



Dr JJ Traynor



Richard Hulf

- Clean hydrogen specialists
- 60 years energy and capital markets track record
- Arup technical adviser **ARUP**
- Advisory and Plc Boards

**INEOS Energy** Strategic investor



(1) 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 at launch, 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 have 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. The information provided should not be seen as an indication of the Investment Trust's expected or actual results or returns. Accordingly, investors should not place any reliance on this information when deciding whether to invest in the Investment Trust.

# Our ESG principles integrated in investment process

Investing in clean hydrogen for a climate-positive impact

## HGEN's ESG Policy

- Investing for a climate-positive environmental impact
- Prioritise this long-term goal over short-term maximisation of shareholder returns or corporate profits
- Backing innovators in low carbon industries

- Strong ethical standards, to deliver positive impacts on the environment and society
- Alignment with International Sustainability Standards Board (ISSB) and EU Taxonomy
- Encourage transparency and alignment of lobbying activities



- Positive and proactive engagement with the boards of Private Hydrogen Assets
- Effective and diverse independent directors
- Simple and transparent pay structures that reward superior outcomes
- KPIs, in particular avoided GHG emissions
- Framing investments around UN SDGs, UN GC, LSE Green Economy Mark and UN PRI
- The Company manages its own direct carbon footprint

HGEN's sustainable development goals

SDG target



3.9



7.1, 7.2, 7.3



9.4, 9.5



11.6



12.6



14.3



15.3

ESG KPIs

£103million

Invested in low-carbon growth and avoided GHG emissions

# H1 2022 Highlights

	31 Dec 2021	30 Jun 2022 <sup>1</sup>	% change <sup>2,3</sup>
NAV per share	95.7p	96.8p	1.1%
NAV	£102.8m	£124.8m	21%
Market Cap	£128.3m	£120.1m	(6)%
Share price premium/ (discount) to NAV <sup>2</sup>	24.8%	(3.8)%	

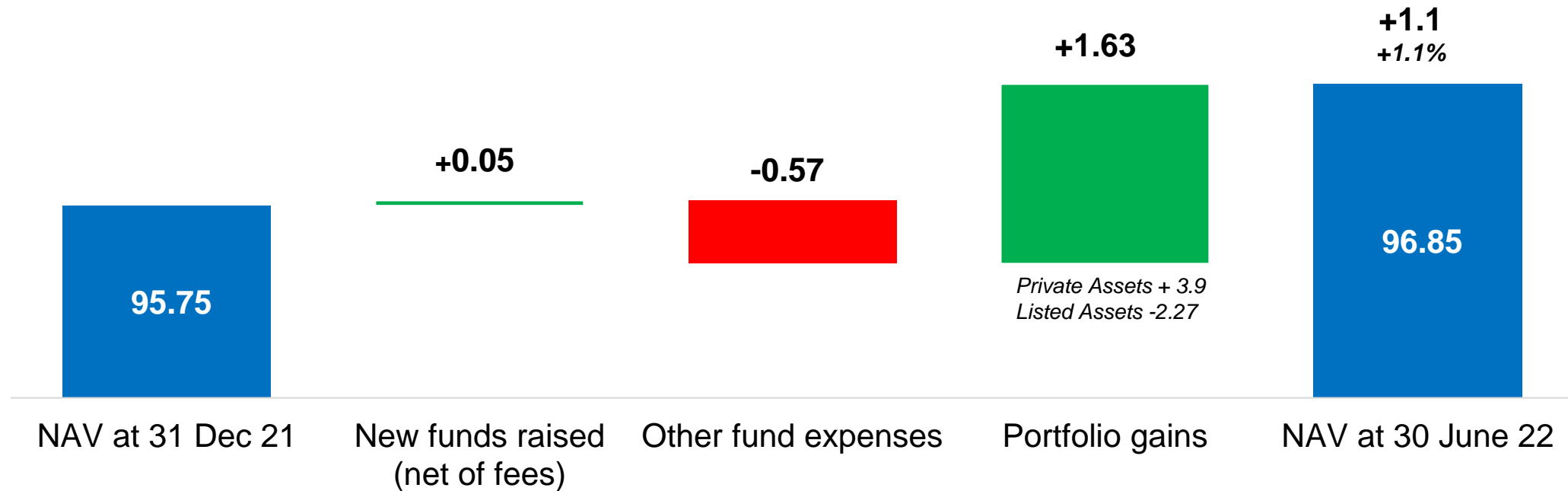
- Fundamentals of the clean hydrogen sector continued to strengthen, despite recent weak macro-economic conditions
- 5 new private hydrogen investments completed in H1, deploying £46.2m
- The NAV of the Company's private investments increased by net 3%, reflecting higher valuations in multiple positions
- £21.5m oversubscribed placing completed in April 22

<sup>1</sup> Includes fundraise proceeds of £20.9 million net of costs, completed in April 2022

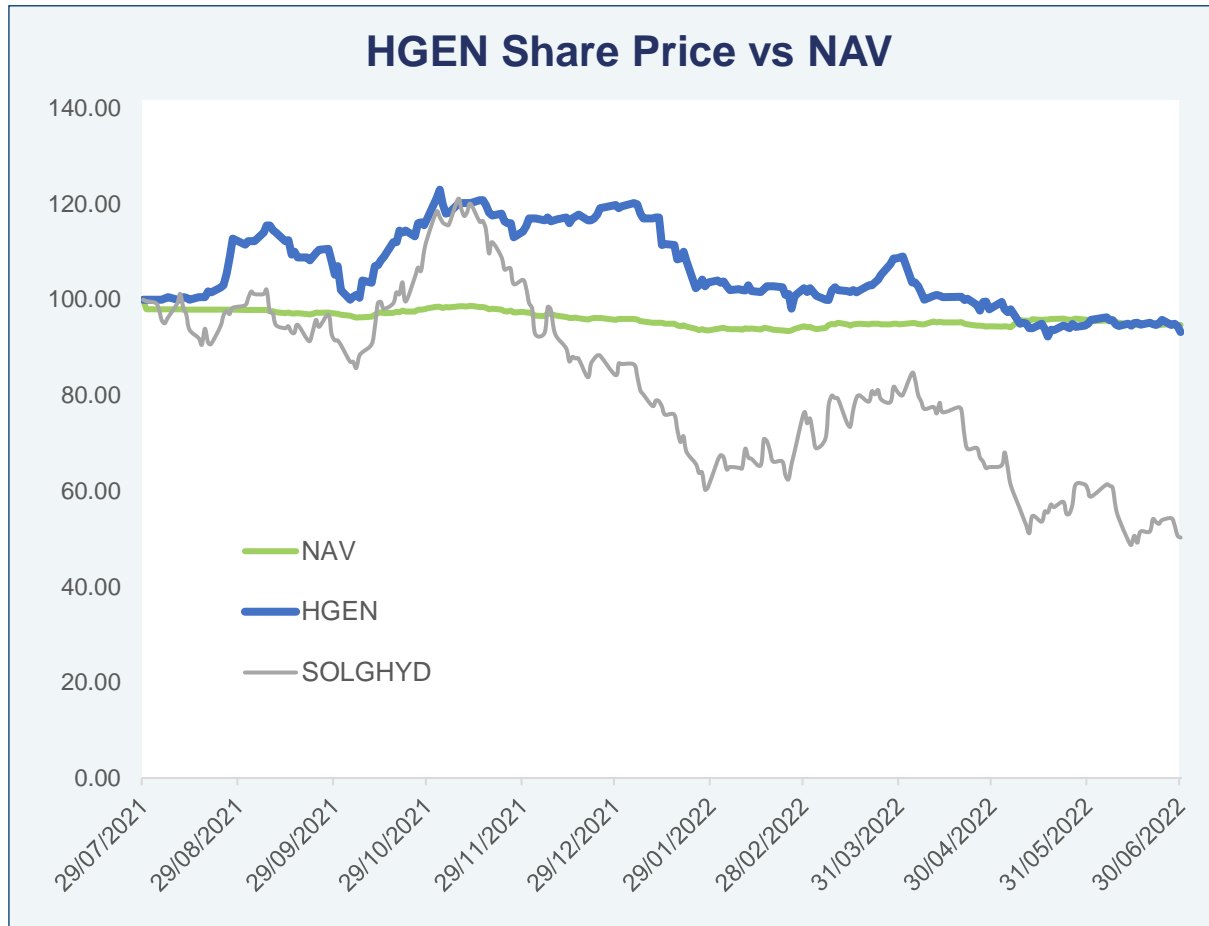
<sup>2</sup> Total returns in sterling for the six months to 30 June 2022

<sup>3</sup> These are alternative performance measures

## NAV movements for the half year to 30 June 22 (pence per share)



# Share price & NAV performance since IPO



\*SOLGHYD (Solactive Global Hydrogen Index)

- Public markets weak in H1 22 including hydrogen equities
- HGEN share price has significantly outperformed the listed hydrogen index and HGEN NAV through most of period
- Benefits of HGEN's diversified portfolio and private equity approach

# Substantial momentum in hydrogen sector since IPO

## Step change in policies

**\$369bn** 

2022 Inflation  
Reduction Act

**>300GW** 

REPowerEU 2030  
hydrogen target  
increased from 80GW

**10GW** 

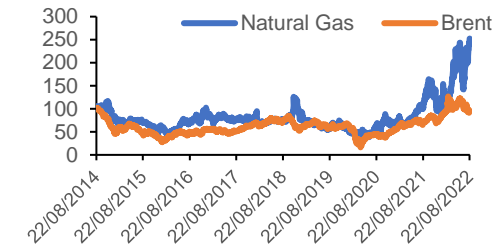
UK 2030 hydrogen  
target doubled

**3mtpa** 

Japan 2030  
hydrogen target

## Higher energy prices

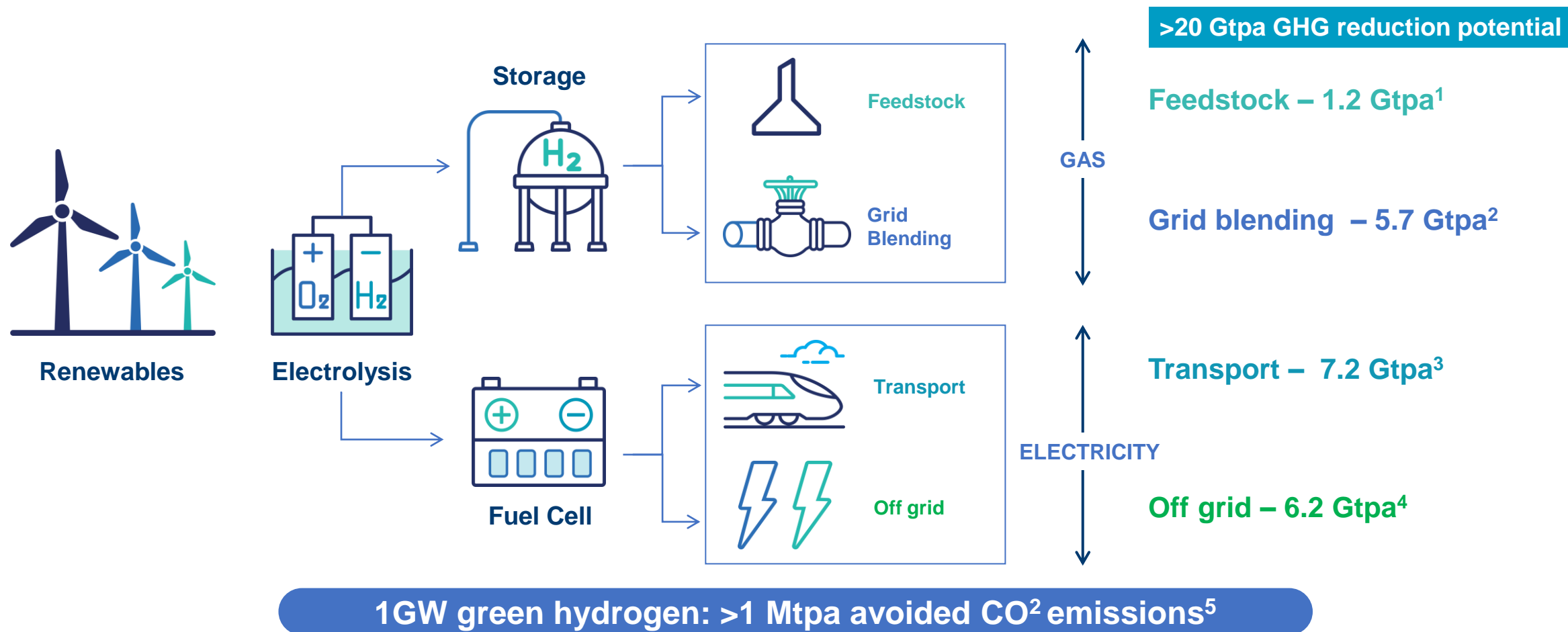
- New realities in fossil fuels and carbon prices
- EU carbon >€100/t; Brent >\$90/bbl; EU gas >€250/MWh



## Rapid growth in opportunities

- New strategic investors into clean hydrogen: oils, steel, fertilizer, utilities, autos, aerospace
- Significant growth in HGEN private opportunities; >180 companies (58 at IPO)

# Hydrogen's key role in avoiding GHG emissions



<sup>1</sup>2020 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](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)

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

<sup>3</sup>As 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>

<sup>4</sup>Using proxy of total installed batteries in 2020 of 17 GW. Assuming 4hrs charge/day, gives 6.2 Gtpa (at 69.3kt/TJ CO<sub>2</sub>e rate for motor oil). Source: <https://www.iea.org/reports/energy-storage>

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



# Fund overview (as at 30 June 22)

## Key statistics (unaudited)

Net asset value (NAV)

**£124.8m**

NAV per share

**96.8p**

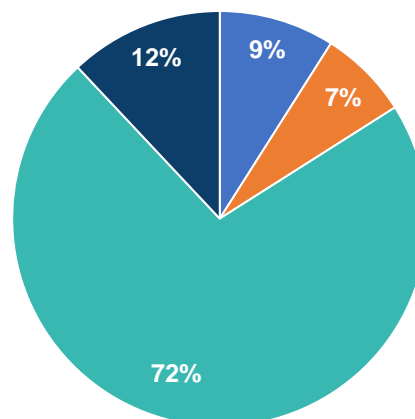
Funds invested

**£95m**

## Top 5 investments % of NAV

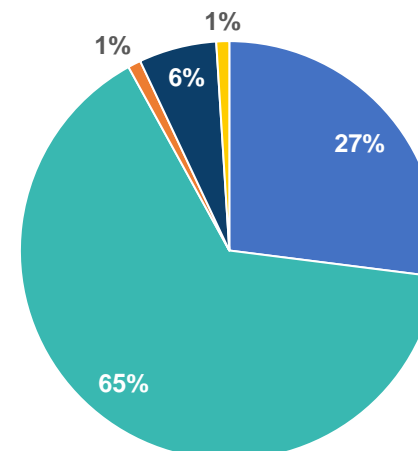
1. <b>Elcogen Plc</b> <i>Supply chain (Fuel cells)</i>	16.5%
2. <b>Sunfire GmbH</b> <i>Supply chain (Electrolysers)</i>	16.5%
3. <b>HiiROC Ltd</b> <i>Supply chain (Electrolysers)</i>	10.4%
4. <b>Bramble Energy</b> <i>Supply chain (Fuel cells)</i>	9.6%
5. <b>NanoSUN Limited</b> <i>Storage &amp; Distribution (Supply services)</i>	8.1%

## Portfolio segmentation by theme



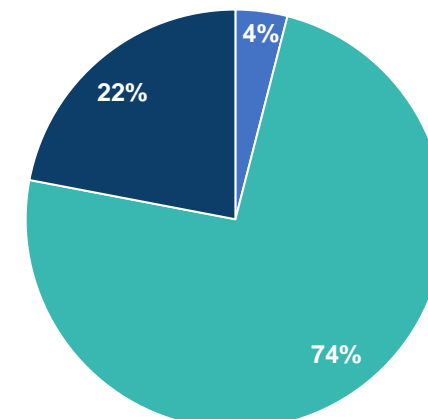
- Hydrogen production
- Hydrogen applications
- Supply chain
- Storage and distribution

## Portfolio segmentation by geography



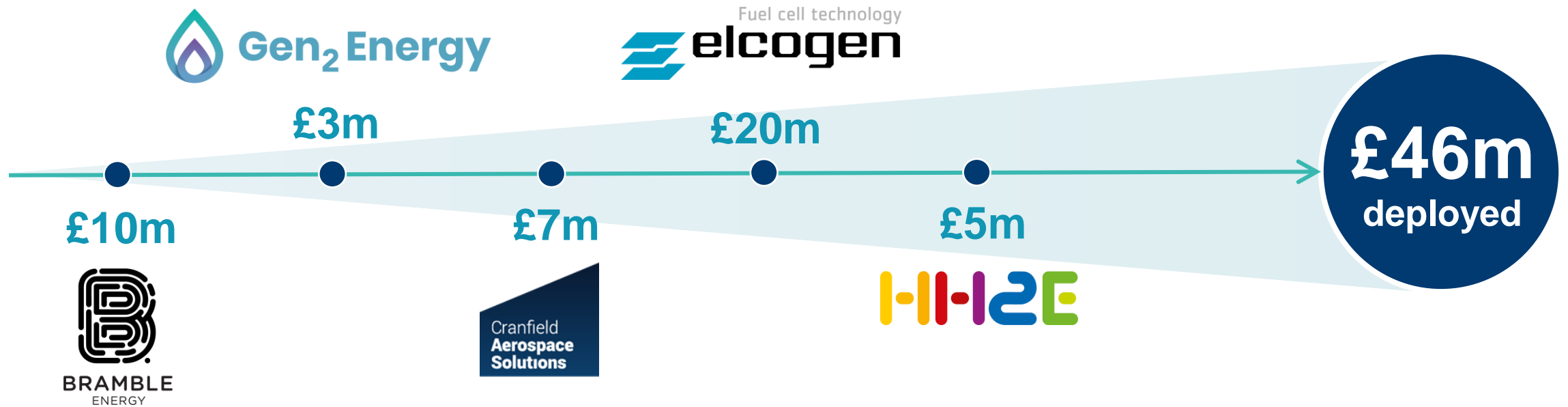
- Germany
- UK
- France
- Scandinavia
- North America

## Portfolio segmentation by asset class



- Listed
- Unlisted
- Liquidity reserve

# Investments in H1 2022



# Gen2 Energy investment (Hydrogen production)

## Company description



Norwegian green hydrogen project developer

[www.gen2energy.com](http://www.gen2energy.com)

## Investment size / date

- £3m / March 22

## Co-investors

- HyCap, Vitol, Hoegh LNG, Knutsen Group

## Why invested

- Up to 700MW green hydrogen projects in Norway, which expected production in 2025-2027
- Specialist in low-cost 24/7 hydroelectric power
- HGEN has follow-on investment rights in project SPVs

## Total Addressable Market

- >£100bn

## Recent developments

- Progressing with plans for clean hydrogen supply in Norway, with agreements reached in shipping and logistics

## Key milestones

- First hydrogen project launch at Mosjøen



Illustration of the G2E hydrogen production facility in Mosjøen in Norway



Illustration of the G2E hydrogen container vessels

# HH2E investment (Hydrogen production)

Company description	
 <a href="http://www.hh2e.de">www.hh2e.de</a>	German green hydrogen project developer with a focus on industrial customers
Investment size / date	<ul style="list-style-type: none"><li>£5m / May 22</li></ul>
Co-investors	<ul style="list-style-type: none"><li>Foresight Group LLP</li></ul>
Why invested	<ul style="list-style-type: none"><li>Assessing 5 new projects for Final Investment Decision (“FID”)</li><li>Provides HGEN with investment rights in multiple large-scale industrial decarbonization projects</li><li>The new zinc electrolyser (or battery+alkali electrolyser) in combination with the high-temperature storage unit enables constant production with only a limited number of hours of renewable electricity supply</li></ul>
Total Addressable Market	<ul style="list-style-type: none"><li>&gt;£100bn</li></ul>
Recent developments	<ul style="list-style-type: none"><li>Announced a new 6,000 tpa/ 200MW (c.1GW by 2030) clean hydrogen project with MET Group in Lubmin, Germany</li></ul>
Key milestones	<ul style="list-style-type: none"><li>First hydrogen project launch Lubmin expected in Germany</li></ul>




Hydrogen production facilities illustration



Hydrogen production facilities illustration

# Bramble Energy investment (supply chain)

<b>Company description</b>  BRAMBLE ENERGY <a href="http://www.brambleenergy.com">www.brambleenergy.com</a>	<b>UK-based fuel cell and portable power solutions company</b>
<b>Investment size / date</b>	<ul style="list-style-type: none"><li>£10m / February 2022</li></ul>
<b>Co-investors</b>	<ul style="list-style-type: none"><li>IP Group, BGF, Parkwalk, UCL Technology Fund</li></ul>
<b>Why invested</b>	<ul style="list-style-type: none"><li>Pioneering revolutionary fuel cell design and manufacturing techniques</li><li>Novel printed circuit board design PCBFC™ - low cost, scalable and recyclable fuel cell modules</li><li>Launched a portable power product range</li><li>Developing high-power density, mobility fuel cell systems</li></ul>
<b>Total Addressable Market</b>	<ul style="list-style-type: none"><li>&gt;£100bn (by 2030)</li></ul>
<b>Recent developments</b>	<ul style="list-style-type: none"><li>UK Government funding for its fuel cell technology developments</li></ul>
<b>Key milestones</b>	<ul style="list-style-type: none"><li>SDX portable power launch 2022</li><li>Mobility technology development</li></ul>




Bramble's Fuel Cell Range Extender Demonstrator Vehicle

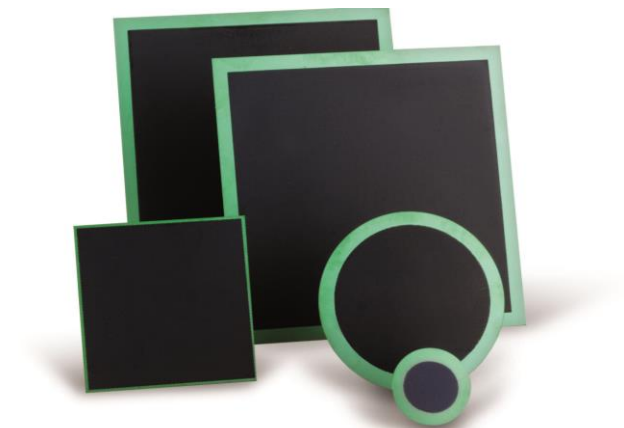


Bramble's SeaKit fuel cell stack



# Elcogen investment (supply chain)

<b>Company description</b>  <a href="http://www.elcogen.com">www.elcogen.com</a>	<b>Fuel cell and electrolyser manufacturer with presence in Estonia and Finland</b>
<b>Investment size / date</b>	<ul style="list-style-type: none"><li>£20m / May 2022</li></ul>
<b>Co-investors</b>	<ul style="list-style-type: none"><li>Biofuel OÜ, VNTM Powerfund II</li></ul>
<b>Why invested</b>	<ul style="list-style-type: none"><li>Amongst the world's most advanced solid oxide specialists, with lower than-normal operating temperatures and superior economics</li><li>Developed a reversible ceramic technology that can convert hydrogen into emission-free electricity and vice versa</li><li>+10 year track record</li><li>Over 60 established industrial customers worldwide</li></ul>
<b>Total Addressable Market</b>	<ul style="list-style-type: none"><li>&gt;£40bn (by 2030)</li></ul>
<b>Recent developments</b>	<ul style="list-style-type: none"><li>c. €17m public funding for research &amp; innovation activities under IPCEI Hy2Tech project</li><li>WattAnyWhere supply partnership for BEV</li></ul>
<b>Key milestones</b>	<ul style="list-style-type: none"><li>Expansion of manufacturing facilities during 2022-23 at 25MW/year, rising to 50MW/year (equivalent to 100MW - 200MW in electrolysis mode)</li></ul>




Elcogen's solid oxide cells



Elcogen's solid oxide stack

# Cranfield Aerospace investment (Hydrogen applications)

<b>Company description</b>	
 <a href="http://www.cranfieldaerospace.com">www.cranfieldaerospace.com</a>	<b>UK-based passenger flight innovator, powering turboprop flight with hydrogen</b>
<b>Investment size / date</b>	<ul style="list-style-type: none"><li>£7m / March 22</li></ul>
<b>Co-investors</b>	<ul style="list-style-type: none"><li>Safran Ventures, Tawazun Strategic Development Fund, Motus Ventures</li></ul>
<b>Why invested</b>	<ul style="list-style-type: none"><li>Aerospace market leader in the design and manufacture of new aircraft design concepts, complex modifications to existing aircraft and integration of cutting-edge technologies</li><li>Working on CAA certification of the Britten-Norman Islander passenger aircraft using hydrogen</li></ul>
<b>Total Addressable Market</b>	<ul style="list-style-type: none"><li>£1.4bn (by 2030)</li></ul>
<b>Recent developments</b>	<ul style="list-style-type: none"><li>Collaboration and supply agreement for 10 hydrogen-fuelled planes with EVIA AERO in Northern Europe</li><li>New investment from Tawazun Strategic Development Fund and Motus Ventures (total investment round £14.4m)</li></ul>
<b>Key milestones</b>	<ul style="list-style-type: none"><li>Test flight 2023</li><li>Commercial certification 2025</li></ul>



## Invested across the value chain

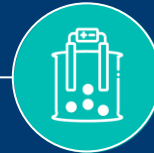
Hydrogen production



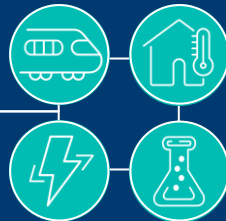
Storage & distribution



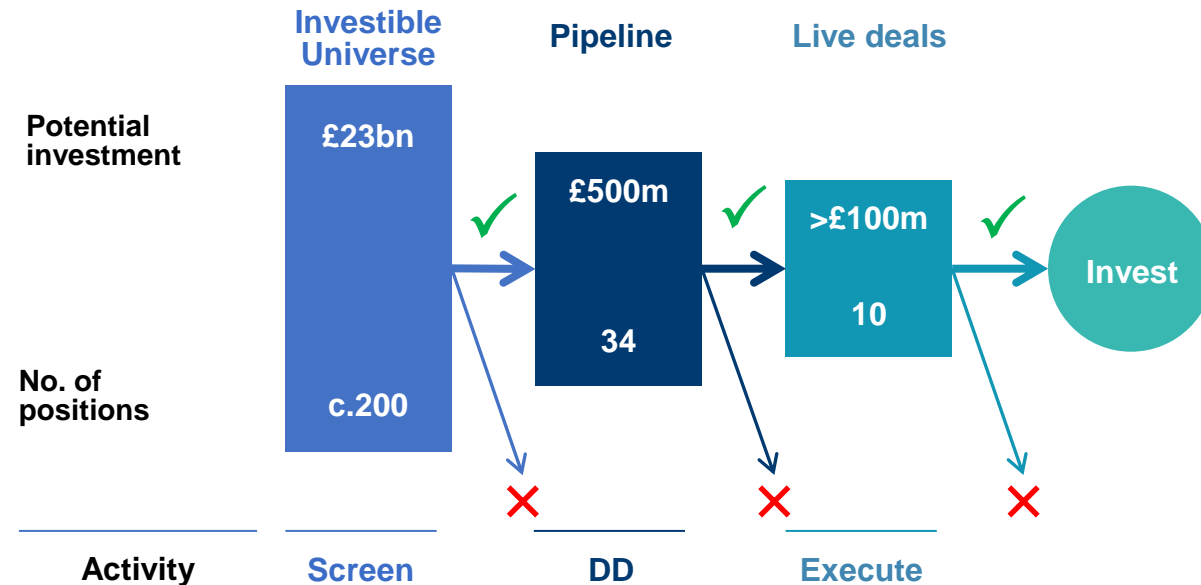
Supply chain



Hydrogen applications



## Dynamic management of multiple private opportunities





# Summary and outlook

- Positive sector outlook, supported by government policies
- Substantial deployment of IPO proceeds within first year
- Establishing a share issuance programme

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

- Private equity
- >£500m pipeline

## Energy transition

- Allocating capital to clean energy
- Exclusion of fossil fuels producers

## Deep experience in sector

- Access to distinctive assets
- Specialist approach

**Supply chain companies**  
£48m deployed

**2021**

**Developer + supply chain companies**  
£55m deployed ytd

**2022**

**Developer + supply chain companies + supply projects**  
>£500m pipeline

**2023+**

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# Thank you for your attention

## Q&A session

