

# HydrogenOne Capital Growth plc

SUSTAINABILITY REPORT 2023

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# Company overview

## About us

HydrogenOne Capital Growth Plc (“HGEN”, the “Company”) is the first London-listed fund investing in clean hydrogen for a positive environmental impact.

The Company was launched in 2021 with an investment objective to deliver an attractive level of capital growth by investing, directly or indirectly, in a diversified portfolio of hydrogen and complementary hydrogen focused assets whilst integrating core ESG principles into its decision making and ownership process. The Company is an Article 9 climate impact fund under the Sustainable Finance Disclosure Regulation (the “SFDR”).

## Highlights

- A unique offering to investors - leadership in a new green energy technology sector from the first London-listed hydrogen fund.
- Strong orientation to ESG mandates, investing capital in low-carbon growth and enabling the avoidance of GHG emissions.
- High quality portfolio with potential to deliver 10-15% average NAV growth, including exits\*.
- First mover advantage in the Hydrogen sector, which is accelerating faster than anticipated with positive growth outlook.
- Investment Adviser’s track record in energy and capital markets.

£132.7m

Net Asset Value

SFDR  
Article 9

Climate impact fund

>91,000  
tonnes

CO2e emissions avoided  
in FY2023

Investing in clean hydrogen for a climate-positive impact



\*For an investor in HGEN at IPO. The total NAV return target is a target only and not a profit forecast.

## Our impact

- £113.7 million deployed in low-carbon growth;
- Over 91,116 tonnes of Greenhouse Gas (tCO<sub>2</sub>e) emissions avoided in FY2023 (over 325 times the combined scope 1, 2 and 3 emissions of the Company in the same period) and 141,695 tCO<sub>2</sub>e since IPO;
- Potential 571,294 MWh lifetime clean energy capacity in FY2023 and 797,294 MWh since IPO;
- 0.59 MW of units sold (fuel cells and electrolyzers) in FY2023 and 4.98 MW since IPO - all adjusted for the Company's shareholding; and
- Most of the Company's investments either directly or indirectly displace fossil fuels, making a clear contribution to achieving the Paris Accords target of limiting global temperature rises to below 2 degrees and ideally limiting them to 1.5 degrees.

# Chairman's statement



**On behalf of the Board, I am pleased to present HydrogenOne Capital Growth PLC's (the 'Company') Sustainability Report for the year ending 31 December 2023.**

As we continue to develop the Company's environmental, social and governance ("ESG") agenda, I am pleased to introduce our first stand-alone Sustainability Report for 2023.

As an Article 9 fund, the most sustainable classification under EU SFDR, we have ensured EU Taxonomy alignment through the portfolio, standing at 92% aligned, having invested in companies active in technologies for climate change mitigation. We have, for 2023 reporting, aligned with the International Sustainability Standards Board ("ISSB"), including the S2 Climate Standard that incorporates the Taskforce on Climate-related Financial Disclosures ("TCFD") recommendations. These standards were finalised by the International Financial Reporting Standards Foundation in 2023 and the Financial Conduct Authority has stated their intent to adopt these in place of current TCFD requirements. This results in the expanded disclosures in this report, including scenario analysis for portfolio companies, case studies, as well as updates on the sustainability strategies of each invested private position.

In 2023, the Company continued to increase its commitment to ethical investment practices and enhanced climate stewardship. We submitted our first Principles for Responsible Investment ("PRI") report, documenting alignment with PRI's stringent responsible investment guidelines, and we began reporting our emissions in the Carbon Disclosure Project ("CDP") format. Avoided GHG emissions for 2023 were 91,116 tCO<sub>2</sub>e, which are over 325 times the combined scope 1, 2 and 3 emissions of the Company in the same period, and 141,695 tCO<sub>2</sub>e since our 2021 IPO.

During the year, we have worked to further improve greenhouse gas ("GHG") data quality from investments, allowing us to model a net zero trajectory that forms the basis of our engagement strategy. We have also undertaken a climate risk scenario analysis, to ensure the resilience of the portfolio.

Clean hydrogen saw resilient sector growth despite broader market uncertainty, validated by HydrogenOne Capital LLP (the "Investment Adviser"), tracking 50% more green hydrogen output globally year-over-year. The COP 28 meeting in Dubai sounded urgent calls to transition from fossil fuels to renewables for climate progress - spotlighting our strategic role in supplying technologies enabling this transformation. All of this underlines what we see as the key role for clean hydrogen in mitigating the impacts of climate change.

We remain committed to leadership in the clean hydrogen sector and I hope our investors will find this enhanced reporting useful.

**Simon Hogan**, Chairman  
2024

## Navigating ESG



The figure above shows the spectrum of influence on the Company's ESG approach. Some are mandatory, like SFDR and PAI reporting. Other initiatives are voluntary, like the PRI, SDGs and CDP, where we comply to adopt best practice. The Company is currently out of scope for mandatory TCFD reporting required by the UK Financial Conduct Authority ('FCA') and the Sustainability Disclosure Rule labels. However, the Company recognises that TCFD reporting is now market practice. The Company is also aware of the FCA's stated intention to adopt ISSB reporting in place of TCFD and notes that the TCFD organisation has now disbanded with monitoring responsibility passing to the ISSB. As the ISSB's S2 standard incorporates the TCFD recommendations the Company has opted to prepare an ISSB report, to ensure alignment with future market practice. The Company and the Investment Adviser is also actively monitoring the adoption of the Transition Plan Taskforce disclosures and will consider reporting against these in the future.

## About clean hydrogen

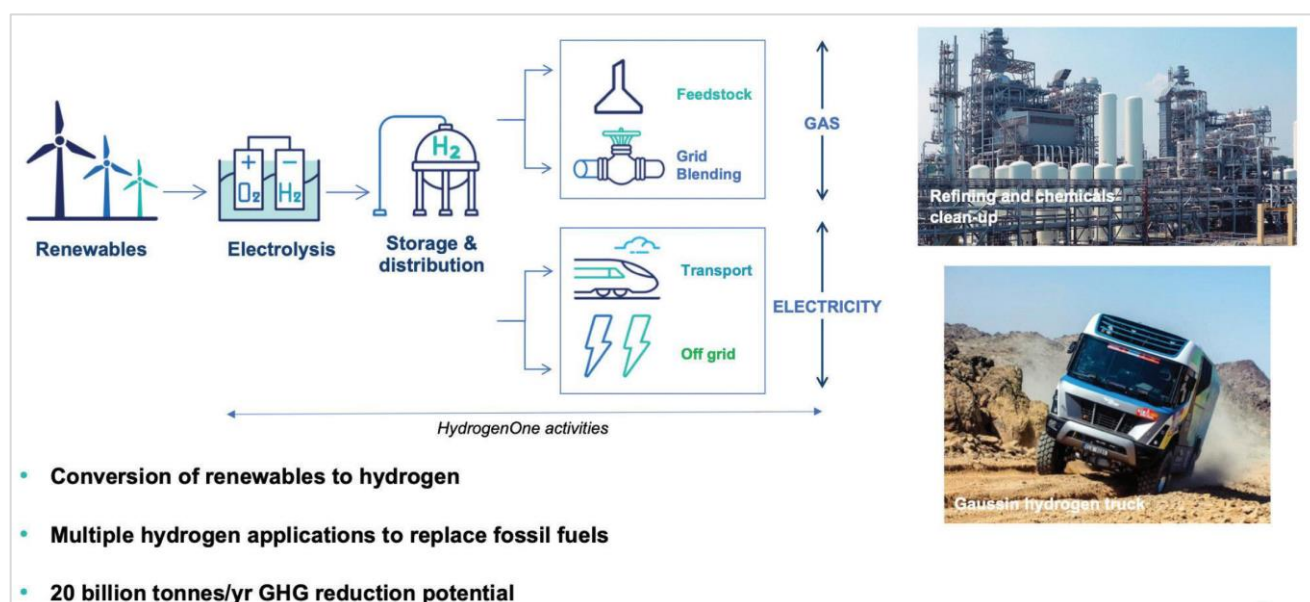
- Clean hydrogen displaces fossil fuels, reducing CO2 emissions and improving air quality;
- Some 90 million tonnes of hydrogen per day are used today in the manufacturing of oil products, chemicals, and steel. The demand to replace this polluting ‘grey’ hydrogen, mostly produced from natural gas, with clean hydrogen underpins the growth in the clean hydrogen sector;
- Clean hydrogen can also replace fossil fuels in hard to decarbonise sectors such as power generation and transport;
- Clean hydrogen is an energy carrier that can store and distribute intermittent renewable electricity at a large scale; and
- Hydrogen combined with renewables such as wind and solar provides a domestic energy supply option for many countries, reducing reliance on imported energy.

## Decarbonising the energy system

Clean hydrogen is a Net Zero gas, and this has been recognised in the plans adopted to date by the EU, USA, India and over 39 countries - all of which have committed to the use of clean hydrogen to decarbonise industry and to improve air quality. They have backed this commitment with multi-billion dollar funding to kick-start the process. Other countries are expected to follow suit.

This means that markets for clean hydrogen and its production processes are growing fast and accelerating. The potentially large market to replace hydrogen produced from hydrocarbons in the current hydrogen supply chain is already being addressed by the falling costs of renewable energy and electrolysis as well as by carbon capture and storage pilots.

By 2050, the global hydrogen market could reach \$2.5 trillion, dominated by hydrogen producers, electrolyzers, and fuel cell manufacturers. Replacing today’s c.\$175 billion ‘grey’ hydrogen market with clean hydrogen could mitigate over 800 million tonnes per annum of greenhouse gas emissions. Some 20 billion tonnes per annum of GHG emissions can be addressed with clean hydrogen over time, which is over one-third of all GHG emissions today.





# Our sustainability performance

	2023	2022
EU Taxonomy Aligned Portfolio	92%	89%
Avoided GHG emissions	91,116 tCO <sub>2</sub> e	42,716 tCO <sub>2</sub> e
Total GHG emissions	279 tCO <sub>2</sub> e	210 tCO <sub>2</sub> e
Scope 1	18 tCO <sub>2</sub> e	48 tCO <sub>2</sub> e
Scope 2	81 tCO <sub>2</sub> e	28 tCO <sub>2</sub> e
Scope 3	180 tCO <sub>2</sub> e	134 tCO <sub>2</sub> e
Carbon Footprint	2.2 tCO <sub>2</sub> e/£m	1.9 tCO <sub>2</sub> e/£m
GHG intensity	55.3 tCO <sub>2</sub> e/£m	0.8 tCO <sub>2</sub> e/£m
Avoided cumulative since IPO	141,695 tCO <sub>2</sub> e	
Energy use - UK	268,669 kWh	93,383 kWh
Energy use - Global	2,157,604 kWh	750,563 kWh

*The Company's scope 3 emissions consist of the scope 1-3 emissions from Private Hydrogen Assets, which are shown above.*

The greenhouse gas emissions set out above have been calculated in line with the requirements of EU SFDR. This means that the Scope 1 and 2 metrics are the sum of portfolio company emissions for those scopes (adjusted for the Company's equity holding in them). Ordinarily, these would be considered scope 3 to the Company. More detail on the methodology is set out in the Methodology section of this report. The avoided emissions are calculated using a consequential methodology, which means that the lifetime emissions of products sold are recognized. In the current year, no projects directly producing hydrogen were operational; avoided emissions from such projects will be disclosed in future years. The kWh energy use is in accordance with UK Streamlined Energy and Carbon Reporting requirements.

The Scope 1 and 2 greenhouse gas emissions are relatively low. A number of Private Hydrogen Assets are at an early stage of growth, so we would expect absolute emissions to increase in future, assuming no mitigation action is taken. Several Private Hydrogen Assets have proactively sought to reduce their emission by securing renewable energy supply; this is reflected in the scope 2 metric.

There are some limitations, in the form of estimates or data gaps, in the scope 3 metrics. This is within expectations for the first period of reporting, and the Company is working with the portfolio to enhance the data quality for these emissions.

The avoided emissions clearly demonstrate the Company's impact on achieving its sustainable investment objective. Nevertheless, the Company is engaging with the portfolio to reduce the actual emissions.

## **Our methodology**

The greenhouse gas emissions have been calculated in accordance with the Greenhouse Gas Protocol. Each portfolio company has been engaged during the year to develop a greenhouse gas inventory. This process includes the identification of appropriate data sources for each inventory item. Data has been collected, reviewed, and processed by an external provider to calculate the emissions. Each portfolio company receives feedback on data quality based on relevance, completeness, timeliness, and accuracy. Recommendations to improve quality are also provided, and their implementation will be monitored on a quarterly basis as data is collected throughout the year.

Estimates form a necessary part of the greenhouse gas emission process, and emission factors are central to this. Primarily, the UK Department for Environment, Food and Rural Affairs ("DEFRA") emission factors have been used or, where more appropriate, the Intergovernmental Panel on Climate Change ("IPCC") emission factors can be relied upon. The Greenhouse Gas Protocol recognized both sources.

Avoided emissions have been calculated on a consequential basis using the International Financial Institution Framework for a Harmonised Approach to Greenhouse Gas Accounting. The membership behind this approach includes the United Nations Climate Change Secretariat, the World Bank, the European Investment Bank, and many others, constituting 25 financial institutions. This standard also produces and updates a data set on grid emissions for many countries, and this has been used as a key input into the estimation process. In accordance with the framework, Private Hydrogen Assets who provide products (e.g. fuel cells or electrolyzers) take the expected lifetime emissions of those products as sold. During the year, no projects were operationally producing hydrogen yet as they are still under development; when they do, the annual avoided emissions from the hydrogen produced will be reported.

## Case Study - Elcogen

Fuel cell and electrolyzer manufacturer  
with presence in Finland



18.4% NAV

Investment Value - £24.4m

5,509 tCO<sub>2</sub>e Avoided Emissions

33,694 Total lifetime MWh of units sold

### Profile

Founded in 2001, Elcogen is a clean energy technology manufacturer delivering affordable green hydrogen and emission-free electricity. The Company supplies flexible, core solid oxide technology for energy security and the transition from fossil fuels.

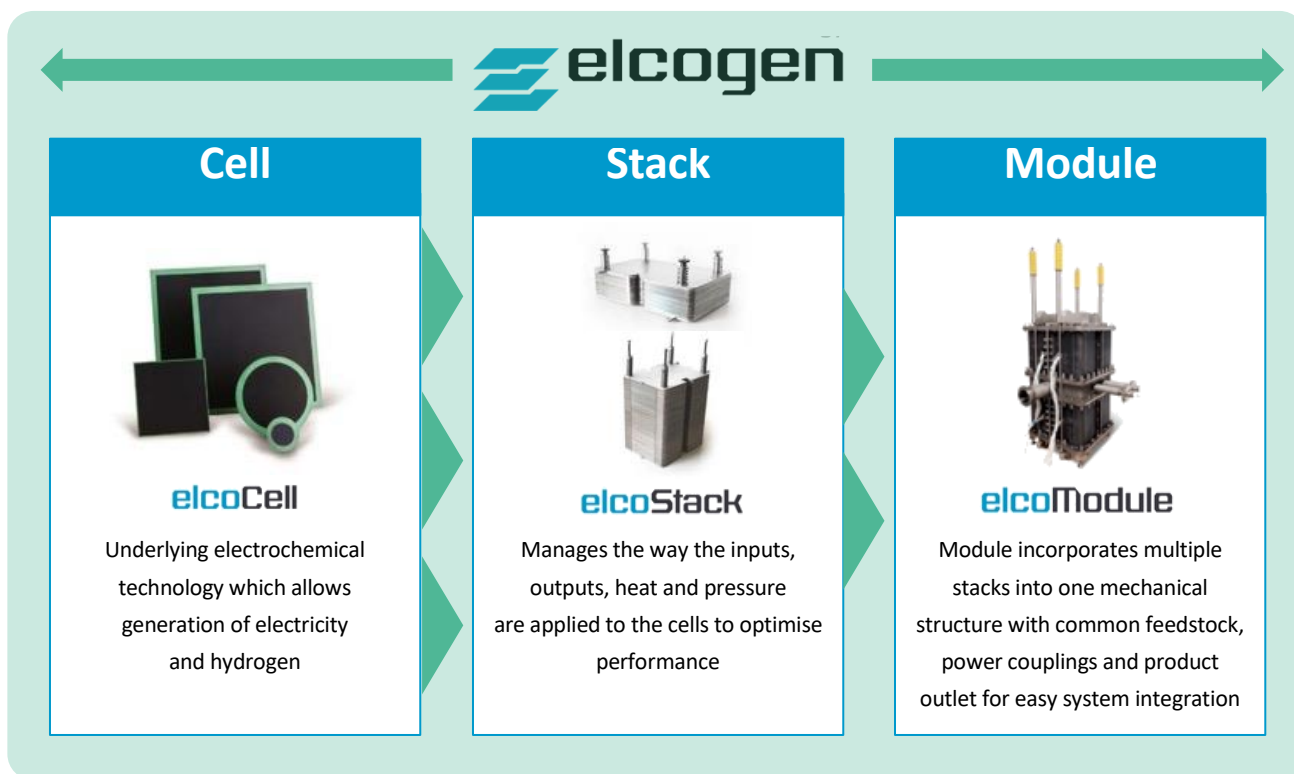
### Technology & Products

Elcogen, a global leader in solid oxide fuel cell ("SOFC") technology, is committed to adopting best practices and making positive contributions to the environment and society. The Company's clean technology products are focused on reducing dependence on polluting fuel sources and helping countries meet their emissions targets set out by the Paris Climate Agreement. Elcogen's fuel cells produce negligible amounts of harmful emissions and significantly reduce CO<sub>2</sub> emissions compared to traditional electric generators. The Company operates facilities in Estonia and Finland, both of which use 100% renewable power and no water in production processes.



### Avoided Emissions

In 2023, the Company avoided 5,509 tCO<sub>2</sub>e of emissions. Avoided emissions refer to the GHG emissions that are prevented or reduced as a result of producing products that help others reduce their emissions, demonstrating the Company's positive impact on mitigating climate change. The calculation of avoided emissions is based on the energy production of SOFCs sold by Elcogen to various destinations. The process involves multiplying the quantity of fuel cells sold by their expected lifetime hours (25,000 hours) and power output (kW) to determine the total energy output (kWh). This energy output is then multiplied by the emissions factor specific to each country, resulting in the avoided emissions expressed in tCO<sub>2</sub>e. To accurately reflect the Company's share of the avoided emissions, the total amount is further multiplied by the percentage of the Company's holding in Elcogen.



## Governance

Elcogen prioritises the health, safety, and welfare of its employees, as evidenced by its recognition with the Good Work Environment 2021 Award in Estonia. The Company also seeks to use local European suppliers committed to human rights and uses no conflict minerals.

Elcogen’s governance structure includes a diverse Board with independent non-executive directors and committees focused on Audit, Risk & Sustainability and Remuneration. The company plans to adopt the TCFD framework and recommendations from the UK’s “Restoring Trust in Audit and Corporate Governance” consultation, demonstrating its commitment to effective ESG management and transparent reporting.

## Case Study - HiiROC

UK-based thermal plasma electrolysis developer, with world-leading (IP-protected) technology for low-cost, zero-emission hydrogen

10.3% NAV  
Investment Value - £13.7m



### Profile

Established in 2019, HiiROC has developed an innovative hydrogen production solution called Thermal Plasma Electrolysis (“TPE”) that stands out as a world-leading technology based on its versatility, economics, and performance.

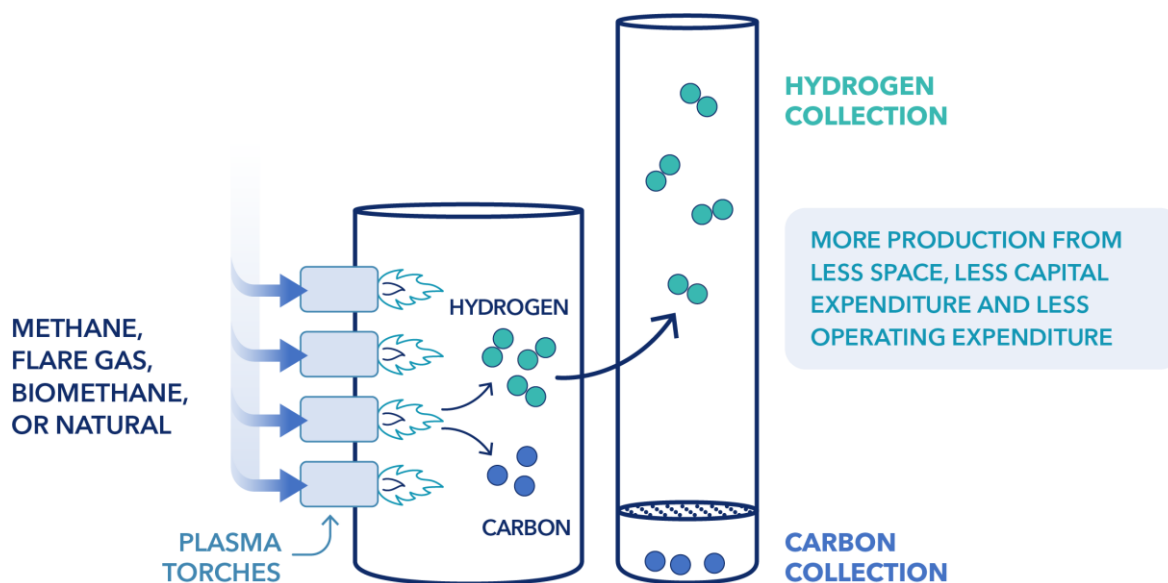
Together, these attributes make HiiROC’s TPE a game-changing platform for affordable, sustainable hydrogen at industrial scales – positioning the Company as a world leader in driving the hydrogen economy.

### Technology & Products

HiiROC’s patented TPE system uses electrical plasma instead of heat to split hydrocarbons within a reactor unit. This produces pure hydrogen along with a valuable byproduct – carbon black. This zero-emission carbon material is used in plastics, inks, construction materials, environmental filters, and more.

Compared to alternatives, TPE can produce hydrogen at costs challenging conventional steam methane reforming (“SMR”) methods, with a process that emits no greenhouse gases and requires no costly carbon capture systems.

Figure 1: Thermal Plasma Electrolysis Production Process



HiiROC, a leading innovator in clean energy technology, is committed to addressing customer challenges by the production of hydrogen and carbon black while reducing atmospheric GHG emissions through mitigation and capture. The Company works closely with customers to meet their specific needs for hydrogen and carbon black, ensuring optimal resource allocation and excess capacity.

In 2023, HiiROC's GHG emissions data reveals a total of 107.87 tCO<sub>2</sub>e, with Scope 3 emissions contributing the largest share at 88.01 tCO<sub>2</sub>e, primarily from transport (79.66 tCO<sub>2</sub>e). Scope 1 emissions from company-owned land travel account for 17.08 tCO<sub>2</sub>e, while Scope 2 emissions from purchased electricity are comparatively low at 2.78 tCO<sub>2</sub>e.

As the business grows, total GHG emissions are expected to increase in absolute terms. However, HiiROC anticipates a reduction in emissions intensity by investing in efficient technologies, processes, and implementing sustainability initiatives such as cleaner transportation options, improved waste management practices, and increased use of renewable energy sources.

By focusing on reducing emissions intensity, HiiROC aims to demonstrate its commitment to sustainable growth and decouple business expansion from its carbon footprint.

Additionally, HiiROC successfully demonstrated the versatility of its TPE technology across various use cases and feedstocks, paving the way for the rollout of production plants in the UK, with expansion plans targeting the USA and MENA regions.

*Figure 2: HiiROC TPE Demonstrator at Centrica Brigg Site, UK*



By deploying its technology at scale, HiiROC aims to accelerate the transition to Net Zero and make significant contributions to UN Sustainable Development Goals 7 (Affordable & Clean Energy), 9 (Industry, Innovation & Infrastructure), and 11 (Sustainable Cities & Communities).

# Our approach

## Hydrogen and climate change mitigation

The Company's sustainable investment objective is to deliver an attractive level of capital growth by investing, directly or indirectly, in a diversified portfolio of hydrogen and complementary hydrogen-focused assets whilst contributing to climate change mitigation by integrating core ESG principles into its decision-making and ownership process.

The sustainability opportunity in clean hydrogen is set out in the Company's strategic report and benefits from the transition to a net zero greenhouse gas economy. The Company considers sustainability risks throughout the investment and ownership process. These are specific to each investment but include a focus on the scope 1, 2 and 3 emissions of Private Hydrogen Assets, the management of waste during manufacturing processes and human rights the supply chains. Physical risk resulting from climate change has also been considered in the short (< 5 years) and medium (5-10 years) term, however no specific risks have been identified that would materially impact the cash flows of Private Hydrogen Assets.

The risk management section sets out the Company's approach to managing these risks, and currently, there is no expectation of a material impact on the business model or cash flows of Private Hydrogen Assets arising from them.

Classification under Article 9 of EU SFDR has led the Company to expect the portfolio to be at least 75% aligned with the EU Taxonomy at the time of investment. This provides a balanced assessment of the sustainability impacts of each portfolio company to ensure that they align with the goal of climate change mitigation and do no significant harm to any of the other sustainable objectives set out in the EU Taxonomy. In addition, the Company must consider the portfolio's compliance with minimum safeguards set out in the EU Taxonomy, which focuses on human rights, anti-corruption, fair taxation, and competition.

The UN PRI requires a commitment to six principles. These require the Company to integrate sustainability into the investment decision-making process, monitor sustainability performance post-acquisition and promote the integration of sustainability within Private Hydrogen Assets.

Together, the EU SFDR regulation and the UN PRI initiative provide a framework for the Company to implement its sustainable investment objective - climate change mitigation.

## Alignment with Paris Accords target

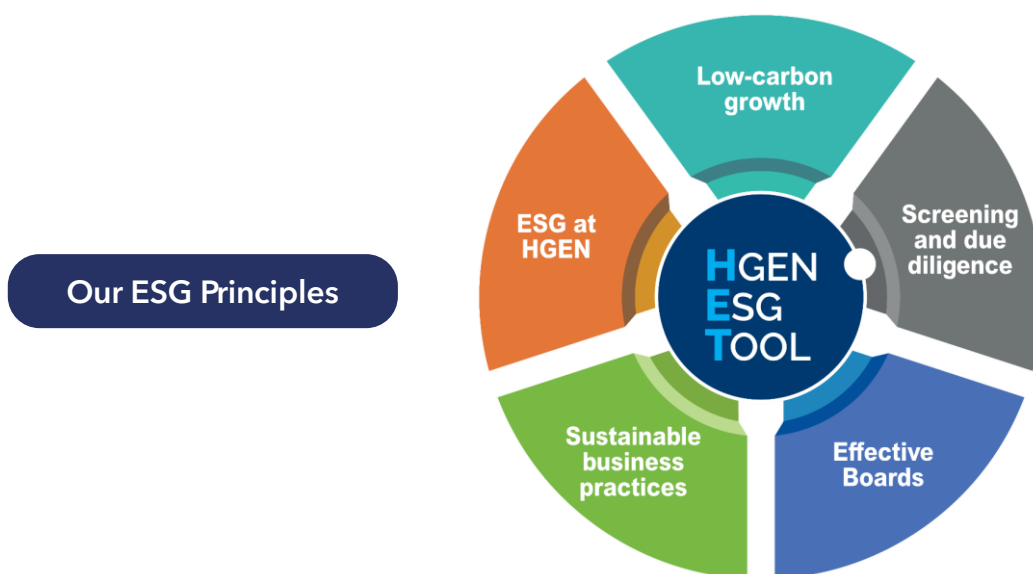
The sustainable investment objective of climate mitigation is aligned with the Paris Accord target of limiting global temperature rises to below 2 degrees and ideally limiting them to 1.5 degrees. The Company does this through engagement with Private Hydrogen Assets.

During the year, the Company has required its Private Hydrogen Assets to measure their scope 1, 2 and 3 greenhouse gas emissions. This is the first step towards reducing emissions. The Company will continue to engage with Private Hydrogen Assets to develop and implement carbon reduction plans.

Avoided emissions are the primary sustainability opportunity of the investments. Many of the Company’s investments either directly or indirectly displace fossil fuels, making a clear contribution to achieving the Paris Accords target. The Company has put in place a methodology to measure the avoided emissions achieved based on the International Financial Institution Framework for a Harmonized Approach to Greenhouse Gas Accounting.

### Sustainability policy - HydrogenOne ESG Tool (“HET”)

The Company has set out that when it invests, ESG criteria will be fully considered in its investment and divestment decisions and in its asset monitoring. The Board has oversight of and monitors the compliance of the AIFM and the Investment Adviser with the Company’s ESG policy, and ensures that the ESG policy is kept up to date with developments in industry and society.



The Company has embedded the following ESG principles into its policy:

#### Allocating capital to low-carbon growth

The Company is focused on investing in a climate-positive environmental impact, accelerating the energy transition and the drive for cleaner air. The Directors will prioritise this long-term goal over short-term maximisation of shareholder returns or corporate profits. The Company will enable investors to back innovators in low-carbon industries by supporting the access of such companies to the capital markets.

#### Screening and due diligence

Prior to investment, the Company will undertake an initial screen of the prospective investment’s economic activity. This will focus on core services or products to establish provisional alignment with the EU Taxonomy. During the detailed sustainability due diligence stage, turnover, operating expenses, and capital expenditure will be assessed to ensure alignment with the EU taxonomy’s environmental objectives. The relevant do no significant harm and minimum safeguard requirements will also be assessed.

Once EU Taxonomy compliance is established, the principle adverse indicators (as defined in the Regulatory Technical Standards to the EU Sustainable Finance Disclosure Regulation) will be considered, to the extent possible, for their potential impact. The performance of the prospective investment against these criteria will be considered by the investment committee.



## Engagement to deliver effective boards

The Company prioritises positive and proactive engagement with the boards of its Private Hydrogen Assets. The Directors recognise that structure and composition cannot be uniform but must be aligned with long-term investors while supporting management to innovate and grow. The presence of effective and diverse independent directors is important to the Company, as are simple and transparent pay structures that reward superior outcomes.

## Encourage sustainable business practices

The Company expects its Hydrogen Assets to be transparent and accountable and to uphold strong ethical standards. This includes a demonstrated awareness of the interests of material stakeholders and engagement to deliver positive impacts on the environment and society. Hydrogen Assets should support the letter and spirit of regional laws and regulations. The Company and the Investment Adviser will encourage the adoption of initiatives including but not limited to the Task Force on Climate-related Financial Disclosures and EU Sustainable Finance Taxonomy and will encourage transparency and alignment of lobbying activities.

During 2023, the Private Hydrogen Assets were engaged to report against principal adverse indicators.

## ESG in the Company

Given the nature of its investments, the Company has committed to disclosing key performance metrics ("KPIs") that describe the environmental impact of its portfolio. The Company is particularly focused on the greenhouse gas emissions from investments and the emissions that have been avoided ("avoided emissions") because of the investments and has actively engaged with Private Hydrogen Assets to adopt an appropriate reporting framework.

The Company frames its investments around positive contributions to UN Sustainable Development Goals ("UN SDGs") and works within responsible frameworks such as those promoted by the UN Global Compact ("UN GC"), the London Stock Exchange's Green Economy Mark, and the UN Principles for Responsible Investment ("UN PRI").

The Company has no direct employees, operations, or permanent office space. As a result, there are no scope 1 or 2 emissions. Material scope 3 emissions are that of the investment portfolio of the Private Hydrogen Assets, which are the focus of this report. EU SFDR requires the presentation of GHG emissions on a look-through basis, so the portfolio's emissions are aggregated by scope and presented as scope 1, 2 or 3 (as opposed to portfolio emissions being aggregated in scope 3 category 15).

## ESG KPIs

	KPIs	2023 progress
<b>Environmental</b>	<b>Investing capital in low-carbon growth</b>	£113.7 million invested in low-carbon growth since IPO in 2021.
	<b>GHG emissions avoided</b>	91,116 tonnes of CO <sub>2</sub> e emissions avoided during the year and 141,695 tonnes of CO <sub>2</sub> e emissions avoided since IPO.
	<b>GHG emissions on a look-through basis (aggregate scope 1 and 2 of Private Hydrogen Assets)</b>	279 tonnes of CO <sub>2</sub> equivalent (Scope 1 - 18 tCO <sub>2</sub> e, Scope 2 - 81 tCO <sub>2</sub> e and Scope 3 - 180 tCO <sub>2</sub> e).
<b>Social</b>	<b>Jobs supported</b>	In aggregate, the Company's private portfolio was employing 1,406 full-time staff at 31 Dec 2023.
	<b>The Company's Board and Diversity</b>	The Company has appointed a Board of non-executive directors to represent shareholder interests and promote the success of the company. Diversity is considered a key component of a successful Board and the Company currently has two male and two female Board members.
	<b>Private Hydrogen Assets Board Independence and Diversity</b>	The Company promotes the benefits of independence and diversity on Portfolio Company Boards through engagement. Currently, 78% of Portfolio Company Boards have at least one independent Board member, and 56% have female representation.
	<b>Work on human rights</b>	A review of the human rights policies in place at each portfolio company has been undertaken, and recommendations have been made for improvement. These primarily focus on human rights in the supply chain.

KPIs	2023 progress
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Governance		
	<b>Engagement to deliver effective boards</b>	<p>Positive and proactive engagement with the boards:</p> <p>Upon initial investment, the Investment Adviser representative will typically be appointed either as a director or a Board Observer to the Board of the invested Private Hydrogen Assets and is actively engaged in ESG matters in these businesses. As the invested company reaches a certain level of maturity, the Investment Adviser representative may step down from their position as a director or a Board Observer at an appropriate time.</p> <p>The Investment Adviser representatives are appointed as Directors of 9 private companies and as observers of 1 company (100% representation).</p> <p>The Company and the Investment Adviser support the UK Stewardship code issued by the Financial Reporting Council, and the Investment Adviser, on behalf of the Company, votes at all meetings where they are able to exercise the Company's vote.</p> <p>During the year, the Company was represented at 100% of Portfolio Company board meetings and votes.</p>
	<b>Site visits</b>	Site visits in 2023 covered 100% of the Private Hydrogen Assets.
	<b>Simple and transparent pay structures that reward superior outcomes</b>	Strong linkage to long-term value creation ahead of short-term outcomes by use of share options and other incentive programmes.
	<b>Encourage sustainable business practices and ethics</b>	<p>Each portfolio company has been through a review process covering its supply chain due diligence, waste management and circular economy considerations.</p> <p>Recommendations for improvement have been made, and implementation will be monitored.</p>

KPIs	2023 progress
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	<p><b>Stewardship</b></p>	<p>Each portfolio company has been engaged during the year to begin the reporting process on principle adverse indicators and key metrics to support our climate change mitigation investment objective.</p> <p>Data quality and process recommendations have been made to improve this information going forward. For example, the capture of business travel, supplied goods delivery, and landlord-supplied energy are all areas where improved processes are being implemented.</p> <p>The governance structures within each portfolio company have been reviewed, and policy recommendations have been made to strengthen safeguards in key areas, such as anti-bribery/corruption, human rights and tax risk.</p>
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## Sustainability Screens



<b>Allocating capital to low carbon growth</b>
Hydrogen & related technologies
Contributes to avoided GHG emissions
Excludes fossil fuels extraction
<b>Engagement for effective boards</b>
Effective board
Alignment with long term minorities
Alignment of executive pay with long term shareholders
Independence of AC
Board qualifications (skills, tenure, diversity)
<b>Encourage sustainable business practices</b>
Board oversight of Health, Safety, Security & Environment ("HSSE") process and reporting
Transparency
Company policy and disclosure of supply chain practices
The United Nations Global Compact principles
Bloomberg ESG score (where available)
<b>Article 9 Compliance</b>
Investment portfolio is >75% aligned to EU Taxonomy
Principle adverse indicators have been reviewed
Investee agrees to provide data for SFDR periodic disclosure
<b>Mapping vs UNSDGs</b>
3.9 Reduce deaths from pollution
7.1 Increase access to electricity
7.2 Increase renewables in the energy mix
7.3 Increase energy efficiency
9.4 Upgrade industries for sustainability
9.5 Increase R&D in industrial technologies
11.6 Reduce environmental impact of cities
12.6 Adopt sustainable practices and reporting
14.3 Reduce acidification (water)
15.3 Combatting desertification and land degradation
<b>ESG in the Company</b>
KPIs including avoided emissions
Mapping vs UNSDGs
Manage the Company's own carbon footprint

## United Nations Sustainable Development Goals

In 2015, the member states of the United Nations adopted Agenda 2030. A key component of the Agenda 2030 is the seventeen UN SDGs. These long-term goals are designed to end poverty, improve health and education, reduce inequality, create sustainable economic growth and combat climate change. They are intended to create incentives to implement measures in the interests of people, the planet, and prosperity and therefore contribute significantly to changing the world by 2030.

The Company's investment objective and investment policy are closely aligned with seven of these goals, namely Good Health and well-being (Goal 3), Affordable and Clean Energy (Goal 7), Industry, Innovation and Infrastructure (Goal 9), Sustainable cities and communities (Goal 11), Responsible Consumption and Production (Goal 12), Life Below Water (Goal 14), and Life on Land (Goal 15).

Goal	UN SDG target	The Company's focus
<b>UN SDG 3</b> 	Reduce deaths from pollution (3.9)	Fuel cell vehicles to displace diesel and fuel oil. Direct use in industrial activities to displace fuel oil and coal. Demonstrated through avoided emissions.
<b>UN SDG 7</b> 	Increase access to electricity (7.1) Increase renewable energy in the global energy mix (7.2) Increase energy efficiency (7.3)	Enable the expansion of renewable energy through direct use of clean hydrogen and as a form of energy storage. Exclude those involved in the production of fossil fuels.
<b>UN SDG 9</b> 	Upgrade industries for sustainability (9.4) Increase R&D in industrial technologies (9.5)	Enabling the decarbonisation of processes in heavy industry and enhancing innovation in transport and for a more circular economy.
<b>UN SDG 11</b> 	Reduce the environmental impacts of cities (11.6)	Enabling the adoption of cleaner fuels for transportation and in heavy industry to reduce pollution and advance a more sustainable economy.
<b>UN SDG 12</b> 	Adopt sustainable practices and reporting (12.6)	Engagement for good governance and transparency across the portfolio.

Goal	UN SDG target	The Company's focus
<b>UN SDG 14</b> 	Reduce acidification (14.3)	Enabling the replacement of fossil fuels, to reduce CO2 emissions and the corresponding negative impacts on ocean chemistry.
<b>UN SDG 15</b> 	Combatting desertification and land degradation (15.3)	Enabling the replacement of fossil fuels to reduce GHG emissions and the associated acceleration of global warming.

# Sustainability credentials

## Principles for Responsible Investment

As part of its commitment to sustainable investing, the Company has signed the United Nations-supported Principles for Responsible Investment ("PRI"). PRI is recognized as the leading global network for investors who are committed to integrating ESG considerations into their investment practices and ownership policies. During 2023 the Company reported to the PRI and received positive results, scoring above the median for its peer group in all categories.

## LSE Green Economy Mark

The Company has been awarded the London Stock Exchange's Green Economy Mark, which recognises companies that derive 50% or more of their total annual revenues from products and services that contribute to the global green economy. The underlying methodology incorporates the Green Revenues data model developed by FTSE Russell, which helps investors understand the global industrial transition to a green and low carbon economy with consistent, transparent data and indexes.

## SDR

In late 2023 the Financial Conduct Authority issued their final rules on Sustainability Disclosure Requirements (SDR) and investment labels. This regulation introduces general anti-greenwashing rules and creates four labels for different types of sustainability funds. The Company supports measures to reduce greenwashing and clarify sustainability for investors. The scope of rules related to labels is currently limited to UK Alternative Investment Fund Managers, as such the Company cannot currently apply for a label.

## CDP

The Company recognises the importance of transparency and disclosure in managing its environmental impact. In 2023, the Company submitted its first report to the Carbon Disclosure Project ("CDP"), a global non-profit organisation that runs the world's leading environmental disclosure platform. The CDP report provides detailed information on the Company's carbon emissions, climate-related risks and opportunities, and strategies for managing its environmental footprint. By participating in the CDP, the Company demonstrates its commitment to sustainability and aligns itself with global best practices in environmental reporting. The Company will continue to engage with the CDP and other relevant initiatives to enhance its environmental performance and transparency.



## Carbon Neutral

The Company achieved a carbon neutral status for the year to 31 December 2023 through the offsetting (at portfolio and Company level) of scope 1 and 2 CO<sub>2</sub>e emissions. The Company considers the term carbon neutral in line with the UN Climate Change secretariat guidance, being the offsetting of emissions for the period. Whilst the Company is actively working on setting a net zero target through carbon reduction, it is important to recognise the emissions that have already occurred and take action to address these. The Company does not believe offsetting is the long-term solution to climate change. However, it is part of the action that can be taken in the short to medium term as reduction actions are implemented. To achieve the offset, the Company purchased credits from certified carbon removal projects where there is transparency over the measurement and allocation of sequestration. The credits are from a portfolio of several carbon sequestration projects verified by either Gold Standard or the Verified Carbon Standard.

Total scope 1 and 2: 99 tCO<sub>2</sub>e

Offset by Private Hydrogen Assets: 6 tCO<sub>2</sub>e

Offset by the Company: 93 tCO<sub>2</sub>e

## Annex 5

Periodic disclosures required under EU SFDR (Annex 5) are now available on the Company's website: <https://hydrogenonecapitalgrowthplc.com/sustainability/sustainability-related-disclosures/>.

## Private hydrogen assets sustainability strategy

Company	Country	Sector	NAV %	Avoided GHG emissions tCO <sub>2</sub> e (incl. HGEN Share)
<b>Sunfire GmbH</b> <b>Sustainability strategy</b>  <i>Electrolyzer at Solingen</i>	Germany	Supply Chain	20%	9,732
<b>Elcogen Plc</b> <b>Sustainability strategy</b>  	Estonia	Supply Chain	18%	486

**About:**

Sunfire enables industrial clients to decarbonise with clean hydrogen through the production of electrolyzers and fuel cells.

**Contribution to Climate Change Mitigation:**

The electrolyzers the company manufactures substantially contribute to avoiding greenhouse gas emissions by producing renewable hydrogen. With that, Sunfire’s electrolysis technologies propel the energy transition in hard-to-abate sectors. During 2023 the company officially launched the series production of core electrolyzer components at its site in Solingen where the company invested EUR 30 million in scaling up an energy-efficient production capacity

**Action on:**

Sunfire strives to reduce its own carbon footprint, e.g., by increasing energy efficiency and sourcing green energy. In 2023, Sunfire procured about 1.7 gigawatt hours of certified renewable electricity.

**About:**



Elcogen supplies solid oxide cell for fuel cell systems and electrolyzers, a core technology that sits at the heart of energy security and the transition away from fossil fuels.



**Contribution to Climate Change Mitigation:**



Elcogen is committed to delivering the world’s most efficient technology for the production and use of green hydrogen, providing customers with affordable energy solutions to meet net zero targets. Green hydrogen is promised to decarbonise hard-to-abate sectors and provide a clear pathway away from fossil fuel reliance.



**Action on ESG:**

Elcogen is committed to ensuring it makes a positive contribution to the environment and society, and adopting best practices that are filtered throughout all layers of the Group. In the current year data has been collected to measure the sustainability impact of the group, both positive and negative.

Company	Country	Sector	NAV %	Avoided GHG emissions tCO <sub>2</sub> e (incl. HGEN Share)
Strohm Holding B.V.	The Netherlands	Storage and Distribution	15%	631
<p><b>Sustainability strategy</b></p>  <p><i>Thermoplastic Composite Pipes used for hydrogen transport</i></p>	<p><b>About:</b> Strohm produces a Thermoplastic Composite Pipe which has carbon footprint 50% lower than the alternative steel pipe.</p> <p><b>Contribution to Climate Change Mitigation:</b> In addition to providing a low carbon technology pipe, the application of this product is used to transport hydrogen. One application is the conversion of offshore wind to hydrogen for transport back to shore, one pipe can transfer 10 times the energy of an equivalent cable.</p> <p><b>Action on ESG:</b> Strohm is a climate-neutral organisation, certified according to the climate-neutral certification standard from the Climate-neutral group (CNG). The company is also making significant progress towards reducing the products' CO<sub>2</sub> footprint from a product life cycle point of view and investing in product development to support the energy transition.</p>			
HiiROC Ltd	United Kingdom	Supply Chain	10%	N/A
<p><b>Sustainability strategy</b></p>  <p><i>Pilot units installed at Centrica's Scawby site, near Brigg, in 2023.</i></p>	<p><b>About:</b> HiiROC has developed a new process for producing affordable clean hydrogen, Thermal Plasma Electrolysis. This is a low cost and Zero CO<sub>2</sub> emission process, producing clean hydrogen and clean, versatile, solid carbon black.</p> <p><b>Contribution to Climate Change Mitigation:</b> HiiROC can help accelerate the transition to Net Zero through the deployment of its technology at scale. HiiROC expects to make its most significant contributions to SDGs 7 (Affordable &amp; Clean Energy), 9 (Industry, Innovation &amp; Infrastructure) and 11 (Sustainable Cities &amp; Communities).</p> <p><b>Action on ESG:</b> Data collection and the build out of processes has enabled HiiROC to measure its impact. Performance of HiiROC's on-going demonstrator at Brigg will provide important real-world data on the potential for GHG offset from the technology.</p>			

Company	Country	Sector	NAV %	Avoided GHG emissions tCO2e (incl. HGEN Share)
Cranfield Aerospace Solutions Limited	United Kingdom	Hydrogen Applications	9%	N/A
<p><b>Sustainability strategy</b></p>  <p><i>The Hydrogen Islander Demonstrator Aircraft</i></p>	<p><b>About:</b> Cranfield’s ambition is to be a designer &amp; manufacturer of zero &amp; low carbon aircraft, starting with the development and certification of hydrogen propulsion systems for existing aircraft platforms.</p> <p><b>Contribution to Climate Change Mitigation:</b> Cranfield is working on Phase 1 of their roadmap. “Project Fresson” is the conversion of a Britten-Norman Islander 9-seat aircraft from conventional fossil fuel to that of gaseous hydrogen propulsion. This provides a zero-emission passenger carrier service.</p> <p><b>Action on ESG:</b> The company’s ESG strategy centres on sustainable practices, aiming for positive impact across all facets of operations. Cranfield is committed to reducing their carbon footprint and minimising waste and have launched cycle-to-work and EV schemes. Socially, diversity, equity, and inclusion are prioritised, promoting employee well-being and stakeholder engagement. From a Governance perspective, transparency, ethical decision-making, and accountability are paramount. Continuous monitoring and reporting ensure alignment with developing internal ESG standards. By integrating ESG principles into the business model, Cranfield strives to create long-term value for stakeholders, mitigate risks, and contribute to a resilient, responsible, and prosperous future.</p>			
Bramble Energy Limited	United Kingdom	Supply Chain	8%	N/A
<p><b>Sustainability strategy</b></p>  <p><i>Bramble demonstrator vehicle with PCB fuel cell stack</i></p>	<p><b>About:</b> Using printed circuit board technology, Bramble creates flexible, completely customisable, and globally accessible clean energy.</p> <p><b>Contribution to Climate Change Mitigation:</b> Unlike typical fuel cells, Bramble’s PCB Fuel Cell can be produced on existing printed circuit board (PCB) production lines. As PCB production is standardised and global, Bramble believes that leveraging it is the key to deploying fuel cells in sufficient numbers to achieve significant decarbonisation.</p> <p><b>Action on ESG:</b> Bramble conducts business activities in a way that ensures, as far as practicable, that the environmental impacts of operations are positive, and any negative impact is mitigated.</p> <p>Bramble Energy has made the SME Climate Commitment which recognises that climate change poses a threat to the economy, nature and society-at-large, the company commits to take action immediately in order to achieve and surpass:</p> <ul style="list-style-type: none"> <li>Halving greenhouse gas emissions before 2030;</li> <li>Achieving net zero emissions before 2040; and</li> <li>Disclosing progress on a yearly basis.</li> </ul>			

Company	Country	Sector	NAV %	Avoided GHG emissions tCO2e (incl. HGEN Share)
HH2E AG	Germany	Hydrogen Production	5%	N/A
<p><b>Sustainability strategy</b></p>  <p><i>Future HH2E-Werk Lubmin Hydrogen Project</i></p>	<p><b>About:</b> The HH2E power station transforms the fluctuating feed-in of solar and wind energy into stable power supply. This is done by using solar and wind energy generated during production peaks and using it to generate carbon-free, green hydrogen.</p> <p><b>Contribution to Climate Change Mitigation:</b> HH2E makes the use of renewable energies feasible on a large scale. Large amounts of peak wind and solar power are converted into green hydrogen using a highly efficient, innovative combination of electrolysis and battery technology. This is then supplied to industry, the mobility sector and municipalities, or used as fuel for turbines or fuel cells for regenerating electricity. Waste heat from electrolysis is also used to cover the heat requirements of neighbouring industries and municipalities.</p> <p><b>Action on ESG:</b> HH2E is committed to becoming a leader in the green energy sector with a robust ESG strategy that underpins its mission to drive sustainable energy transitions. Environmentally, the focus on reducing carbon emissions by maximising the potential of renewable energy sources for green hydrogen production, contributing to eliminate curtailment, and aiming for zero-waste operations. Socially, community engagement is prioritised, ensuring projects bring opportunities to areas undergoing structural changes, thereby creating new economic opportunities, fostering local employment, and adhering to the highest safety and health standards.</p>			
HH2E Thierbach	Germany	Hydrogen Production	1%	N/A
<p><b>Sustainability strategy</b></p>  <p><i>Future HH2E-Thierbach Hydrogen Project</i></p>	<p><b>About:</b> Thierbach adheres to HH2E's ESG strategy, which is committed to becoming a leader in the green energy sector with a robust ESG strategy that underpins its mission to drive sustainable energy transitions.</p> <p><b>Contribution to Climate Change Mitigation:</b> The plant is projected to have the capacity to produce c.6,000 tonnes of green hydrogen per year, displacing fossil fuels and, therefore, avoiding harmful greenhouse gas emissions. Further expansion phases could increase production to more than 60,000 tonnes in the medium term, which could result in over 10 million tonnes of greenhouse gas emissions ("GHGs") avoided over the life of the project.</p> <p><b>Action on ESG:</b> Data was collected for the first time in 2023 to measure the impact of the project.</p>			

Company	Country	Sector	NAV %	Avoided GHG emissions tCO2e (incl. HGEN Share)
<p>NanoSUN Limited</p>	<p>United Kingdom</p>	<p>Storage and Distribution</p>	<p>4%</p>	<p><b>80,267</b> * Based on maximum operational use</p>
<p><b>Sustainability strategy</b></p>  <p><i>NanoSUN Pioneer145 Mobile Hydrogen Refuelling Station</i></p>	<p><b>About:</b> NanoSUN is a world leading, award-winning, engineering company focused on the development, manufacture and commercialisation of its hydrogen refuelling solutions for customers in the Oil &amp; Gas, Industrial Gases and Transport sectors.</p> <p><b>Contribution to Climate Change Mitigation:</b> NanoSUN's Pioneer product is a low-cost refuelling station for hydrogen vehicles. It makes switching from fossil fuels to clean hydrogen a viable option for many transport and logistics operators.</p> <p><b>Action on ESG:</b> NanoSUN participated in EIC-EIT Climate Race to net Zero, which assessed the climate impact of products by validating a lifecycle assessment. This demonstrated that every Pioneer fill saves 4.2-5.8 tCO2e and just 10-13 Pioneer fills is required to offset the emissions generated during manufacture.</p>			
<p>Gen2 Energy</p>	<p>Norway</p>	<p>Hydrogen Production</p>	<p>3%</p>	<p>N/A</p>
<p><b>Sustainability strategy</b></p>  <p><i>Gen2E planned hydrogen plant</i></p>	<p><b>About:</b> Gen2 Energy's short and simple purpose is to produce green hydrogen on a large scale, make it accessible for many, and easy to use for the customer.</p> <p><b>Contribution to Climate Change Mitigation:</b> By utilising Norwegian renewable electricity for hydrogen production, Gen2 Energy ensures the supply of green hydrogen to displace fossil fuels.</p> <p><b>Action on ESG:</b> The company's long-term ambition is to be a net-zero company, and in order to reduce the carbon footprint for the whole value chain from production to end-user, Gen2 Energy strives to be at the forefront of selecting available technology with no/low carbon footprint. Gen2 Energy is of the view that zero-emission solutions in most cases go hand in hand with high value. In 2023, the company obtained pre-certification that the output from the company's initial Nesbruket project RFNBO compliant under RED II/DA.</p>			

# International Sustainability Standards Board Disclosures

## Governance

### **Board oversight**

The Board of Directors (the “Board”) of the Company retains overall responsibility for oversight of sustainability and climate-related risks and opportunities, with the day-to-day activities delegated to the Investment Advisor. The Board ensures the Company’s policies and reporting evolve appropriately alongside external regulatory and reporting developments. The Board also verifies Company alignment with the applicable EU sustainable finance regulations, particularly pertinent given the Company's Article 9 fund classification under SFDR.

When the Board appoints new directors, the process, which is led by the Nomination Committee includes a thorough evaluation of the skills and experience required to sufficiently execute sustainability oversight for the Company, as well as considering fund stewardship skills and diversity. Further, the Board uses qualified external advisors to supplement internal capabilities, where appropriate. For example, in 2023, the Company engaged a specialised third party for comprehensive emissions data collection and analysis, to assist the Board and the Investment Adviser in portfolio reporting and monitoring on ESG matters.

### **Informed decision-making through regular reporting**

Regular sustainability reporting provided to the Board from the Investment Adviser frames informed decision-making on portfolio choices and strategies. The Investment Adviser's portfolio updates to the Board incorporate tracking of pertinent ESG factors across underlying Private Hydrogen Assets, enabling the Board to identify emerging risks, challenges, and opportunities. Additionally, in-depth reviews of major proposed investments incorporate assessments of alignment with the Company’s ESG policy and applicable EU regulations. In this way, the Board has the right visibility into sustainability risks and opportunities, before investment decisions are made, and allows the Board to monitor material developments in portfolio companies around sustainability performance.

## Integrating sustainability across oversight

The Board integrates relevant sustainability and climate considerations when assessing the Company's corporate strategy, evaluating major transactions, and setting risk management policies. Investment decisions are carefully weighed for alignment with the ESG policy and EU Taxonomy criteria, balancing financial returns against long-term sustainability and climate impacts.

The Board analyses long term sustainability trends in its strategy, in order to better understand emerging transition risks and green growth opportunities for the Company. Essentially, the Board ingrains sustainability and climate analysis into all substantive decisions, whilst prudently balancing relevant trade-offs.

## Oversight of performance

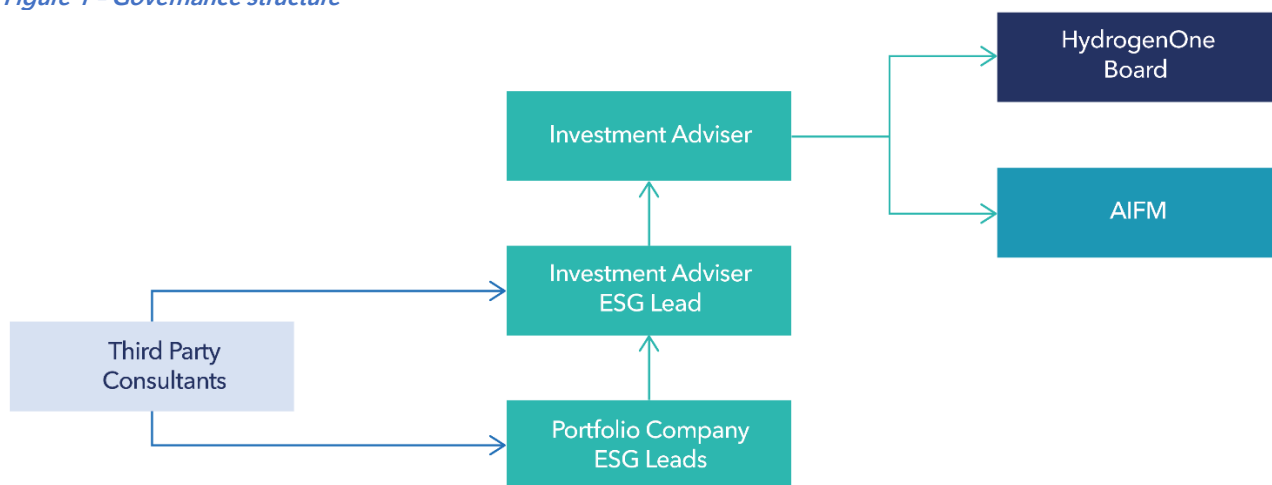
The Board regularly reviews portfolio performance, including portfolio GHG reduction strategies and other ESG metrics. The Investment Adviser provides consistent and regular reporting to the Board on emission metrics across the entire portfolio, which ensures that the Board is able to monitor performance effectively.

## Delegation and Board oversight

Governance related to sustainability and climate programmes in portfolio companies is delegated to the Investment Adviser, specifically the appointed ESG Lead. The ESG Lead ensures that there is comprehensive emissions data collection and other ESG metrics, target-setting, and sustainability strategy development across underlying Private Hydrogen Assets. The Investment Adviser is represented on the boards of all invested companies, which facilitates this data collection, and helps to drive standards in the portfolio. The Investment Adviser's Principals are responsible for the communication of sustainability and climate matters to the Board and the Company's Alternative Investment Fund Manager ('AIFM'). The Investment Adviser integrates sustainability and climate considerations across investment screening, risk management, valuation, and financial reporting, reinforcing a holistic approach.

The Investment Adviser has appointed Dr JJ Traynor as the ESG Lead, whose relevant experience includes establishment of Shell's ESG practice, reporting and engagement with investors in 2005-2017. He is also one of the Principles of the Investment Adviser.

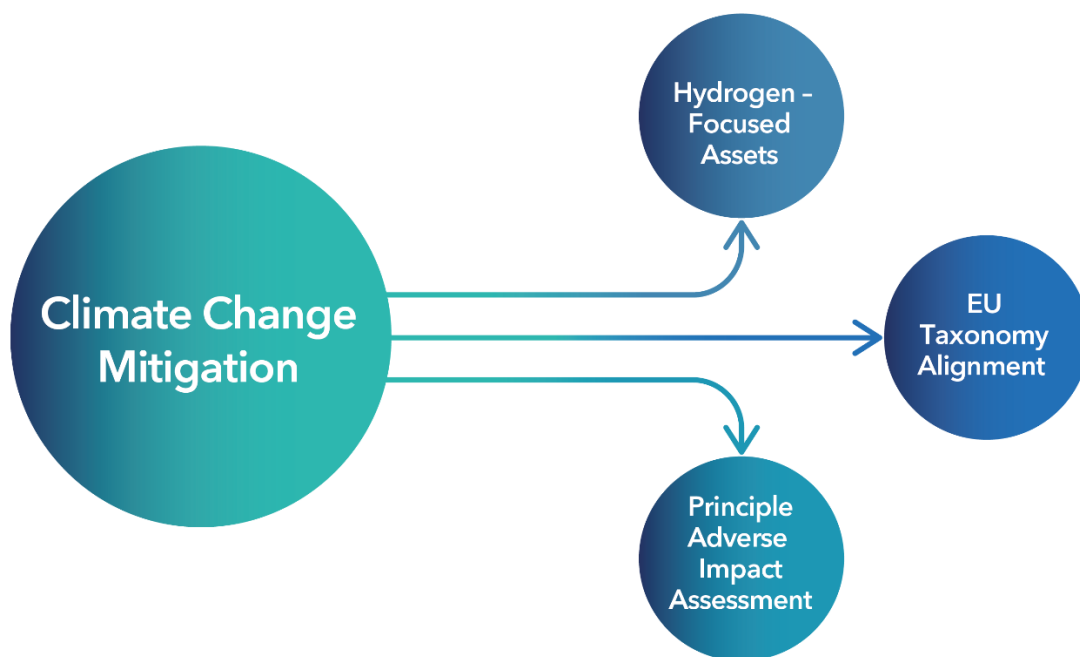
Figure 1 - Governance structure





# Strategy

The Company’s sustainable investment objective is to deliver an attractive level of capital growth by investing, directly or indirectly, in a diversified portfolio of hydrogen and complementary hydrogen-focused assets whilst contributing to climate change mitigation by integrating core ESG principles into its decision-making and ownership process.



- Sustainable Development Goals
- Principles of Responsible Investment

## Time horizons

The Company defines short-term sustainability risks and opportunities as 0-5 years, medium-term as 5-10 years, and long-term as beyond 10 years. These time horizons connect to typical investment cycles and holding periods in private capital markets, suiting the Company’s business model. The short-term aligns with budgeting timeframes, the medium-term reflects a common investment horizon and holding period, and the long-term allows for value catalysts over the life of assets.

## Risks and opportunities

The key physical climate risks for the Company in the short-term might include operational disruptions due to weather events like floods, storms, or droughts. Over the medium and long-term, chronic risk exposure includes water stress and heat impacts for water-intensive production facilities such as electrolyzer units in southern Europe.

In terms of transition risk, short and medium-term policy, regulatory and market changes present uncertainty, but these are balanced by significant growth opportunities for the Company. Specific regulatory risks which impact markets include rapidly tightening emissions limits, changing incentives, growing compliance costs, and evolving end-user preferences towards zero-emission products. However, these same dynamics help expand the addressable market size for hydrogen solutions widening the geographic scope for project developments. Many large-scale hydrogen projects that the Company's private investments benefit from are part funded by public sector subsidies, particularly in the EU and the UK. The widespread adoption of country-level net zero policies also directly benefits the portfolio, by creating market opportunities for clean hydrogen.

At the same time, the physical impacts of climate change and in some countries the lack of consistent government policies to address this pose challenges for investors. However, the overarching imperative to make progress in reducing carbon emissions make it necessary for governments and society to adopt climate-aligned investment strategies like the Company's. Such strategies are based on rigorous data-driven analyses, which should drive resilient growth, grounded in science and ethical expectations.

### **Impacts on business model and value chain**

The Company's business model and value chain are impacted by sustainability and climate factors in several ways. Policy and market changes can influence the addressable investment opportunity in hydrogen, competitive landscape, customer demand, and compliance requirements facing the portfolio. Meanwhile, physical events could impair production assets, disrupting supply chains and revenue, but also accelerating policy tailwinds support demand. Overarching growth in hydrogen demand amid decarbonisation of heavy industries and transport provides long-term investment momentum. The Private Hydrogen Assets that the Company has backed are seeing sustained demand in chemicals, fertilizer, refining, transportation and power generation. Real-world complexities can necessitate nuanced trade-offs across risks and opportunities when allocating capital, engaging investees, and amplifying avoided emissions.

### **Geographic and asset concentrations**

The Company's hydrogen activity is concentrated in major European markets. Therefore, policy shifts in these regions could affect the Company's regional outlooks and the value of its Private Hydrogen Assets. In terms of asset types, production plants, electrolyzers, and hydrogen refueling stations have greater exposure to potential long-term physical climate impacts compared to earlier-stage technology developers.

### **Strategic responses**

The Company has responded to sustainability and climate-related risks and opportunities through a strategic focus on investments into clean hydrogen and related technologies. Also, since each geographic market has unique dynamics, the Company has diversified across several countries, in order to mitigate policy uncertainty and potential long-term physical asset risks. This targeted approach positions the overall business to low-carbon operations, while allowing the Company to benefit from the anticipated growth, driven by climate policy, changing consumer preferences, and the accelerating shift to renewable energy.

In addition to the strategic focus exclusively on climate-tech opportunities, the Company has been building strong capabilities in emissions reporting and reduction across its portfolio, including through engagement with the management teams of the Private Hydrogen Assets to implement decarbonisation initiatives across their operations. Progress has also been made on quantifying indirect contribution to emissions reductions.

Collectively, these strategic pillars - focused sector investments into hydrogen transition solutions, diversified geographic locations, active portfolio emissions management, and quantification of indirect avoided emissions - embed climate considerations thoroughly into the business model, operations, processes, and decision-making. They also provide optionality for the Company to pivot focus areas in response to evolving policy, technology, and physical climatic conditions across geographies.

### **Trade-off considerations**

The Company faces potential investing trade-offs weighing local sustainability impacts versus the over-arching benefits for climate change mitigation. When Private Hydrogen Assets select a location for a new manufacturing site for clean hydrogen technologies, it is important to consider the site's impact on biodiversity and its GHG footprint. Such considerations are underway at Gen2 Energy, HH2E and Elcogen, who were considering setting new facilities during 2023. An analysis of site alternatives balances projected sustainability gains and losses with sustainability considerations. On balance the trade off is acceptable as the availability of renewable energy increases the technology is increasingly likely to be used for green hydrogen.

### **Financial impacts**

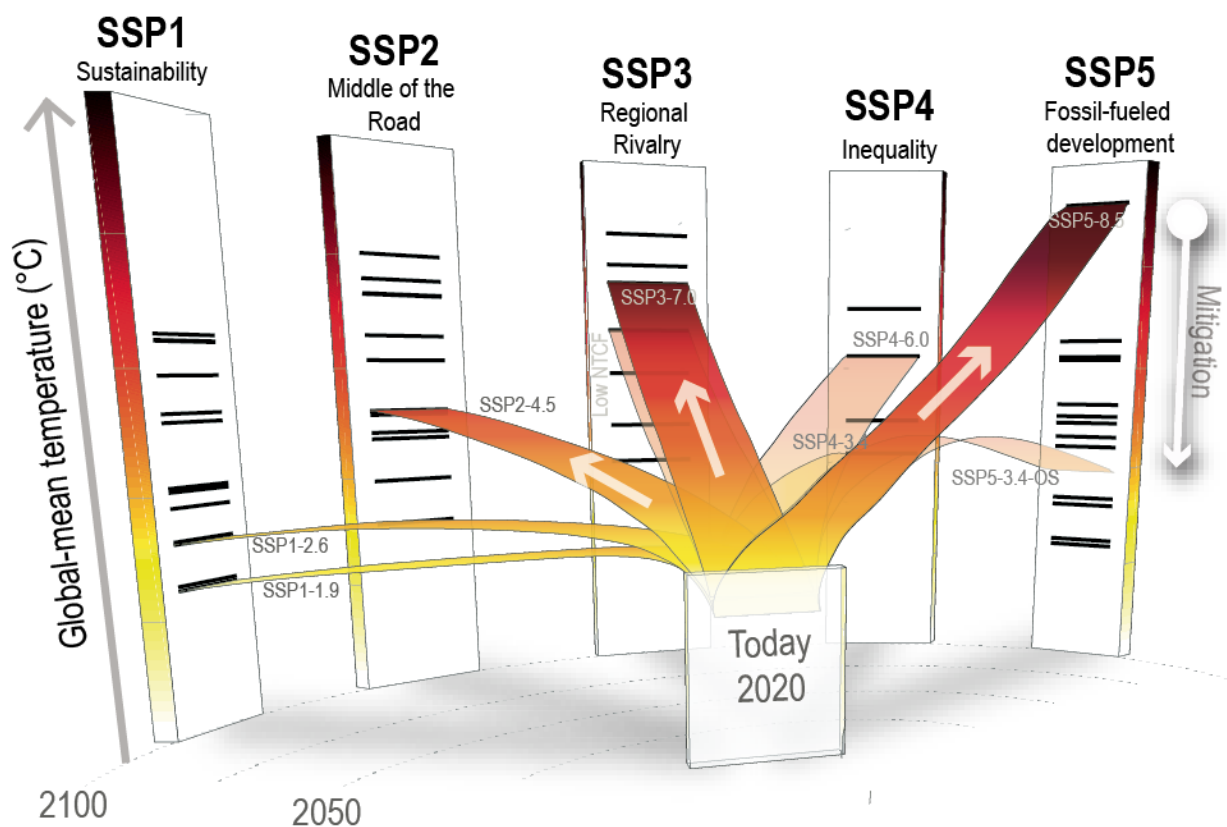
As the hydrogen economy continues to scale up, the Company expects its financial performance to reflect this momentum - policy and early adoption driving near-term portfolio growth, industrial markets and cash flow expansion in the medium-term, and widespread hydrogen utilisation enabling long-term gains. Financial results remain market dependent, but the Company's strategy intends to capture opportunities while managing varied timeline risks.

### **Progress and next steps**

The Company has established strong foundations, including formalising its ESG policies, implementing screening procedures, and reporting on key metrics. Moreover, as part of its investment strategy, the Company undertakes initial screens and detailed due diligence on the EU taxonomy alignment of prospective investments. This includes assessing turnover, operating expenses, capital expenditure, and adherence to 'do no significant harm' principles.

In future reports, the Company aims to track its progress in executing these plans as the programmes mature. The next steps include continuing to develop ESG policies in invested companies, and to further refine screening and monitoring processes.

## Scenario analysis



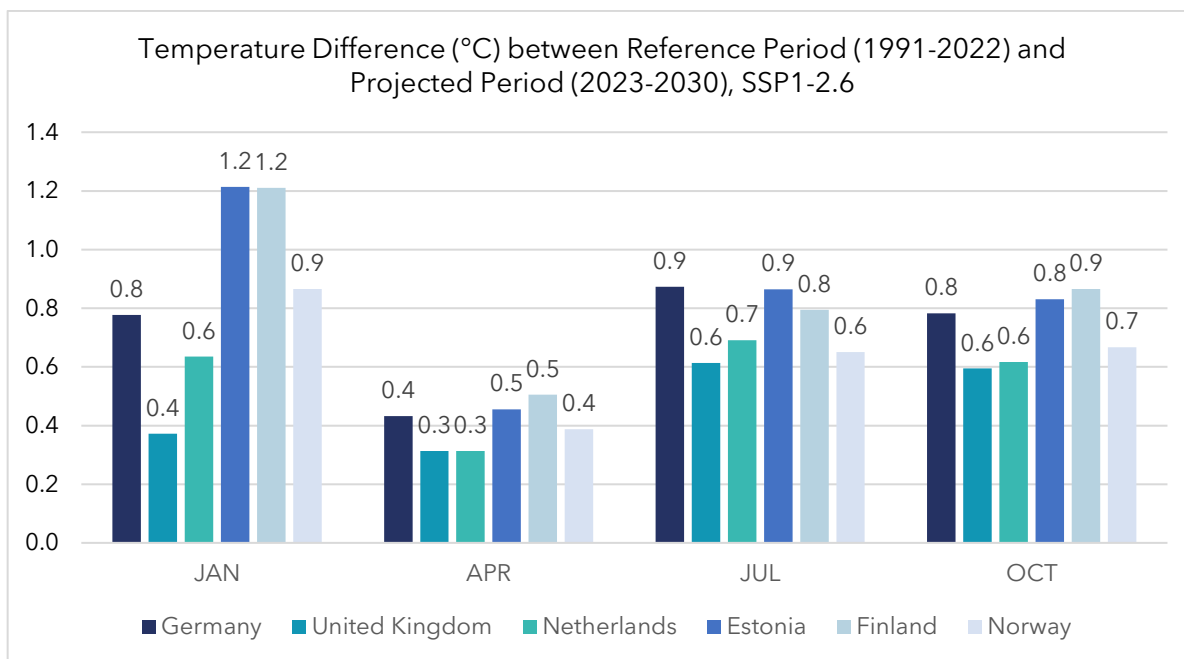
To evaluate climate risks across its portfolio, the Company recently conducted a scenario analysis using the Intergovernmental Panel on Climate Change’s (‘IPCC’) Shared Socioeconomic Pathways (‘SSPs’). These pathways cover a range of potential climate futures based on different emissions trajectories. The Company completed an extensive climate risk analysis utilising the most optimistic emissions scenario (SSP1-2.6). This pathway assumes net zero emissions are attained by 2050, with estimated global temperature rise capped at 1.8°C above pre-industrial levels by 2100. Leveraging SSP1-2.6 projections through 2030, 2040, and 2050, the analysis examined temperature increase forecasts, flood risks, and water stress impacts across the Company’s hydrogen assets. Additionally, further physical risk analyses, presented in the Appendices, were performed using IPCC mid-range (SSP3-7.0) and more pessimistic (SSP5-8.5) emissions scenarios across identical time horizons. The comprehensive analysis encompassed the Company’s geographically diverse portfolio including companies in the UK, Netherlands, Finland and other locations. Periodically conducting robust climate scenario analyses allows the Company to gauge risks as its holdings evolve, supporting risk management and disclosure. By leveraging the latest climate science, the Company can evaluate potential long-term implications based on different global warming pathways and adaptation measures. This forward-looking assessment contextualises near-term risks and informs strategic resilience.

Climate Scenarios	Description
<b>SSP1-2.6</b>	Assumes net zero emissions are achieved by 2050, stabilising global temperature rise at approximately 1.8°C above pre-industrial levels by 2100.
<b>SSP2-4.5</b>	Emissions decrease but do not reach net zero by 2100. Temperatures rise 2.7°C above pre-industrial levels by 2100.
<b>SSP3-7.0</b>	Projects global emissions remain high throughout the 21st century, resulting in global average temperatures rising by approximately 3.7°C above pre-industrial levels by 2100.
<b>SSP5-8.5</b>	Projects continuing high fossil fuel usage worldwide, leading to global average temperature increases of 4.5°C above pre-industrial levels by 2100.

### Heat stress

Demand for products and services delivered by the Company's portfolio is exposed to heat stress. Extreme heat events could impact hydrogen storage, distribution, and manufacturing projects due to the high temperatures and environmental conditions they produce. Additionally, extreme heat could degrade the integrity of materials used in hydrogen storage tanks and pipelines over time.

Given these impacts, assessing the physical risks of heat stress is important. Using the Coupled Model Intercomparison Project Phase 6 ('CMIP6') data from the World Bank Climate Change Knowledge Portal's optimistic SSP1-2.6 scenario, the average maximum surface temperature was analysed. This focuses on average peak temperatures within locations to accurately characterise daytime heat stress effects when facilities operate. Examining maximum rather than minimum temperatures provides a representative measure of the most extreme conditions faced within a 24-hour period. Additional analyses detailing the projected impacts of extreme heat events under the mid-range (SSP3-7.0) and more pessimistic (SSP5-8.5) climate scenarios can be found in Appendix II. These supplemental forecasts examine potential effects for the 2030, 2040, and 2050 timeframes.



The results indicate an overall increasing trend of 0.3-1.2°C in average maximum temperatures from 2023-2030 relative to 1991-2022 historical baselines under the optimistic scenario. Finland and Estonia saw the highest average increase of 1.2°C during the month of January. Norway and the UK saw the least temperature increases with an average increase of 0.6°C and 0.5°C, respectively. However, all regions are aligned with SSP1-2.6's goal of limiting global warming below 2°C.

As an investment firm focused on hydrogen, the Company faces relatively low physical climate risk exposure since the highest increase between the reference period and projected period is of 1.2°C. However, mitigating the impacts of heat events on hydrogen projects requires a comprehensive approach. Engineering measures like installing adequate cooling capacity and designing infrastructure with heat-tolerant materials can improve resilience. Enhanced safety protocols, emergency response plans, and worker protections will be vital. Risk assessments can identify the most vulnerable components and procedures needing attention. Adaptive strategies like shifting operating hours or locations for certain processes may be necessary as temperatures climb.

Taking proactive steps to ensure infrastructure and operations remain resilient to heatwaves will be crucial for realising the safe and sustainable potential of hydrogen technology. Anticipating and managing heat vulnerabilities must be an ongoing priority amid a warming climate.

### Water stress

The locations of the Company's Private Hydrogen Assets have undergone an evaluation of water stress levels, utilising the World Resource Institute's Aqueduct tool, which incorporates factual data for the 2019 baseline year, with the modeling being updated as recently as 2021. This analytical tool generates forecasts for shifts in water stress levels through 2030 and 2050. The tool draws on the most optimistic climate scenario (SSP1-2.6), the mid-range climate scenario (SSP3-7.0), and the more pessimistic climate scenario (SSP5-8.5), benchmarking alterations against 2019 baselines.

For the purpose of this report, an in-depth discussion of 2030 projections, under the most optimistic SSP1-2.6 climate scenario, is presented below. Additional analyses examining different climate scenarios for both 2030 and 2050 timeframes have been compiled within Appendix III for further review.

**Scenario SSP1 - 2.6 - 2030 Projection**

**Water Stress** ● High (40-80%) ● Medium-high (20-40%) ● Low-medium (10-20%) ● Low (<10%)



An assessment of the physical risks posed by water stress provides critical insights into the potential impacts on hydrogen storage, distribution, and manufacturing facilities. Water scarcity can manifest in numerous ways that may disrupt operations and compromise the resilience of hydrogen infrastructure. For instance, limited water availability could constrain industrial processes such as electrolysis that are vital to hydrogen production yet require substantial water consumption. Additionally, cooling systems reliant on water are commonly utilised at hydrogen storage and distribution sites, and their efficiency and function could suffer under water stress conditions.

The locations facing high risk of water stress, with 40-80% probability, include areas like Crawley in the UK and Leipzig in Germany. However, most of the remaining sites across Norway, the Netherlands, and the UK, including Kingston upon Hull, are less vulnerable with only a 10-20% chance of water scarcity.

Overall, the water stress mapping of the Company’s assets reveals favorable conditions with most sites experiencing low to low-medium levels of scarcity. Nonetheless, at all locations, understanding possible vulnerabilities and pursuing strategies to bolster resilience, reduce water usage, and maintain regulatory compliance will be critical. Sustainable water management practices are integral to the long-term feasibility and success of hydrogen facilities as they navigate water stress challenges.

### Flood risk

To better understand long-term climate risk exposure, the Company conducted analysis evaluating potential flooding impacts on assets across a range of future scenarios and timeframes.

Flood Type	Description
<b>Pluvial Flooding</b>	Flooding that occurs when heavy rainfall overwhelms drainage systems and the ground’s absorption capacity, creating surface flood conditions.
<b>Coastal Flooding</b>	Flooding that occurs because of strong windstorms that push seawater onto the land or tsunamis.
<b>Fluvial Flooding</b>	Flooding that occurs when excessive rain or snowmelt causes a river or stream to overflow its banks.

The flooding impact analysis modelled projections under three SSP climate scenarios - SSP1-2.6, SSP2-4.5, and SSP5-8.5 across 2030, 2040 and 2050. The detailed multi-scenario outcomes covering projected flooding depths at each site can be found in Appendix VI.

A thorough examination within the framework of scenario SSP1-2.6, focusing on the timeline up to 2030, yielded insights regarding the six locations at potential risk – Finland, Netherlands, Lancaster, Kingston upon Hull, Crawley, and Lubmin – when considering flooding of depths above 50cm, with assessments conducted at a 10% probability of occurrence.

*Figure 3: Flood Risk under SSP1-2.6 in 2030 with a 10% chance of occurrence - Maximum Depth*

**Focussed Depth**   ● < 20cm   ● ≥ 20cm & < 50cm   ● ≥ 50cm



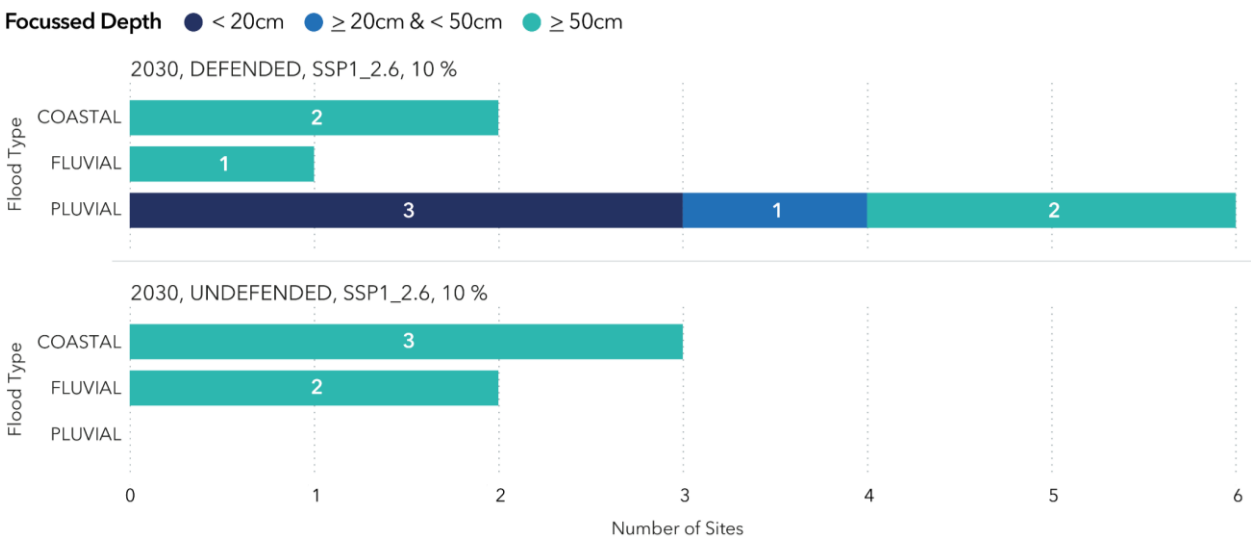


The flooding analysis indicates a 10% probability of impact under the specific SSP1-2.6 emissions scenario in 2030. Given multiple contingency layers already in place and the relatively low risk level, the likelihood of significant flooding disruption to the sites is minimal. However, inherent uncertainties in long-term modeling are recognised. Should significant shifts occur in climate projection methodologies or probability levels, revisiting core assumptions would be prudent.

The graph below details site-level classification of undefended fluvial and coastal flood types and existing defense infrastructure under SSP1-2.6 through 2030 with a 10% probability of flood occurrence. Ongoing monitoring of exposures, especially for higher risk areas, will ensure appropriate safeguards evolve aligned to the latest projections.

The overall resilience of the private investment’s facilities exposed to these flood risks is high, they are typically real estate based sites which lowers exposure. In addition the development of public flood defense infrastructure, particularly in costal areas, is expected to increase as the varying climate scenarios play out.

*Figure 4: Number of affected sites across different flood and defense types - SSP1-2.6, 2030, 10% chance of occurrence*



### Physical risk conclusion

When taken together, heat stress, water stress and flood risk create an environment for hazards to materialise (e.g. wildfires) but the probabilities of financial loss are low. This is because there are multiple probabilities combining (firstly for the SSP scenario to occur then for the hazard to materialise within that scenario). The vulnerability of the physical assets in the locations tested is limited since they are primarily real estate assets (offices and industrial facilities) so can cope with the majority of hazards without undue financial loss.

## Transition risks and opportunities

### Policy and legal risks and opportunities

Climate policies and the low-carbon transition in Europe create both risks and opportunities for the Company's hydrogen holdings. Regulatory shifts that accelerate decarbonisation can support the Company's renewable investments while policies favoring high-emission incumbent energy pose a downside risk. While transition pathways entail risks, the long-term growth potential for the Company's assets remains substantial if ambitious climate action continues to unfold. By maintaining a strategic focus on renewable hydrogen, the Company aims to capitalise on the outsized opportunities offered by the shift to a low carbon economy, while managing regulatory and market risks. Europe has enacted major policies at the federal level that align with and promote its binding net zero emissions target for 2050. Key policies include the Renewable Energy Directive (RED II), EU Hydrogen Strategy, Emissions Trading System (ETS), Energy Taxation Directive, and Renewable Energy Financing Mechanism. These policies incentivise renewable energy development, disincentivise fossil fuel use through taxes and carbon pricing, provide direct funding and incentives for scaling up renewable hydrogen production and infrastructure to displace existing fossil-based hydrogen, and set legally binding renewable energy targets. Overall, Europe's major federal policies aim to rapidly transition away from fossil fuels and toward renewable energy sources like green hydrogen through a mix of mandates, financing, taxation, and carbon pricing mechanisms. Appendix I contains expanded descriptions and additional policy details for continued analysis.

### Technology risks and opportunities

Europe has made significant progress in transitioning to clean energy technologies. Adoption of renewables, energy storage, and efficiency measures is on the rise across European countries. For example, renewable energy met 22% of total EU energy demand in 2020, up from 9.6% in 2004. All EU members have implemented policies supporting energy efficiency in buildings, appliances, co-generation systems and transportation. However, further investment and innovation is required in key technologies like hydrogen to fully transition to a low-carbon economy. Advances in production methods such as electrolysis using renewable electricity and water are enabling scalable green hydrogen with zero emissions. Improvements are also needed in hydrogen storage density through advanced materials, liquefaction and expanded hydrogen pipeline networks, in order to support easier distribution and transportation. Additionally, continued progress in fuel cell performance and cost reduction will facilitate uptake of hydrogen-powered vehicles and assets. Deploying these new innovations alongside existing clean energy technologies can help accelerate decarbonisation across the whole European economy including hard-to-abate sectors. Targeted funding programmes at the EU and national levels along with public-private partnerships will be key to driving the development and adoption of these transitional technologies.

### Market risks and opportunities

Climate change, emissions reduction policies, and changing consumer preferences are expected to profoundly impact energy markets - driving falling costs and significant demand growth for clean hydrogen across transportation, industry, heating, and power generation applications. This represents a crucial market opportunity for the Company's project assets across Europe - one that far outweighs potential demand loss from fossil fuel applications. The Company's assets stand to benefit from both public policy incentives as well as private sector investments aimed at scaling up production and infrastructure in lockstep with demand.

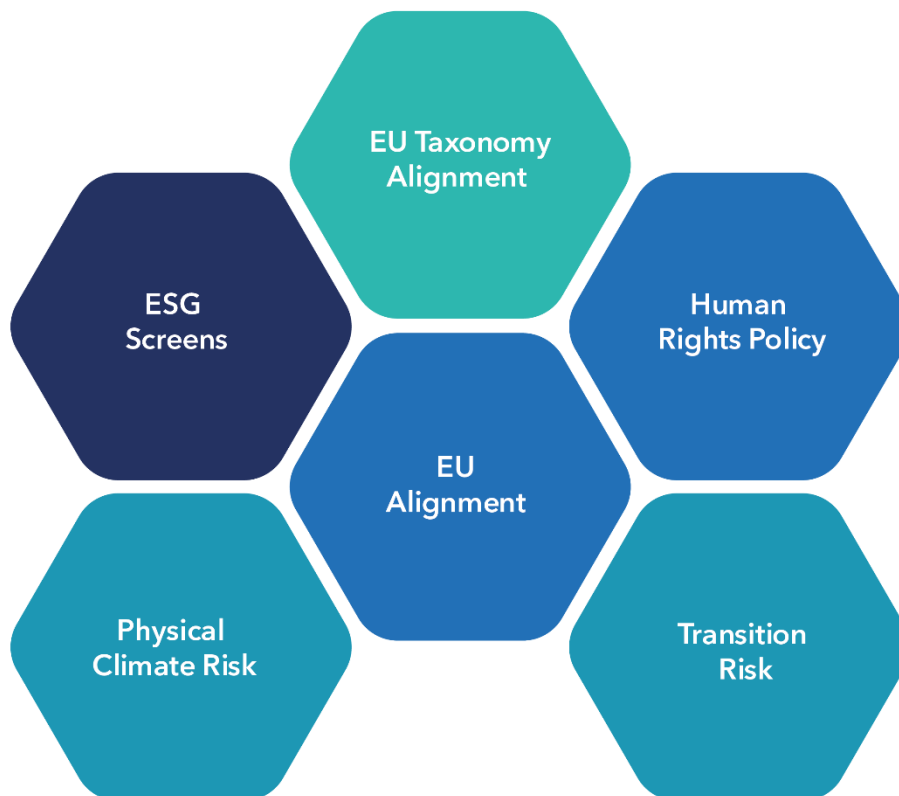
However, during the transition there may be market risks from uncertainty around the timing and geography of new demand centers. Project economics could suffer if supply ramps ahead of local demand, or from competition with other decarbonisation alternatives. However, with prudent project selection and regional diversification, the Company can mitigate these risks while leveraging the overall growth in Europe's hydrogen economy across transport, industry, heating/power - far outweighing any countervailing trends.

### Reputation risks and opportunities

As an Article 9 climate impact fund, the Company is well positioned to gain a strong reputation. Its status as a certified sustainable fund fully focused on the hydrogen economy shows leadership on climate action. However, the Company must continue to proactively communicate and demonstrate its concrete actions to accelerate sustainability transitions across the European economy. More broadly, the Company needs to continue to showcase tangible evidence across its Private Hydrogen Assets of driving decarbonisation progress in transport, heating, and industry. As well as reducing emissions, it should continue to highlight any contributions to climate adaptation via resilience solutions.

The Company is a vocal sustainability leader in Europe's hydrogen space - supporting the necessary systemic transformations to a net zero future. Leadership vision with measurable outcomes will remain critical to managing reputation risks and realising the full market potential of its lower-carbon offerings.

# Risk management



## Pre-investment risk identification and assessment

The Company conducts bottom-up sustainability risk assessments for individual assets analysing location, emissions, and exposure to physical and transitional risks through a series of ESG screens. This asset-level analysis is supplemented by top-down identification of strategic risks across the portfolio informed by ESG data, third-party research, and assessment of sustainability megatrends. As part of the pre-investment due diligence process, the Company follows procedures to assess the Principle Adverse Indicators (“PAIs”), which are sustainability metrics defined by the EU SFDR to detect harm, are considered. There are over 60 PAIs set out in EU SFDR, the majority of which are considered only when material, though some are mandatory for periodic reporting. The PAIs cover climate (e.g. GHG emissions), nature (e.g. pollutants and hazardous waste), human rights (e.g. compliance with global standards), social impact (e.g. gender pay gap) and many more. There is not always sufficient data to undertake a comprehensive review; in this scenario estimates and judgments are used to consider the likely impact of these indicators. This work not only informs the acquisition decision but also the ownership priorities if acquired. The results of the screening and due diligence work are considered by the investment committee prior to making a recommendation to the Board.

The Company has identified 21 PAIs for its portfolio companies. These are set out in the Company’s 2023 Annual Report, alongside its Annex V disclosures, and can also be found at <https://hydrogenonecapitalgrowthplc.com/sustainability/sustainability-related-disclosures/>

The Company has started utilising scenario analysis, for example applying the SSP1-2.6 scenario to evaluate implications of rapid decarbonisation for physical and transitional risks. Quantitative risk criteria include potential financial impacts evaluated through stress testing, likelihood percentages informed by historical data and projections, and measured Scope 1, 2, and 3 emissions. Qualitative factors cover reputation impacts, policy and legal implications determined through tracking, technology adaptation needs informed by regular assessments, and potential disruptions to operations or revenues. The combination of bottom-up and top-down sustainability and climate risk identification provides the Company with asset-level insights and an aggregated portfolio-wide view of key risk exposures.

## **EU taxonomy alignment**

Following the initial screen for a potential investment, a detailed assessment of alignment with the EU Taxonomy is undertaken by the Investment Adviser and reviewed by the Board. This assessment considers the potential investment's economic activity (turnover, operating expenses and capital expenditure) against the technical screening criteria in the EU Taxonomy. Once the substantial contribution criteria are established, an assessment of the 'do no significant harm' criteria is undertaken to ensure the other sustainability objectives in the EU Taxonomy are not inadvertently harmed by the investment's activities.

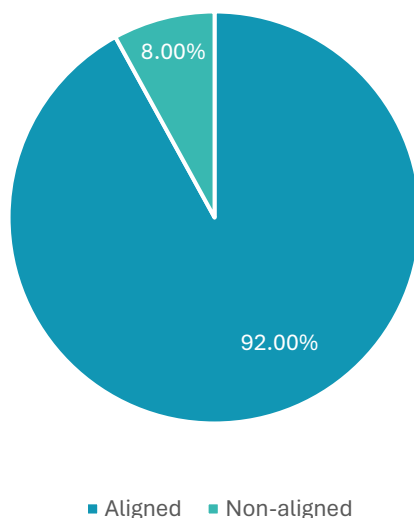
Engagement with the potential investee's management team is required to complete this assessment as it typically requires data that is not available publicly. Some inputs into this work are also qualitative and interviews with management provide the most insight.

The final step in this assessment is consideration of the minimum safeguards. The EU Taxonomy requires compliance with the OECD Guidelines for Multinational Enterprises and UN Guidelines for Business and Human Rights. Guidance from the EU Commission is applied in reviewing this. A significant part of this review covers social considerations, with a focus on human rights. All Private Hydrogen Assets provide affirmation that they have no convictions for any human rights offences, and all operate in developed jurisdictions with labour law compliance obligations. During the review, a focus was placed on the policies and procedures each company had in place to detect human rights abuses in the supply chain. This led to recommendations for improvement in some companies, an example would be the introduction of enhanced supplier due diligence.

During the year, the Company assessed its material existing investments for compliance with the EU Taxonomy as part of its classification as Article 9 under EU SFDR.

At the time of the assessment, the Company was compliant with the 75% minimum threshold it has set for alignment. As at 31 December 2023 the Company remains compliant with the portfolio 92% aligned with the EU Taxonomy. The 8% of non-alignment has been assessed against the relevant do no significant harm criteria in the EU Taxonomy and complies with these requirements. The non-alignment primarily relates to pre-existing revenue streams in one portfolio company that is separate from the core hydrogen focus.

## Aggregate EU Taxonomy Alignment



### Risk prioritisation

Sustainability and climate-related risks are integrated into the Company’s overall enterprise risk management framework and prioritised based on impact and likelihood, regardless of risk type. This means sustainability and climate risks are weighed equally to other risks like cybersecurity or governance based on potential business impact.

However, for assets with high transition or physical risk, climate factors may be the priority exposure requiring mitigation. The Company conducts regular analyses at both the asset and company level to enable tailored decisions based on the unique risk profile of each investment.

This integrated approach allows the Company to manage sustainability and climate-related risks alongside other material business risks in a holistic fashion.

### Post-Investment risk monitoring

The Company has established a robust engagement and monitoring process to ensure that the sustainability strategy is effectively implemented and that any findings from the pre-investment due diligence process are properly addressed. To achieve its sustainable investment objective, the Company has set key metrics, including scope 1, 2, and 3 greenhouse gas emissions and avoided emissions. These metrics serve as the foundation for monitoring the portfolio's performance, alongside tracking the relevant PAIs.

In order to accurately monitor these metrics, the Company has implemented a comprehensive engagement strategy with its Private Hydrogen Assets throughout the year. This strategy aims to secure commitment from these companies to collect and provide the necessary data. Additionally, the Company has partnered with a third-party service provider to assist with data collection, processing, and reporting. For many Private Hydrogen Assets, 2023 marks the first year that their greenhouse gas emissions have been calculated, establishing a crucial baseline. The groundwork laid during the year will pave the way for the development and implementation of effective greenhouse gas reduction strategies in the coming 12 months.

The Company monitors sustainability and climate-related risks across the portfolio through regular reviews. These reviews closely track changes in policy developments in key jurisdictions, as well as physical climate factors. Emissions are monitored annually, with interim updates to track progress against reduction targets. In addition to interim monitoring, the Company conducts annual in-depth assessments of Private Hydrogen Assets to evaluate performance on sustainability KPIs and identify any emerging risks. This combination of frequent quarterly monitoring and comprehensive annual assessments provides a multi-faceted approach to risk management.

To further enhance risk oversight, the Company monitors results across physical, transitional, and emissions factors, enabling the tracking of changes over time. This regular monitoring provides the Company with dynamic oversight of risk trajectories across its portfolio. Expanding monitoring processes through enhancements like scenario analysis provides the Company with increasingly robust sustainability and climate risk oversight capabilities.

### **Opportunity identification**

The Company identifies sustainability and climate-driven opportunities through analysis of hydrogen market growth projections, assessment of government policy support for low emission solutions, and monitoring of emerging hydrogen-related technologies.

The Company evaluates opportunities based on addressable market size, competitive landscape, projected growth, and strategic relevance. Prioritisation considers dimensions like growth potential, feasibility, and portfolio fit.

Leading indicators tracked for opportunity monitoring include new partnership announcements, and capacity expansion plans indicating accelerating momentum. The opportunity identification process helps align the Company's strategy and investments with growing sustainability and climate-driven market demand.

### **Integration with risk management**

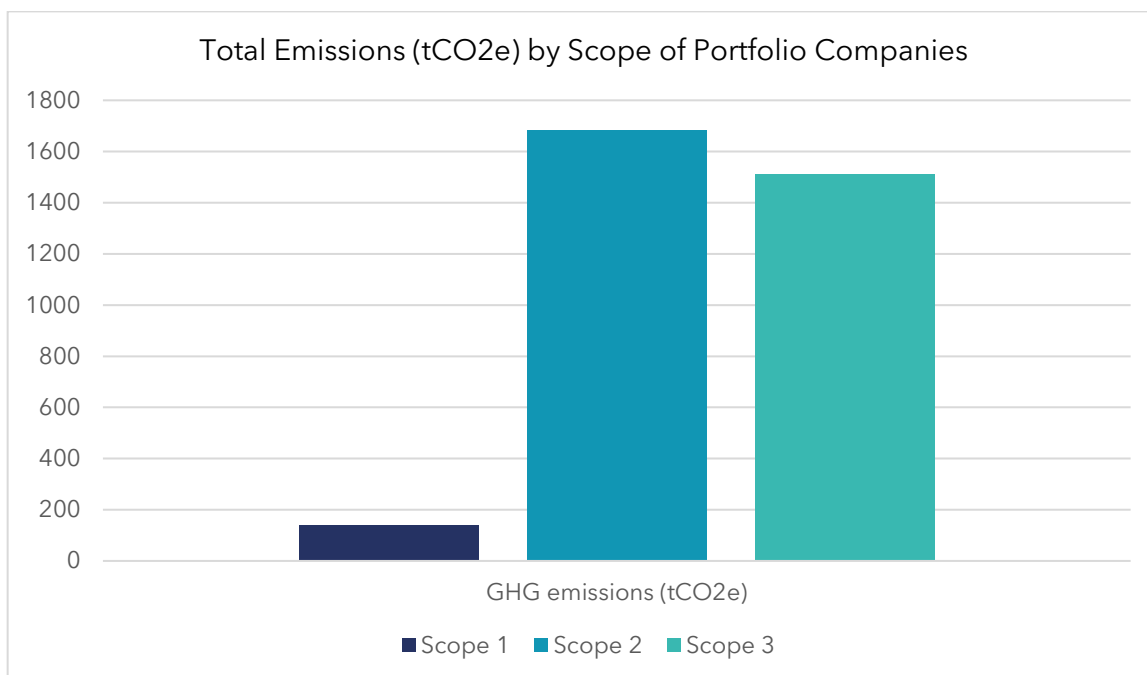
The Company integrates sustainability and climate-related risk identification and opportunity assessment fully into its enterprise risk management framework through consolidated risk reporting, coordinated oversight by the Board, and application of consistent prioritisation criteria across risk types.

This enables the Company to weigh sustainability and climate factors appropriately within its holistic risk profile and corporate strategy. Sustainability is not isolated, but embedded across the Company's integrated governance, risk analysis, and strategic planning processes.

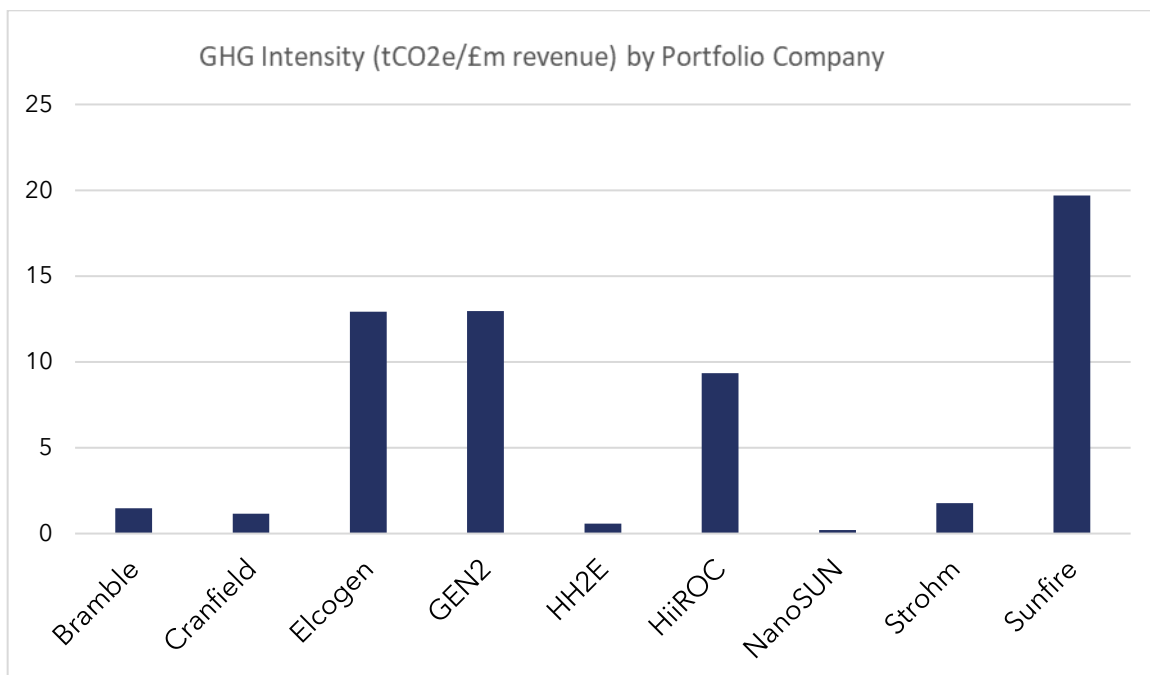
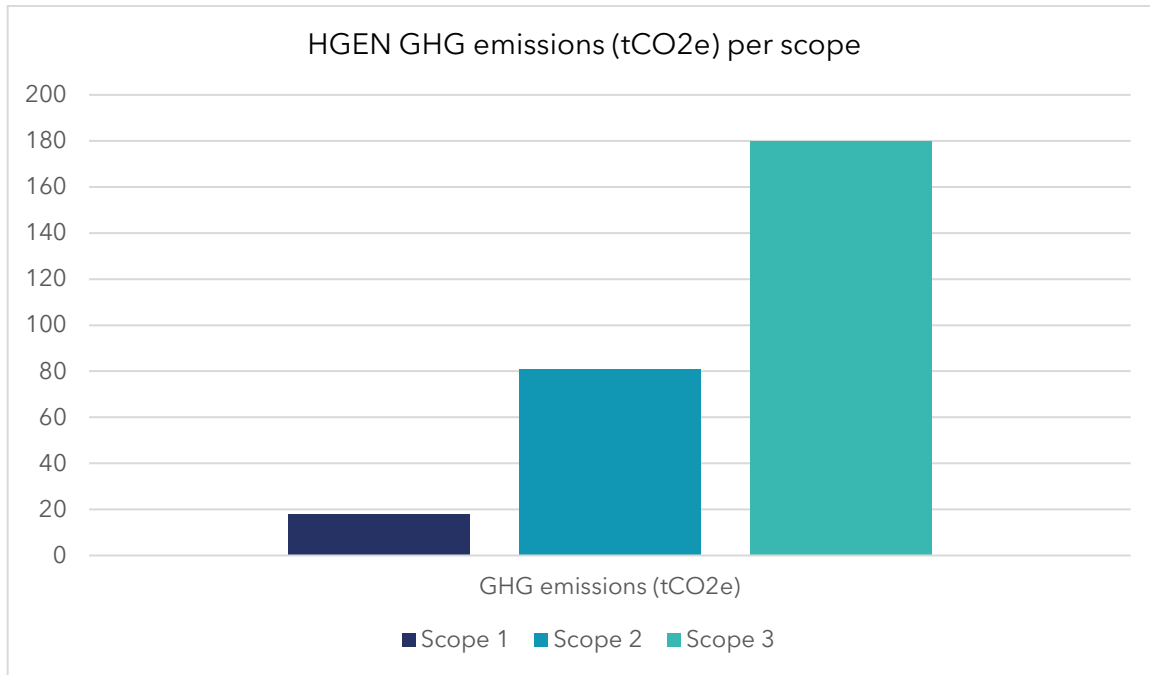
# Metrics and targets

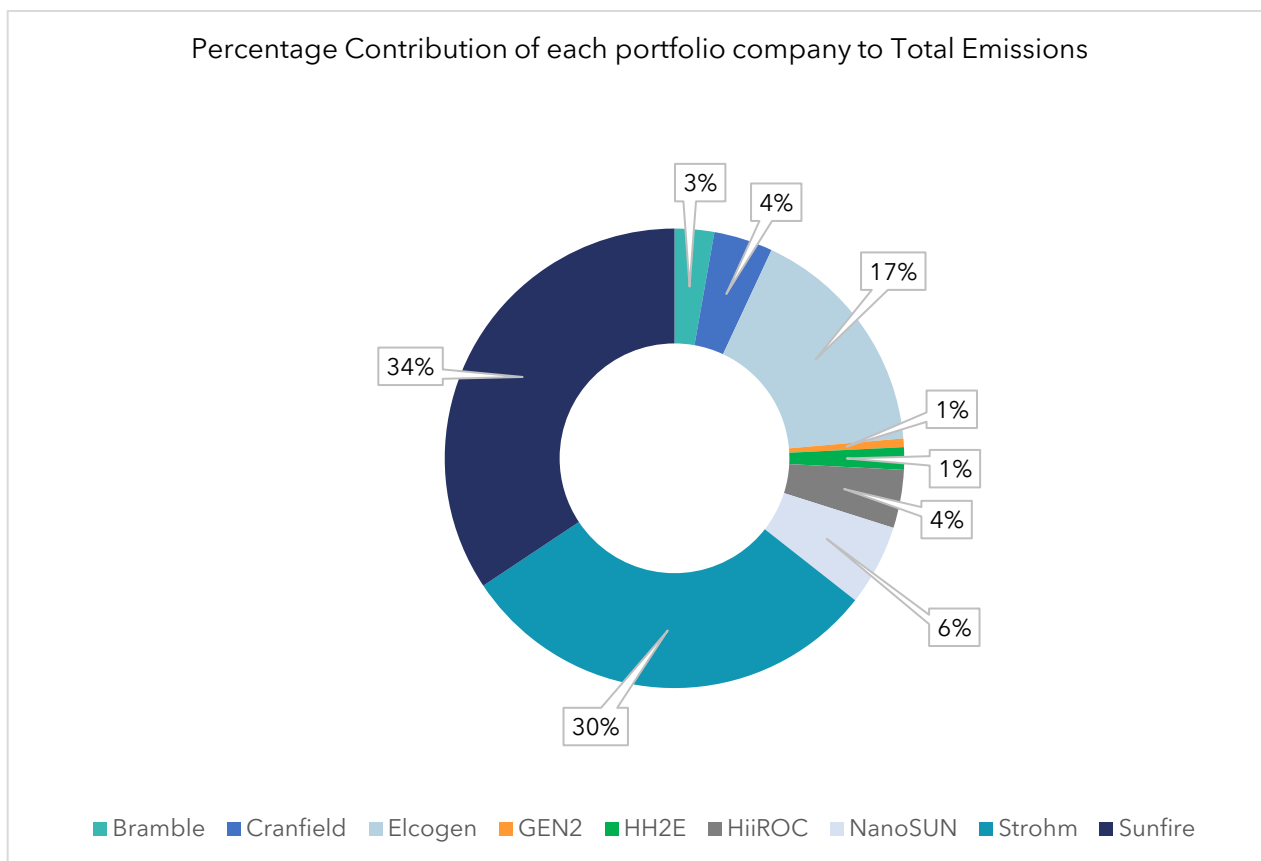
## Highlights

- £113.7m deployed in low-carbon growth for avoided GHG since IPO
- £132.7m Net Asset Value
- SFDR Article 9 Climate Impact Fund
- 91,116 tonnes of Greenhouse Gas (tCO<sub>2</sub>e) emissions avoided
- 92% alignment with EU Taxonomy (2022: 89%)
- Potential 571,294 MWh lifetime clean energy capacity
- 1,406 jobs supported
- 0.59 MW of units sold (fuel cells and electrolyzers)
- Scope 1: 18 tCO<sub>2</sub>e (2022: 48 tCO<sub>2</sub>e)
- Scope 2: 81 tCO<sub>2</sub>e (2022: 28 tCO<sub>2</sub>e)
- Scope 3: 180 tCO<sub>2</sub>e (2022: 134 tCO<sub>2</sub>e)
- Total GHG Emissions: 279 tCO<sub>2</sub>e (2022: 210 tCO<sub>2</sub>e)
- Carbon footprint (tCO<sub>2</sub>e/£m investments value): 2.2 tCO<sub>2</sub>e/£m (2022: 1.9 tCO<sub>2</sub>e/£m)
- GHG Intensity of Private Hydrogen Assets (tCO<sub>2</sub>e/£m revenue): 55.3 tCO<sub>2</sub>e/£m (2022: 0.82 tCO<sub>2</sub>e/£m)
- Energy Use - UK: 268,669 kWh (2022: 93,383 kWh)
- Energy Use - Global: 2,157,604 kWh (2022: 750,563 kWh)









### Measurement approach

GHG emissions across Scope 1, 2, and 3 are calculated in alignment with the Greenhouse Gas Protocol Corporate Standard, applying the equity share consolidation approach for Private Hydrogen Assets. Activity data is collected through direct engagement with the management teams of portfolio assets to compile energy usage, refrigerant leaks, business travel activities and other parameters over a specific period. This primary data is then combined with trusted emission factors from sources such as the UK Department for Environment, Food & Rural Affairs ('UK DEFRA'), and country specific electricity grid GHG emission factors to derive total emissions. Investments into climate solutions are directly tracked as capital deployed into qualified assets that enable the global energy transition. This leverages the Company's formal classification under EU SFDR Article 9 criteria for sustainable investment.

By adhering to internationally recognised GHG quantification standards, conservative displacement assumptions and regulated sustainable investment categories, the Company aims to accurately measure environmental performance as processes progressively enhance underlying data quality and model inputs.

### Environmental indicators

The Company discloses total GHG emissions across Scope 1, 2, and 3, providing transparency into both operational and portfolio-related climate impacts. Scope 1 covers Private Hydrogen Assets' direct emissions from activity under their control, Scope 2 stems from purchased energy, and Scope 3 represents indirect emissions from Private Hydrogen Assets' supply chain. The majority of emissions encompassing various categories within the investment portfolio, are represented by Scope 3, making it a primary focus for the Company. The total Scope 3 emissions of 180 tCO<sub>2</sub>e from Private Hydrogen Assets cover different categories.

As an investment firm without an employed workforce, the Company calculates and reports Scope 3 Category 15 emissions which consist of the Scope 1, 2 and 3 emissions from its Private Hydrogen Assets.

For the FY 2023, the Company reported total GHG emissions of 279 tCO<sub>2</sub>e spanning Scope 1, 2 and 3. It also tracked emissions intensity metrics including 2.2 tCO<sub>2</sub>e per million pounds invested and 55.3 tCO<sub>2</sub>e per million pounds of revenue, and it holds no shares in fossil fuel companies, aligning its portfolio with climate goals.

The Company takes a rigorous approach to emissions measurement, engaging Private Hydrogen Assets and using external providers, however some estimations are still required where data gaps exist. As sustainability measurement matures, the Company plans to obtain third-party verification to provide further confidence in reported emissions figures. For now, established frameworks guide its calculations to ensure accuracy.

## Disclosure of Scopes

Number of Private Hydrogen Assets Disclosing	2023	2022
<b>Scope 1</b>	5	4
<b>Scope 2</b>	7	5
<b>Scope 3</b>		
<b>Category 1:</b> Purchased Goods and Services	0	0
<b>Category 2:</b> Capital Goods	0	0
<b>Category 3:</b> Fuel- and Energy-Related Activities Not Included in Scope 1 or Scope 2	0	0
<b>Category 4:</b> Upstream Transportation & Distribution	3	3
<b>Category 5:</b> Waste generated in Operations	6	5
<b>Category 6:</b> Business Travel	6	8
<b>Category 7:</b> Employee Commuting	4	4
<b>Category 8:</b> Upstream Leased Assets	5	5
<b>Category 9:</b> Downstream Transportation & Distribution	1	1
<b>Category 10:</b> Processing of Sold Products	0	0
<b>Category 11:</b> Use of Sold Products	0	0
<b>Category 12:</b> End-of-life treatment of Sold Products	0	0
<b>Category 13:</b> Downstream Leased Assets	0	0
<b>Category 14:</b> Franchises	0	0

The GHG emissions data disclosed by the Company's Private Hydrogen Assets was consistent from 2022 to 2023. The chart above shows the coverage of each scope by number of Private Hydrogen Assets providing data. The portfolio scopes 1-3 should sit under the Company's Scope 3 Category 15 line but, in line with SFDR, these emissions have been presented on a look-through basis to provide more insight (e.g. the portfolio company's scope 1 is aggregated into the Company's scope 1). The scope disclosures were similar across both years. The Private Hydrogen Assets primarily disclosed emissions data related to Scope 1 direct emissions and Scope 2 indirect emissions from purchased energy. For Scope 3 indirect emissions, most data disclosed by the Private Hydrogen Assets was related to Categories 4 through 9, covering emissions from transportation, waste, business travel, employee commuting, upstream leased assets, and downstream transportation and distribution.

The aim of this analysis is to expand the emissions data coverage on activities across the Private Hydrogen Assets and disclose more complete information across different Scope 3 categories. This will be achieved by collecting additional data from the Private Hydrogen Assets.

It should be noted that the Private Hydrogen Assets are not expected to have emissions related to downstream leased assets, franchises, or investments (Scope 3 Categories 13-15) based on their business activities.

## Social metrics

For 2023, the Company reported on key social metrics across its investment Private Hydrogen Assets to complement environmental disclosures, provide a comprehensive sustainability profile, and enable assessment against responsible investment principles. In terms of human rights, 44% of capital has been invested in entities that do not yet have a formal human rights policy in place. This indicates an area for further improvement through active engagement. In relation to health and safety, 1.26 days were lost to injuries, accidents, or fatalities across the aggregated portfolio asset base in the reporting period. While additional indicators will be monitored moving forward, these initial human rights and safety metrics offer an overview of social performance while providing focus areas for ongoing improvement through target-setting and company engagement. Importantly, there were no reported violations of UN Global Compact principles or OECD guidelines for responsible business conduct across the Company's portfolio. Tracking issues like policy alignment, safety, and global code adherence promotes accountability to ethical investment standards.

## Strategy and performance metrics

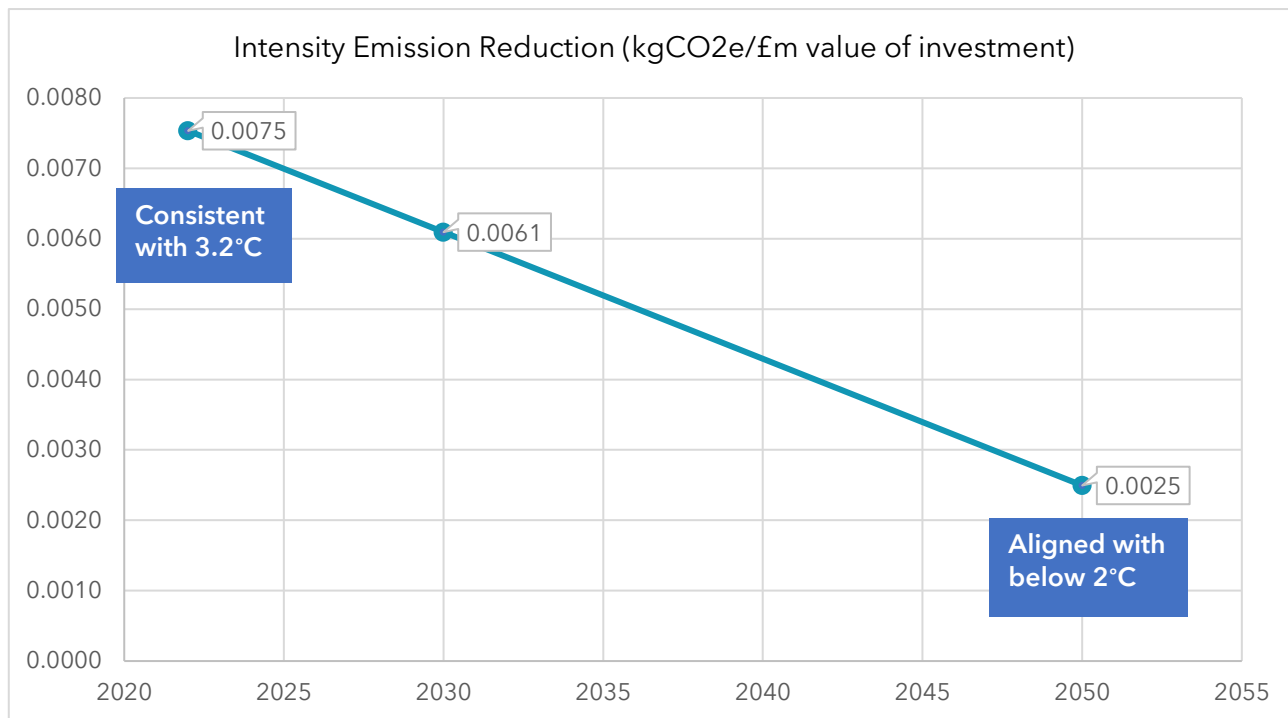
The Company utilises key metrics aligned with reporting frameworks to monitor sustainability and climate-related risks, opportunities, and outcomes. This includes GHG emissions as well as avoided emissions and investments enabling the energy transition. Both absolute metrics and normalised ratios are employed to enable multi-dimensional performance tracking.

By following widely accepted methodologies, the Company aims to quantify sustainability factors in a robust manner however limitations still exist in areas like data availability. Improvement efforts focus on enhancing data collection and refining assumptions over time. Third-party verification of metrics also remains a future objective as processes mature.

The Company's metrics aim to provide a rounded sustainability profile, measuring climate impacts along with the transition opportunities being seized. This coordinated set of indicators offers lenses into both risks and possibilities as the Company executes its strategy.

## Net Zero approach

The Company recognises the imperative to further reduce emissions from its portfolio in line with the global net zero by 2050 goal. To quantify its fair share, an analysis has been conducted to model the emissions reduction path required across the portfolio consistent with limiting warming well below 2 °C. The assessment was conducted setting a baseline year of 2022 and timeline of 2050 for temperature alignment.



The reduction approach involved calculating each portfolio company's total kgCO<sub>2</sub>e across Scopes 1, 2 and 3. That absolute emissions figure was divided by the total value (in GBP) of the Company's investment in each portfolio company. The aggregates of those emissions and investments were used to determine a weighted-average emissions intensity per million GBP value of investment at the fund level.

The analysis found a 66% decrease in this weighted emissions intensity by 2050, compared to 2022, represents the depth of decarbonisation alignment needed. Interim intensity reduction milestones were also established, targeting a 0.0061 kgCO<sub>2</sub>e/£m value of investment by 2030 to remain on track. Achieving 0.0025 kgCO<sub>2</sub>e per million GBP value of investment by mid-century reflects the Company's proportional share modeled to meet economy-wide climate goals.

This tailored net zero calculation methodology enables the Company to promote standardised approaches to emission reductions planning aligned with latest climate science across its portfolio. By accounting for the unique attributes of each company, the Company institutes decarbonisation planning in Private Hydrogen Assets through its stewardship processes while allowing customised trajectories based on asset specifics. Progress will be tracked through the Company's monitoring of company disclosures. While complex to administer, this approach provides alignment, accountability, and flexibility to sustain emissions mitigation over the long-term.

## **Portfolio decarbonisation focus**

Given the Company's strategic focus, it has concentrated investments entirely in the clean hydrogen sector which is positioned to benefit from the low-carbon transition. This represents over £100 million allocated so far that is aligned with climate opportunities in transportation and beyond. While not applying an internal carbon price, the Company estimates the emissions reduction value of hydrogen investments compared to fossil fuel alternatives. It also engages Private Hydrogen Assets to incorporate ESG metrics into executive remuneration schemes. As an investment firm rather than operating company, industry-specific metrics are not applicable. The Company focuses disclosure on cross-sector indicators related to its portfolio's climate profile and stewardship activities on sustainability issues like target-setting and data transparency. By concentrating capital allocation exclusively in climatetech, estimating enabled emissions avoidance, and promoting climate-conscious governance, the Company embeds climate considerations strategically across its business model and portfolio.

# Appendix I: Transition policies across Europe

European Policy	Overall Summary	
<p><b>EU Renewable Energy Directive (RED II)</b></p>	<p>The EU Renewable Energy Directive (RED II) is a major European policy that establishes legally binding targets for adoption of renewable energy. The goal is for renewables to meet 32% of total EU energy demand by 2030. To achieve this, RED II requires member states to enact policies and incentives aimed at significantly growing the share of renewables like wind, solar, hydropower and green hydrogen in their national energy mixes. This includes sub-targets for the use of renewable fuels in transportation. RED II also creates guarantees of origin for renewable gases like hydrogen so their renewable nature can be certified and traded. Notably, it mandates a certain percentage of the hydrogen used in industrial processes and transport must come from renewable sources, directly driving demand for green hydrogen production and distribution infrastructure. To facilitate deployment, RED II aims to simplify administrative processes for renewable project developers. The European Commission is granted authority to oversee member state policies and intervene if nations fall short of meeting their binding national renewable targets set under RED II. Overall, the directive uses mandatory EU-wide targets with member state policy action and Commission oversight to propel the adoption of renewables across Europe's energy system.</p>	
	<p><b>Transition Risks</b></p>	<p><b>Transition Opportunities</b></p>
	<ol style="list-style-type: none"> <li>1. Increased costs and supply chain disruption as companies shift to renewable energy.</li> <li>2. Declined demand for fossil fuels.</li> <li>3. Stranded assets if renewable transition is too rapid.</li> </ol>	<ol style="list-style-type: none"> <li>1. Incentives and mandates to expand renewable hydrogen production, storage, and distribution.</li> <li>2. Cost savings from falling renewable energy prices.</li> <li>3. New revenue streams from adopting renewable technologies.</li> </ol>
<p><b>EU Hydrogen Strategy</b></p>	<p>The EU Hydrogen Strategy is a detailed roadmap for scaling up hydrogen production and infrastructure across Europe. It aims to install at least 40 gigawatts of renewable hydrogen electrolyzers within the EU by 2030, with annual renewable hydrogen production reaching 10 million metric tonnes in the same timeframe. To drive deployment at this scale, the Hydrogen Strategy includes both binding targets and supporting measures. These include targets for hydrogen use by industry, mandates for hydrogen refuelling stations, and requirements for hydrogen blending into gas networks. The Strategy also outlines plans to develop hydrogen trading and transportation infrastructure such as pipelines to enable an EU-wide hydrogen market. Significant public and private investment will be needed, so the Hydrogen Strategy contains proposals for funding programmes, revenue mechanisms, and public-private partnerships. These would leverage NextGenerationEU funding alongside private capital to support large-scale hydrogen projects. The Strategy also aims to boost hydrogen demand in end-use sectors by requiring increased use in industries like steel and chemicals as well as applications like heavy transport. By combining targets, infrastructure plans, funding mechanisms and demand-pull policies, the EU Hydrogen Strategy provides a comprehensive blueprint to rapidly scale up renewable hydrogen production, distribution, storage, and utilisation across Europe.</p>	
	<p><b>Transition Risks</b></p>	<p><b>Transition Opportunities</b></p>
	<ol style="list-style-type: none"> <li>1. High upfront capital costs to scale up hydrogen production and distribution.</li> <li>2. Uncertainty about long-term policy support.</li> </ol>	<ol style="list-style-type: none"> <li>1. Public co-funding for large-scale hydrogen projects.</li> <li>2. Potential for EU-wide hydrogen infrastructure and trading.</li> <li>3. Advantage for first movers in the space.</li> </ol>

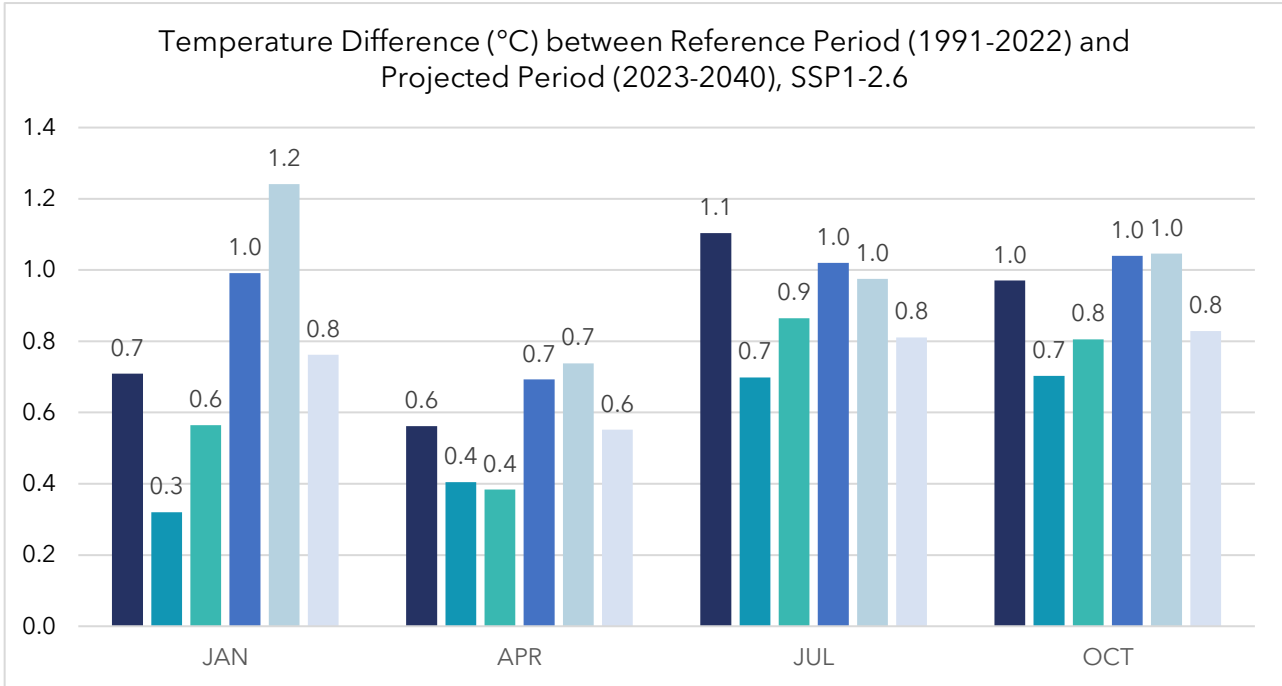
European Policy	Overall Summary	
<b>EU Emissions Trading System (ETS)</b>	<p>The EU Emissions Trading System (ETS) is a central pillar of Europe's climate policy. It operates as a cap-and-trade system, placing a limit on overall greenhouse gas emissions from covered entities. Major carbon-intensive industrial sectors like power generation, manufacturing, and aviation are regulated under the ETS. It requires these entities to surrender tradable permits for every ton of CO<sub>2</sub> they emit. The overall emissions cap consistently declines over time, requiring cuts in emissions. This cap reduction along with the trading system aims to drive investment in low and zero carbon technologies cost-effectively. Companies face a financial incentive to transition away from fossil fuels to reduce their need for emissions permits. The declining number of available permits also leads to an increasing carbon price over time. The economic pressure of rising carbon prices combined with the emissions ceiling encourages industries to adopt innovations like renewable hydrogen, energy efficiency, and carbon capture to stay competitive as the ETS cap tightens. Thus, the ETS uses carbon pricing and market mechanisms to achieve emissions reductions across some of Europe's highest emitting sectors.</p>	
	<b>Transition Risks</b>	<b>Transition Opportunities</b>
	<ol style="list-style-type: none"> <li>1. Increased operating costs for carbon-intensive industries covered by the ETS.</li> <li>2. Asset stranding if the cap is reduced too quickly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Incentive for industry to transition to low-carbon hydrogen for heating/feedstocks to reduce carbon costs.</li> <li>2. Generates revenue for governments to fund clean energy.</li> </ol>
<b>EU Energy Taxation Directive</b>	<p>The EU Energy Taxation Directive aims to align energy tax policy across the European Union and support climate goals by setting minimum tax rates for various energy products. Under the directive, fossil fuels including gasoline, diesel, natural gas, oil, and coal are required to meet higher minimum tax rates compared to electricity and other energy products. This relatively disadvantages fossil fuel energy sources to account for their higher environmental impacts and emissions. By making fossil-based energy more expensive through higher taxation, the directive incentivises a transition toward low-carbon energy sources and energy efficiency. The framework provides consistency across the EU, since member states must apply at least the minimum tax levels set forth. At the same time, countries are allowed to implement higher tax rates than those prescribed by the directive. The Energy Taxation Directive has undergone periodic revisions to progressively raise the minimum tax obligations in line with EU climate policy. Overall, the directive utilises tax policy applied in a harmonised way across the European Union to render fossil-based energy less competitive and drive the uptake of renewables and reduction of emissions aligned with long-term climate neutrality goals.</p>	
	<b>Transition Risks</b>	<b>Transition Opportunities</b>
	<ol style="list-style-type: none"> <li>1. Higher taxes on fossil fuels could negatively impact associated industries/consumers.</li> <li>2. Risk of carbon leakage if taxes divert production outside the EU.</li> </ol>	<ol style="list-style-type: none"> <li>1. Relative tax advantages for low-carbon energy sources spur adoption.</li> <li>2. Revenues generated can fund sustainable projects.</li> </ol>



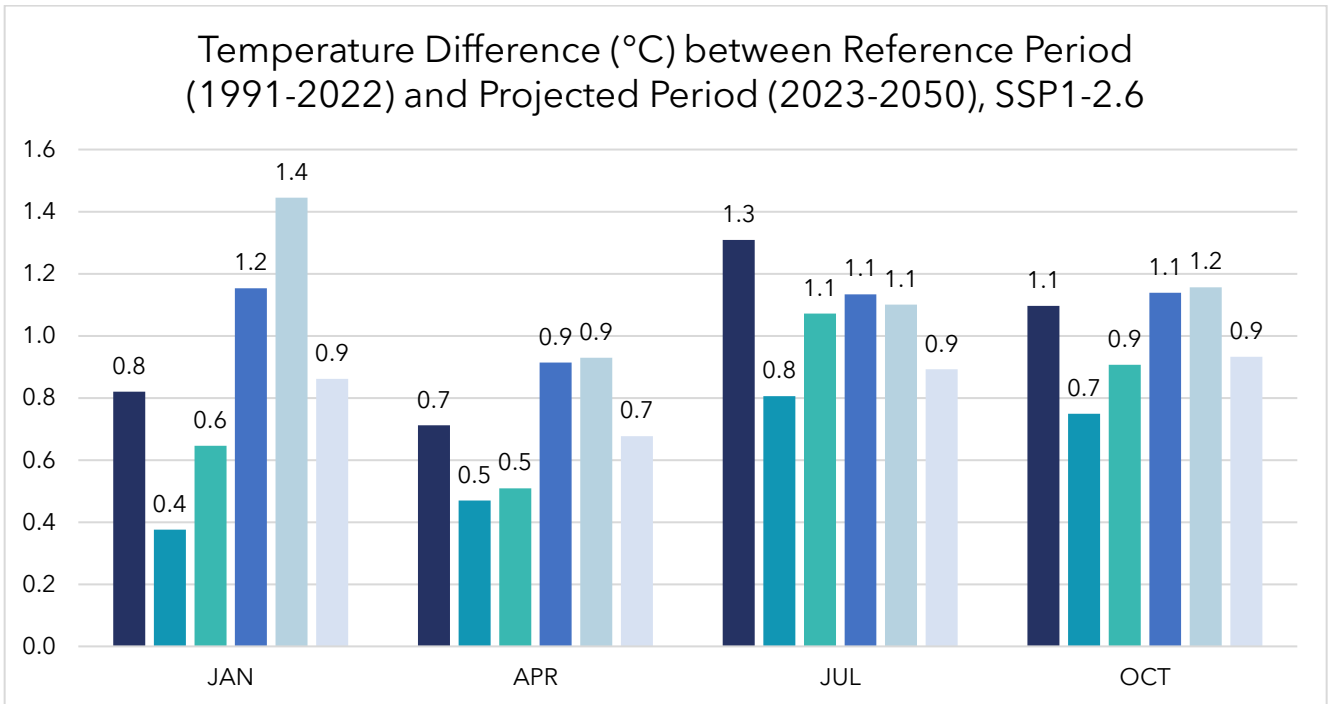
European Policy	Overall Summary	
<b>EU Renewable Energy Financing Mechanism</b>	<p>The EU Renewable Energy Financing Mechanism aims to accelerate deployment of renewables by helping to secure financing for new projects across the bloc. It will operate through the European Investment Bank to provide funding support including loans, loan guarantees, and equity financing for eligible renewable energy initiatives. The mechanism is slated to mobilise up to €1 trillion in sustainable investments by 2030. Renewable hydrogen projects are expected to be a key recipient. The large-scale capital needed to build out renewable hydrogen production plants and infrastructure can carry high risks and uncertainties that hamper financing. By offering improved financing terms and direct access to low-cost capital, the mechanism reduces these obstacles. In particular, loan guarantees and equity stakes lower risks for private investors to participate alongside the public funding. The mechanism utilises public finance to leverage much larger private capital inflows for renewables. With renewable hydrogen requiring major upfront capital expenditure, the mechanism provides critical tools to help drive scale-up by making financing easier to access and more affordable.</p>	
	Transition Risks	Transition Opportunities
	<ol style="list-style-type: none"> <li>1. Debt/equity risks associated with capital-intensive renewable energy projects.</li> <li>2. Burden on taxpayers if projects underperform.</li> </ol>	<ol style="list-style-type: none"> <li>1. Access to financing critical for scaling up high-cost technologies like green hydrogen.</li> <li>2. Accelerates overall adoption of renewables.</li> </ol>

# Appendix II: Scenario analysis – heat stress

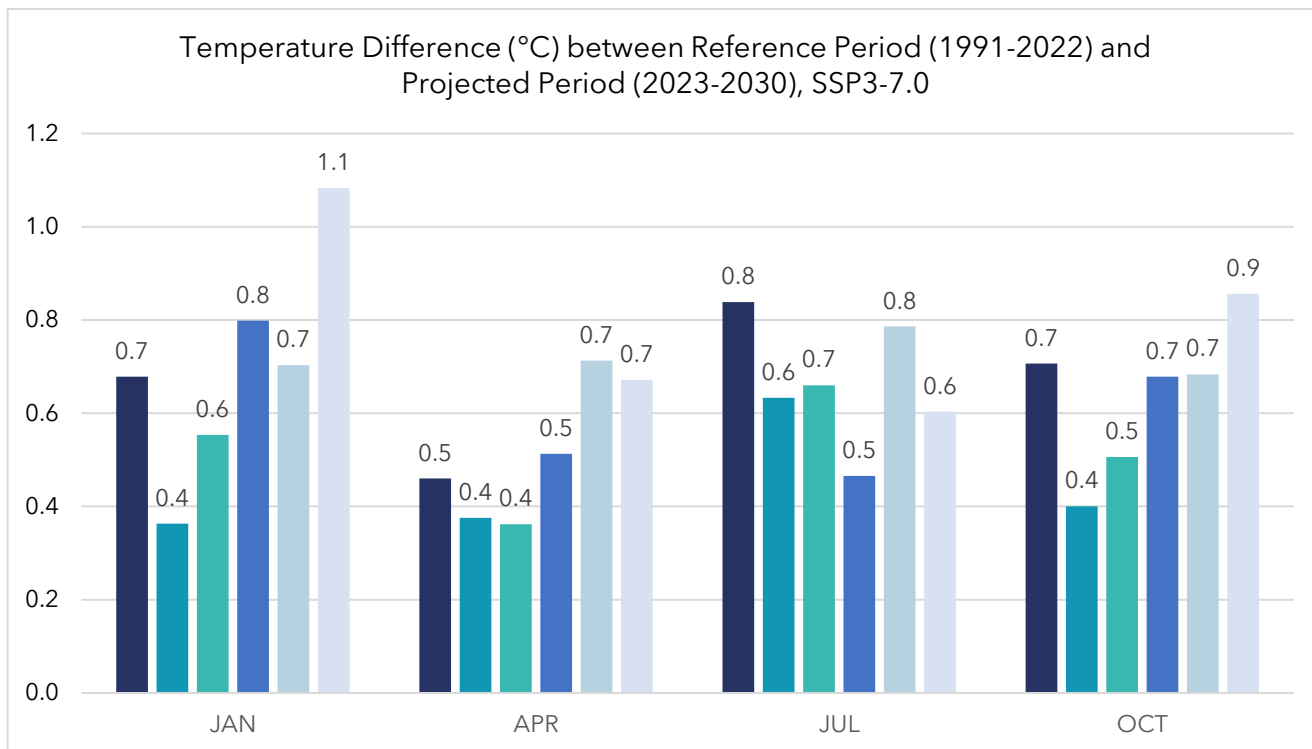
## 1. Scenario SSP1-2.6; 2040 Projection



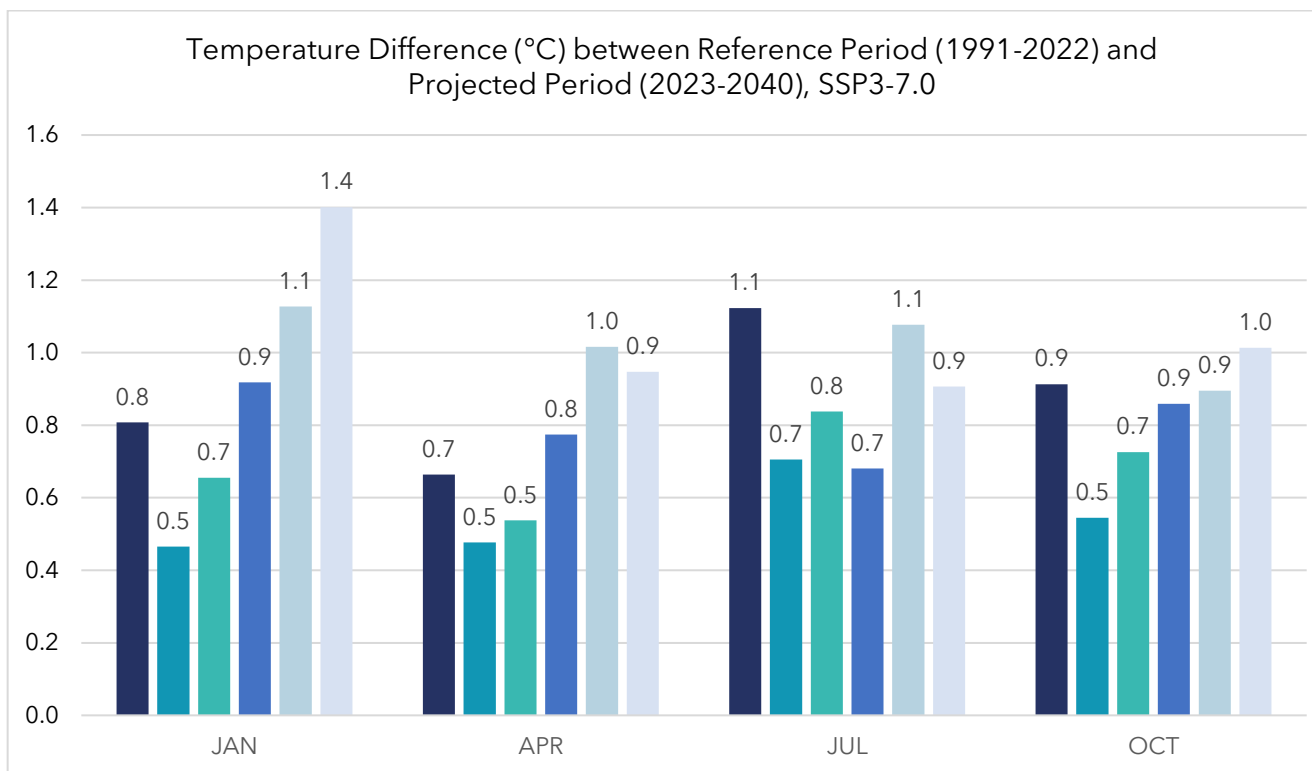
## 2. Scenario SSP1-2.6; 2050 Projection



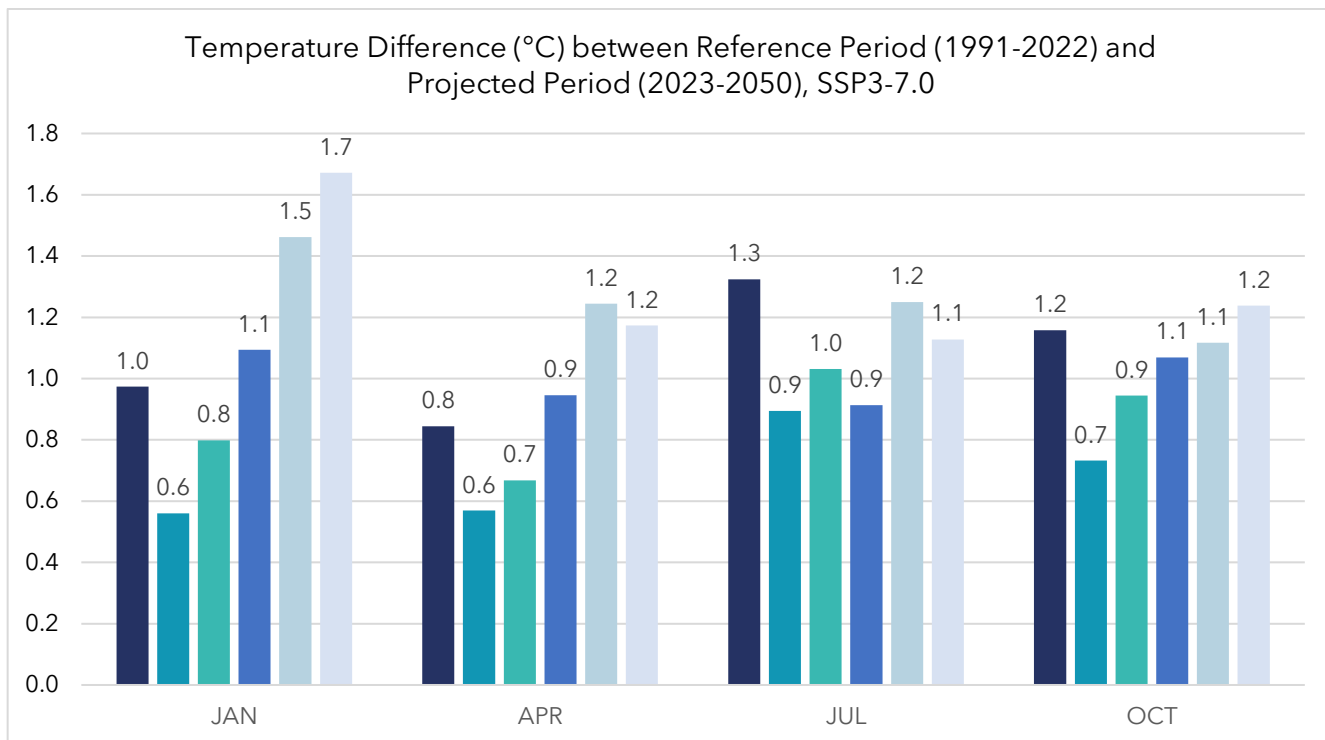
### 3. Scenario SSP3-7.0; 2030 Projection



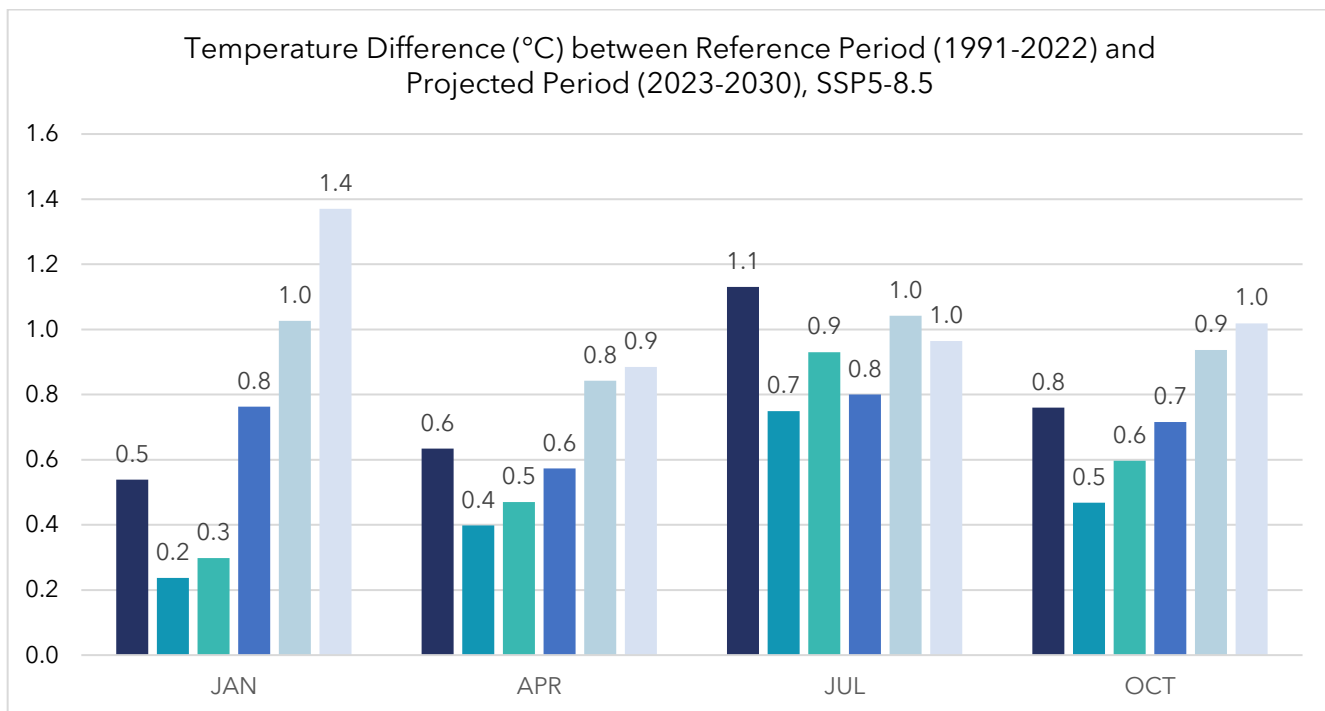
### 4. Scenario SSP3-7.0; 2040 Projection



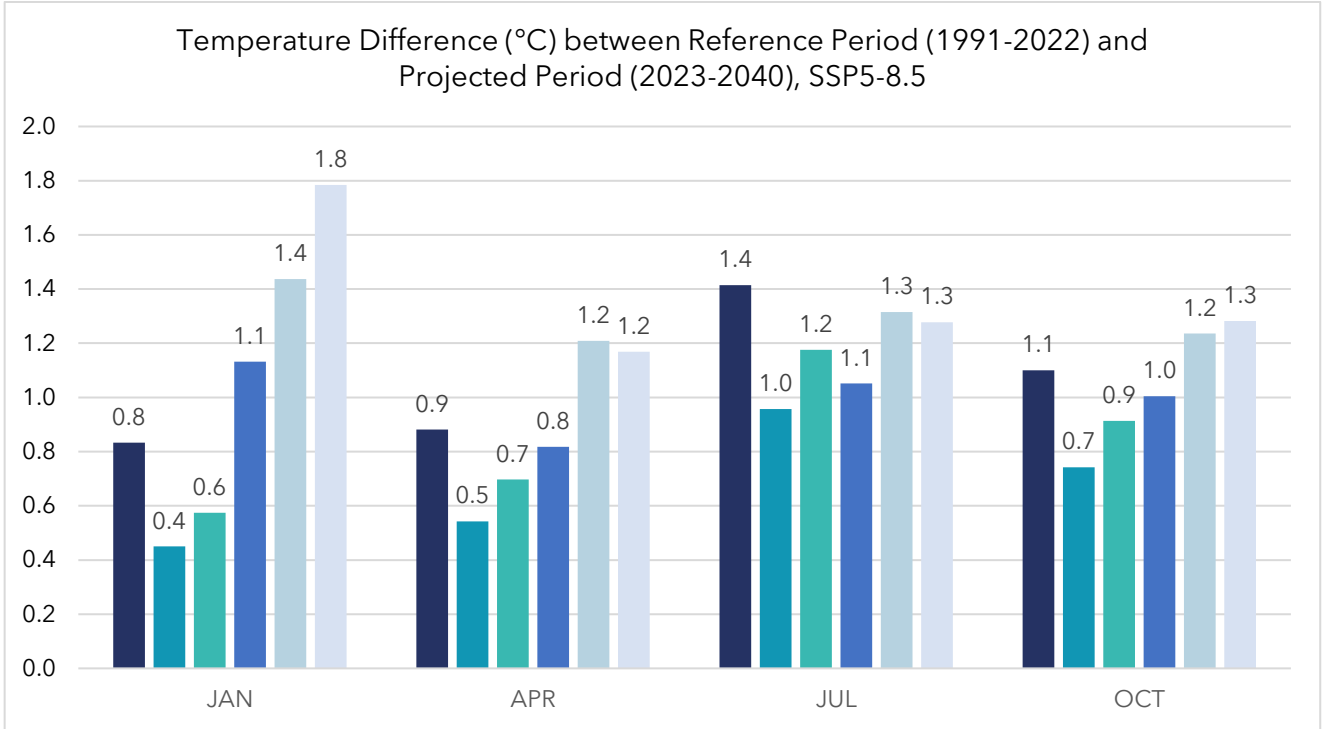
### 5. Scenario SSP3-7.0; 2050 Projection



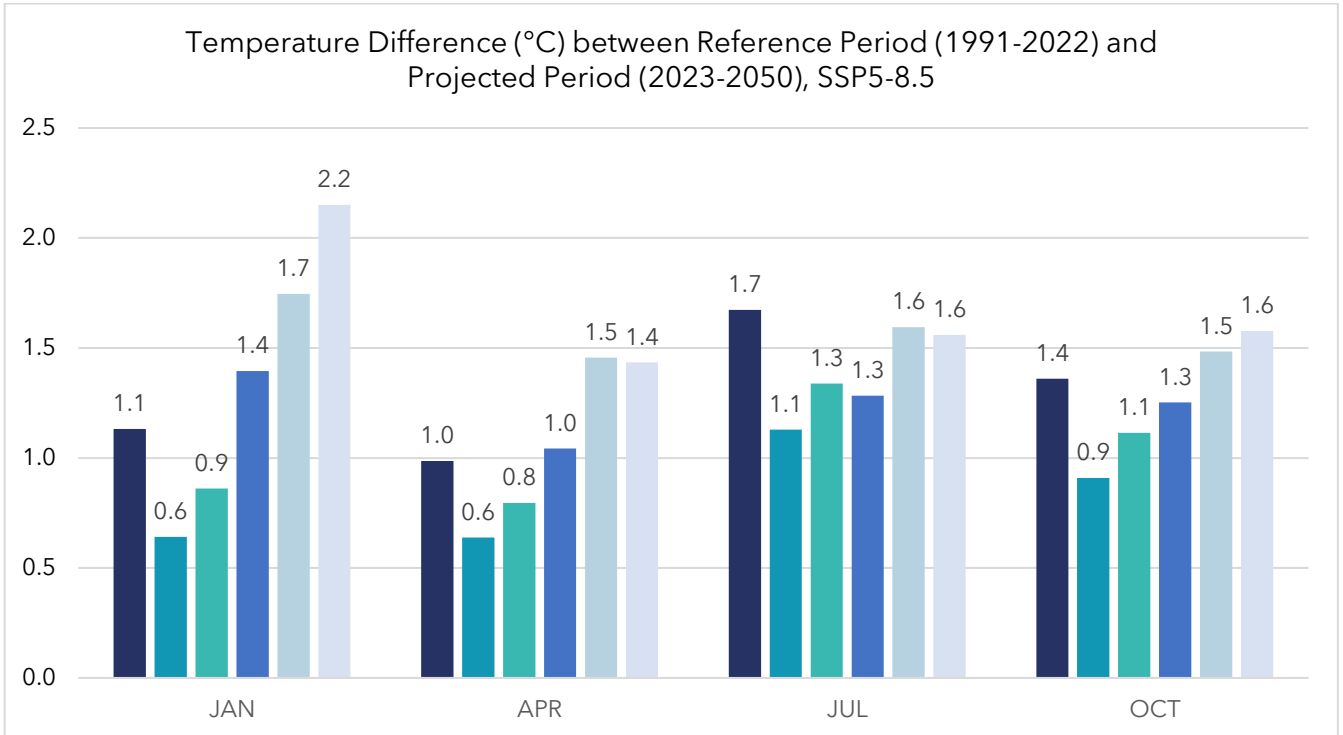
### 6. Scenario SSP5-8.5; 2030 Projection



### 7. Scenario SSP5-8.5; 2040 Projection



### 8. Scenario SSP5-8.5; 2050 Projection



# Appendix III: Scenario analysis – water stress

## 1. Scenario SSP1-2.6; 2050 Projection

**Water Stress** ● Extremely High (>80%) ● High (40-80%) ● Medium-high (20-40%) ● Low (<10%)



## 2. Scenario SSP3-7.0; 2030 Projection

**Water Stress** ● High (40-80%) ● Medium-high (20-40%) ● Low-medium (10-20%) ● Low (<10%)



### 3. Scenario SSP3-7.0; 2050 Projection

**Water Stress** ● High (40-80%) ● Medium-high (20-40%) ● Low-medium (10-20%) ● Low (<10%)





### 4. Scenario SSP5-8.5; 2030 Projection

**Water Stress** ● High (40-80%) ● Medium-high (20-40%) ● Low-medium (10-20%) ● Low (<10%)



## 5. Scenario SSP5-8.5; 2050 Projection

**Water Stress** ● Extremely High (>80%) ● High (40-80%) ● Medium-high (20-40%) ● Low-medium (10-20%) ● Low (<10%)

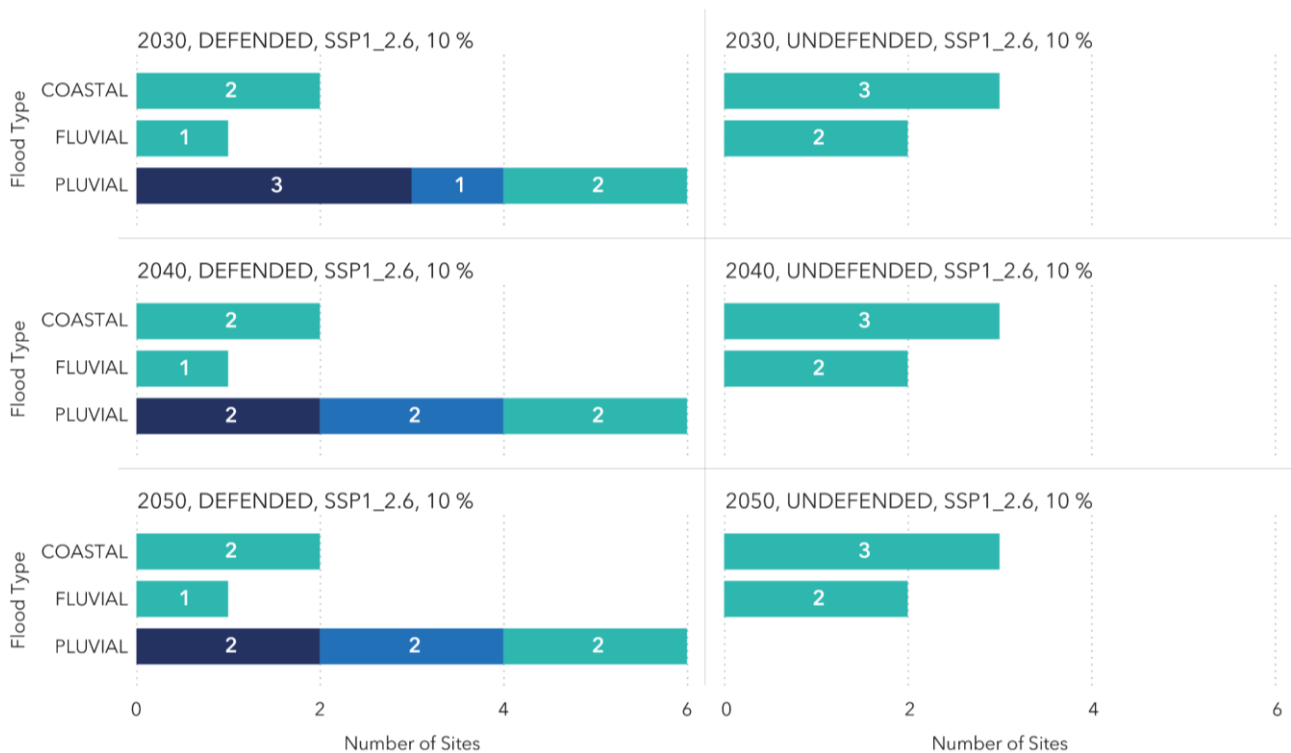


# Appendix IV: Scenario analysis – flood risk

The following charts illustrate the number of sites susceptible to various types of flooding, categorised by defended or undefended systems, at various scenarios and timeframes.

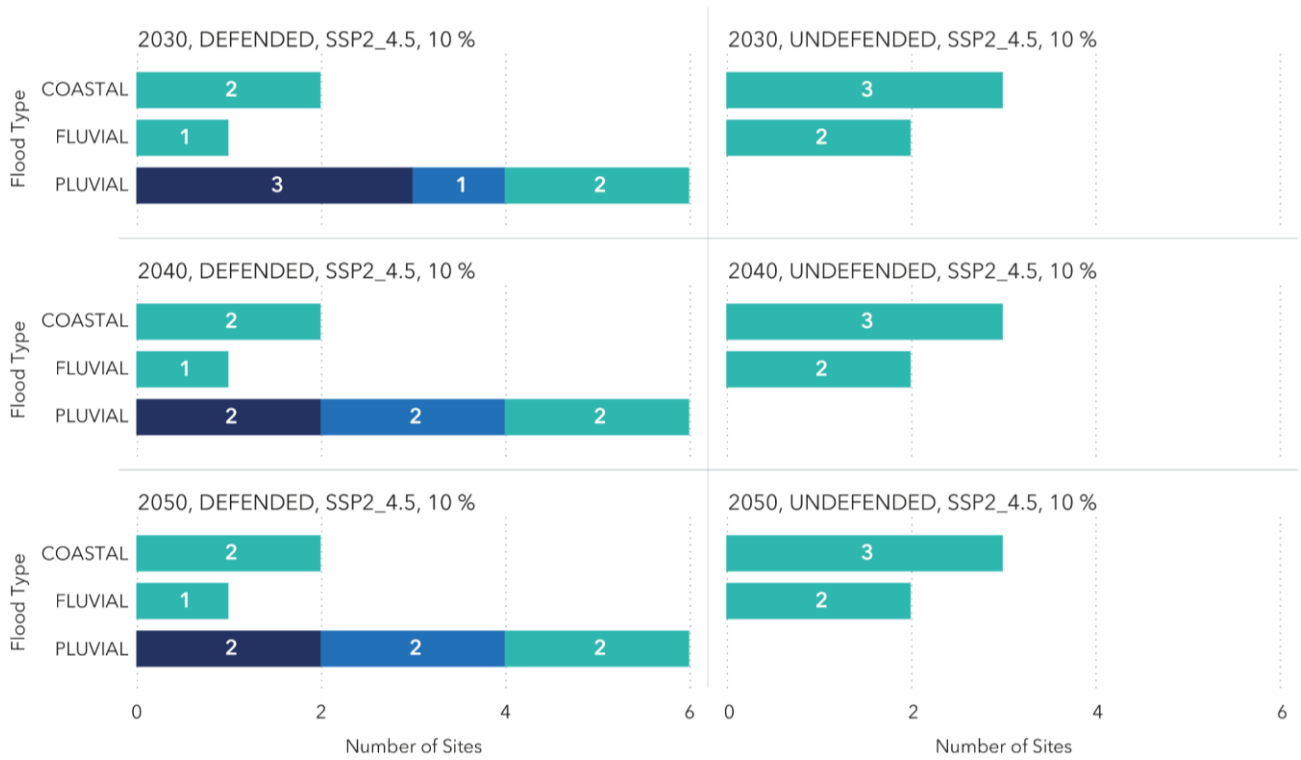
## Scenario SSP1-2.6

**Focussed Depth** ● < 20cm ● ≥ 20cm & < 50cm ● ≥ 50cm



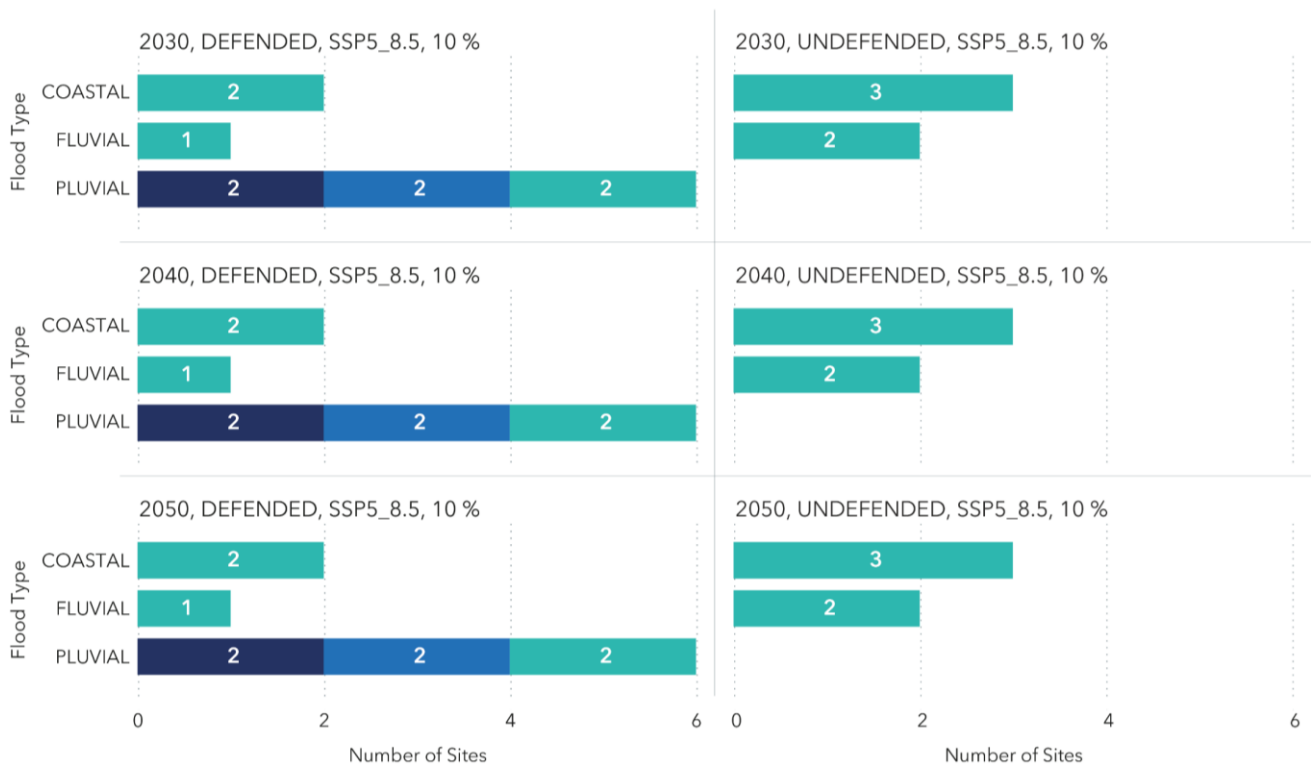
### Scenario SSP2-4.5

**Focussed Depth** ● < 20cm ● ≥ 20cm & < 50cm ● ≥ 50cm



### Scenario SSP5-8.5

**Focussed Depth** ● < 20cm ● ≥ 20cm & < 50cm ● ≥ 50cm



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