HydrogenOne
CAPITAL | FUTURE FUEL. NOW

Capital Markets Day

23 February 2023

Signatory of:

PRI Principles for Responsible Investment

GREENHOUSE GAS PROTOCOL

SUSTAINABLE DEVELOPMENT GOALS

Investing in clean hydrogen for a climate-positive impact

LSE: HGEN

Disclaimer

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Welcome

Simon Hogan
Chairman

HydrogenOne Capital

Opening remarks

Richard Hulf
Managing Partner

HydrogenOne Capital

Fund overview

HydrogenOne CAPITAL | FUTURE FUEL. NOW

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

NAV growth — Target 10-15% NAV growth[1]

SFDR 9 — >$100m deployed in low-carbon growth for avoided GHG

>£500m — 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’

(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.

Today's agenda

10:10-10:25	**Keynote Address –** Hydrogen and its Crucial Role in the Energy Transition *Daniel Hanna, Global Head of Sustainable Finance for the Corporate and Investment Bank, Barclays Bank Plc*
10:25-11:20	**Session 1:** Hydrogen Production, Storage and Distribution. Presentations, followed by Q&A HH2E · Gen2 Energy · Strohm · NanoSUN
11:20-11:40	Break
11:40-12:25	**Session 2:** Critical Supply Chain. Presentations, followed by Q&A sunfire · elcogen (Fuel cell technology) · HiiROC
12:25-13:00	**Session 3:** Hydrogen Applications. Presentations, followed by Q&A Cranfield Aerospace Solutions · BRAMBLE ENERGY
13:00-13:10	**Closing Remarks** *Dr JJ Traynor, Managing Partner, HydrogenOne Capital*
13:15-14:00	Networking Lunch

Keynote Address: Hydrogen and its Crucial Role in the Energy Transition

Daniel Hanna
Global Head of Sustainable Financing for the Corporate and Investment Bank

Barclays Bank Plc

Session 1:
Hydrogen Production, Storage & Distribution

Presenting companies:

- *HH2E AG & Thierbach Project*
- *Gen2 Energy AS*
- *Strohm Holding B.V.*
- *NanoSUN Limited*

HH2E AG & Thierbach Project

Mark Page
Co-founder & Chief Financial Officer

Mark Page, Co-Founder and CFO

HydrogenOne Capital Markets Day, February 2023

Germany is accelerating its Energy Transition.

Reducing dependence

Reducing emissions

Secure affordable energy supply

Our mission: #1 green hydrogen producer in Germany

Experienced team, implementation mindset

Secure the best sites (land, grid, RE, pipelines, water)

Alignment with regional and national policymakers

Portfolio of investment grade customers across sectors

Strong investor backing and diverse capital structure

Innovative mix of mature technologies to produce baseload hydrogen

400 MW RED II-compliant green hydrogen by 2025

German hydrogen Market 2045 forecast: 13-20 million tonnes/year

(Source: Federal economics ministry long term scenario, 2021)

Current Demand

300 H2 filling stations expected by 2025 with 2 tons capacity each

Refineries switching from grey to green hydrogen

Industry early adopters

Transport 2045

~3,000 diesel trains to be replaced by hydrogen trains

Heavy truck fleet
4 million t/year

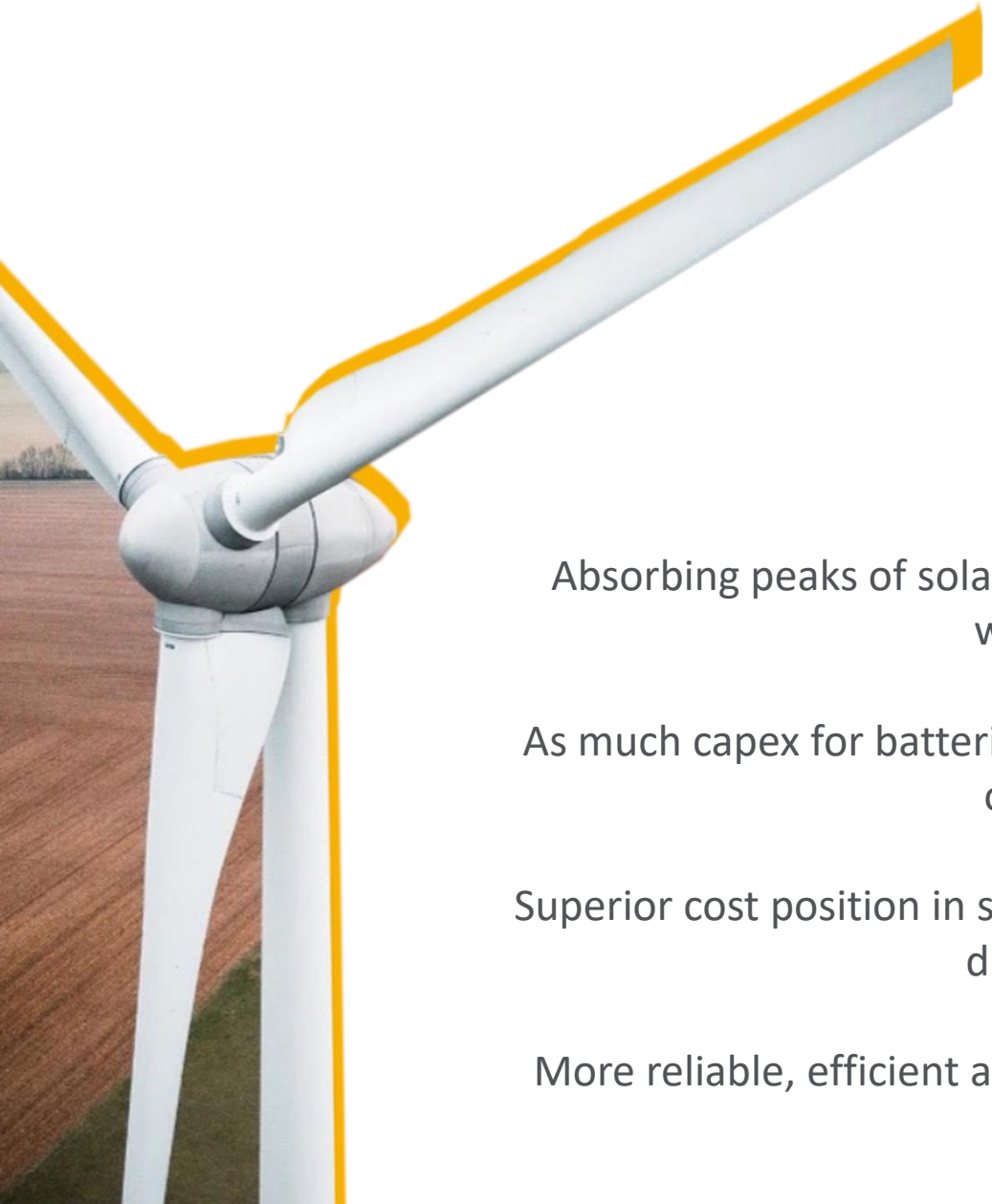
Industry 2045

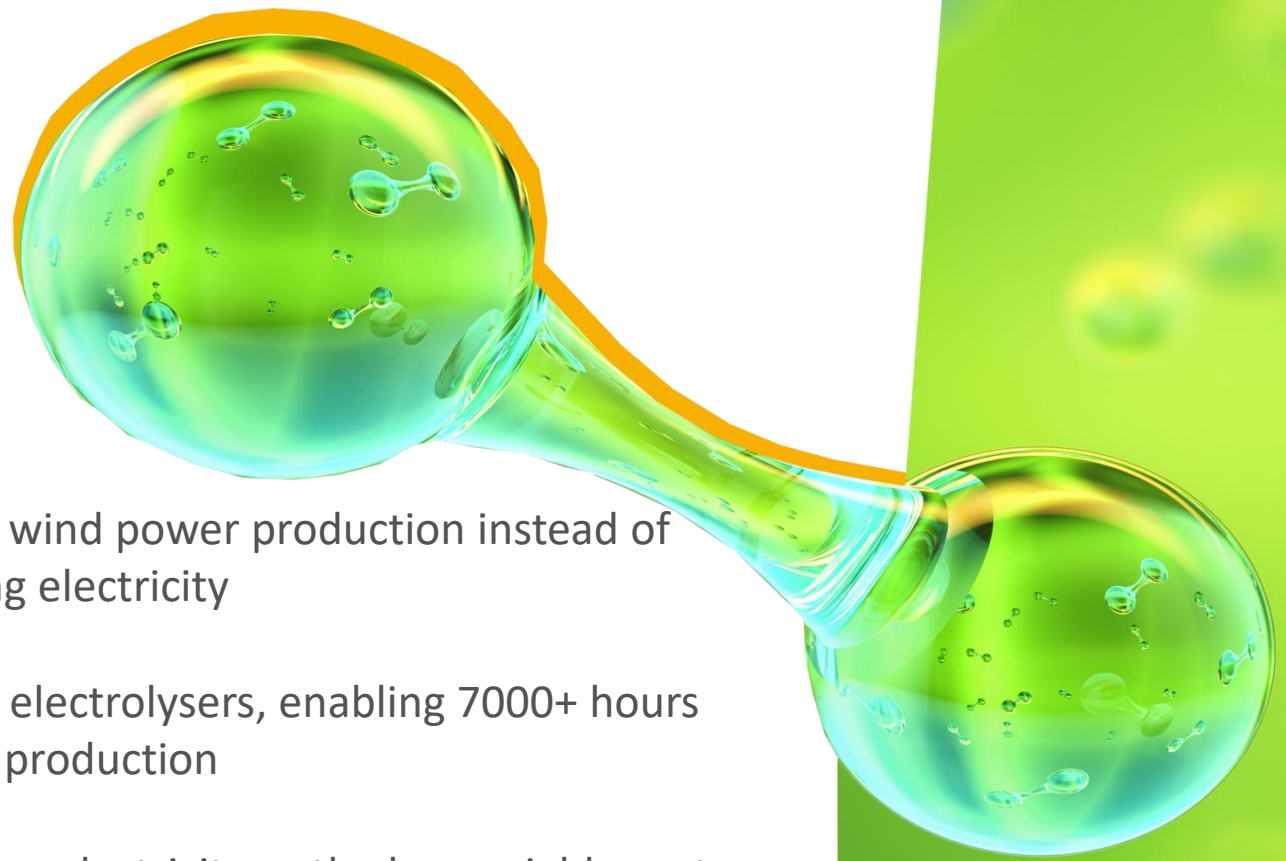
Green ammonia and green methanol
1 million t/year

Green steel industry
2 million t/year

Power sector

Cost-competitive HH2E business model and technology-mix





Absorbing peaks of solar and wind power production instead of wasting electricity

As much capex for batteries as electrolysers, enabling 7000+ hours of H2 production

Superior cost position in sourcing electricity as the key variable cost driver for green H2

More reliable, efficient and environmental than shipping H2 from faraway deserts

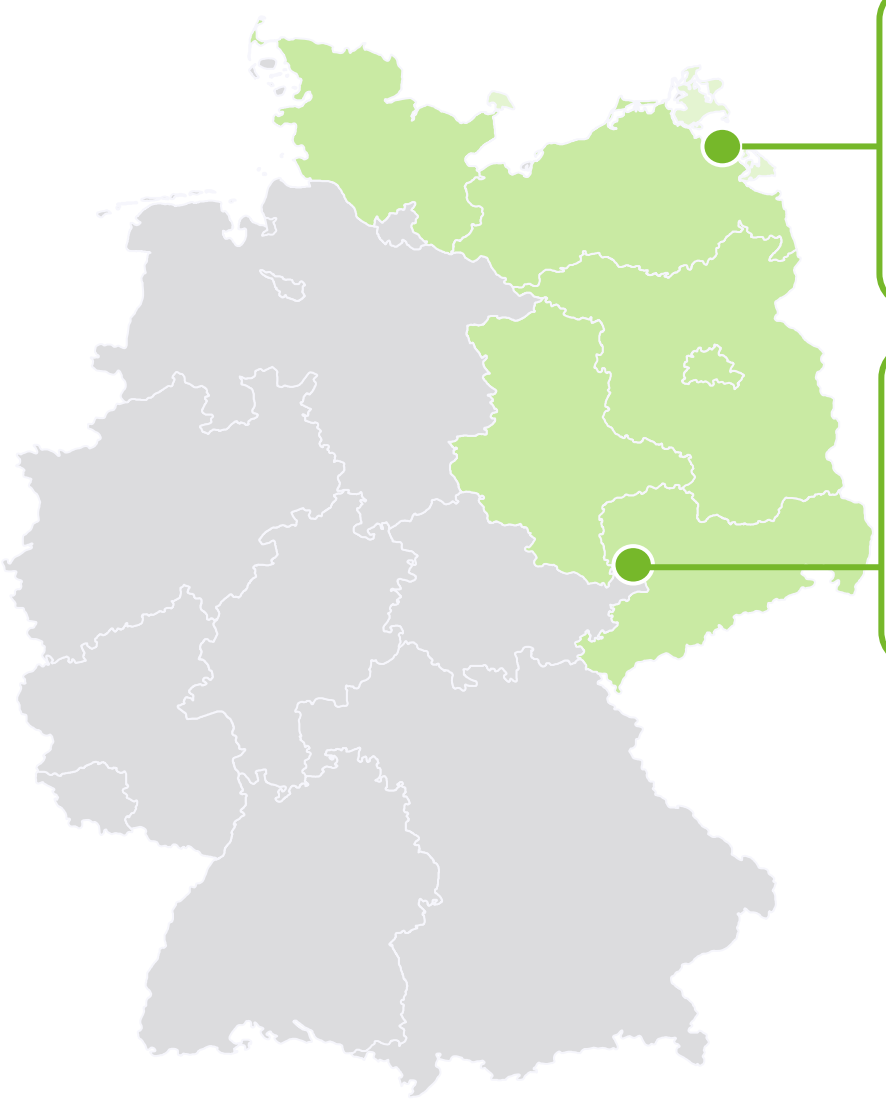
Need:
A new type of power plant

HH2E ambition: at least 4 GW of green hydrogen production by 2030

Project A (1 GW by 2030)
- Chemical Industry Park
- 100 MW input capacity by 2025
- 6,000 tonnes/year production of green hydrogen by 2026

Project B (1 GW by 2030)
- Former power plant
- 100 MW input capacity by 2025
- Green hydrogen and process steam for local customer base by 2026

HydrogenOne and Foresight investment funds committed to developing the first 5 sites



HH2E Lubmin (1 GW bis 2030)
- Former nuclear power plant
- 100 MW input capacity by 2025
- 6,000 tonnes/year Production of green hydrogen by 2025

HH2E Thierbach (1 GW by 2030)
- Former power plant
- 100 MW input capacity by 2025
- 6,000 tonnes/year Production of green hydrogen by 2025

Additional sites and expansion into heat storage, electricity from 2026 onwards

Project Thierbach – key facts

- Site of former coal power station demolished ca. 10 years ago. Excellent grid connections, well placed for pipeline connectivity giving access to industrial offtakers
- 100 MW input capacity by 2025, scalable to 1 GW by 2030.
- Capex ca. 250 million euros, expectation of some support from public funds – currently in the detailed planning and approval stage (13m euros) which is funded by HydrogenOne, Foresight and HH2E itself
- 6,000 tonnes/year production of green hydrogen starting in Q3 2025, with a target revenue in excess of 50 million euros per annum from transport and industrial offtakers
- Discussions with network grid operators on win/win economic arrangements
- Strong political support at state and regional level
- Phase 2030: 10x the capacity, 5-6x the capex as a preliminary indication

Target Launch Q3 2025

Change the game of energy!

Learn more by following us at:

www.hh2e.com

linkedin.com/company/hh2e/

info@hh2e.de

Gen2 Energy AS

Gen2 Energy

Jonas Meyer
Chief Executive Officer

clean *green*
hydrogen

Gen$_2$ Energy

Introduction to Gen2 Energy

February 2023

Gen2 Energy strategy and ambitions

Pure-play on green hydrogen

Strategy of developing, constructing, owning and operating zero emission green hydrogen production facilities and developing an integrated hydrogen value chain

Early mover with industrial scale ambitions

Project portfolio of up to 900+ MW capacity[1]

Targeting first production 2025/26 and >1.0 GW capacity in production by 2030

Geographically focused

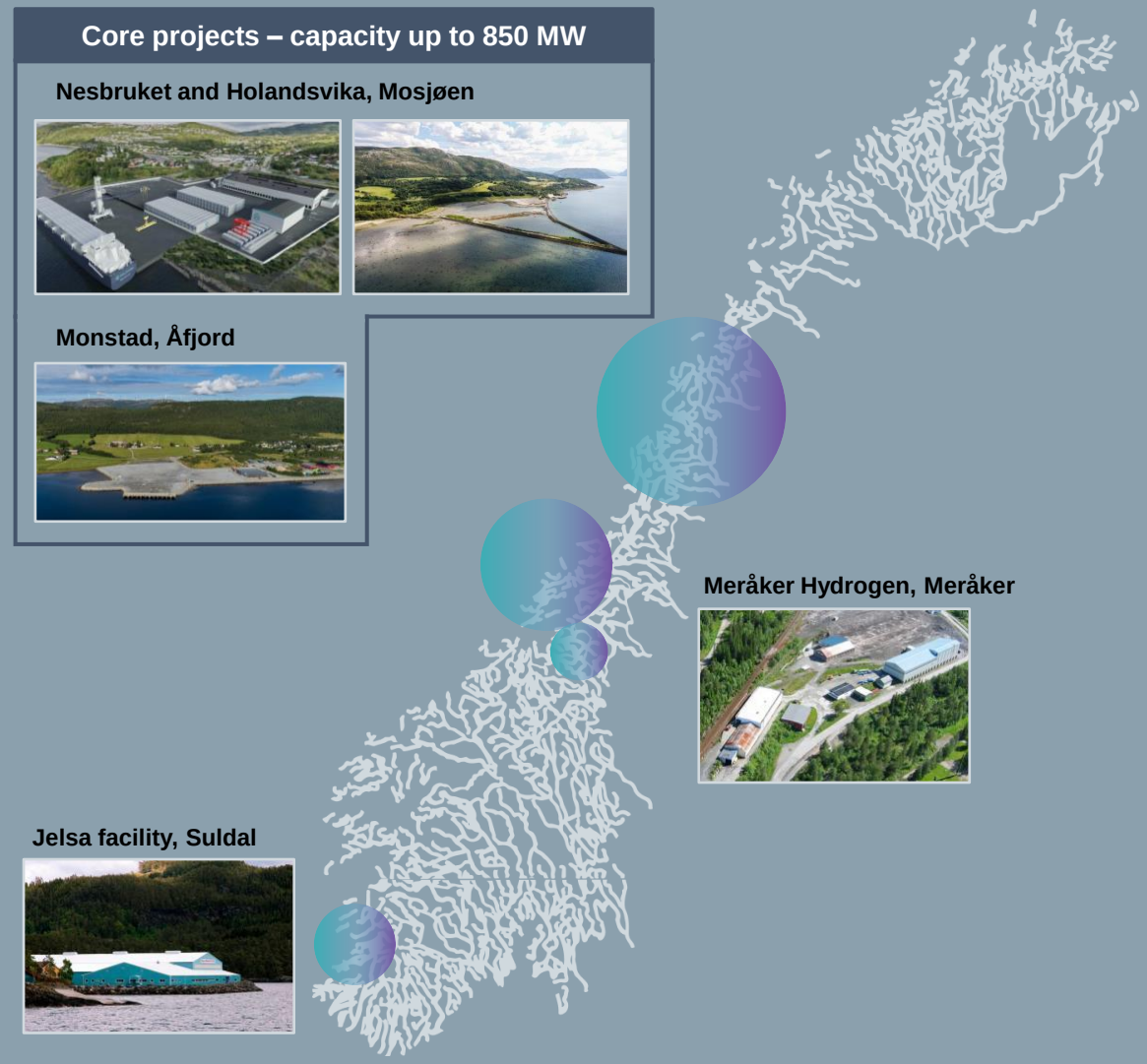
Projects primarily in Norway, and marketing focused on local markets and key export markets in the UK and Northern Europe

Driving the green transition

Note: [1]Company estimate of power capacity at sites under development

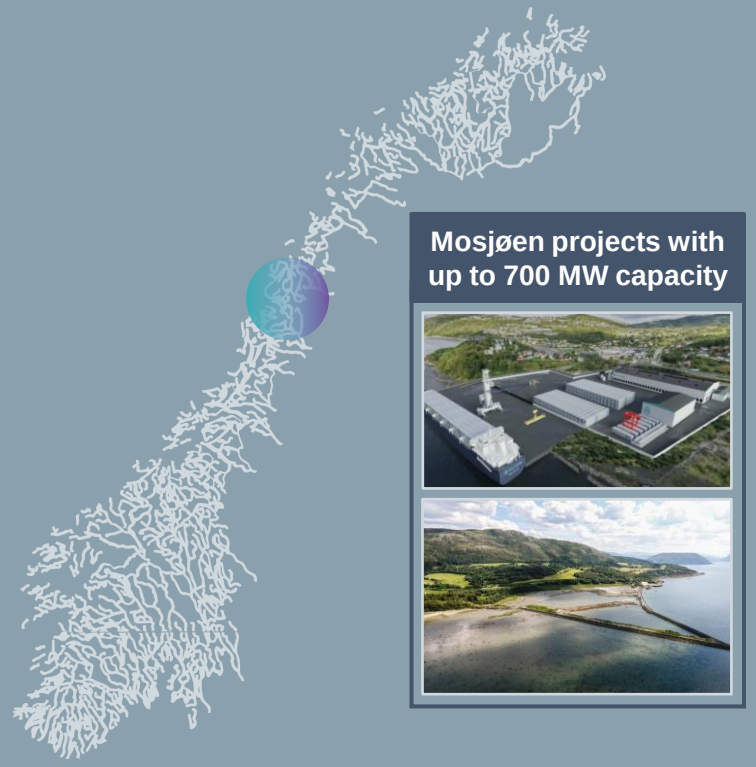
Industrial scale portfolio

- Main projects
  - Nesbruket, Mosjøen, Northern Norway (100%)
  - Holandsvika, Mosjøen, Northern Norway (100%)
  - Monstad, Åfjord, Mid Norway (100%)
  - Jelsa, SW Norway (100% owned site)
- Further projects being matured
  - Mid Norway:
    - Participation in Meråker Hydrogen AS (10%)
  - North Jutland, Denmark:
    - Option with Hirtshals Port
- Additional project pipeline



Gen2 Energy

Mosjøen is an ideal location for green h_2 projects



Low opex

- Northern Norway (NO4) is Europe's cheapest power zone, with surplus and stranded renewable energy
- Electricity is estimated to approx. 90% of production cost
- Low transmission cost
- Ample availability of fresh water

Low capex

- Baseload power from hydro allows for using alkaline electrolysers and for high uptime
- Relatively simple civil works

Strong support mechanisms

- Norway supportive of green industry initiatives

Advancing the Nesbruket production facility project

Concept illustration Nesbruket, Mosjøen[1]

Project highlights
- 120 MW power available
- Compressed hydrogen
- Aiming for FID 2023
- Production start planned for 2025/26
- Option for stage 2 expansion (75 MW)

Status
- Site secured (firm option agreement)
- Access to grid
- Availability of renewable energy
- Availability of fresh water
- Zoning process – pending
- PPA – pending
- Offtake dialogues – pending
- FEED study – pending

Note: [1]Illustration is also relevant for other potential future G2E projects/sites

Unique large scale opportunity at Holandsvika

Holandsvika site, Mosjøen

Project highlights
- Up to 500 MW capacity available
- Evaluation of business case for large scale plant
- Ammonia a key opportunity

Status
- Site secured (firm option agreement)
- Availability of renewable energy
- Availability of fresh water
- Grid access – under development
- Zoning process – planning phase

New project secured at attractive location in Mid-Norway

Monstad site, Åfjord

Project highlights
- Option agreement for site announced Dec-22
- 150 MW capacity
- Evaluation of business case

Status
- Site secured (firm option agreement)
- Availability of renewable energy
- Availability of fresh water
- Grid access – under development
- Zoning process – planning phase

Strong industrial backing, and reputable project partners

Industrial investors

Vitol

- Among the world's largest energy traders
- Involved in large scale hydrogen projects
- Represented on G2E's Board of Directors

HÖEGH LNG

- One of the industry leaders within LNG globally
- Collaboration agreement with G2E with for seaborne logistics for green h_2

Knutsen Group

- Integrated shipping company headed by Trygve Seglem[1]
- Presence also within offshore wind development

New anchor investors 2022

HYCAP

- Fund aiming to take lead in the transition to clean hydrogen energy
- Set up in 2021 by PE-firm Vedra Partners, and the Bamford family, who has various initiatives within the hydrogen ecosystem (JCB, Wrightbus, Ryze Hydrogen)

HydrogenOne CAPITAL | FUTURE FUEL NOW

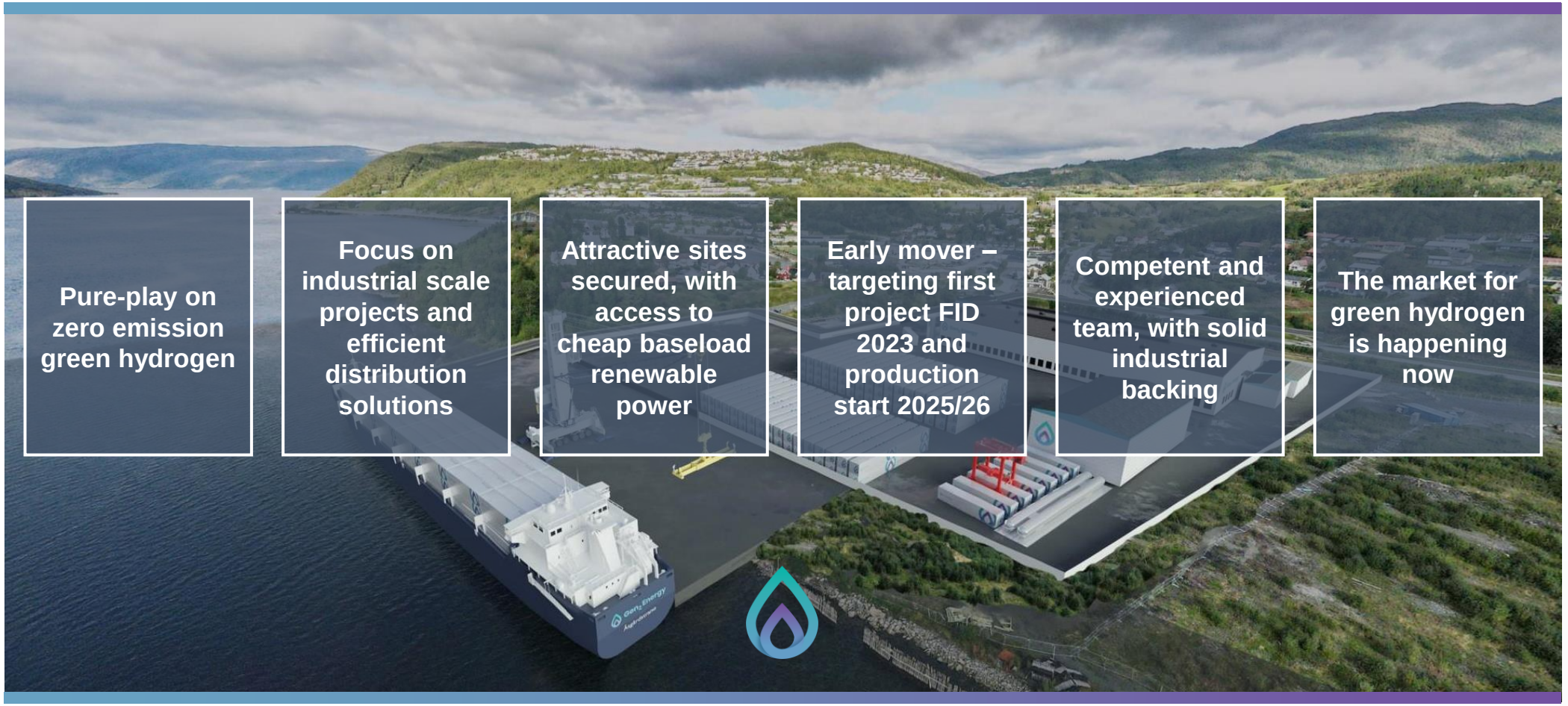
- Listed in London (HGEN)
- Providing investors with opportunities in clean hydrogen and energy storage, both in listed and private positions
- Porfolio companies include: Sunfire, NanoSUN, HiiROC, Bramble Energy

Project partners

wood. · Norconsult · Metier OEC an RPS company · SAFETEC · HYEX SAFETY · ALCOA · MON · Helgeland Havn IKS

Note: [1]Invested in Gen2 Energy via TS Industri Invest AS.

Gen2 Energy summarized




clean *green*
hydrogen
Gen2 Energy

Strohm Holding B.V.

Strohm

Martin van Onna
Chief Executive Officer

Strohm

The Future Flow of Energy
22-11-2022

Martin van Onna
CEO

Strohm’s Thermoplastic Composite Pipe

The green hydrogen economy requires the right pipeline technology to be available at scale

The drivers and challenge

- Energy transition needs to **accelerate**
- Offshore wind & hydrogen is a **perfect match**, creating a substantial offshore pipeline demand
- Requiring a pipeline solution that is **proven**, **reliable** and **available at scale**

The market potential

A **2bn market opportunity** by 2040[1] of offshore pipeline infrastructure for hydrogen

The solution

Strohm’s **Thermoplastic Composite Pipe**, a superior and field proven pipeline technology

1: Based on policy announcements; by 2030 €800m

Thermoplastic Composite Pipe

The most sustainable and affordable pipeline solution for offshore applications

No corrosion

TCP is **agnostic to fluids**. It is insensitive to Hydrogen and CO_2

Proven and reliable

Proven with the **largest track record in the world** in offshore Oil & Gas, no maintenance, long design life

Less CO_2

TCP's footprint is the smallest of all pipeline solutions, **55% lower compared to steel**

Lower cost

And all these benefits come at **a lower cost** due to the easy of installation of TCP and the ability to use small installation vessels

"Having pioneered the offshore wind industry, we know that thorough analysis and testing are required before deploying new technologies at sea."

Anders Christian Nordstrøm, Ørsted

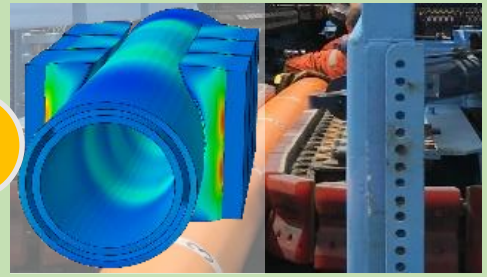
Building on a superior foundation

Strohm is the world's first and leading manufacturer of TCP with best in class design and manufacturing technology

1

Material know-how
Qualified materials to ensure most cost effective solution for each application

2



Digital design
Qualified predictive engineering tools, ready for digital twins

3

Manufacturing
Proprietary, patented and fully automated process for highest quality pipelines

Strohm has a strong patent and IP protection position

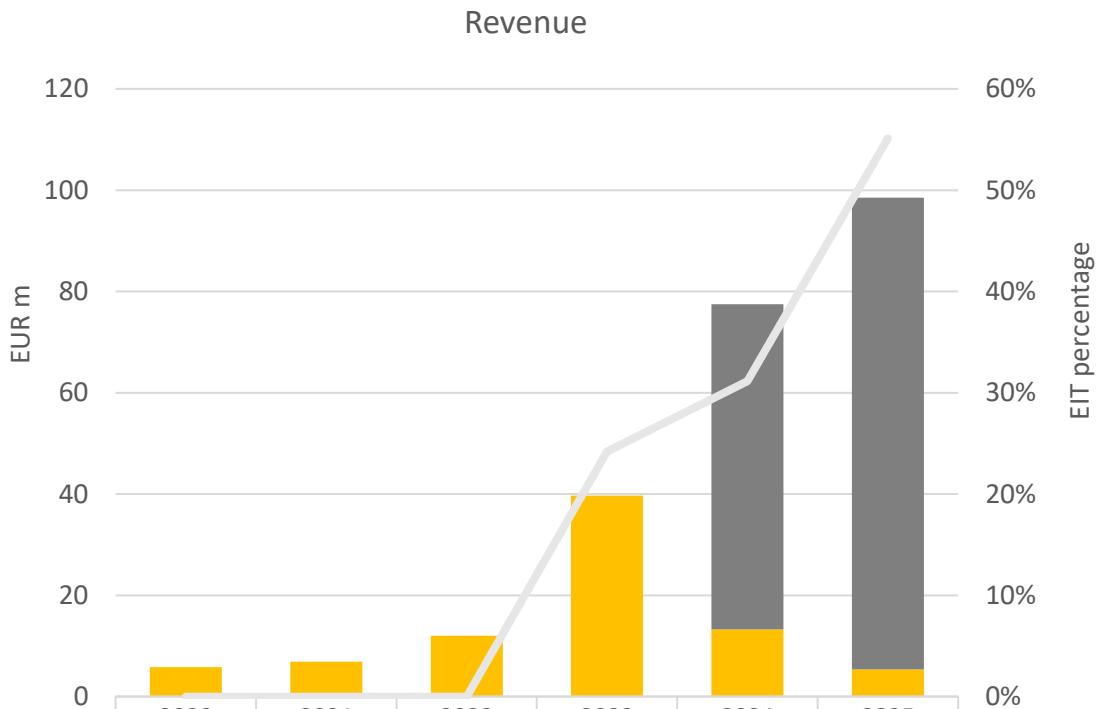
- Manufacturing patents
- Trade secrets:
  - ✓ Qualified materials, understanding of material behaviour in harsh environ-ments,
  - ✓ qualified design methods and tools
  - ✓ Manufacturing

A proven manufacturing technology ready for scaling up

HGEN is a major shareholder in a fast growing scale-up

A record order book, proven in conventional energy, enabling for renewable energy

- Through the conventional energy industry the full potential of TCP has been unlocked on a global scale
- Largest **backlog** in the company's history **EUR 60m**
- This year **EBITDA positive** based on secured revenues
- Pipeline of key target prospects provide targets and backups for all of planned revenue through to 2025
- **Energy In Transition** growing quickly with 2023 already around 25% of revenue secured on EIT, growing to **50+% in 2025**



	2020	2021	2022	2023	2024	2025
Pipeline					64.2	93.1
Secured orders	5.8	6.9	12	39.7	13.3	5.4
% EIT	0%	0%	0%	24%	31%	55%

NanoSUN Limited

NanoSUN

Dean O’Connor
Chief Executive Officer

Delivering the connective tissue for the Hydrogen fuel market

nanosun.co.uk

The revolution of hydrogen as a fuel at scale is just starting

Hydrogen is a great clean fuel for commercial transport

- ✓ No emissions but water
- ✓ Super fast refuelling capability (minutes, rather than hours)
- ✓ Hydrogen fuel cells are now long life, reliable and cheap
- ✓ Drive train + fuel weight similar to ICE
- ✓ Rising Hydrogen CAPEX is growing capacity and lowering cost

What's missing? An affordable hydrogen refuelling station network

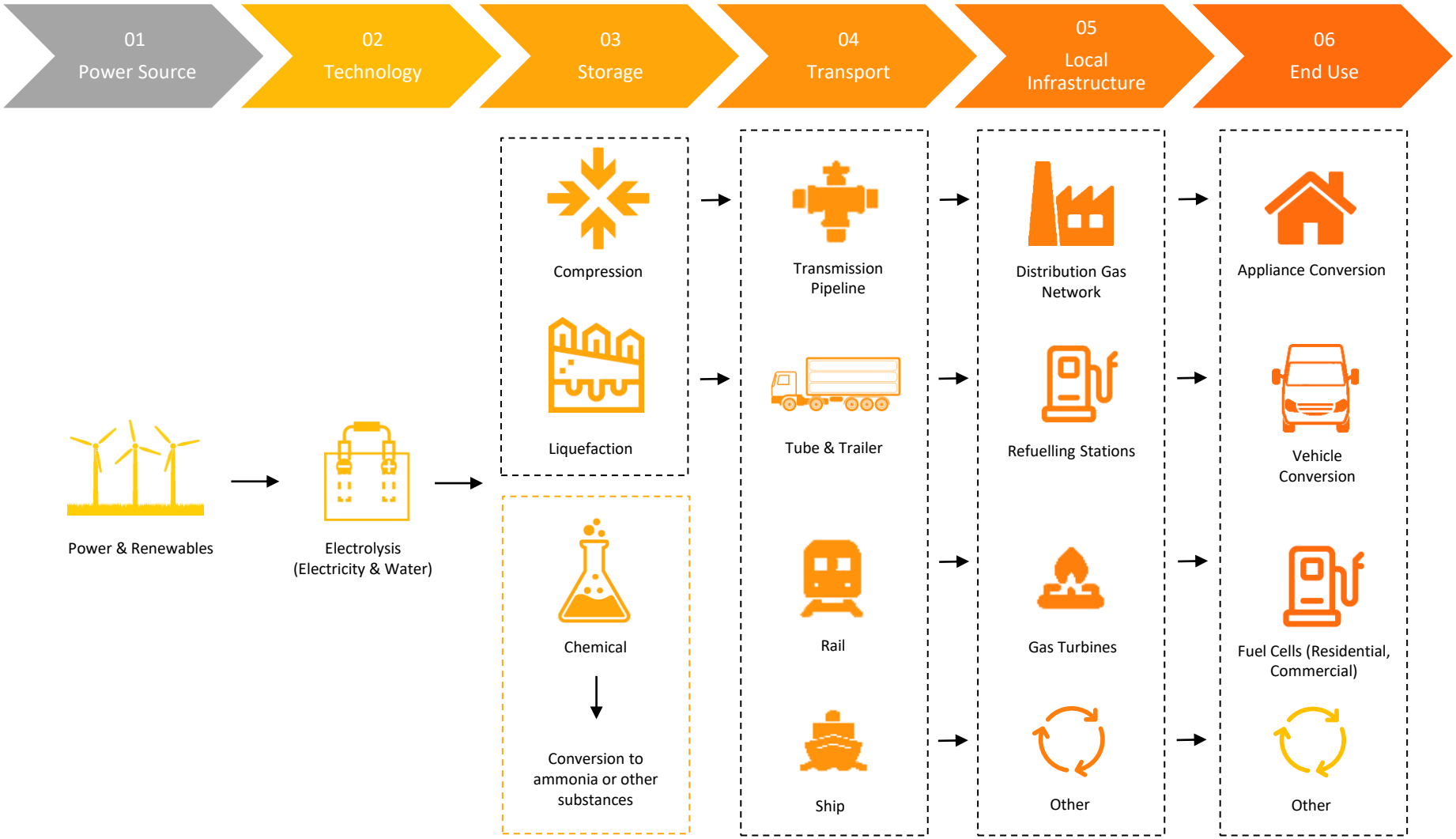
- ✓ Up to now it's been sub-scale, expensive and unreliable
- ✓ Regulation, financing and construction has been clunky

This is the problem NanoSUN solves for buses, forklifts, delivery vans, HGVs and off-road construction equipment

Hydrogen, as a fuel, has failed to get off the launch pad until now…

Strong focus on Opposite ends of Value Chain

Transport, Storage & Delivery cost issues lying in wait



- ✓ Huge investment being directed at production and end use
- ✓ OEMs and producers assume that transport and local infrastructure “will be available”
- ✓ Little innovation in middle ground. High-cost, mature technologies are propagating

Source: Citi GPS Report, November 2022

The Hydrogen Value Chain

Production | Distribution | Dispensing | Consumption

Today's Hydrogen Fuel Value Chain - Problem

£3m - £5m
(18-24 months)

H2 **£/kg** ✗

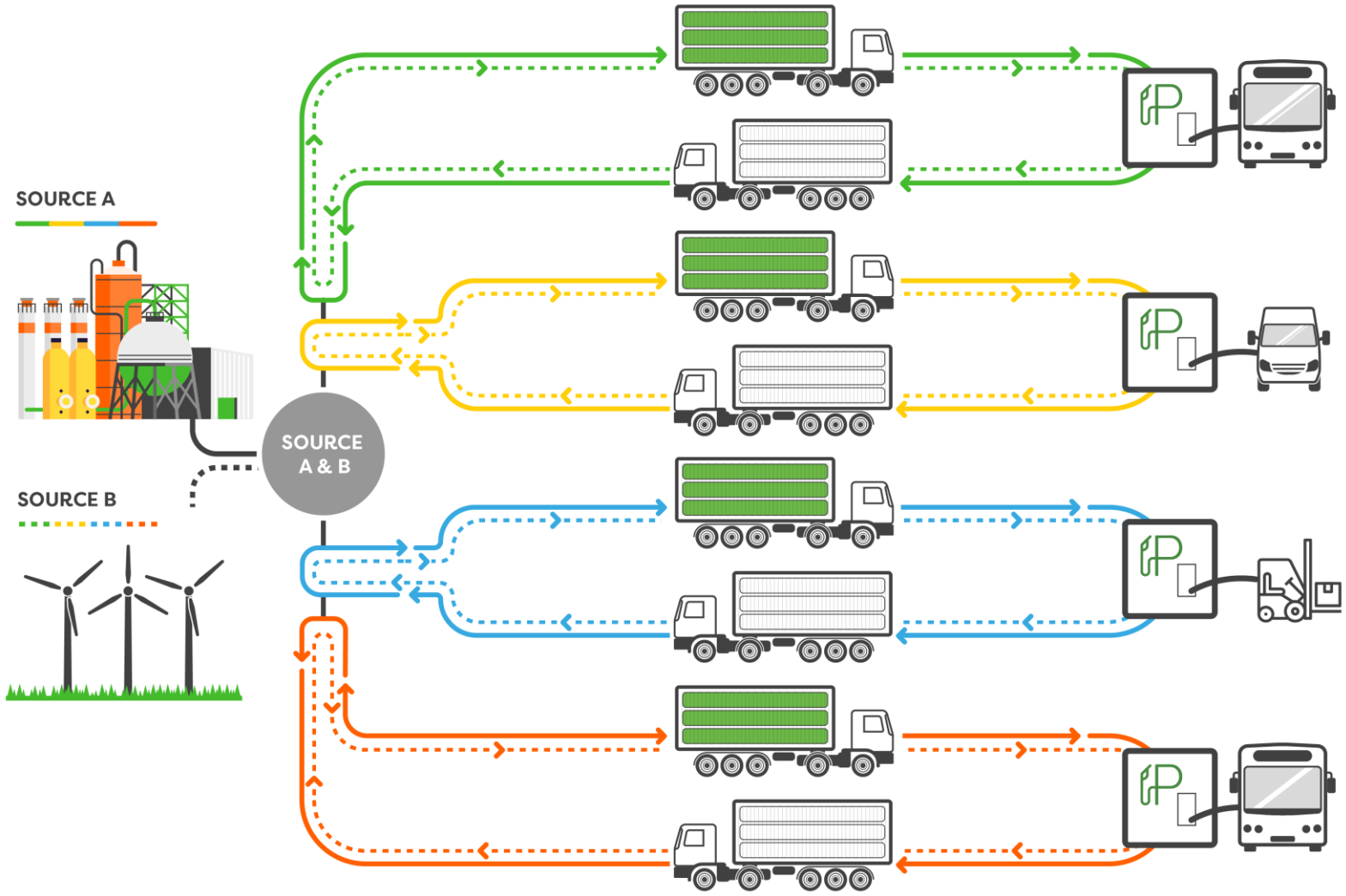
Reinvented Hydrogen Fuel Value Chain - Solution

£0.6m
(3-6 months)

H2 **£/kg** ✓

Mobile Refuelling is the Connective Tissue

- ✓ H2 production is most efficient at large scale, often in remote areas.
- ✓ Fleet deployment is diffuse
  - Near to population centres
  - Early adopters with 1-10 vehicles
  - Scaling to 10s of vehicles per site. 100s rare.
- ✓ Even largest scale fleets have multiple depots so fixed infrastructure investment is a major decision.
- ✓ NanoSUN's Pioneer fleet grows with vehicle fleet. Phased, efficient use of capital.



The World's First Mass Manufactured Mobile Refueler

- ✓ A unique dual solution, a tanker and fuel pump in one.
- ✓ A green mobile solution that is easy to transport, fulfilling distributor needs.
- ✓ Factory built and fast to deploy, 6 months from decision to implementation.
- ✓ Cost effective, less than half the cost of smallest conventional station.
- ✓ Reliable, with no rotating machinery to breakdown.

Safe Pressure | Easily Scalable | Mobile Deployment | Reliable Network | Compact & Transportable

Making hydrogen available anywhere at anytime…

Pioneer Lifecycle Assessment

Good for the climate

Climate-KIC is supported by the EIT, a body of the European Union

NanoSUN we're selected to participate in the EIC-EIT Climate Race to Net-Zero– which helped us to calculate the climate impact of our products by validating our Lifecycle Assessment analysis.

Considering best and worst-case scenarios around green/blue hydrogen and utilisation rates of a Pioneer, the lifecycle assessment, checked & approved (in Q3, 2022) by EIC-EIT, demonstrates that:

Every Pioneer fill saves

4.2 - 5.8 tCO2e

=

4 - 6 months

average UK person's carbon footprint

Just 10 - 13 Pioneer fills required until pay-back of manufacture emissions

In its lifetime, a Pioneer mitigates

1,600 - 16,000 tCO2e

=

taking 80 - 820 cars

off the road for 10 years

NanoSUN

nanosun.co.uk

Session 1: Q&A

Participants

- **HH2E AG & Thierbach Project** – Mark Page, co-founder & CFO
- **Gen2 Energy AS** – Jonas Meyer, CEO
- **Strohm Holding B.V.** – Martin van Onna, CEO
- **NanoSUN Limited** – Dean O'Connor, CEO

Host: *Dr JJ Traynor, Managing Partner, HydrogenOne Capital*





Break

Presentations will resume shortly

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Session 2:
Critical Supply Chain

Presenting companies:

- *Sunfire GmbH*
- *Elcogen AS*
- *HiiROC Limited*

Sunfire GmbH

sunfire®

Benedict Minkner
Chief of Staff

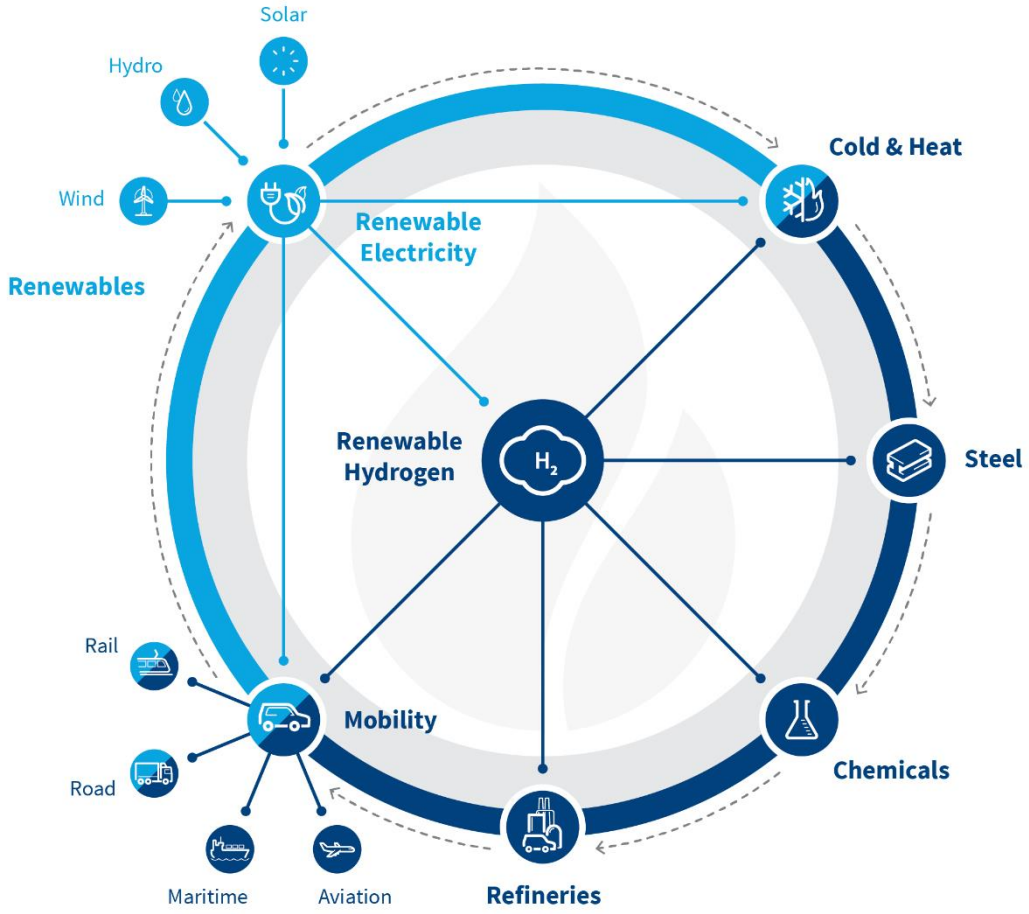
sunfire®

HYDROGEN IS THE ANSWER

We are ready to deliver

Benedict Minkner (Chief of Staff)

A world without fossil fuels will run on renewables



Phase 1: Renewable Electricity

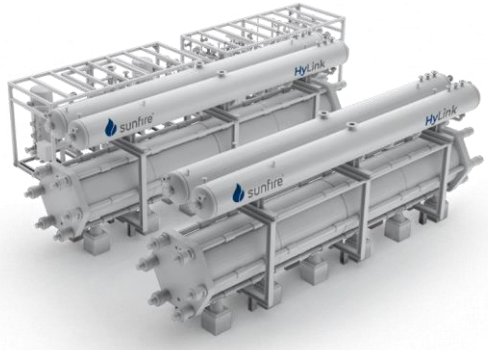
has the potential to decarbonize different sectors through direct electrification – but it cannot get everywhere.

Phase 2: Renewable Hydrogen

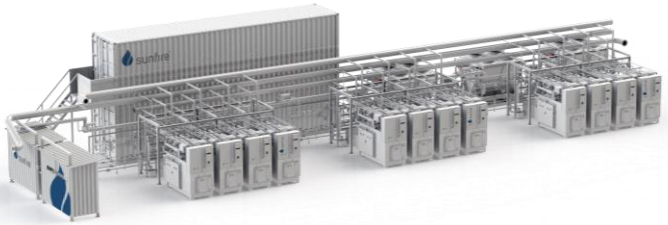
is required to achieve a decarbonization of critical sectors that continue to depend on gaseous and liquid energy carriers.

We are a global leader in electrolyzers with two complementary products

Solutions & Markets



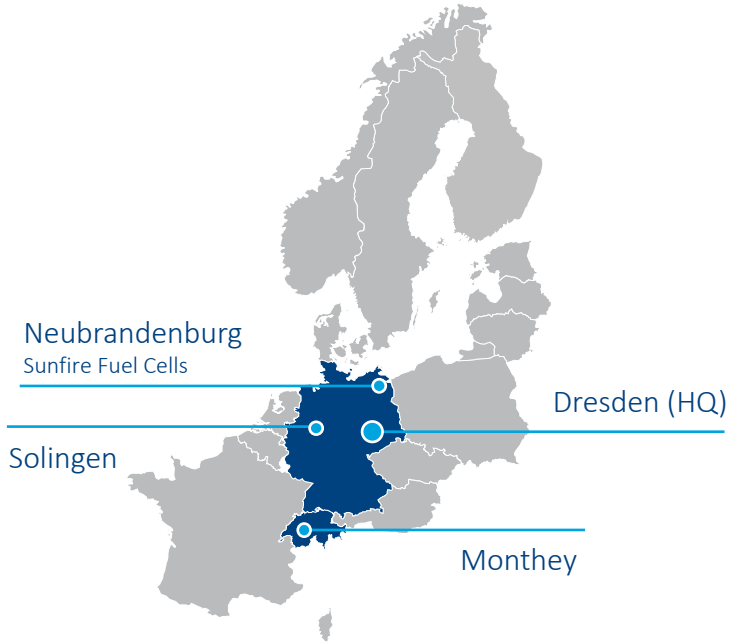
Pressurized Alkaline Electrolyzers



Solid Oxide (SOEC) Electrolyzers

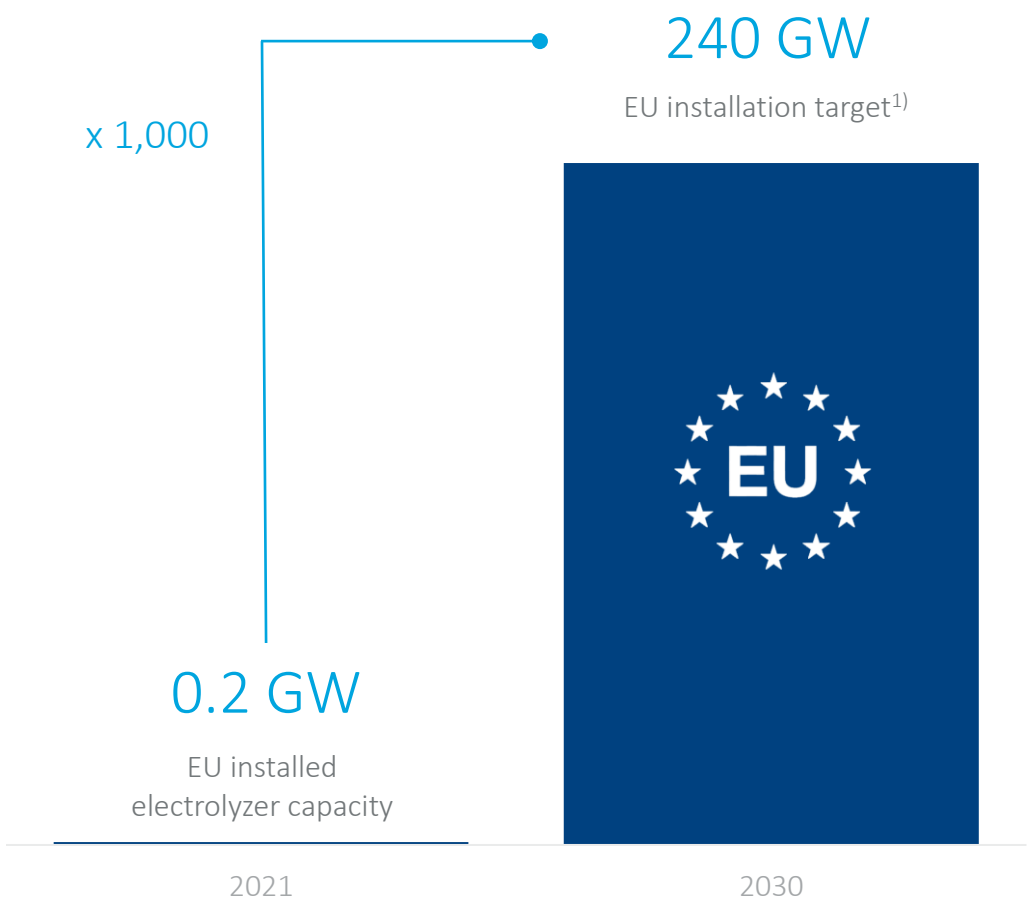
Steel | Refineries | Utilities | Chemicals | Mobility

Company Sites



OPPORTUNITY

The European electrolyzer market is expected to grow significantly



EUR 120 bn

The electrolyzer market opportunity in Europe (EUR 950 bn world wide[2)])

22 years

The time it took the wind industry to reach 240 GW

Less than 10

The # of companies that are ready to scale – Sunfire is one of them

1) of which 120 GW in EU territory and 120 GW outside of the EU dedicated to imports 2) McKinsey Insights 2022

OPPORTUNITY

Only few companies are ready to deliver – Sunfire is one of them

~ 70
Electrolysis projects[1)]

> 750 MW/a
Production capacity in preparation

> 500
Talented employees

> EUR 500 m
Private and public funding

1) Including projects from predecessor alkaline company “IHT SA” prior to the acquisition by Sunfire

CONTRACT VOLUME

Sunfire is realizing large-scale projects with leading industrial players

>700 MW

DE

10 MW

Commissioning 2023

RWE

FI

20 MW

Commissioning 2024

P2X solutions

DE

2x30 MW

Commissioning 2024/2025

uniper

EU

640 MW

Offtake agreement

CIP

Copenhagen Infrastructure Partners

SCALING

We are significantly increasing our production capacities to gigawatt scale

10 MW/a

60 MW/a

>750 MW/a

SOEC Electrolyzers

Dresden, Germany (HQ)

Stack & system manufacturing

R&D & stack testing

Alkaline Electrolyzers

Monthey, Switzerland

Electroplating & stack assembly

Stack testing

Alkaline Electrolyzers

Solingen, Germany

Electroplating

R&D

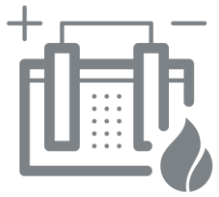
Alkaline Electrolyzers

Chemnitz, Germany

Stack assembly

Systems are manufactured externally and delivered directly to customer sites

We are industrializing and set the basis for international growth



Research & Development
2010 to 2020

Market Opening
2020 to 2023

Industrialization
2023 to 2026

Global Footprint
2026 to 2030

THANK YOU!

Benedict Minkner, Chief of Staff
benedict.minkner@sunfire.de

Sunfire GmbH · Gasanstaltstrasse 2
01237 Dresden · Germany
www.sunfire.de

Elcogen AS

Fuel cell technology elcogen

Enn Õunpuu
Chief Executive Officer

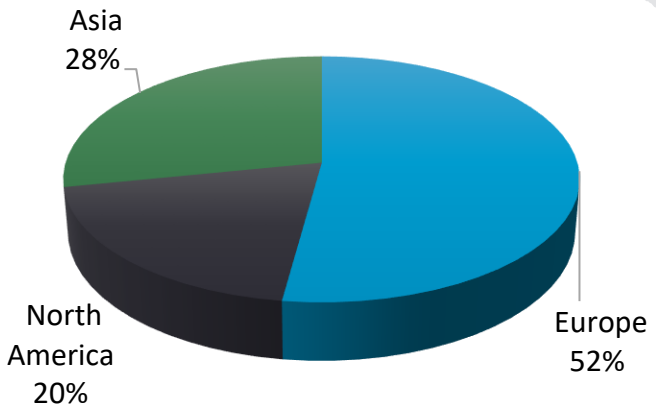
elcogen Affordable green hydrogen

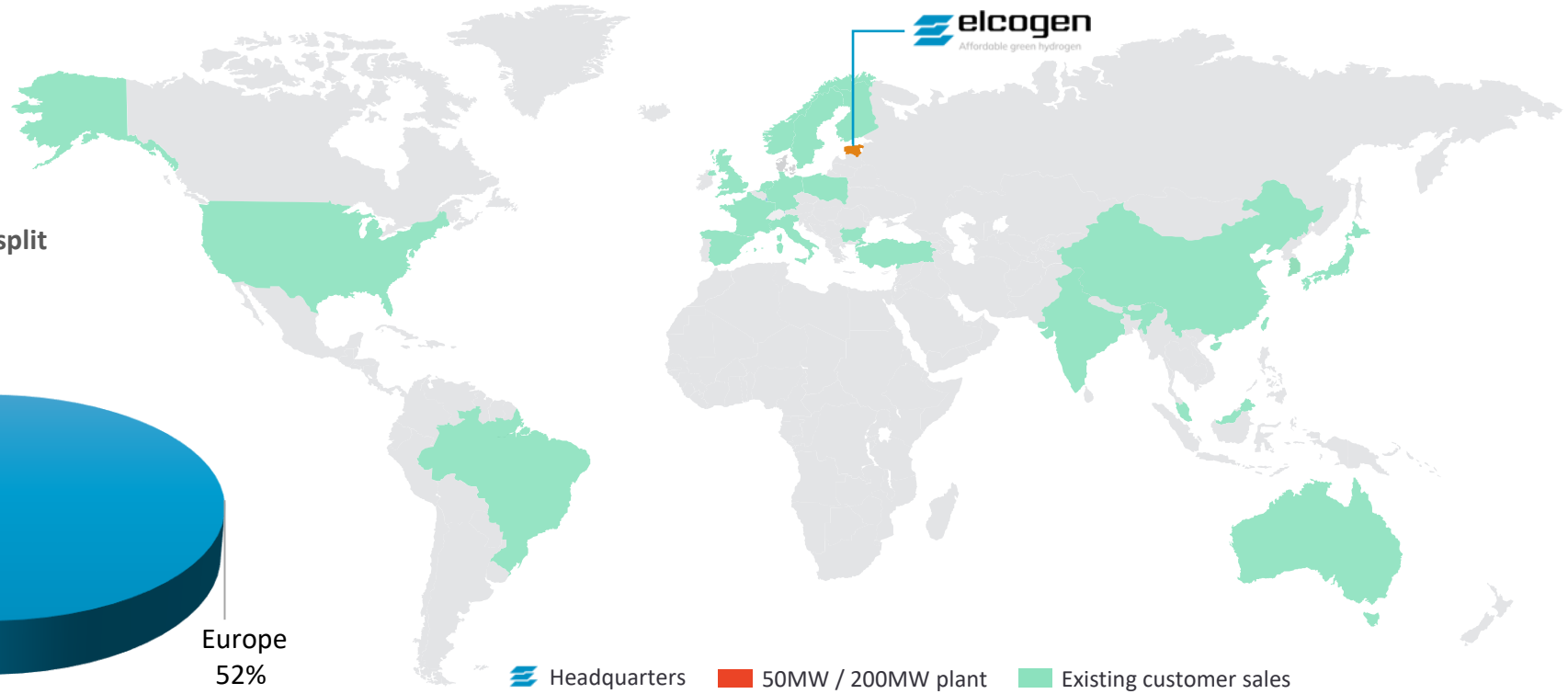
Hydrogen One Capital Markets Day

Enn Õunpuu
CEO

23.02.2023

Elcogen is a developer and manufacturer of Solid Oxide (SOC) technology: an efficient solution to green hydrogen and emission-free power generation





21
Years in the industry

75,3%
World record fuel to electricity conversion efficiency

150+
Customers across Europe, Asia and the US

elcogen

Reversibility

The ability to generate power from fuel, as well as fuel from power in one single integrated system

Efficiency

SOFCs and SOECs run at high temperatures with an efficiency greater than 80%, reducing running costs and material use

Fuel flexibility

Allows for fuel flexibility compared to PEM/ Alkaline solutions

Cost

The world's most efficient technology for the production and use of affordable green hydrogen

Synthetic fuel production

Electrolysis to produce syngas, a mixture of CO and H2, which can then be used to create various synthetic fuels and valuable chemicals

Current – Short term

Commercial and industrial power and CHP

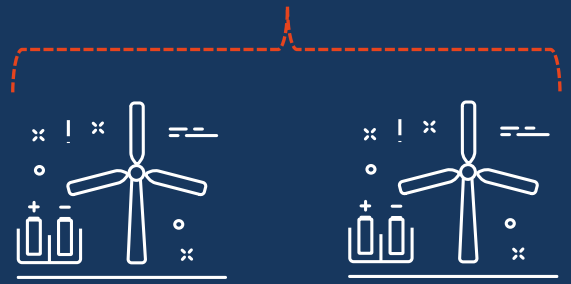
Off-grid and residential

Short – Mid term

Electrolysis for green hydrogen

Supportive regulatory and political environment for the investment into hydrogen valleys

Mid – long term



CO_2 and co-electrolysis for Power-to-X

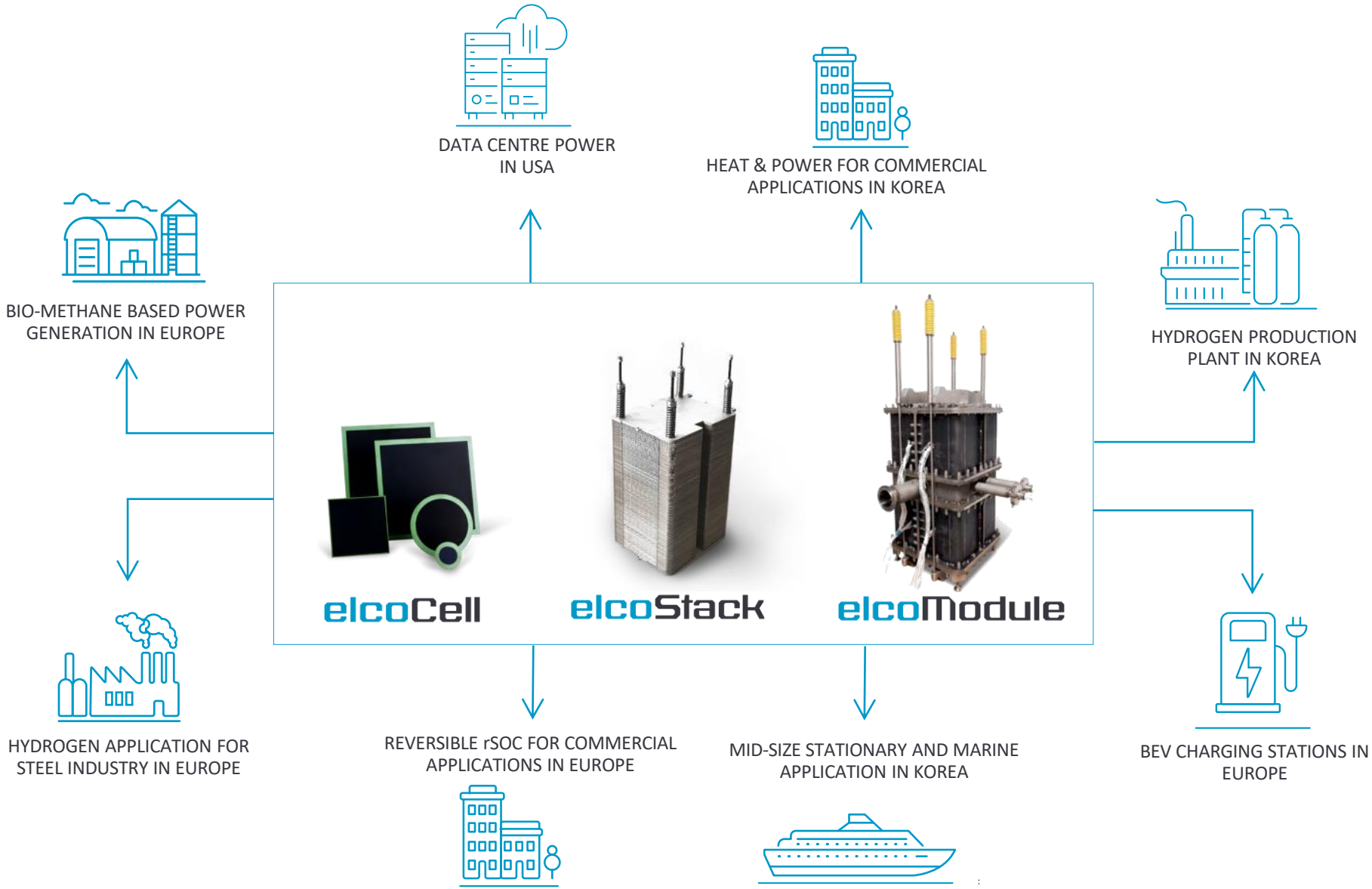
Reversible SOC for energy storage

Longer term

Long-range transportation (LNG, H_2, NH_3)

elcogen

- **Customers:** stack manufacturers and system integrators
- **Business model:** manufacturing, contract manufacturing, licensing



elcogen

- **Business development:** Expand core partnerships with system integrators & project developers

Reverion

KSOE KOREA SHIPBUILDING & OFFSHORE ENGINEERING

GENVIA

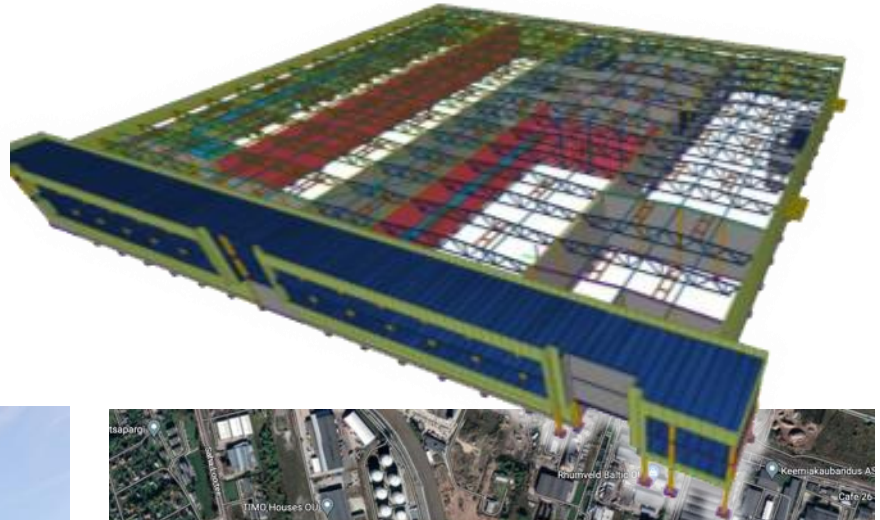
WattAnyWhere

ATSUMITEC

convion FUEL CELL SYSTEMS

elcogen

- **Production scale up:** Establish fully automated 200MW SOEC factory (increase 50X)
- **Research and development:** Developing next generation cells and stacks for electrolysis and co-electrolysis



elcogen

Management Team

Enn Õunpuu

CEO

Enn has over 30 years of experience starting up companies. Enn's experience in the energy services and equipment, construction, real estate and banking industries has included a number of listed company transactions. Founded Elcogen in 2001

Markus Holm

CFO

Markus has over 20 years of experience in senior executive and management team roles. Experience of strategy development, business development and leadership in major transformations. Markus joined Elcogen in 2022.

Stefano Piscitelli

COO

Stefano joined Elcogen in 2022 and has over 20 years experience in driving and scaling up complex organisations. Industry leader with a 360 overview of large EPC projects with experience in managing 2,500+ employees.

Martin Skjøth-Rasmussen

CTO

Significant experience in green hydrogen strategy including scale-up, demonstration and commercialisation. Developed the strategy and solutions for Green Hydrogen at Topsoe.

Hanna Granö-Fabritius

CCO

Experienced international business and product life cycle manager. Prior to Elcogen was Managing Director and Site Leader at German subsidiary of Thermo Fisher Scientific

Chris Nash

Independent Chairman

Chris is an experienced director in the environment, energy and transport sectors. His positions include Chair of Blackford Analysis and previously, amongst others, Chair of Celtic Renewables, SENSE Wind, Gasrec Limited.

elcogen

Thank you!

elcogen

Enn Õunpuu
CEO

enn.ounpuu@elcogen.com

HiiROC Limited

Tim Davies
Chief Executive Officer

A Transformational New Process for Affordable, Clean Hydrogen

February 2023

HydrogenOne Capital Markets Day

HiiROC OVERVIEW

A TRANSFORMATIONAL NEW PROCESS FOR AFFORDABLE, CLEAN HYDROGEN

- New process using world leading proprietary plasma technology
- Affordable, clean hydrogen production: **Thermal Plasma Electrolysis**
- Produces 5x as much hydrogen per kW than water electrolysis
- As cheap as steam methane reforming but without CO_2 emissions
- Enables mitigation of flare gas & capture of CO_2 via biomethane
- Completed £30m funding in 2020&21 with client launches in 2022/23

HydrogenOne CAPITAL | FUTURE FUEL. NOW

centrica

GKN

wintershall dea

VNG

HYUNDAI

KIA

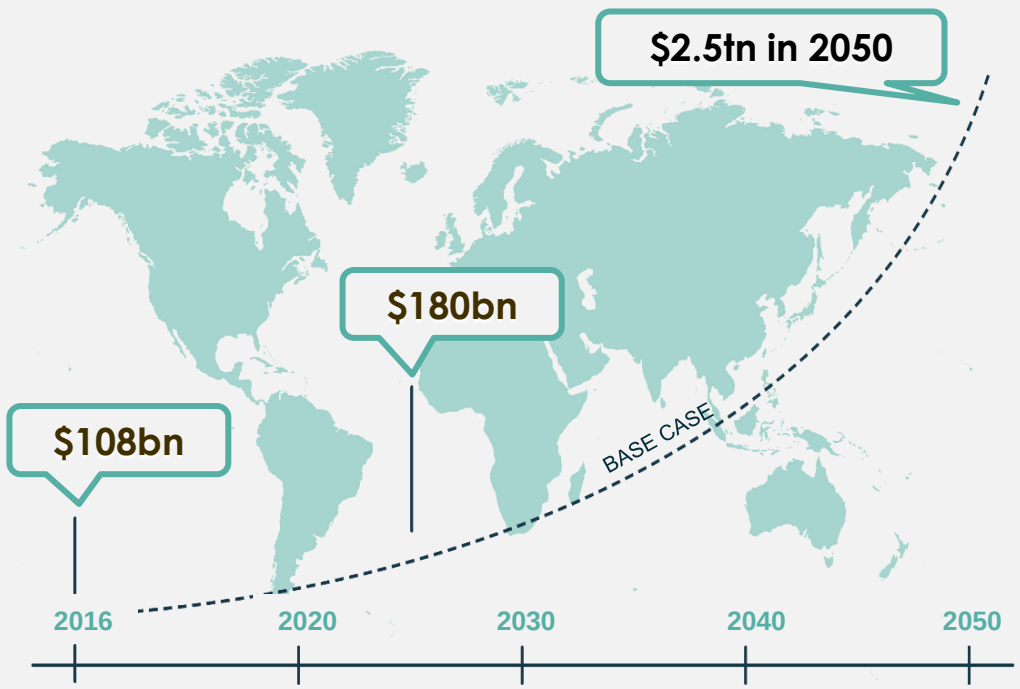
CEMEX

EPI

ON THE BRINK OF THE HYDROGEN ECONOMY

HYDROGEN IS THE NEW CLEAN FUEL: A POTENTIAL $2.5TN MARKET

Global Hydrogen Market



- Large market and forecast to grow exponentially
- But current production is either:

  high emission *(steam methane reforming)*

  or

  high cost/energy *(water electrolysis)*
- Our new process, *'Thermal Plasma Electrolysis'* combines the best of blue & green hydrogen
- Affordable and at scale hydrogen production using the existing natural gas infrastructure

* 'Hydrogen Generation Market Size, Share & Trends Analysis Report By And Segment Forecasts, 2018 – 2025'; by Research and Markets

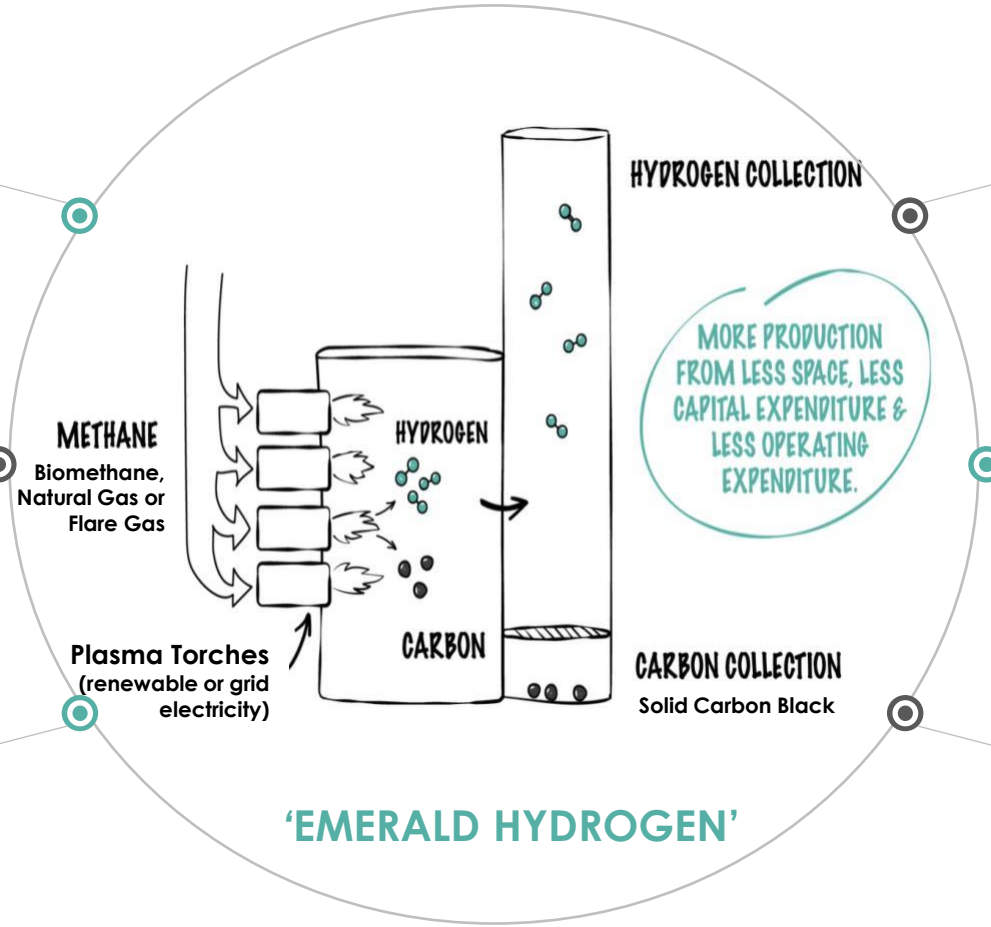
THERMAL PLASMA ELECTROLYSIS

TRANSFORMATIONAL NEW HYDROGEN PRODUCTION PATHWAY

WORLD LEADING
Proprietary technology for zero CO_2 emission hydrogen

EFFICIENT
Saving transport & storage costs through at-point-of-use production

SCALABLE
From small modular units up to industrial scale



ECONOMICAL
As cheap as SMR without needing CCUS & a fraction of the energy/cost of water electrolysis

VERSATILE
Suitable for all sectors from power generation and blending to industrial decarbonization

CLEAN
Hydrogen production also providing clean, versatile, solid carbon black

SUPPORT AND RECOGNITION

THE POTENTIAL OF OUR TECHNOLOGY IS BEING RECOGNISED

KPMG's Global Tech Innovator
Winner Lisbon in November from >1250 entries in 22 countries

October Announcement of Project with NZTC backing & Centrica increased stake

Winning Government Support & Funding

FT Tech Champion for Energy 2022

Flare Gas Mitigation MOU signed at COP27

CARBON BLACK

ALSO PRODUCES VALUABLE EMISSION-FREE, 'CLEAN' CARBON BLACK

TPE YIELDS PURE, STABLE CARBON BLACK AS A BY-PRODUCT …

- Producing carbon black, sequesters the carbon from the feedstock, without producing CO_2
- Solid carbon black is used in multiple commercial applications including tyres, rubbers, and toner with the global market of >$12bn
- We are researching new uses and applications from filters and soil enhancers through to animal feeds and construction materials
- Where biomethane is used, the end-to-end process reduces CO_2 in the air *(i.e., with sequestered carbon the hydrogen is negative CO_2)*

… WHICH CAN REPLACE CURRENT PRODUCTION & EMISSIONS

	Oil Furnace Process	HiiROC's TPE
CO_2	2000kg/tonne	0
Carbon disulfide	30kg/tonne	0
Carbonyl sulfide	10kg/tonne	0
Methane	25kg/tonne	0
Acetylene	45kg/tonne	0
Ethane/Other	2kg/tonne	0


CONSTRUCTION


INDUSTRY


SOIL ENHANCEMENT


AGRIFEEDS

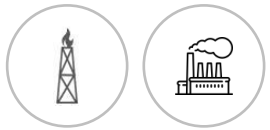

FILTERS


MASKS

HIGHLY VERSATILE TECH FOR ALL HYDROGEN SECTORS & SCALES

ABATING EMISSIONS ... → **... ENABLING THE HYDROGEN ECONOMY ...** → **... CAPTURING CO_2**

CO_2 mitigation

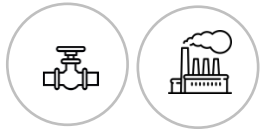


e.g., flare mitigation

Existing sectors

e.g., fertilisers & refineries

Decarbonise Industry & Heat



Replace Natural gas

Energy Generation & Storage

e.g., excess renewables

Transportation

Heavy & light

Carbon black

Zero-emission carbon black

CO_2 Reduction

e.g., biomethane & carbon sequestration

EGYPTIAN NATURAL GAS HOLDING COMPANY · MEGGiTT · GKN · CEMEX · centrica · Northern Gas Networks · JAGUAR · LAND ROVER · BOEING · HYUNDAI · EP

DEMONSTRATOR IN 2022, CLIENT PILOTS IN 2023 AND ROLLOUT IN 2024

HiiROC

Thank you for your time

Session 2: Q&A

Participants

- **Sunfire GmbH** – Benedict Minkner, Chief of Staff
- **Elcogen AS** – Enn Õunpuu, CEO
- **HiiROC Limited** – Tim Davies, CEO

Host: *Caroline Cook, Head of Climate, Baillie Gifford*




Session 3:
Hydrogen Applications

Presenting companies:

- *Cranfield Aerospace Solutions Ltd*
- *Bramble Energy Limited*

Cranfield Aerospace Solutions Ltd

Richard Moody
Chief Investment Officer

Cranfield Aerospace Solutions

HydrogenOne Capital Markets Day

Richard Moody , CIO

London, February 2023

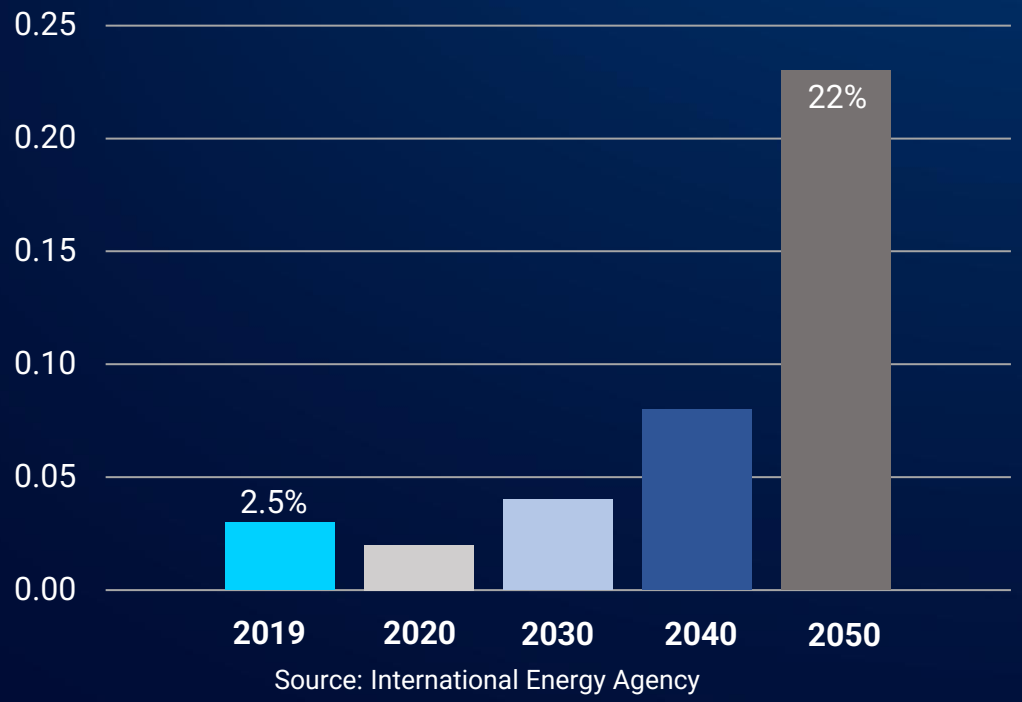
Cranfield
Aerospace
Solutions

Cranfield Aerospace

- CAeS - world leader in complex aircraft modifications and new aircraft design
- Covers three business activities
- Access to unique aviation and engineering expertise, research and resources
- Committed and knowledgeable shareholders

The Challenge

Aviation's share of global GHG emissions will increase rapidly as demand for air travel grows



Source: International Energy Agency

The industry's current decarbonisation plans require significant investment in new technology

- Hydrogen (fuel cell and combustion)
- Batteries (inc hybrid)
- Sustainable Aviation Fuels (and E-fuels)
- Fleet renewal & continued aircraft development
- Airspace redesign and operational efficiencies

"There is no viable path to a zero carbon or climate neutral aviation system that does not involve hydrogen" (1)

(1) The Clean Sky Joint Undertaking

The Solution

Sub-regional and regional airline sectors (worth $91bn in 2035)[1] are widely regarded as the frontier markets for zero emissions aviation

CAeS is developing a zero emissions solution for this entire market through overlapping development phases

- Phase 1 — Conversion of 9-seat BN Islander to H_2 fuel cell propulsion (Q1, 2026)
- Phases 2/3 — 10-19 seat conversion (2028) & 20-50 seat new aircraft design (2032)
- Phase 4 — Optimised new design for up to 100-seat regional aircraft (2035)

Focus on financially-viable solutions that can secure regulatory certification

- Critical importance of integrating new propulsion technology at the aircraft level

Cranfield Aerospace offers the airline industry an economically-viable route to zero emissions

[1] Market sizing based on CAeS estimates & Safran and ATI research

Fresson Phase 1

H_2 Fuel Distribution System
(pipework from tanks to fuel cell)

240kW H_2 Fuel Cell System
(stacks, balance of plant and control unit)

220kW Electric Propulsion Unit
(motors and inverters)

Power Distribution System
(high voltage, high power electrical system)

H_2 Tanks
(high pressure, gaseous)

Propellor
(3-blade, variable pitch, 2300 RPM)

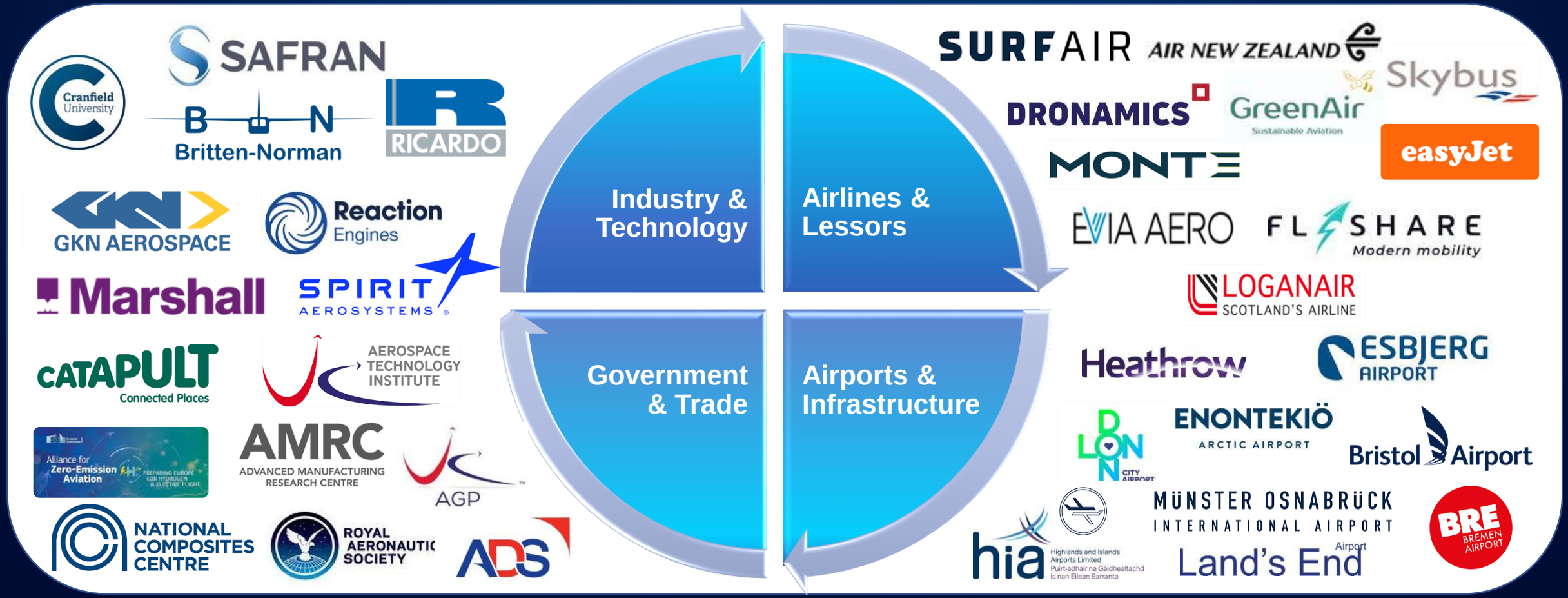
Human Machine Interface
(modified controls and displays)

Thermal Management
(high efficiency, low drag and mass, heat exchangers)

Modification of existing, certified airframe reduces both technical and commercial risk

Key Relationships

Cranfield Aerospace Solutions



CAeS has built strong strategic relationships across the aviation and hydrogen eco-system

Bramble Energy Limited

BRAMBLE ENERGY

Alex Erickson
Chief Financial Officer

BRAMBLE ENERGY

Powering Net Zero

Alex Erickson

CFO

Who Are We?

Bramble is a **disruptive electrochemical device manufacturer** that leverages the **global manufacturing maturity, materials and techniques from the printed circuit board (PCB) industry**.

- Founded in **2016** in the research labs of UCL and Imperial College London
- Now based in a **40,000** square foot World Class Hydrogen Innovation Centre in Crawley, West Sussex (from Q1 23).
- Team of **80+** people over 50% of which have backgrounds in engineering, electrochemistry and technology
- Raised in excess of **£40m** to date (to Series B)
- Balanced IP Portfolio Protected by **45** Patents and significant internal knowhow

The PCB-X™ Platform

Rewiring an industry to create a globally scalable solution.

Rapid, cost-effective scalability of electrochemical devices at any PCB facility worldwide.

A global manufacturing route that scales prototypes through to production in the same factory, **without a penny spent on CAPEX.**

Manufacturing Bramble Energy's Printed Circuit Board electrochemical devices (PCB-X™) does not require a bespoke factory; it leverages via contract manufacturing both the maturity and supply chain of the existing $70bn global PCB industry.

The Fuel Cell (PCBFC™)

Bramble's fuel cell technology, **PCBFC™** is a **low-cost**, **scalable** solution that can be manufactured in PCB factories across the globe.

Using printed circuit board (PCB) materials and manufacturing techniques, the fuel cells are designed for each unique application. Rapid and scalable processes result in **customised fuel cells within weeks**.

The applications are limitless.

Low cost

Scalable

Rapid

Customisable

Global

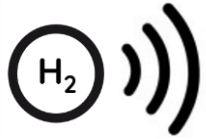
Mobility

Bramble is developing high power technology for mobility applications including the marine sector, aviation and automotive including light- and heavy-duty commercial vehicles.

We are in the process of demonstrating the PCBFC™ in vehicles and are in commercial negotiations with a number of global mobility partners.

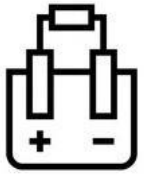
PCB-X™: Platform Technology

Bramble has obtained IP protection across a range of electrochemical devices.



Sensors

PCB-Sense™ offers a unique hydrogen detection method adaptable for a broad range of use cases.



Electrolysers

In 2022 Bramble demonstrated a multi-kW anion exchange membrane (AEM) electrolyser. This year PCBEL™ will continue development, targeting higher power and durability.

Redox Flow Batteries

PCBRFB™ has been demonstrated at lab-scale, proving the feasibility of the technology and the adaptability of the PCB-X™ platform.

So What's Next?

During 2023 we will;

- Demonstrate Stack technology tested up to **100 kW**
- Achieve Volumetric and Gravimetric energy density of **>4 kW/kg** and **>3 kW/L**
- Produce **Real-world demonstrations** within the marine sector, light commercial vehicles and off-highway gensets
- Demonstrate the pathway to **£100/kw** for a fuel cell stack

Thank you

Session 3: Q&A

Participants

- **Cranfield Aerospace Solutions Ltd** – Richard Moody, CIO
- **Bramble Energy Limited** – Alex Erickson, CFO

Host: *Richard Hulf, Managing Partner, HydrogenOne Capital*

Closing remarks

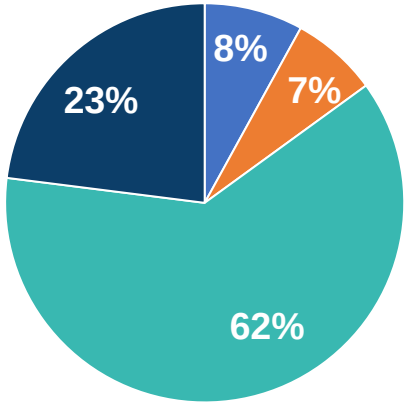
Dr JJ Traynor
Managing Partner

HydrogenOne Capital

Distinctive and unique hydrogen portfolio

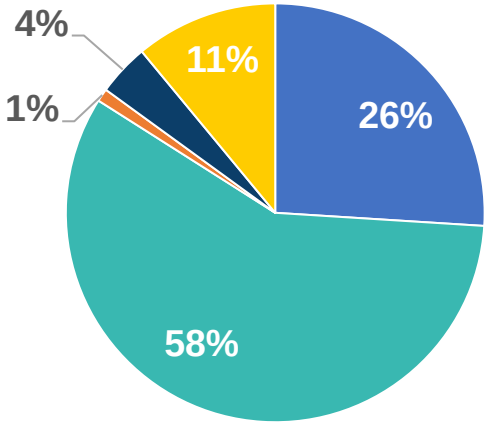
HydrogenOne CAPITAL | FUTURE FUEL. NOW

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

Hydrogen production	Storage & distribution	Supply chain	Hydrogen applications
Gen2 Energy	NanoSUN	sunfire	Cranfield Aerospace Solutions
H2E	Strohm	HIROC	
Thierbach		BRAMBLE ENERGY	
		elcogen	

Summary

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

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.

Contact us

HydrogenOne Capital LLP (Investment Adviser):

Dr JJ Traynor, Managing Partner — E: JJ.Traynor@hydrogenonecapital.com
Richard Hulf, Managing Partner — E: Richard.Hulf@hydrogenonecapital.com

5 Margaret St
London W1W 8RY

www.hydrogenonecapitalgrowthplc.com/

Barclays Bank PLC (Corporate Broker):

Dion Di Miceli — E: BarclaysInvestmentCompanies@barclays.com
Stuart Muress — T: +44 20 7623 2323

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Thank you for attending!