

HydrogenOne Capital Growth plc

SUSTAINABILITY REPORT 2024: ANNEXES

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Annex I: Transition Policies across Europe and the UK

European Policy	Overall Summary	
EU Renewable Energy Directive (RED III)	<p>The EU Renewable Energy Directive (RED III), which updates and strengthens RED II, is a major European policy that establishes legally binding targets for adoption of renewable energy. The goal is for renewables to meet 42.5% (with an aspiration to reach 45%) of total EU energy demand by 2030. Industrial H2 usage is set to be 42% green by 2030 and 60% 2035. To achieve this, RED III 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 III 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 III 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 III. 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>	
	Transition Risks	Transition Opportunities
	<ol style="list-style-type: none"> 1. Increased costs and supply chain disruption as companies shift to renewable energy. 2. Stranded assets if renewable transition is too rapid. 	<ol style="list-style-type: none"> 1. Incentives and mandates to expand renewable hydrogen production, storage, and distribution. 2. Cost savings from falling renewable energy prices. 3. Enhanced opportunities in industry sector with new requirements to increase renewable energy share in industrial final energy consumption.
EU Hydrogen Strategy	<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>	
	Transition Risks	Transition Opportunities

European Policy		
Overall Summary		
	<ol style="list-style-type: none"> High upfront capital costs to scale up hydrogen production and distribution. Uncertainty about long-term policy support. 	<ol style="list-style-type: none"> Public co-funding for large-scale hydrogen projects. Potential for EU-wide hydrogen infrastructure and trading. Advantage for first movers in the space.
EU Emissions Trading System (ETS)	<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 CO₂ 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>	
	Transition Risks	Transition Opportunities
	<ol style="list-style-type: none"> Increased operating costs for carbon-intensive industries covered by the ETS. Asset stranding if the cap is reduced too quickly. 	<ol style="list-style-type: none"> Incentive for industry to transition to low-carbon hydrogen for heating/feedstocks to reduce carbon costs. Generates revenue for governments to fund clean energy.
EU Energy Taxation Directive	<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>	
	Transition Risks	Transition Opportunities
	<ol style="list-style-type: none"> Higher taxes on fossil fuels could negatively impact associated industries/consumers. Risk of carbon leakage if taxes divert production outside the EU. 	<ol style="list-style-type: none"> Relative tax advantages for low-carbon energy sources spur adoption. Revenues generated can fund sustainable projects.

European Policy	Overall Summary	
EU Renewable Energy Financing Mechanism	<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"> 1. Debt/equity risks associated with capital-intensive renewable energy projects. 2. Burden on taxpayers if projects underperform. 	<ol style="list-style-type: none"> 1. Access to financing critical for scaling up high-cost technologies like green hydrogen. 2. Accelerates overall adoption of renewables.
UK Energy Act 2023	<p>The UK Energy Act 2023 is a comprehensive legislative framework that establishes the regulatory foundation for developing the UK's low-carbon hydrogen economy. The Act creates new regulatory frameworks for hydrogen transport and storage infrastructure, including powers to regulate hydrogen network operators and storage facilities. It introduces a licensing regime for hydrogen production and defines safety standards for hydrogen infrastructure. The Act also establishes legal frameworks for hydrogen business models and revenue support mechanisms. Notably, it gives government powers to regulate hydrogen heating trials and blending into gas networks. Through these provisions, the Act creates the legislative and regulatory certainty needed for scaling hydrogen infrastructure and production, while ensuring safety and consumer protection in the emerging hydrogen market.</p>	
	Transition Risks	Transition Opportunities
	<ol style="list-style-type: none"> 1. Regulatory compliance costs as new hydrogen standards and licensing requirements are implemented 2. Investment uncertainty during the detailed development of secondary legislation 3. Potential delays in infrastructure deployment due to new permitting processes 	<ol style="list-style-type: none"> 1. Clear regulatory framework providing certainty for hydrogen infrastructure investments 2. Legal basis for hydrogen business models enabling project development 3. Framework for hydrogen network development creating new infrastructure opportunities

Annex II: Scenario analysis – heat stress

Heat stress

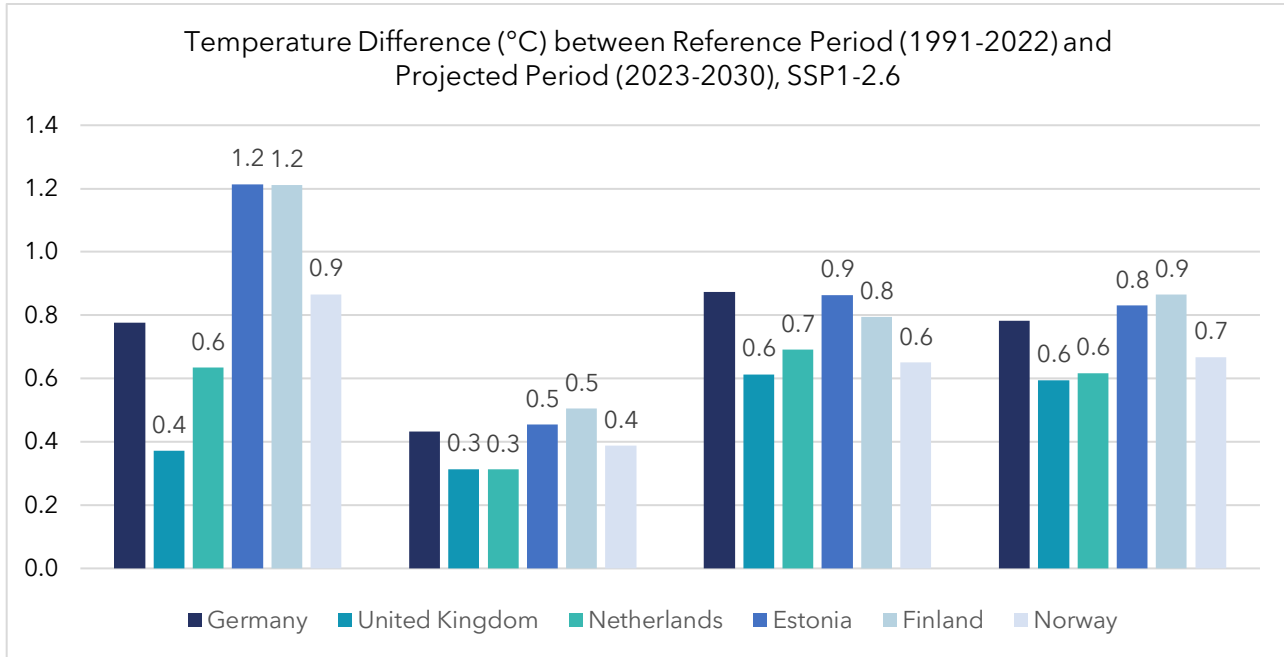
Demand for products and services delivered by the Company's portfolio is exposed to heat stress. Extreme heat events could impact hydrogen storage, distribution, and manufacturing projects due to the high temperatures and environmental conditions they produce. Additionally, extreme heat could degrade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

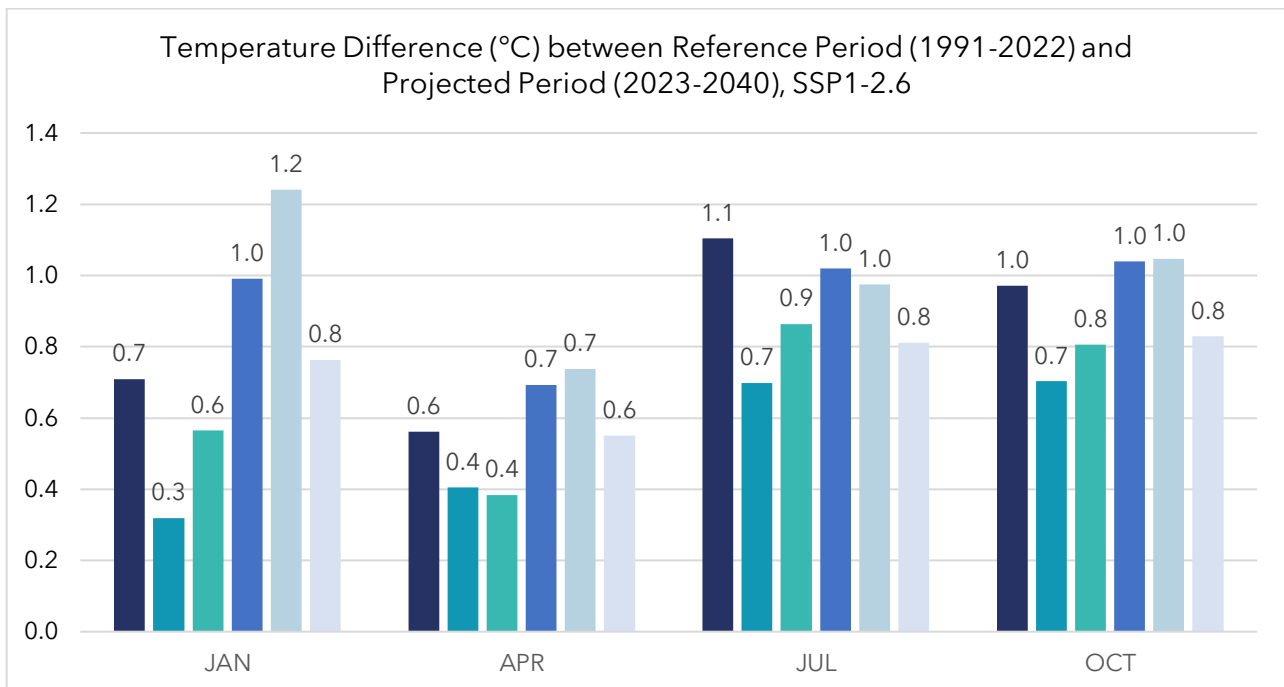
The results indicate an overall increasing trend of 0.3-1.2°C in average maximum temperatures from 2023-2030 relative to 1991-2022 historical baselines under the optimistic scenario. Finland and Estonia saw the highest average increase of 1.2°C during the month of January. Norway and the UK saw the least 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.

Overall, the Company faces relatively low physical heat stress risk exposure since the highest increase between the reference period and projected period is of 1.2°C. 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 and response plans can improve resilience.

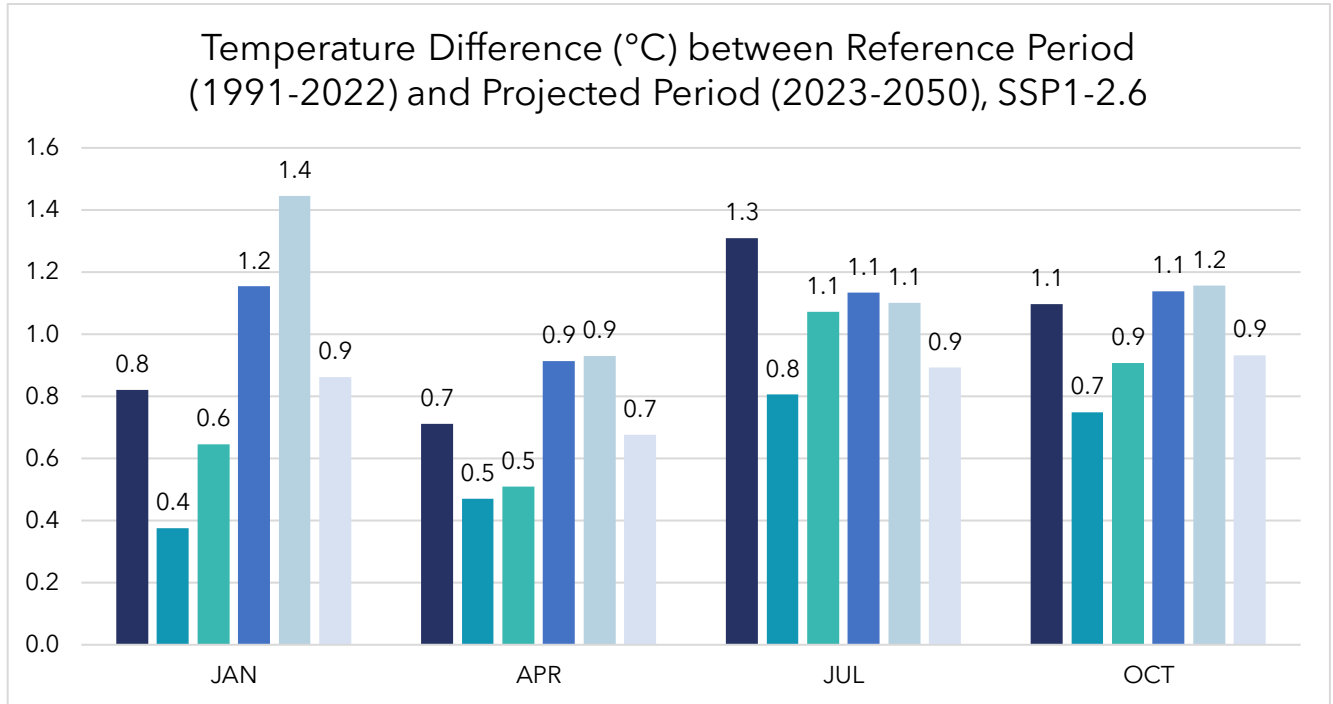
1. Scenario SSP1-2.6; 2030 Projection



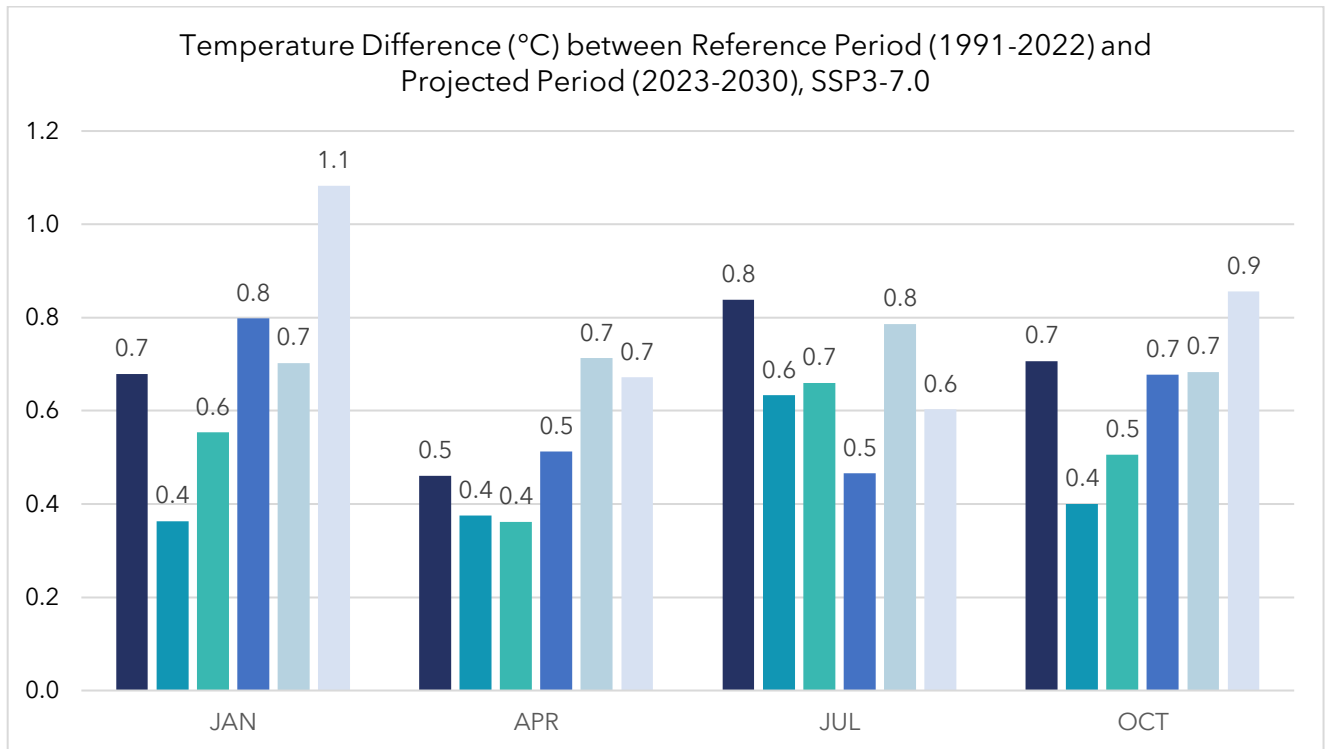
2. Scenario SSP1-2.6; 2040 Projection



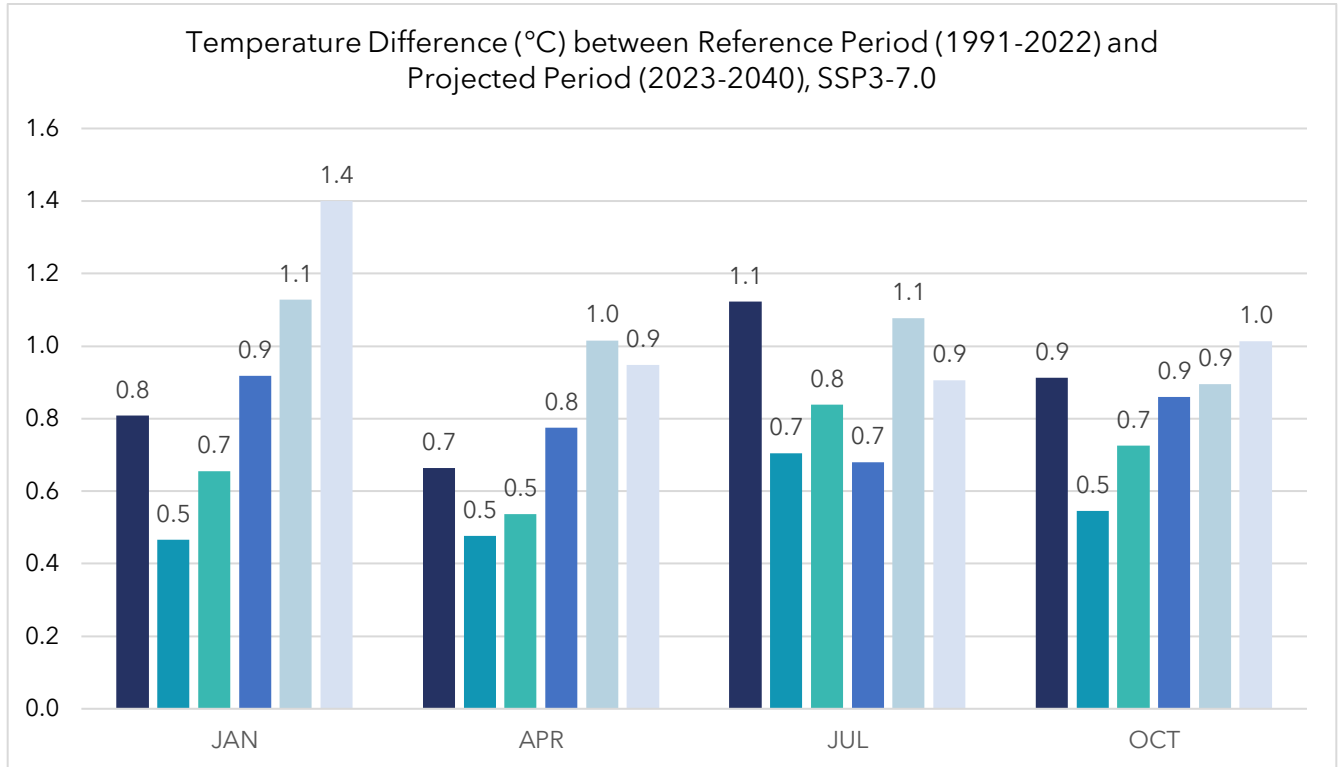
3. Scenario SSP1-2.6; 2050 Projection



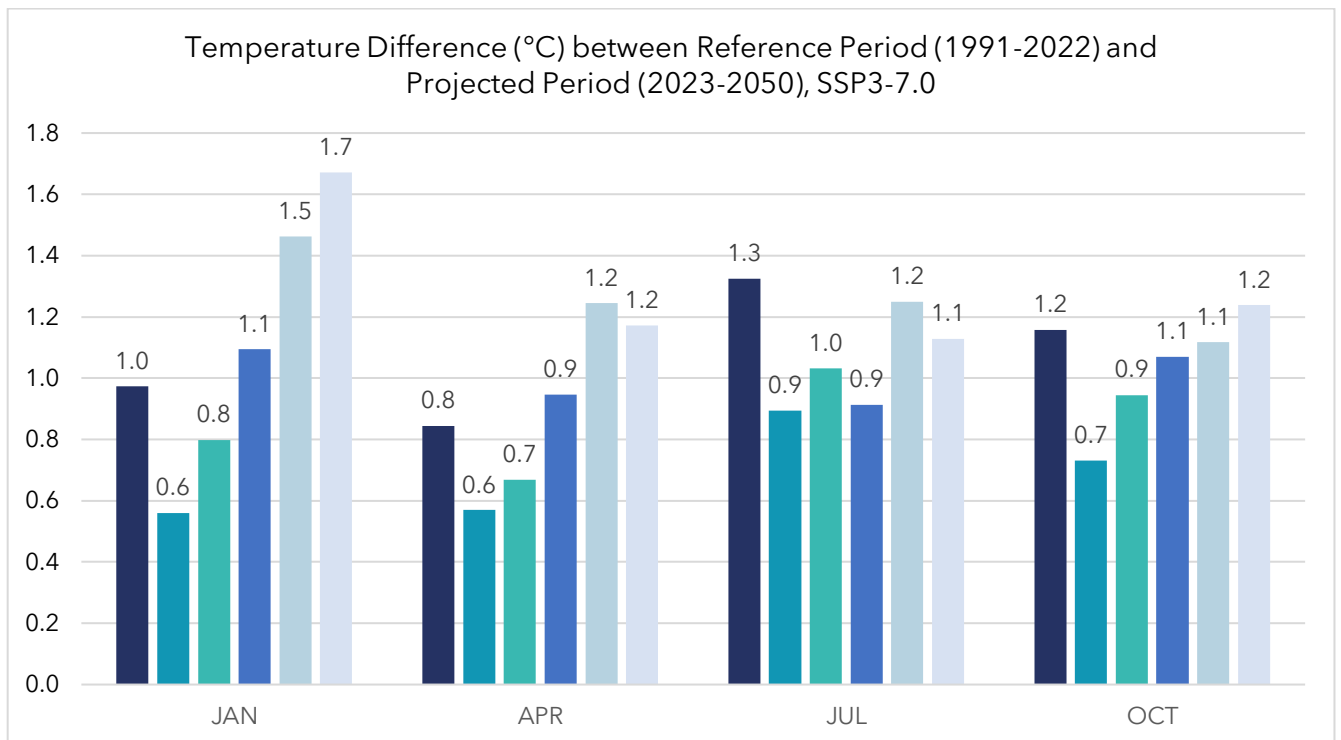
4. Scenario SSP3-7.0; 2030 Projection



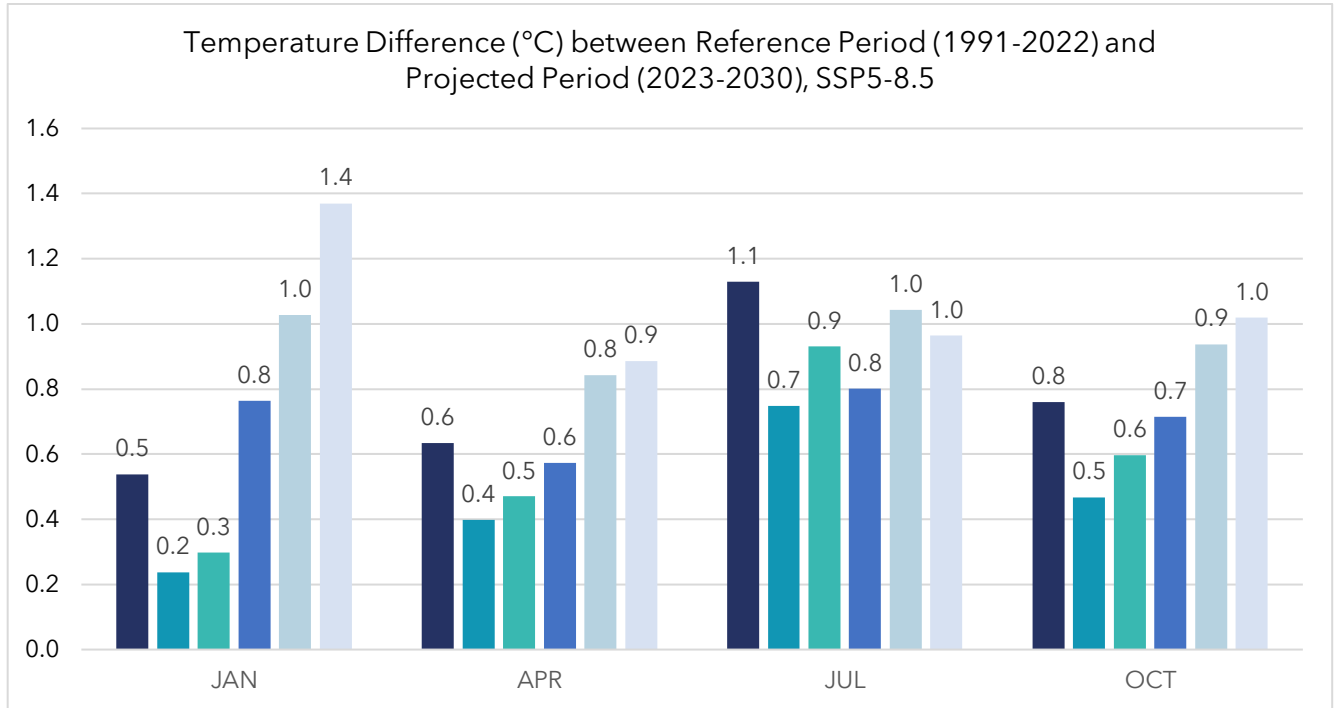
5. Scenario SSP3-7.0; 2040 Projection



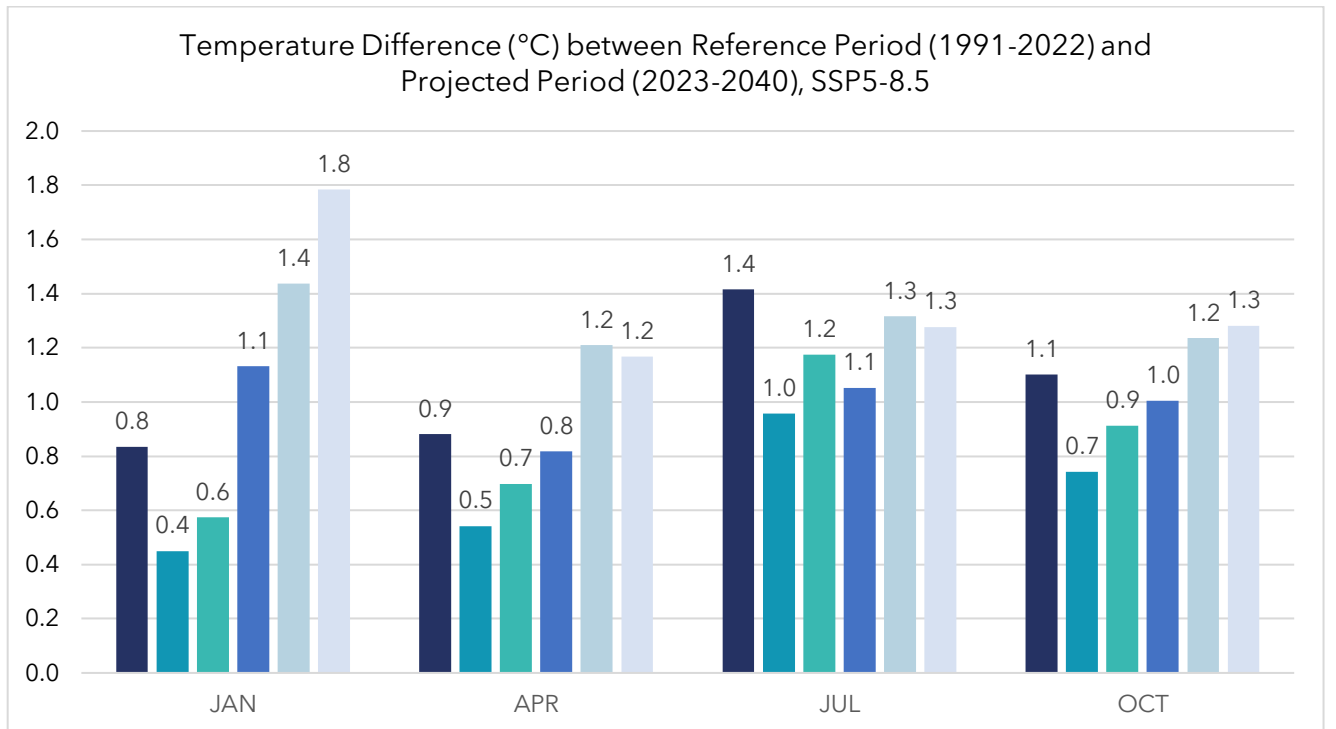
6. Scenario SSP3-7.0; 2050 Projection



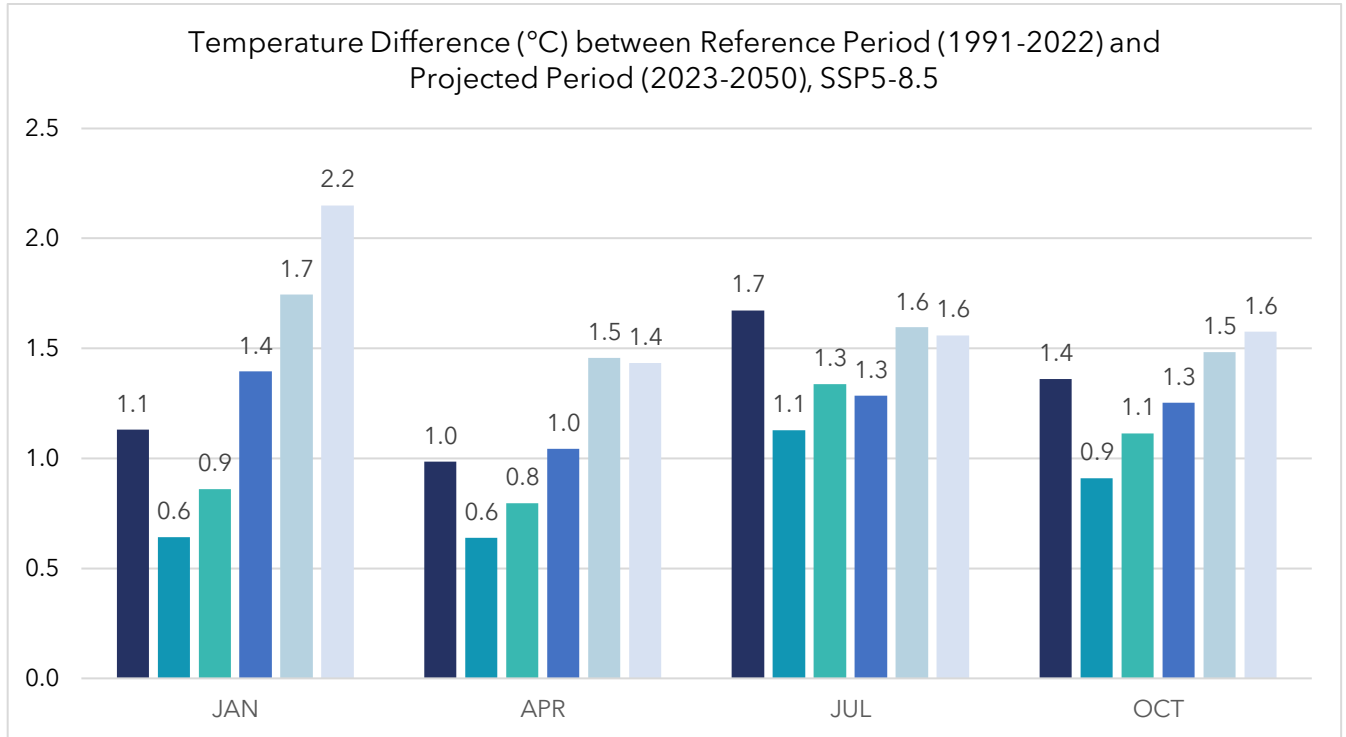
7. Scenario SSP5-8.5; 2030 Projection



8. Scenario SSP5-8.5; 2040 Projection



9. Scenario SSP5-8.5; 2050 Projection



Annex III: Scenario analysis – water stress

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. 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.

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 favourable conditions with most sites experiencing low to low-medium levels of water scarcity. Sustainable water management practices are integral to the long-term feasibility and success of hydrogen facilities as they navigate water stress challenges.

1. Scenario SSP1-2.6; 2030 Projection

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



2. Scenario SSP1-2.6; 2050 Projection

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



3. Scenario SSP3-7.0; 2030 Projection

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



4. Scenario SSP3-7.0; 2050 Projection

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



5. Scenario SSP5-8.5; 2030 Projection

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



6. Scenario SSP5-8.5; 2050 Projection

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



Annex IV: Scenario analysis – flood risk

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.

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.

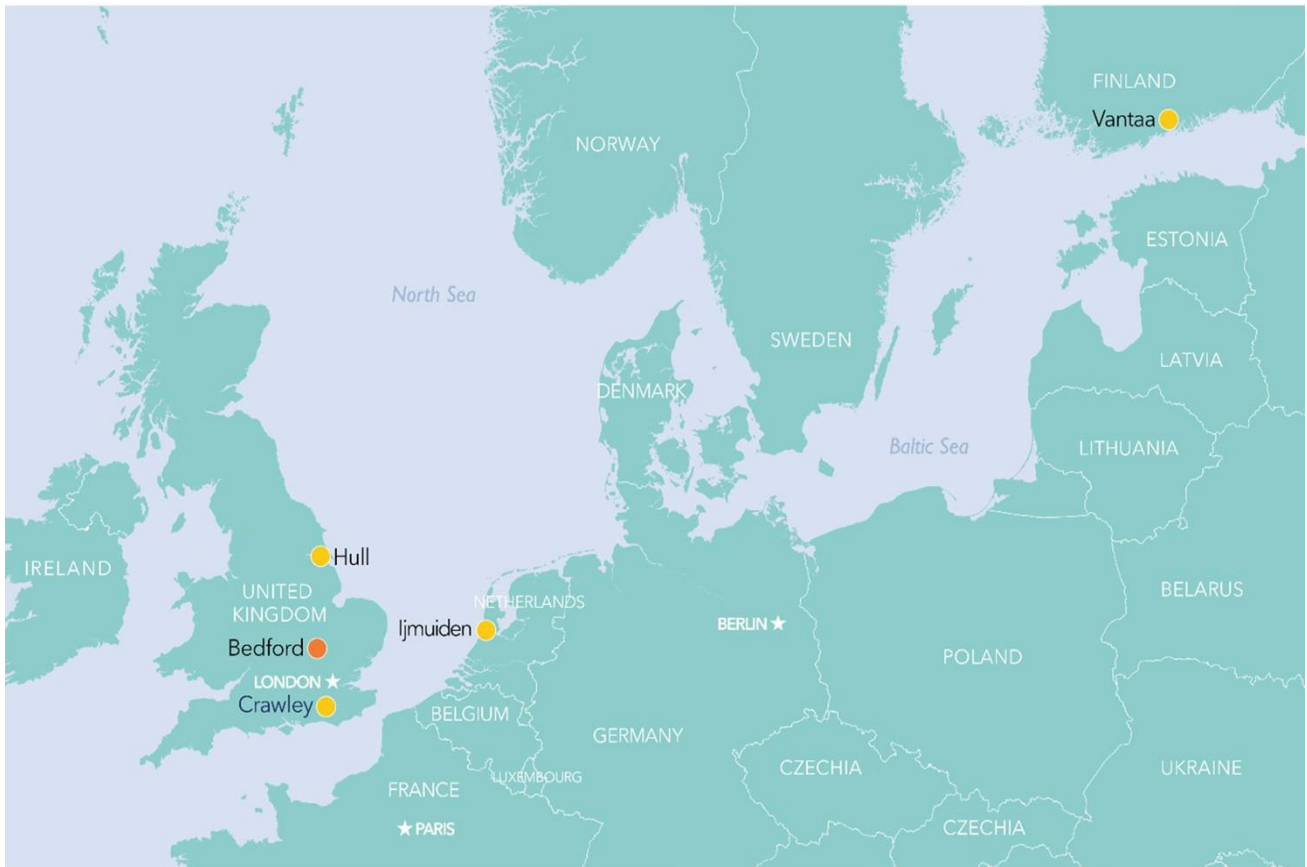
A thorough examination within the framework of scenario SSP1-2.6, focusing on the timeline up to 2030, yielded insights regarding the four locations at potential risk – Finland (Elcogen), Netherlands (Strohm), Kingston upon Hull (HiiROC) and Crawley (Bramble) – when considering flooding of depths above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

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 modelling 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 defence 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.

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

Focussed Depth ● < 20cm ● ≥ 50cm

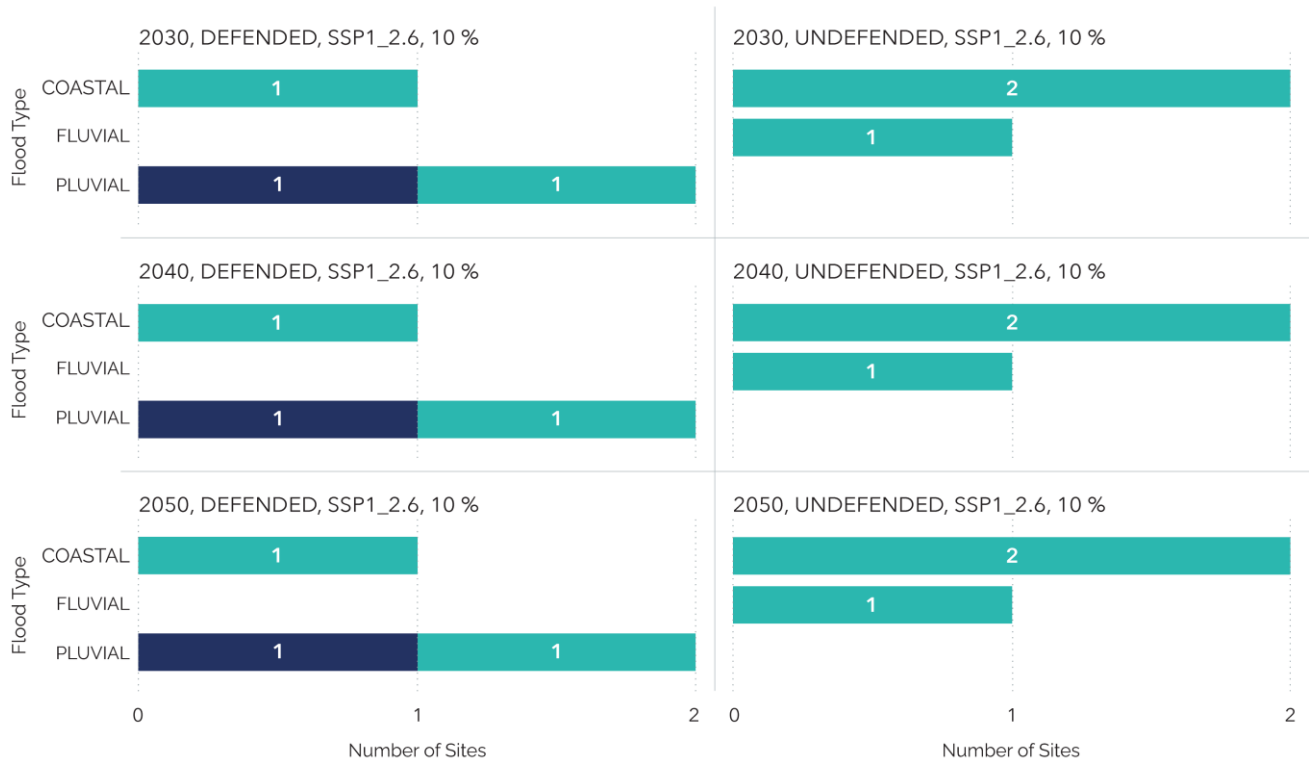


Overall, there is high resilience to flood in the private investment’s facilities, and they are typically real estate based sites which lowers exposure. In addition, the development of public flood defence infrastructure, particularly in coastal areas, is expected to increase as the varying climate scenarios play out.

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.

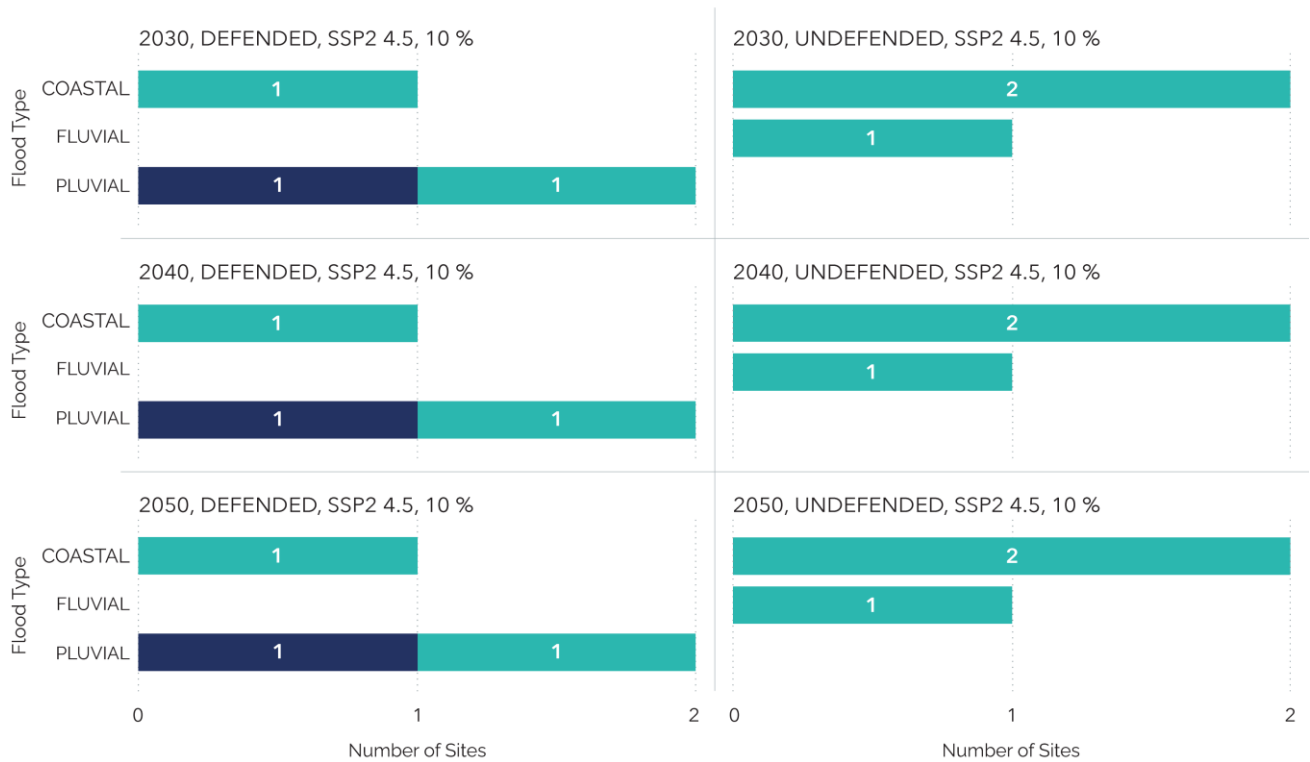
Scenario SSP1-2.6

Focussed Depth ● <20cm ● ≥ 50cm



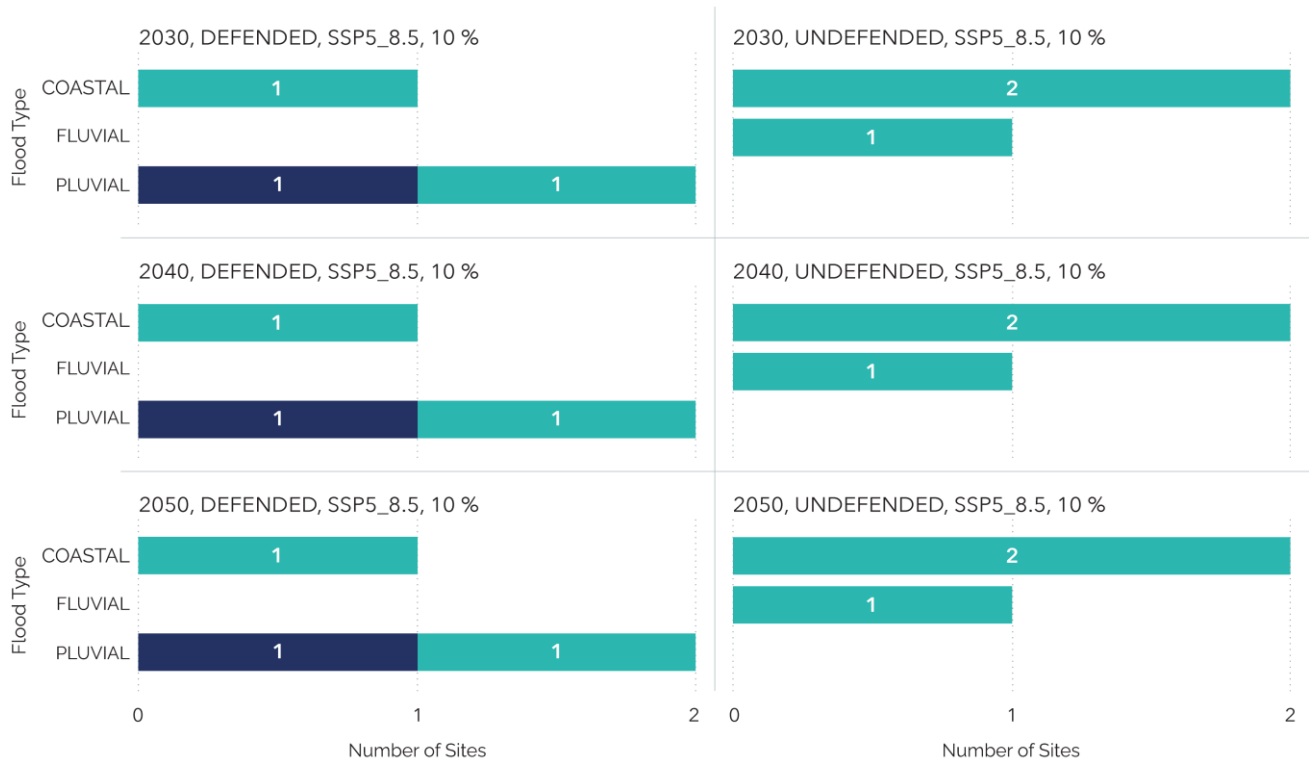
Scenario SSP2-4.5

Focussed Depth ● <20cm ● ≥ 50cm



Scenario SSP5-8.5

Focussed Depth ● <20cm ● ≥ 50cm

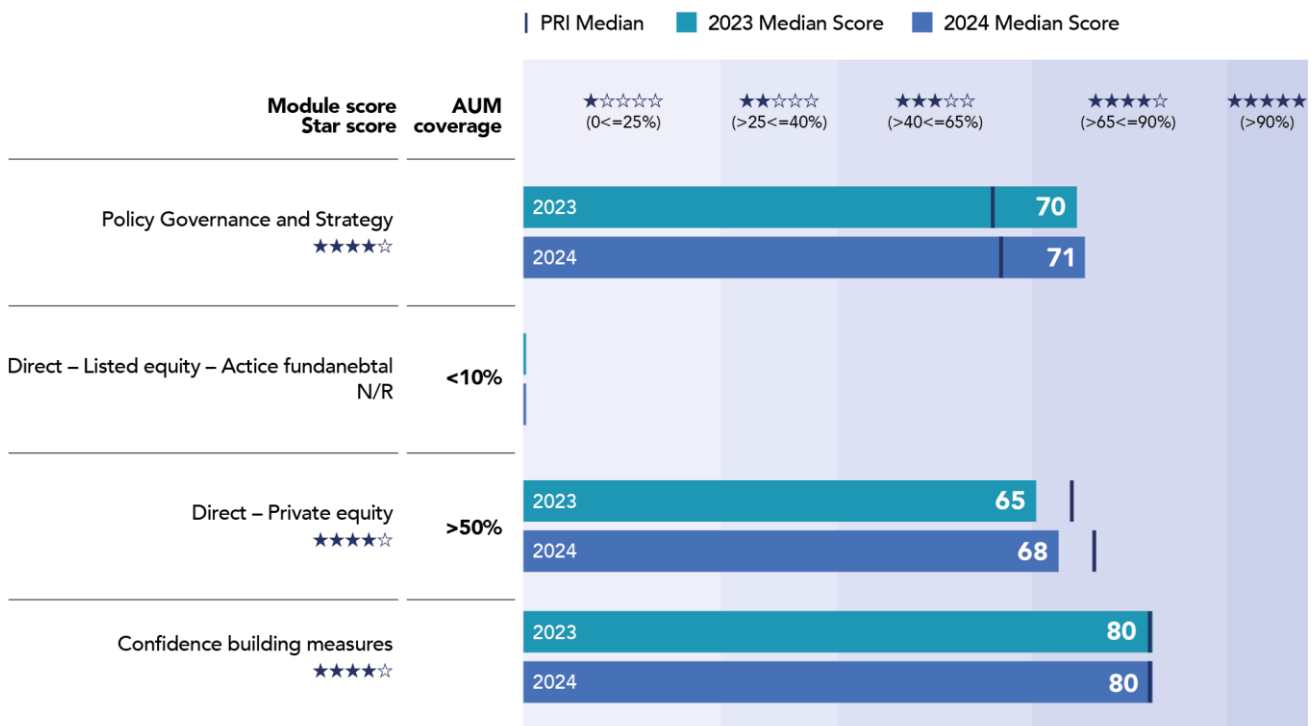


Annex V: Principles for Responsible Investment Reporting

The following table presents the Company's submission results to the PRI for both the 2023 and 2024 reporting cycles. This comprehensive assessment evaluates the Company's performance across multiple categories related to ESG integration. The comparative data between 2023 and 2024 demonstrates the Company's progress and ongoing commitment to responsible investment practices. These metrics provide valuable insights that continue to inform strategic developments in the Company's ESG approach.

Principles for Responsible Investment Reporting Results:

2024 PRI Results:



EU SFDR Annex 5 and PAI

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

Disclaimer

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Whilst the Company has taken steps to ensure that all statements in this Report are fair, clear, and not misleading; the Report has been prepared on the basis that it is exempt from the restrictions on financial promotions under Article 59 of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended). The Report should be read in conjunction with, and remains supplementary to, the Company's annual report and accounts for the financial year ended 31 December 2024 (the **"Annual Report"**). The Annual Report is available on the Company's website at <https://hydrogenonecapitalgrowthplc.com/investors/results-presentations-and-factsheets/>.

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