

Task Force on Climate-related Financial Disclosures (TCFD) Report

Gresham House plc

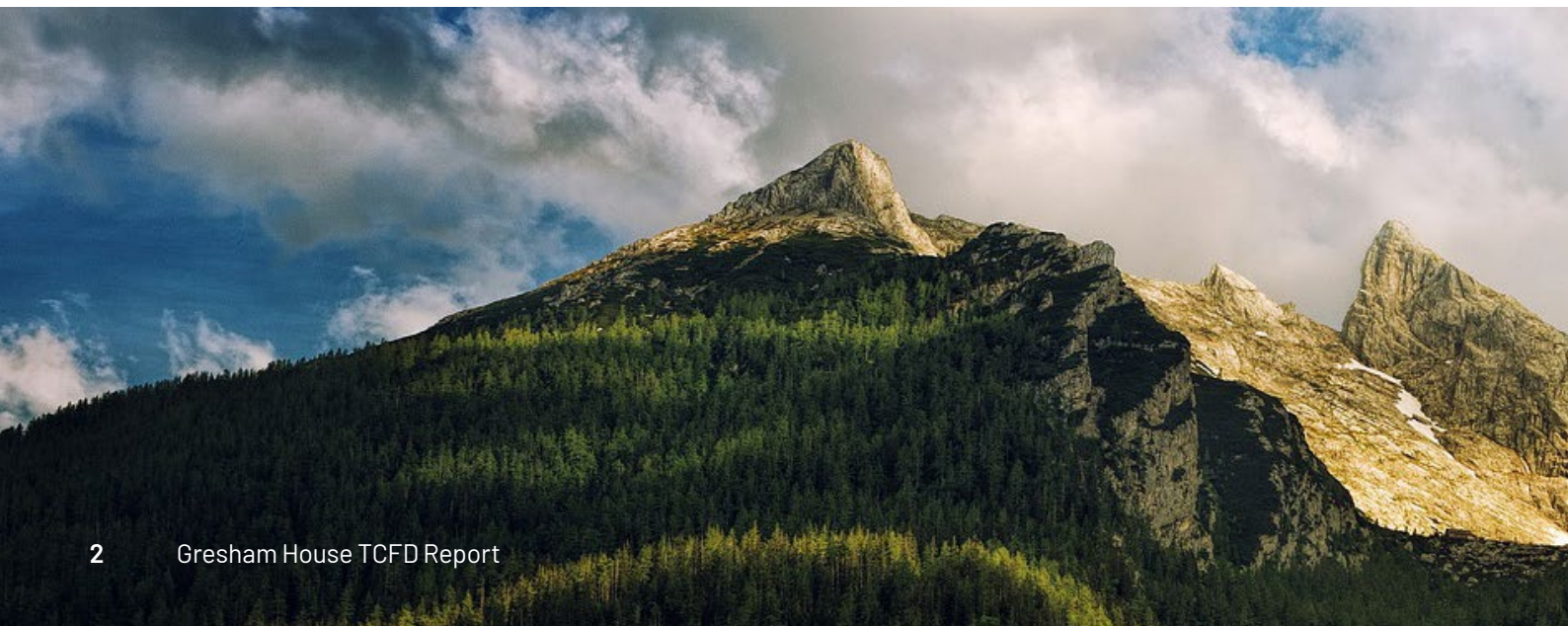
For the year ended 31 December 2022



Gresham House
Specialist asset management

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CEO foreword

Providing investment solutions for the global transition to a low-carbon economy.

The window of opportunity in which we can act to avoid the worst effects of climate change is narrowing year on year. It is our responsibility as guardians of the planet to act to transform our economy to mitigate and adapt to our changing climate.

There is no greater challenge than that of climate change. I believe that it is not beyond our ingenuity to succeed, but with each year that passes the scale of the challenge intensifies.

Tackling climate change creates disruption, and disruption creates opportunities. As asset managers, we must seize these opportunities to be at the forefront of change, by deploying capital into new sectors and innovative decarbonisation solutions. We can successfully contribute to the evolution of the global economy whilst generating attractive financial returns for our clients.

At Gresham House, sustainability is a core element of all our investment activities, and we are committed to achieving strong financial returns for our clients while delivering sustainability-focused investment solutions and strategies and contributing to economic growth.

Within our Real Assets business, our investment strategies sit at the forefront of the world's transition to a low-carbon future:

- Our **Forestry** business provides carbon sequestration and sustainable building materials
- In **New Energy**, we offer renewable energy generation and battery energy storage solutions

- Within **Real Estate**, we are aiming to build best-in-class low-carbon housing
- In **Sustainable Infrastructure**, we provide investment solutions including those tied to innovative agricultural practices, biodiversity net gain, and waste-to-energy solutions

As the business continues to expand, we are committed to providing investment solutions for our clients that contribute to the global transition to a low-carbon economy.

We recognise that in order to achieve our climate and sustainability ambitions, we must lead by example and align our actions with our corporate purpose. Operating authentically and in a sustainable manner is critical to our success as a business and employer, and to ensuring we play our part in tackling the climate emergency and other key issues affecting people and the planet.

With that in mind I am proud of the progress we have made in 2022 against our Corporate Sustainability Strategy, which outlines the approach we take both as a sustainable investor and as a sustainable business and employer in addressing global environmental and social challenges, including climate change.

In the coming years we will ensure that our sustainability and climate ambitions remain a central part of our growth story and hence that of global economic growth.



Tony Dalwood
Chief Executive



Tackling climate change creates disruption, and disruption creates opportunities.

Introduction

The scale of the challenge

2022 was the UK's hottest year on record, with an average temperature of over 10°C recorded for the first time.¹ For the planet as a whole, 2022 was the fifth-warmest year on record, with the ten warmest years having all occurred since 2010.² Last year we again witnessed the consequences of human induced climate change, including devastating floods in Pakistan, damaging wildfires in the USA and droughts across Europe.

At COP27, the United Nations climate conference in Egypt, negotiators fought to keep global warming under 1.5°C compared with pre-industrial levels. However, it is clear that we are running out of time if we are to avert the worst effects of climate change.

1. UK Met Office
2. UK National Oceanic and Atmospheric Organisation

The cost of continued inaction will see more variable and extreme weather, leading to destructive consequences. In the UK alone, the government's **Climate Change Risk Assessment report** suggests that climate change will cost the UK economy up to £20bn a year by 2050 on the present trajectory of global warming.³

Government spending alone will be insufficient in achieving the required emissions reductions. Significant private investment is therefore required to address this funding gap.

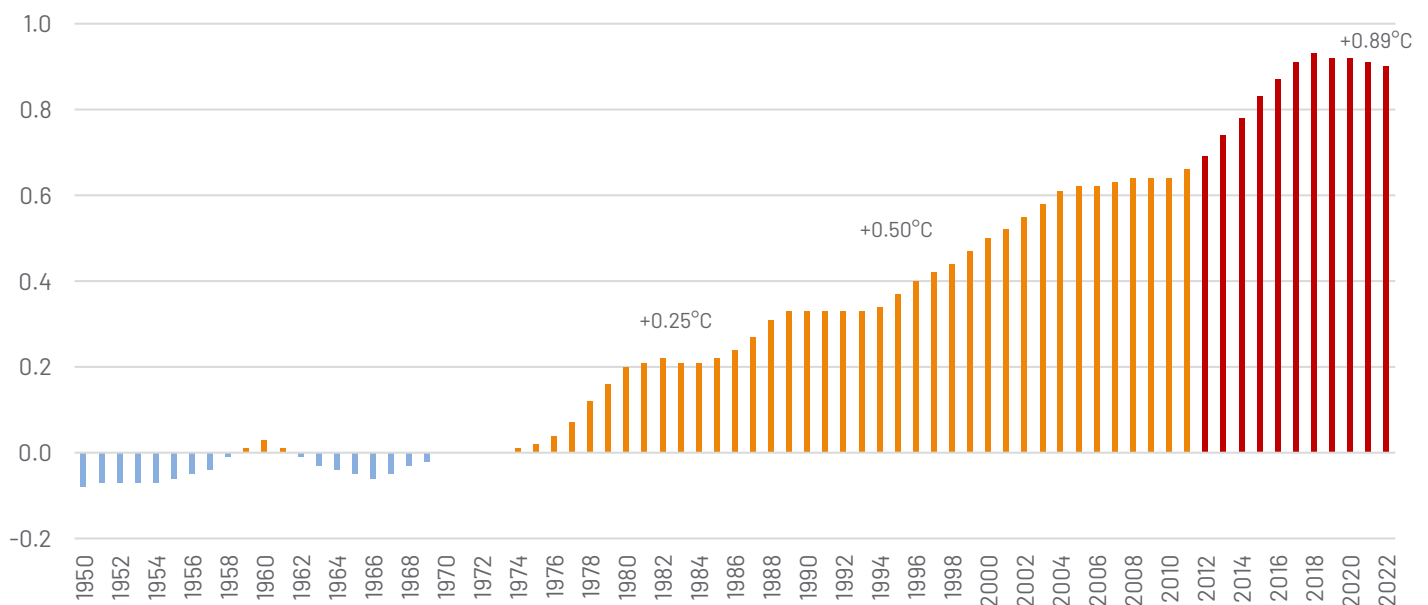
This presents material opportunities for investors in mobilising the solutions required to reach Net Zero.

Furthermore, investors' key stakeholders – individual investors, but also their shareholders, employees and regulators – are increasingly focused on the environmental and social impacts of their investments, rather than just return.

These elements have combined to create a powerful investment theme: investors are fast realising such investments are good for returns because they are good for the planet.

3. UK Climate Change Risk Assessment 2022

Figure 1: Global average temperature anomaly compared with mid-20th century



Source: NASA's Goddard Institute for Space Studies (GISS)

Our corporate purpose

To deliver effective and alternative investment solutions to help clients achieve their financial objectives while contributing towards the transition to a more sustainable economy.

Gresham House is well positioned to take advantage of the increasing investor focus on the transition to a low-carbon economy.

We provide our clients with the opportunity to invest in a range of asset classes that have long-term investment horizons and potential for returns that are tied to climate-related opportunities.

Executive summary

We have prepared this report in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), a framework that helps public companies more effectively disclose their climate-related risks and opportunities.

This report aims to provide our clients, shareholders and other key stakeholders with a better understanding of our exposure to climate-related risks and the climate-related opportunities that we are pursuing.

Our TCFD report outlines how we consider climate-related matters in our business operations, and how these map to the four TCFD thematic areas of Governance, Strategy, Risk Management and Metrics and Targets.

While this year we have reported in full against the recommendations, we are committed to continue improving both the quality and granularity of our climate-related disclosures over time.

Report overview

Governance

The Governance section provides information on the oversight of climate-related issues at Gresham House.

The Board is responsible for defining our direction and business strategy. Steps have been taken to embed climate-related risks and opportunities formally within this strategy and as such these factors have a direct impact on strategic decision making and financial planning.



The delivery of the business strategy has been delegated to the Group Management Committee (GMC). The GMC regularly reviews performance against the Company's strategic targets, including its approach to and implementation of sustainable investment practices, and management of climate-related risks.

The GMC is supported by our Sustainable Investment team and Sustainability Executive Committee, which drives sustainability-related deliverables across the Group. This includes developing the Group's climate strategy as part of the broader Corporate Sustainability Strategy, and for implementing actions aligned with its climate change objectives.

The Chair of the Sustainability Executive Committee reports to the Board Sustainability Committee on a six-monthly basis.

Figure 2: Core elements of recommended climate-related financial disclosures





Strategy

This section details our overall climate strategy, as outlined in our Corporate Sustainability Strategy as well as each division's strategy for managing climate-related issues.

Our Corporate Sustainability Strategy outlines the approach we take both as a sustainable investor and as a sustainable business and employer in addressing global environmental and social challenges, including climate change.

As an investor, we are well positioned to take advantage of the increasing focus on the transition to a low-carbon economy. Our role as specialists in sustainable alternatives means we are committed to investments such as new energy, sustainable infrastructure and forestry that provide long-term solutions to the transition to a low-carbon economy.

Our investments are characterised by long-term investment horizons that are inherently aligned with climate-oriented, long-term approaches to risk and opportunity.

We continue to invest in new product development to offer clients the ability to meet their sustainability and climate objectives alongside their financial ambitions.

Risk management

This section provides readers with a better understanding of our strategic resilience to the climate-related risks that we face.

The identification and assessment of climate-related risk takes place using our Enterprise Risk Management (ERM) Framework. This framework assesses and manages Group-wide risks based on the likelihood of the risk materialising and the business exposures faced if it does.

We maintain a risk register which records all the key risks which are relevant to the Group. In 2023, the risk register was updated to give greater prominence to physical and transition climate risks in the risk identification and management process.

At a divisional level, the responsibility for climate-related risk management has been embedded into the activities of each business unit throughout the lifecycle of an investment.

Risk owners are supported in the identification of division-specific climate risks by our Sustainable Investment team, which reviews and provides guidance on the sustainability and climate-related risks facing each division.

Metrics and targets

This section discloses the metrics we use to assess climate-related risks and opportunities in line with our climate strategy and risk management processes.

We undertook an exercise to understand the carbon emissions of our operations and our investments alongside expert carbon consultants in 2021, and this exercise was repeated in 2022.

For both our business operations and our investments, we disclose several metrics that will help us manage our climate impact over the coming years.

ESG and climate-related data play a prominent role in our divisions' investment processes. For each investment division we outline example climate KPIs that play an important role in monitoring whether assets are performing in line with their stated intention.

We have not set forward reduction targets covering our investment and operations at this time. We will look to set targets once we have completed further analysis of our emissions profile and our forward plans for the business.

01 Governance

Oversight of climate risks and opportunities

Board oversight

The Board is responsible for defining the Company's (including its various subsidiaries) direction and business strategy. Steps have been taken to embed climate-related risks and opportunities formally within this strategy and as such these factors have a direct impact on strategic decision making and financial planning, as set out in the Strategy section.

Group risk taxonomy

The Board approves the Group Risk Taxonomy, the universe of risks identified as facing the Company and assesses the likelihood and impact of the significant risks.

The Board determines the Group's risk appetite as the expression of how much net risk the Company considers acceptable in order to achieve its strategic objectives. It mandates all senior executives to implement effective arrangements to manage risks within this appetite.

ESG and climate-related risks are captured both as cross cutting risks, and distinct risk drivers within the Group Risk Taxonomy. The Group Risk Taxonomy, inherent risk rating, risk limits, and mitigating controls collectively form the Risk Register.

Risk management policies

The Audit Committee oversees the risk management policies and procedures designed and implemented by the Company's senior executives and risk managers. It ensures these are consistent with the Company's strategy and risk appetite and that these policies and procedures function as directed.

The Company's Enterprise Risk Management policy, approved by the Audit Committee, specifically addresses the arrangements for the identification, assessment, monitoring and reporting of ESG and climate-related risks.

The Audit Committee receives regular updates on the current level of risk incurred, and the adequacy and effectiveness of the risk management process. The Audit Committee reviews the Risk Register semi-annually to ensure that the risk taxonomy, risk assessment, and control arrangements remain consistent with risk appetite levels.

TCFD recommendation



Describe the Board's oversight of climate-related risks and opportunities

Sustainability Committee

The Sustainability Committee was established in July 2021, comprising all five Non-Executive Directors.

The Committee is constituted under defined terms of reference and meets at least twice a year. Its principal duties include the requirement to understand ESG risks and opportunities within the overall context of materiality to the Group and its clients, and to agree and monitor progress against targets with the Board on ESG outputs.

The Committee oversees the Group's progress against its Corporate Sustainability Strategy (CSS), including how business units are exploiting relevant climate-related opportunities. The management of climate-related risks and opportunities is a standing agenda item.

The Director of Sustainable Investment reports to the Sustainability Committee on a six-monthly basis.

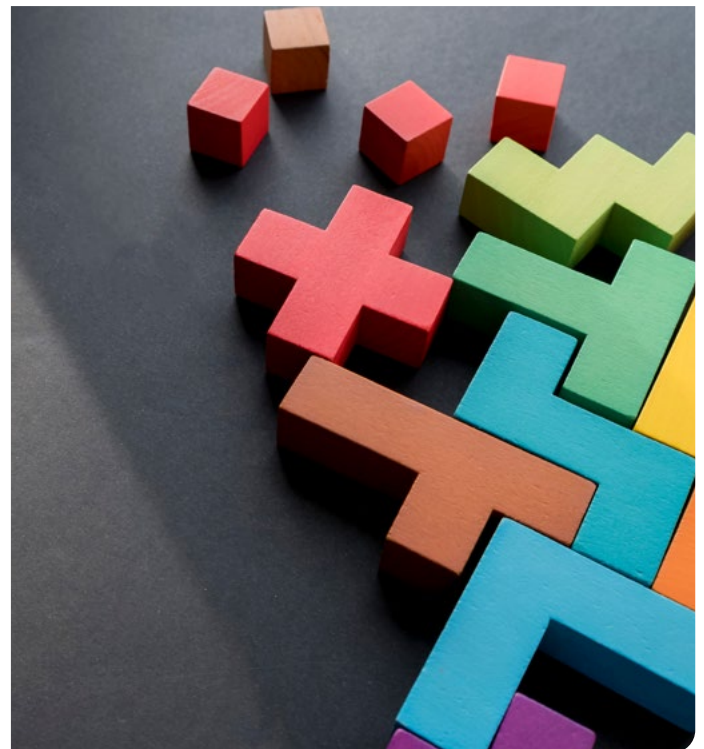
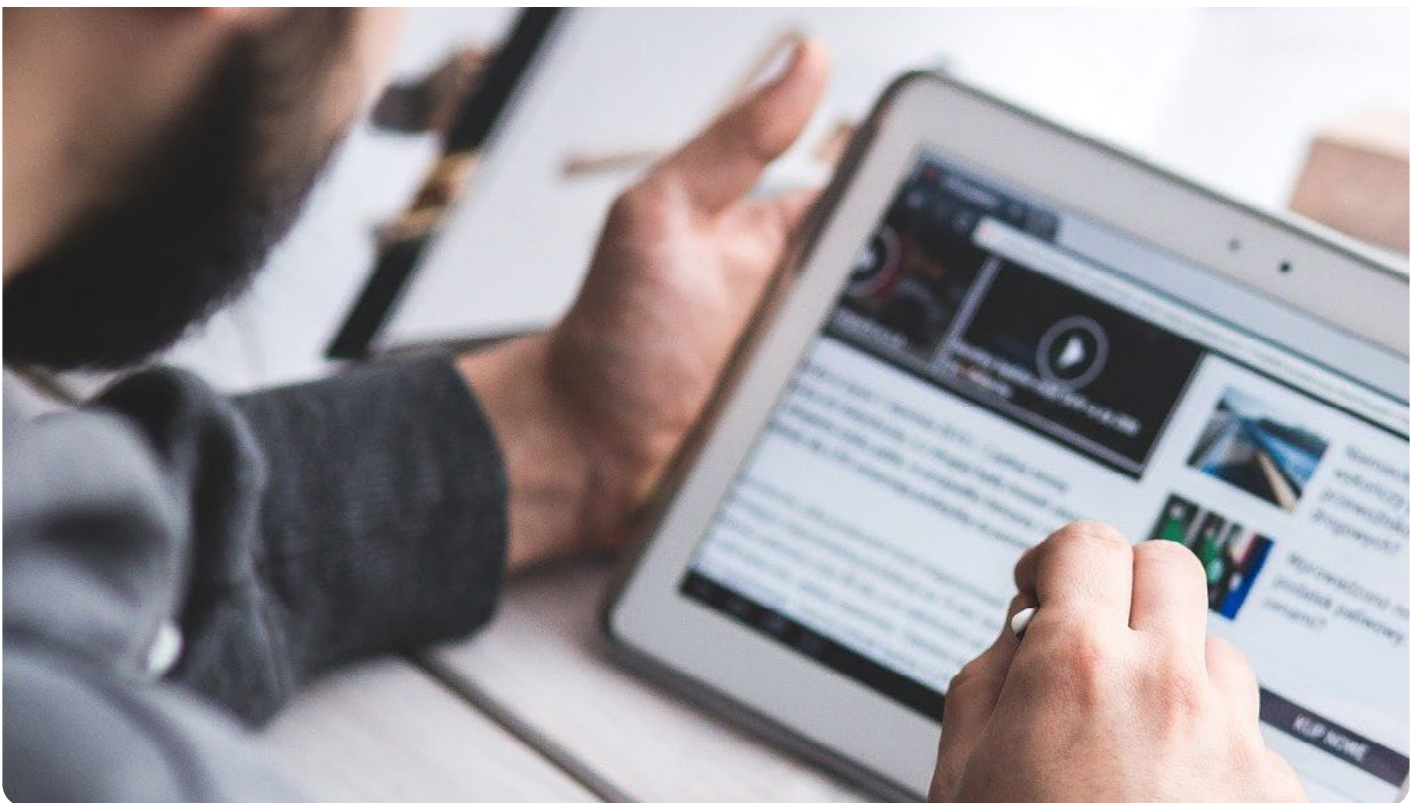


Figure 3: Sustainability Governance Structure



Management oversight

The delivery of the business strategy has been delegated to the Group Management Committee (GMC). The GMC regularly reviews performance against the Company's strategic targets, including its approach to and implementation of sustainable investment practices, and management of climate-related risks.

With respect to the Group's strategy relating to climate-related issues, this includes, but is not limited to:

- The management of climate-related risks relevant to each managed fund and Company operations
- The performance of existing Gresham House funds against their stated environmental and climate change objectives, where applicable
- The ability of prospective funds to capitalise on the global transition to a low-carbon economy
- Performance of the Company against its Corporate Sustainability Strategy, including specific climate change objectives
- The alignment of potential acquisitions with the Group's broader sustainability and climate ambitions

The GMC meets with the Board regularly throughout the year and provides accurate, timely and clear information in a form and of a quality appropriate to enable the Board to discharge its duties effectively.

The Risk & Compliance team is responsible for the implementation of effective risk management policies and procedures to identify, measure, manage and monitor the risks relevant to each business-unit, including climate risks.

Climate-related risks

The CFO has responsibility for climate-related risk management, complementing their responsibility for other financial risks.

Climate-related risk management has been embedded into the activities of each business unit taking into account the whole lifecycle of a product. Risks relevant to each fund, including ESG and climate-related risks are considered as part of the Product Governance committee, Investment Oversight committee and AIFM Risk Committee.

Each committee has defined Terms of References under which they meet at least quarterly and consider all relevant risks through their oversight responsibilities. Prescribed management information, systems and controls addressing climate-related risk, have been developed with input from the Sustainable Investment team, that helps to build, manage, authenticate and articulate the sustainable investment approach of all of Gresham House's divisions.

TCFD recommendation



Describe management's role in assessing and managing climate-related risks and opportunities

Climate-related opportunities

On a quarterly basis, divisional heads report to the GMC on their business units' performance opportunities. The Company's real asset divisions sit at the forefront of sustainable solutions to some of the most pressing challenges of our age, including climate change.

Any conversations about the Company's real asset division's opportunities will naturally include the ways they are making the most of the transition to a lower carbon economy.

Indicative conversations may include the following:

- **Forestry:** inclusion of biodiversity and natural capital as fundamental elements of investment decision making
- **Sustainable Infrastructure:** progress of existing investments in capitalising on the transition to a low-carbon economy, such as vertical farming or waste-to-energy
- **Real Estate & UK Housing:** progress against its stated ambition to upgrade all existing EPC D-rated properties to EPC C by 2025
- **New Energy:** development of new battery energy system capacity in line with the UK's Net Zero strategy and predicted uplift in renewable energy generation



Sustainability Executive Committee

The GMC is supported by the Sustainability Executive Committee (Sustainability ExCo), which drives sustainability-related deliverables across Gresham House and owns the delivery and oversight of the Corporate Sustainability Strategy.

Climate change has been identified as a priority topic for two of the three pillars of the Corporate Sustainability Strategy, covering our activities as a sustainable investor and sustainable business and employer. We have set core climate change objectives to be achieved by 2025, KPIs used to measure success, and short- and medium-term actions to be completed between 2023 and 2025. More information on the Corporate Sustainability Strategy can be found on [page 14](#).

The Sustainability ExCo meets every six weeks and is chaired by our Director of Sustainable Investment. Members of this Committee include two GMC members, the Head of Compliance, and two divisional heads.

The chair of the Sustainability Executive Committee reports to the Board Sustainability Committee on a six-monthly basis. Examples of climate-related issues discussed include:

- The progress that Gresham House has made in advancing the Corporate Sustainability Strategy and the topic of climate change contained within it
- Group-level initiatives to improve the quality and quantity of climate-related data that we report on and integrate into investment processes, including carbon footprint data
- Updates on climate-related regulation, including the ways in which the regulation could impact upon all Gresham House funds and Gresham House plc

Figure 4: Sustainability Committee network

Committee	Description	2022 Information	Climate activities during 2022
Board Committees			
Sustainability Committee	Oversees and reviews the Corporate Sustainability Strategy and sustainable investment strategy	Chair: Gareth Davis Membership: 5 non-executive directors Meetings: 2	<ul style="list-style-type: none"> ▪ Consideration of prospective climate-related opportunities with the Director of Sustainable Investment and the Group Managing Director ▪ Consideration of upcoming sustainability reporting and regulation, including TCFD, SFDR and SDR ▪ Briefing from the Head of Compliance on greenwashing risks ▪ Training workshop on TCFD, its implications for the Group and the Board’s responsibilities
Audit Committee	Responsible for identification and monitoring of business risks, including ESG and climate change	Chair: Sarah Ing Membership: 5 non-executive directors Meetings: 3	<ul style="list-style-type: none"> ▪ Discussion of continued regulatory scrutiny over greenwashing, upcoming TCFD and UK Sustainability Disclosure Regulation ▪ Discussion of evolving regulatory focus of investors ▪ Discussion of role of in-house ESG processes and procedures to reduce potential impact of risk failure

Figure 4: Sustainability Committee network (continued)

Committee	Description	2022 information	Climate activities during 2022
Management Committees			
Group Management Committee (GMC)	Responsible for the delivery of business strategy, reviewing performance against strategic targets, including the approach and implementation of sustainable investment practices	Chair: Anthony Dalwood Membership: Senior management from across the Company, including the CEO, CFO, MD of GHAM, COO, CTO and CLO	<ul style="list-style-type: none"> Assessment of the performance of Gresham House funds against their stated environmental and climate change objectives Analysis of alignment of potential acquisitions with the Group's broader sustainability and climate ambitions Assessment of the Group's progress against its Corporate Sustainability Strategy, including climate change objectives Analysis of the potential impact of a Net Zero strategy on the Group's performance Training on TCFD, its implications for the Group and GMC's role within it
Sustainability Executive Committee (Sustainability ExCo)	Drives sustainability-related deliverables to ensure the business, its staff and the investments made demonstrate best practice and leadership	Chair: Rebecca Craddock-Taylor Membership: Senior members from across the Group including two GMC members, the Head of Compliance, and two divisional heads Meetings: 8	<ul style="list-style-type: none"> Advanced the Group's Corporate Sustainability Strategy, a core topic of which is climate change Calculated the carbon footprint of Gresham House's operations and investments Identified a method for setting Net Zero targets and implementation plans for each division/fund Developed internal processes to align with the TCFD recommendations
AIFM Risk Committee	Assists GHAM board in fulfilling its AIFM responsibilities by identifying, defining, assessing, reviewing and monitoring the significant risks faced by the vehicles managed by Gresham House	Chair: Kevin Acton Membership: CFO, COO and Head of Compliance as quorum members with other invitees as needed Meetings: 4	<ul style="list-style-type: none"> Updated ERM framework to ensure climate risks are explicitly referenced as part of risk identification process Updated risk matrix to accurately reflect transition and physical climate risks impacting each division

Remuneration

For the past three years, sustainability-related objectives have been contained within yearly performance appraisals for every individual at Gresham House. Variable remuneration for all team members at all levels is derived in part from alignment with relevant objectives. Sustainability-related measures are reviewed by the Sustainable Investment team each year to align with Gresham House's key sustainability priorities.

As Gresham House evolves and enhances its climate strategy over the next few years, we anticipate climate will form a more prominent role in senior members' remuneration in the form of quantitative metrics, alongside broader sustainability-oriented objectives.

02 Strategy

Gresham House’s investment strategies sit at the forefront of the world’s transition to a low-carbon future.

Our role as specialists in sustainable alternatives means we are committed to investments such as new energy, sustainable infrastructure and forestry that provide long-term solutions to the transition to a low-carbon economy.

Our investments are characterised by long-term investment horizons that are inherently aligned with climate-oriented, long-term approaches to risk and opportunity.

Gresham House is committed to operating responsibly. Our Corporate Sustainability Strategy outlines the approach we take both as a sustainable investor and as a sustainable business and employer in addressing global environmental and social challenges, including climate change.

The Corporate Sustainability Strategy is based on the ten themes of our Sustainable Investment Framework. These themes include Climate Change and Pollution and are the most material factors that may impact upon the Group.

It is used by investment teams to structure analysis, monitoring and reporting of ESG and climate-related issues and opportunities within the investment lifecycle as an aid to more consistent integration across the business.

This section will:

- Identify climate-related risks and opportunities facing Gresham House
- Outline our climate change strategy for our investment management approach at a corporate and divisional level
- Illustrate how climate is integrated into our wider strategy, including the Corporate Sustainability Strategy

Figure 5: Sustainable Investment Framework



Climate-related opportunities and risks

Opportunities

Gresham House is well positioned to take advantage of the increasing investor focus on the transition to a low-carbon economy. We provide our clients with the opportunity to invest in a range of asset classes with returns that are tied to climate-related opportunities. These include:

- Renewable energy generation and battery energy storage solutions within New Energy
- Sustainable building materials and carbon sequestration within the Forestry division
- Innovative agricultural practices, biodiversity net gain, and waste-to-energy solutions within Sustainable Infrastructure
- Low-carbon homes within UK Housing

To meet increased demand for climate-related opportunities across our client base, we continue to invest in new product development to offer clients the ability to meet their sustainability and climate objectives alongside their financial ambitions.

Climate change risks

TCFD divides climate-related risks into two major categories:

Transition risks: business risks associated with the transition to a low-carbon economy. These include changes to the policy and legal backdrop, the shift to lower emissions technologies, changes in the market and reputational risks.

Physical risks: risks resulting from climatic events, and can be acute (i.e. event-driven) or as a result of long-term shifts in climate patterns.

TCFD recommendation



Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term

Risks

We recognise that the changing climate will present risks to our strategy.

The examples below detail risks that may impact upon our ability to deliver effective and alternative investment solutions to help clients achieve their financial objectives, while contributing towards the transition to a more sustainable economy:

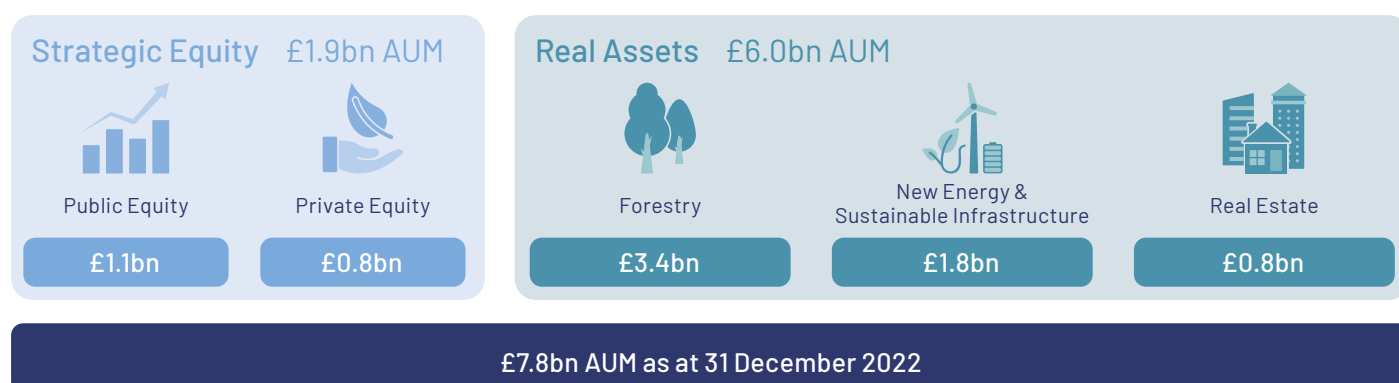
Transition risks

- The risk that investment solutions do not meet clients' evolving climate needs, leading to outflows and reduced demand for investment products
- The risk that competitors grow faster by offering better climate solutions for clients, resulting in a loss of market share
- The reputational risks associated with funds not decarbonising as fast as clients expect, leading to reduced demand for investment products
- High delivery costs of more energy efficient, low-carbon solutions leading to reduced margins across our Real Assets divisions

Physical risks

- The risk that the increased prevalence of extreme weather events leads to a fall in asset values or higher insurance costs
- The risk that damage to facilities caused by acute weather leads to increased capital costs or asset impairment

Figure 6: Overview of Gresham House's investment divisions



Our Corporate Sustainability Strategy

As part of its five year strategy, "GH25", Gresham House has a strategic objective "to become a recognised leader in sustainable investment, including Environmental, Social and Governance (ESG)". In 2021, we unveiled our first Corporate Sustainability Strategy, which aims to support that ambition and aims to identify underlying objectives, as well as set out the actions we will take to meet our sustainability goals.

Under the first pillar covering Gresham House's role as a sustainable investor, a range of actions have been identified to support the Climate Change and Pollution priority topic.

These include, but are not limited to:

- Expanding the range of climate data measured and reported for each fund.
- Developing a suite of investment strategies that support clients' Net Zero and climate strategy requirements.
- Assessing the feasibility of using our investments to create carbon offsets for use by Gresham House investment strategies and Gresham House plc to achieve their Net Zero ambitions.

Delivery of the Corporate Sustainability Strategy is overseen jointly by our Sustainable Investment team and Sustainability Executive Committee.

Gresham House's Corporate Sustainability Strategy

The Corporate Sustainability Strategy supports our GH25 strategic objective to become a recognised leader in sustainable investment. We aim to lead by example through our internal commitments to sustainability and align our actions with our corporate purpose.

The Corporate Sustainability Strategy has three core pillars covering our role as a Sustainable Investor, Sustainable Business and Employer and Sustainable Corporate Citizen. Across the first two pillars, Climate Change and Pollution has been identified as a priority topic. For both pillars we have set a core objective to be achieved by 2025, KPIs used to measure success and short- and medium-term actions to be completed between 2023 and 2025.



Gresham House as a Sustainable Investor

2025 strategic Climate Change objective: Set Science Based Targets on climate change for each division

KPIs to monitor progress:

1. Carbon footprint of investments (tCO₂e)
2. Carbon intensity of investments (tCO₂e/£m)
3. Alignment to Science Based Target



Gresham House as a Sustainable Business & Employer

2025 strategic Climate Change objective: Set a Science Based Target covering the Group's operations and use its industry position to encourage the transition to a low carbon economy

KPIs to monitor progress:

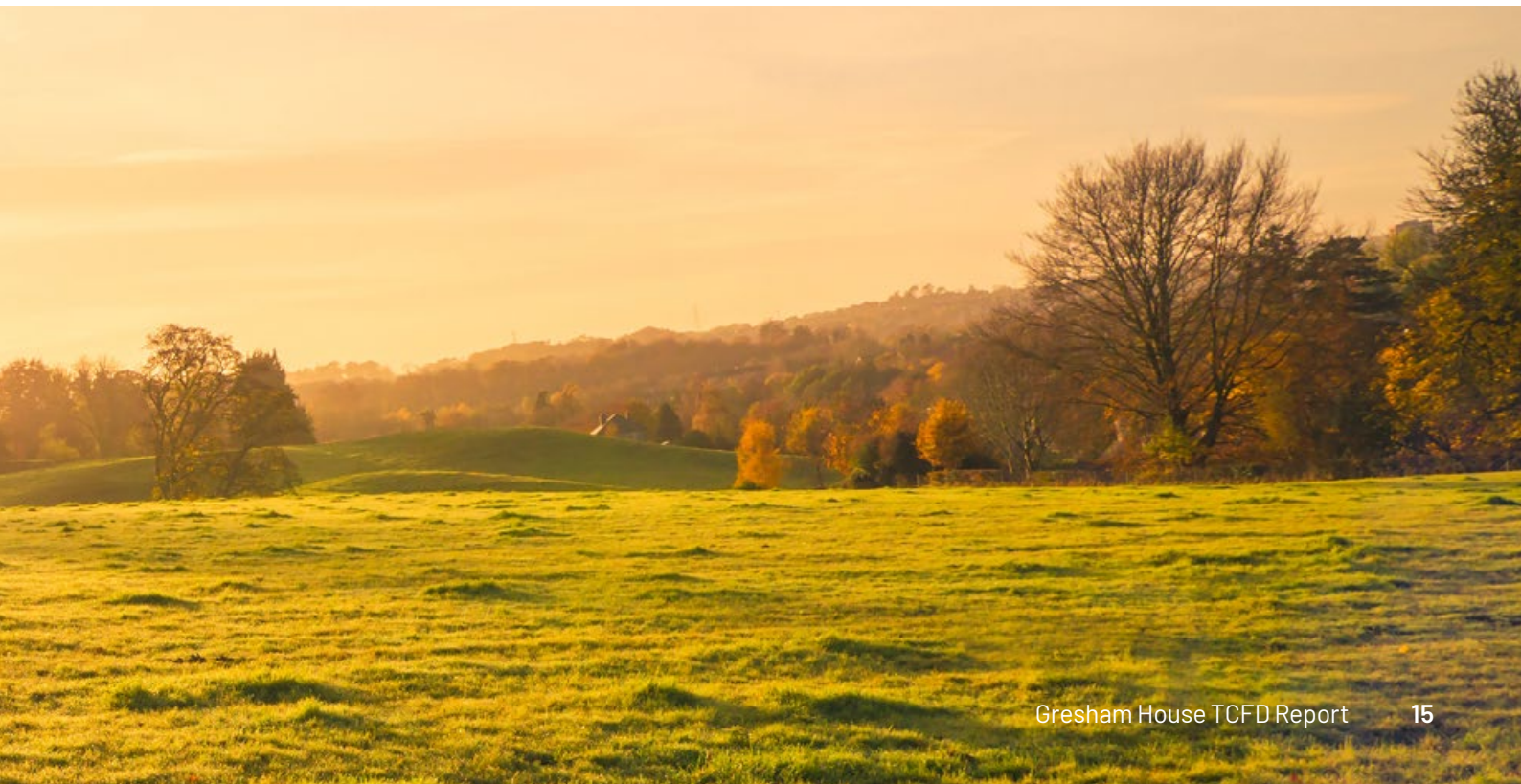
1. Operational carbon footprint and progress against Net Zero target
2. CO₂e per full time employee and CO₂e per £m revenue
3. Annual energy use (kWh) and energy type

Contributions to the industry

Gresham House understands it has a responsibility to play an industry leadership role in supporting and promoting sustainable investment, and this includes participation in industry bodies, contributing to thought leadership opportunities and providing feedback to climate and sustainability-related regulatory consultations.

We support and actively engage with a range of sustainability and climate-related initiatives, memberships and organisations. Participation in these initiatives helps to drive progress towards a low-carbon economy. Notable contributions in 2022 include:

- UK Sustainable Investment and Finance Association (UKSIF): Members of Gresham House's Sustainable Investment team participated in a number of roundtable discussions on the formation of the UK's Sustainability Disclosure Requirements (SDR) and IFRS International Sustainability Standards Board's (ISSB) global baseline of climate-related disclosure standards.
 - The team also contributed to UKSIF's Net Zero Inquiry, which sought views on policy recommendations that government and regulators should adopt to move the sector towards Net Zero at the scale and pace required.
- Just Transition Finance Challenge: Founded by the Impact Investing Institute, representatives of Gresham House's Sustainable Investment and Sustainable Infrastructure teams contributed to the formation of the draft Just Transition criteria, ahead of its public consultation in early 2023. A core pillar of the draft criteria concerns mobilising institutional capital towards advancing climate and environmental action.
- London Stock Exchange Green Economy Mark: Gresham House plc was awarded the London Stock Exchange's Green Economy Mark for the third year running. The Green Economy Mark recognises that over 50% of the Group's revenues come from products and services that contribute to environmental objectives such as climate change mitigation and adaptation.
- Principles for Responsible Investment (PRI): Gresham House has been a signatory to the UN-supported PRI since 2018. For its 2021 PRI Report, Gresham House plc was awarded 4 out of 5 stars, out of a maximum of 5 stars, for all modules.



Our climate investment strategy

Gresham House has a stated ambition to be a recognised leader in sustainable investment by 2025. As part of this we are committed to providing investment solutions to our clients that contribute to the global transition to a low-carbon economy.

We consider our main exposures to climate change risks and opportunities to sit within our Real Assets division, which accounts for £6bn (76%) of AUM as at 31 December 2022, as set out in Figure 6 on page 13.

It is primarily through these investment divisions that we offer our clients exposure to climate change solutions, and it is the opportunities that these multi-decade investment solutions provide that drive the development of new products.

In developing new products, divisional heads, the Group Management Committee (GMC) and distribution teams work with prospective investors to shape and refine the investment proposition. The final decision as to whether to launch a fund balances market demand with its alignment with Gresham House's stated commercial and sustainability ambitions, outlined in its GH25 strategy. More detail on our GH25 strategy can be found on [page 14](#).

For existing funds, sustainable investment considerations are applied across the investment process for all assets and involve the integration of ESG factors, including climate change, as well as the application of active stewardship responsibilities.

Climate risks unique to each division are considered prior to and throughout the life of a transaction. To assist in the identification of climate risks at the pre-investment stage, we have developed asset class specific, proprietary, ESG Decision Tools. These Tools support the investment teams in identifying potential, material ESG risks, including climate change risks that need to be managed and mitigated, to help shape the due diligence process for individual companies prior to investment. More detail on the ESG Decision Tools can be found in the Risk Management section of this report.

In conjunction with our Sustainable Investment team, each investment division has drawn up a list of ESG KPIs that it will track for each of its investments.

These KPIs help investment teams track the progress a particular asset is making towards its ESG and climate-related ambitions, and to what extent ESG and climate-related risks are being managed effectively.

More information on the KPI banks can be found in the **Metrics and targets** section.

TCFD recommendation



Describe the impact of climate-related risks and opportunities on the organisation's business, strategy, and financial planning

We consider the following time horizons as part of planning and analysis:

- Short-term horizon looks at a period of up to three years.
- Medium-term horizon looks at the risks and opportunities up to 10 years.
- Long-term horizon considers activities over a time frame of over 10 years.

The investment time horizon of our investment funds is driven by the asset classes into which we invest. Most clients seek long-term investments and as such funds are designed to meet those requirements.

Figure 7: time horizons for each asset division

Asset division	Time horizon
Public Equity	3-5 years
Private Equity	5-7 years
Sustainable Infrastructure	8-10 years
Forestry	20+ years
New Energy	25+ years
Real Estate	30+ years

Gresham House has developed and published an overarching **Sustainable Investing Policy** along with asset specific sustainable investment policies⁴. These policies describe our approach to sustainable investment, including climate change, and highlight our commitments to investing sustainably while meeting our overall business objectives

The following pages set out the relevant climate risks and opportunities and their potential financial impacts that Gresham House and its associated strategies face over the short, medium and long term.

4. All asset class policies can be found at the bottom of our [Sustainable Investing web page](#)

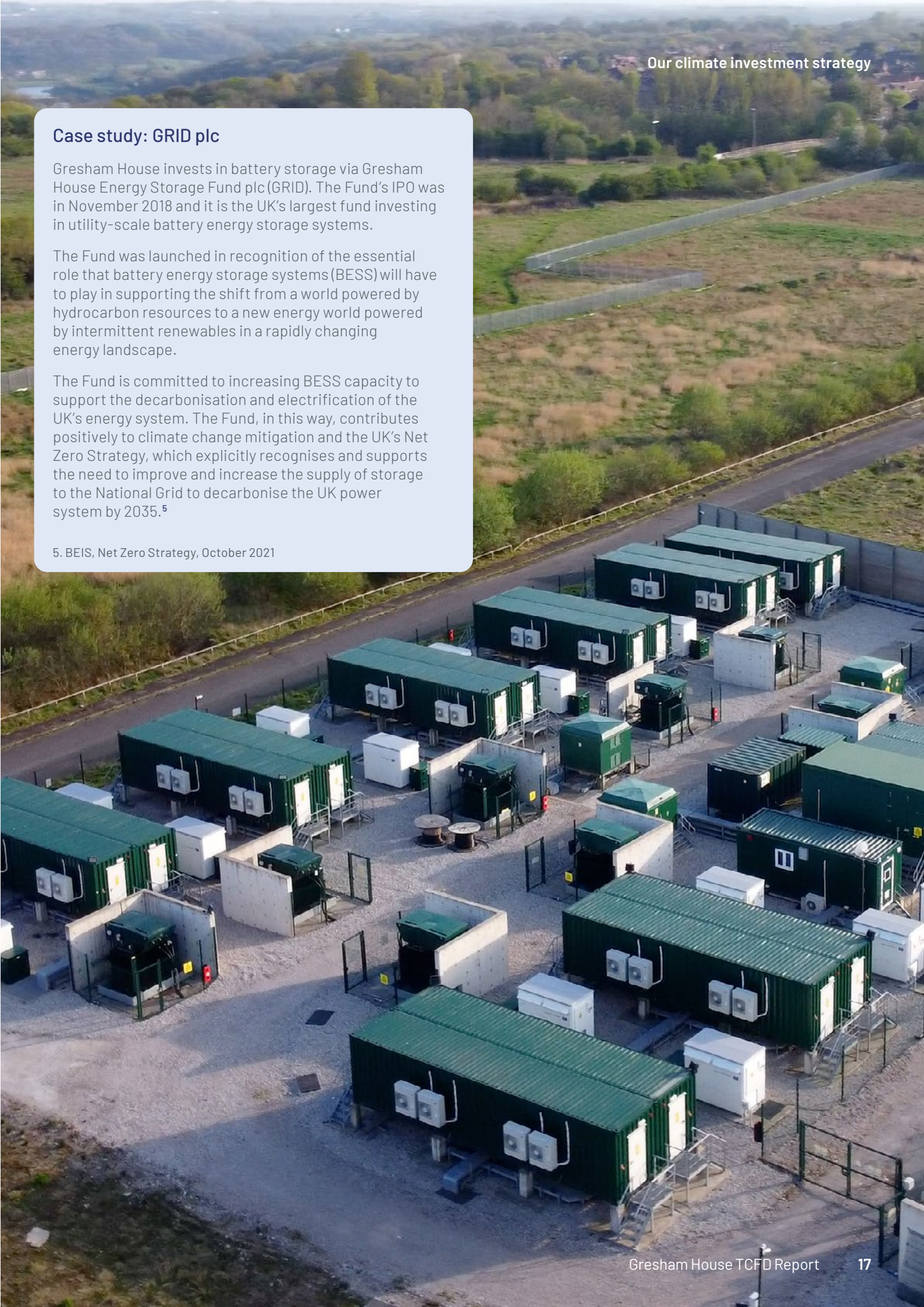
Case study: GRID plc

Gresham House invests in battery storage via Gresham House Energy Storage Fund plc (GRID). The Fund's IPO was in November 2018 and it is the UK's largest fund investing in utility-scale battery energy storage systems.

The Fund was launched in recognition of the essential role that battery energy storage systems (BESS) will have to play in supporting the shift from a world powered by hydrocarbon resources to a new energy world powered by intermittent renewables in a rapidly changing energy landscape.

The Fund is committed to increasing BESS capacity to support the decarbonisation and electrification of the UK's energy system. The Fund, in this way, contributes positively to climate change mitigation and the UK's Net Zero Strategy, which explicitly recognises and supports the need to improve and increase the supply of storage to the National Grid to decarbonise the UK power system by 2035.⁵

5. BEIS, Net Zero Strategy, October 2021



Climate strategy: Real Assets

With an investment time horizon of 10-30 years, Gresham House's Real Asset investments are well-placed to provide long-term solutions to the issue of climate change.

Many of our Real Asset investments aim to provide additionality by constructing new assets that positively contribute to climate resilience and mitigation, thereby adding to the aggregate and supporting the decarbonisation of the UK's economy.

The division-specific ESG Decision Tools are used to assist with the identification of various risks, including climate risks, prior to a proposed transaction, with additional climate risks considered alongside as part of broader risk analysis throughout the life of a transaction.



Figure 8: integration of climate-related factors into the Real Asset investment process





Gresham House's Forestry division is a real asset class that diversifies an investment portfolio and provides exposure to timber, underlying land value growth and carbon sequestration.

We seek attractive long-term returns through sustainable forest management on land owned by each fund on behalf of clients.

Climate opportunities

ESG and climate considerations contribute to investment analysis and financial modelling, decisions whether to acquire specific sites, ongoing forest management decisions and new product development.

Our ESG and climate-related commitments have been codified in our [Forest Charter](#). Specific climate change commitments include:

- Managing the long-term carbon stock of all forests and where possible increasing the carbon sequestration of all forests over the period under management
- Measuring the operational carbon footprint of all forests under management and reducing operational emissions over time where possible
- Measuring and reporting on the carbon stored in standing stock and carbon dioxide sequestered, regularly reporting these metrics to stakeholders, in line with independent third-party standards
- Not converting any high carbon stock areas (peatlands, wetlands and grasslands) of land purchased for afforestation, unless within local regulatory guidelines

The role of productive forestry in contributing to the global Net Zero transition is increasingly well understood

It is based on two main elements: the sequestration of carbon dioxide through the growth of trees and the production of a low-carbon, renewable alternative to carbon intensive materials

Over time, we will continue to evolve our investment process to benefit from a broad range of climate-related opportunities. These include exploring ways of diversifying our revenue sources to include other natural capital and climate-related services, including if and how biodiversity credits could be developed through traditional forestry approaches or more targeted land management, and the potential for mitigation of physical climate risks such as flood protection.

Climate risks

Examples of climate-related risks facing the division are outlined in Figure 9.

Key 2022 statistics¹

- **1.9mt** CO₂e carbon sequestered (2021: 1.5mt CO₂e)²
- **9.1mn** trees planted covering over 3,500 hectares (2021: 7.6mn trees)
- **1.2mn** tonnes certified timber sold, supporting the replacement of carbon intensive materials (2021: 991,000 tonnes)

1. All 2022 figures in this table reflect UK, Irish and Australian assets but do not include New Zealand assets. All 2021 figures reflect UK and Irish assets only.

2. Gresham House estimates based on area of forests under management and expected growth rates

These include:

- **Increased risk of fires, storms and floods (physical climate risks), damaging forests and leading to lower output and reduced revenues.** We commit to all forests being planned and managed to enhance their resilience to climate change, including through diversification of geography, species, age and end-product use. We make use of climate scenario modelling to assist in developing temperate forests where current and future climates are supportive of the growing of softwood timber. More information on the role of scenario analysis within Forestry can be found towards the end of the Strategy section.
- **Regulation and reputational risk arising from the stigmatisation of the sector.** Governments and local communities are increasingly pushing for their definition of climate-resilient forests, including through the planting of more native and diverse species. We play a very active role in engaging with governments and the local community on such issues, both in listening and responding to concerns and educating on the carbon and community benefits of productive forestry. More broadly we operate in geographies with strong legal systems that support land-based investments with stable political systems to support our long-term investment horizon.

KPIs are used to track the progress that our assets are making against their ESG and climate-related ambitions, and to what extent climate-related risks are being managed effectively. Examples of climate-related KPIs that are monitored include:

- Total trees planted
- Carbon sequestration of forests (mtCO₂)
- % forests certified
- Certified timber sold (tonnes)
- Area of land managed for biodiversity or conservation (%)
- Our operational carbon emissions (tCO₂e)

Case study: community engagement in forestry planning and development

New forest developments are complex and detailed processes. A 3,450-acre site in North Ayrshire was acquired and developed by our Forestry team on behalf of clients. The intention for the site was to establish a sustainably managed productive forest that included diverse species, peatland restoration, access for local communities, and a run-of-river hydro scheme.

Despite the site being poor quality agricultural land with limited biodiversity, the initial tree planting application and Environmental Assessment took seven years to approve. During the seven-year period, the Gresham House team and woodland managers met regularly with local groups to discuss all aspects of the scheme.

The team designed a considerable network of paths and footbridges throughout the forest to support community access and recreation. The forest was also planned to incorporate a wide range of tree species, both productive (spruce) and non-productive (broadleaves), to improve the biodiversity of the site, well above the requirements of forestry standards.

The forest is still being developed following approval. Trees are in their establishment phase and the hydro scheme is being expanded to generate more renewable energy for the local area. Access requirements are constantly being discussed and developed with a Local Access Group and our team have a strong working relationship with them.

Figure 9: example climate risks and opportunities for Forestry

Risks & opportunities: Forestry					
Risk/ opportunity	Risk: policy & legal	Risk: physical	Opportunity: products and services	Opportunity: market	Opportunity: energy source
Description	Regulation leading to species restrictions and diverse planting requirements	Increased extreme weather events leading to fires, storms and floods	Demand for new sustainable timber products	Demand for new forestry services and natural capital markets, such as tourism	Increased demand for biomass leading to increased timber prices
Likelihood	Medium	Low	Medium	Medium	Medium
Potential impacts	Increased costs, reduction in revenues	Damage to existing assets, reduction in revenues	Increase in revenue and diversity of income	Increase in revenue, access to new markets and diversity of income	Increase in revenue and diversity of income
Time period	Medium term	Long term	Short & medium term	Short & medium term	Short & medium term
Divisional commentary	We play a very active role in engaging with governments and the local community on such issues. We only operate in geographies with strong legal systems that support land-based investments with stable political systems to support our long-term investment horizon	Forests planned and managed to enhance their resilience to climate change, including through the diversification of geography, species, age and end-product use. We make use of modelling to select sites where current and future climates are supportive of the growing of softwood timber	We recognise the importance of homegrown timber to improve natural resource and reduce dependence on imports. Strategy aligns with national goals to increase tree cover and the promotion of timber as a low-embodied-carbon material for building construction	Division constantly exploring new revenue diversification opportunities. Natural capital services increasingly understood, valued and regarded as viable climate solutions	Increased demand for biomass adds diversity to timber products and supports a higher price. Some forest sites well suited to renewable energy projects and battery parks
Example KPIs/ trends to monitor	<ul style="list-style-type: none"> ▪ Forest composition ▪ # community engagements ▪ # biodiversity assessments ▪ Public access to forests 	<ul style="list-style-type: none"> ▪ Long-term climate projections ▪ Rainfall/temperature patterns ▪ Windblow and fire insurance events 	<ul style="list-style-type: none"> ▪ UK and global timber demand ▪ Revenues from forestry assets ▪ FSC certification of forests 	<ul style="list-style-type: none"> ▪ Revenue mix ▪ Diversity of forestry assets 	<ul style="list-style-type: none"> ▪ Biomass demand in the UK ▪ Sawmill output ▪ # assets with potential for renewable energy generation

New Energy

The Gresham House New Energy team invests in, constructs and manages wind and solar assets, as well as battery storage via Gresham House Energy Storage Fund plc (GRID), the UK's largest publicly listed fund investing in utility-scale battery energy storage systems.

Our strategy supports the shift from a world powered by finite resources to a rapidly evolving new energy system powered by renewables and supported by storage.

Through our existing assets, current pipeline and intention to invest further in new renewables and battery storage assets, our strategy materially contributes to the UK's Net Zero Strategy and ambition to decarbonise the energy system.

Key 2022 statistics

- **486.7 GWh** renewable electricity generated by wind and solar assets (2021: 490.5 GWh)
- **550 MW** operational battery energy storage capacity provided to the UK National Grid (2021: 425 MW)
- **470 MW** battery energy storage capacity under construction (2021: 415 MW)

Climate opportunities

In supporting the UK's decarbonisation ambitions, our strategy is geared into several climate-related opportunities. These are focused around four core investment areas:

- **Battery energy storage:** investments in battery energy storage systems designed to benefit from the opportunities presented by the transition to renewable energy technologies. Renewable energy technologies are inherently intermittent and without inertia creating a need for storage to shift supply to meet demand as well as a requirement for ancillary services to stabilise the network
- **Solar:** investments into ground-mounted and rooftop solar projects. Solar assets are now an integral part of the UK's generating capacity. In the UK, solar generation amounts to around 4% of electricity supply on an annual basis but during the summer months output meets over a third of our electricity demand .
- **Wind:** investments in onshore wind assets. Wind assets are the most well-established renewable energy technology in the UK based on the amount of power generated. Given the UK's plentiful wind resource, projects are economically attractive without a need for Government subsidy, though the Contracts for Difference scheme has historically offered strong support for the wind sector.



- **Collocated renewable energy assets with battery energy storage:** we believe that there is an exciting new opportunity for solar and wind assets to be collocated with battery energy storage systems. Collocation offers a way to support a cost-effective energy transition and to improve the risk-adjusted returns potential for our investors.

KPIs that are used to track progress against our climate-related ambitions include:

- Renewable electricity generated by wind and solar assets (GWh)
- CO₂ avoided through renewable electricity generation
- New renewable energy generation brought to the grid (GWh)
- Total battery energy storage operational capacity provided to the grid (MW)
- Battery energy storage capacity under construction (MW)
- Carbon emissions of our investments (tCO₂e)

Climate risks

As outlined in Figure 10, the division is exposed to several climate-related risks over the short-, medium- and long-term. Examples include:

- Government policy, including the risk that the UK government moves away from its Net Zero ambitions in favour of further fossil fuel extraction and usage
- The increased cost of raw materials as a result of short supply, energy price shocks and geopolitical events, amongst other factors. The cost of raw materials is closely monitored by the investment team and costs are agreed and fixed at the construction stage
- Supply chain shocks leading to a negative impact on raw material pricing and transportation costs. A key long-term sustainability objective identified by the team is to determine best-in-class suppliers to work with and encourage more responsible supplier practices to reduce supply chain sustainability risks

We use the services of third-party experts to estimate the impact of specific risk factors on energy prices over the short, medium and long term to create low, high and central case scenarios which are used within financial modelling, although the precise effect on power prices of any of the identified factors, and their timing, is uncertain. More information on scenario analysis can be found later on in the Strategy section.



Case study: engaging on the Review of Electricity Market Arrangements (REMA)

The government released its consultation document on REMA in July 2022. REMA is a major review into the UK's electricity market design with the aim to ensure cost benefits to customers in the long term whilst constructing a long-term Net Zero energy network. The document outlined many ideas including changing the wholesale market to Locational Marginal Pricing (LMP) or Nodal pricing, reforms to the Capacity Market and a review of Contracts for Difference (CfD).

Gresham House has taken an active role in the consultation and has responded on all points raised. The New Energy team continues to be involved (directly and through industry networks) with BEIS and the ESO to ensure a sensible and effective solution is found whilst protecting the returns case for renewable and storage assets, something highlighted as a priority in the consultation document.

The review is expected to take several years, however the team remains involved through taking part in market studies into the effects of various plans outlined and will continue to communicate with BEIS and the ESO to protect the investment case.



Figure 10: example climate risks and opportunities for New Energy

Risks & opportunities: New Energy					
Risk/ opportunity	Risk: market	Risk: physical	Risk: policy & legal	Opportunity: products and services	Opportunity: market
Description	Volatility in the cost of raw materials	Impact of higher temperatures and acute physical risks on asset performance	Changes to policy and regulation	Development and/or expansion of low emission goods and services	Access to new and emerging markets
Likelihood	Medium	Medium	Medium	Medium	Medium
Potential impacts	Increased costs	Decreased performance of assets due to higher temperatures, damage to assets from acute events	Increased operating costs (e.g., higher compliance costs), reduction in income	Increased revenues	Increased revenues
Time period	Short & medium term	Medium term	Medium & long term	Medium & long term	Medium & long term
Divisional commentary	Recent events such as the war in Ukraine and the US Inflation Reduction Act will continue to lead to supply shortages, leading to price volatility. The cost of raw materials is closely monitored by the investment team and costs are agreed and fixed at the construction stage where possible	Potential physical risk factors identified as part of the initial acquisition process, design reviews, site inspections or during routine maintenance, and are mitigated via design changes. The geographical spread of the investment portfolio mitigates against local physical risk factors	Risk that UK government strategy moves away from Net Zero ambitions. Potential reform of policy and legislation is consistently monitored. The division plays an active role in responding to regulatory consultations and is part of industry lobby groups	The division is focused on delivering the lowest emissions products and seeks to drive best design practices to extract the best efficiencies	The division is constantly evaluating new areas of the market including (e.g. abated gas, hydrogen, EV charging) and is aware of incentive schemes for some of these areas
Example KPIs/ trends to monitor	<ul style="list-style-type: none"> Cost of raw materials Raw material costs as a % of operating costs 	<ul style="list-style-type: none"> % assets in areas prone to extreme weather events Average cost of asset insurance 	<ul style="list-style-type: none"> # community engagements # consultation responses 	<ul style="list-style-type: none"> Operational carbon emissions (tCO₂e) Operational carbon intensity (tCO₂e/£mn invested) 	<ul style="list-style-type: none"> Revenue mix Diversity of New Energy assets

Sustainable Infrastructure

Gresham House's Sustainable Infrastructure strategy invests in real asset-based solutions that directly address key sustainability challenges.

We aim to deliver effective and alternative investment solutions to ensure clients achieve their financial objectives whilst making a meaningful contribution to advancing the world's transition to a more sustainable way of life.

The strategy aims to generate positive and intentional impact through its investments across six thematic subsectors: resource efficiency; decarbonisation; nature regeneration; waste solutions; digital inclusion; and health & education.

Climate opportunities

ESG and climate opportunity monitoring is an integral part of the fund's investment process; each prospective investment is assessed and evaluated both in terms of its financial contribution and the contribution it makes to the funds' sustainability and climate objectives.

We have invested in a range of climate-related opportunities, such as:

- **Waste Knot:** a waste processing facility that recycles commercial and industrial (C&I) waste into a pelletised fuel that can be used as a low-carbon substitute for coal in the cement and steel industries
- **GH Bio Power:** collects and processes used cooking oil. The recycled oil is then used to fuel generators to produce electricity, which earn revenues from Government subsidies and the sale of power direct to on-site customers or to the grid at peak prices
- **Fischer Farms:** owns and operates controlled environment agriculture infrastructure known as vertical farms, that grow leafy greens using hydroponics and LED lighting technology
- **Environment Bank:** acquires low-value areas of land and cultivates it to create high-quality natural habitats, thereby increasing the diversity of plant and animal life, improving the ability of the land to sequester carbon and mitigate physical climate change impacts, such as floods. The units of increase in biodiversity are called Biodiversity Net Gain units. These credits are sold to property developers to meet their obligations under the Environment Act
- New investments are aligned with the division's impact framework, which helps to structure how its impact is measured and monitored over time

Key 2022 statistics

- **69GWh** renewable/low-carbon energy generated for sale
- **330 hectares** of biodiverse land created across 13 land banks

Both positive and negative impacts for each proposed investment are outlined prior to a transaction, and associated KPIs and an active ownership plan drawn up to align its impact throughout its life with its original stated intention.

Examples of climate-related KPIs that are monitored include:

- Low-carbon energy generated (MWh)
- Carbon emissions avoided through low-carbon technologies (tCO₂e)
- Water savings (m³)
- Hectares of biodiversity created
- Carbon emissions of our investments (tCO₂e)

Climate risks

As outlined in Figure 11 below, the division is exposed to several climate-related risks over the short-, medium- and long-term. Examples include:

- The risk that currently supportive political/regulatory regimes change, affecting the overall demand for a product or service. To address this medium-term risk, the division closely monitors political and regulatory trends and commentary at the asset level and is part of industry bodies that focus on attracting private capital into climate solutions
- The division has high exposure to input costs, such as energy, waste and waste oil. Over the short-, medium- and long-term, volatility in these input costs exacerbated by climate change could have a negative impact on revenue generation. The team factors long-term forecasts into its investment case analysis and monitors these over time. Where possible, both input costs and output revenue are contractually fixed

Sustainability Policy

A core element of our investment process is a sustainability commitment made by its investee companies. All portfolio companies must sign up to two policies as per the division's investment terms. These are a Diversity, Equity & Inclusion (DEI) Policy and Sustainability Policy. As part of the Sustainability Policy, investee companies must acknowledge that concern for the environment and broader sustainability agenda is integral to their activities and must declare that they are fully committed to taking all reasonable steps to ensuring that their business benefits the environment and wider society, including through mitigating carbon emissions.

Case study: vertical farming at Fischer Farms

In 2018, Gresham House's British Sustainable Infrastructure Fund (BSIF) invested into Fischer Farms, the developer and operator of multiple indoor, controlled environment "vertical farm" projects that grow herbs and leafy greens indoors on multiple levels of shelving, using hydroponics and LEDs.

BSIF recognises that vertical farming represents a significant resource efficiency opportunity. Over 50% of all habitable land is used for agriculture⁶, yet intensive farming contributes to myriad negative climate-related issues, including the erosion and disruption of soil ecosystems – crucial stores of carbon – as well as the destruction of natural ecosystems. Vertical farming represents a sustainable and scalable alternative to this.

Analysis of Fischer Farms' second farm highlights significant real-world carbon benefits compared with traditional farming methods. These include:

- Carbon savings of 4,000tCO₂e per annum⁷
- Water savings of >99%⁸
- Land savings of >99%⁹

6. Source: World Economic Forum

7. Fischer Farms 2 estimated to use 0.85% of the water required for a conventional farm to grow the same crops as per analysis by Carbon Responsible

8. Land savings compared with conventional farm as per analysis by Carbon Responsible

9. Carbon savings as per analysis of Fischer Farms 2 by Carbon Responsible. Carbon savings assume 100% renewable electricity used by Fischer Farms and compares with import from Italy. Mileage and carbon estimates as per UK Govt data

Figure 11: example climate risks and opportunities for Sustainable Infrastructure

Risks & opportunities: Sustainable Infrastructure					
Risk/ opportunity	Risk: policy & legal	Risk: technology	Risk: market	Opportunity: energy source	Opportunity: products and services
Description	Changes to policy and regulation leading to reduction in demand for goods	Risk of new technology failure or obsolescence in the future that cannot be mitigated	Volatility in the cost of raw materials	Use of lower-emission sources of energy	Demand for low-carbon products
Likelihood	Low	Low	Medium	High	High
Potential impacts	Increased operating costs (e.g., higher compliance costs), reduction in income	Increased costs from retro-fitting newer technology or lower valuation on sale	Increased production costs due to changing input prices	Reduced operational costs through lower energy prices, reduced exposure to fossil fuels and carbon prices	Increased revenue through demand for lower emissions products and services
Time period	Medium & long term	Short & medium term	Medium & long term	Short & medium term	Short & medium term
Divisional commentary	Political and legal risks are monitored at the asset level. Risk considered low given investments are designed to address climate-related risks	Considered where relevant in technical diligence and with ongoing support from environmental consultants	High exposure to input costs. Long term forecasts factored in to analysis, and monitored regularly by the investment committee. Where possible, both input costs and output revenue are contractually fixed	Investments are designed to use as much renewable energy as possible. KPIs monitoring energy use are reported to investment committee on a monthly basis	Carefully considered in initial investment case and typically a rationale for making the investment. The drive for low carbon products and services is a key driver for the division
Example KPIs/ trends to monitor	<ul style="list-style-type: none"> # community engagements # consultation responses 	<ul style="list-style-type: none"> % renewable energy consumed % non-renewable energy consumed Demand for product (e.g. tonnes produced / no. customers) Carbon footprint of operations 	<ul style="list-style-type: none"> Cost of raw materials Raw material costs as a % of operating costs % renewable energy consumed % non-renewable energy consumed 	<ul style="list-style-type: none"> % renewable energy consumed % non-renewable energy consumed 	<ul style="list-style-type: none"> Operational carbon emissions (tCO₂e) Operational carbon intensity (tCO₂e/£m invested)

Real Estate

Gresham House offers long-term equity investments into UK housing, through listed and unlisted housing investment vehicles, each focused on addressing different areas of the UK's well documented structural shortfall in housing.

These investments aim to deliver stable, secure inflation-linked returns whilst providing wider social and environmental benefits to all stakeholders including our residents, the local community and wider economy.

In Ireland, we provide investments into commercial property – office, retail and industrial properties in the greater Dublin area and major regional urban centres.

Many of the climate risks and opportunities that we face are inextricably linked. For example, policy risks mandating the increase in the energy efficiency of the UK's housing stock necessitate the division's Energy Performance Certification (EPC) upgrade scheme. At the same time, the UK has seen an increase in demand for more energy efficient homes, which represents a significant commercial opportunity for the division to upgrade the energy efficiency of its homes¹⁰.

In the division's Irish commercial property fund, potential reputational risks could arise from a perception that the fund is not moving fast enough to reduce its energy and carbon intensity. This represents an opportunity for the fund to improve the carbon intensity of its properties and work with tenants to improve energy efficiency practices within its units.

10. Buying into the Green Homes Revolution Report ([santander.co.uk](https://www.santander.co.uk))

Key 2022 statistics

- **35%** EPC A&B-rated properties (2021: 33%)
- **163** homes committed to funding in 2022 with renewable energy generation capacity (solar PV)
- **21** "zero bills" homes constructed in 2022, to be delivered in 1Q 2023

Climate risks and opportunities

Gresham House's Real Estate division is taking action to mitigate several climate-related risks and capitalise on climate-related opportunities in several ways. Examples include:

- For Shared Ownership properties, ensuring all new builds have a minimum EPC rating of B or above. This compares to the expected requirement that all UK domestic properties in the private rented sector reach EPC C by 2028
- Upgrading directly-rented EPC D rated UK Housing properties to at least EPC C by 2025, three years ahead of the Government target
- Within UK Housing, not building in areas of medium/high flood risk, in line with the commitments made in the Shared Ownership Environmental Charter
- Within the Irish Commercial Property Fund, including green lease provisions in all new leases which include an obligation for tenants to provide core sustainability information with the manager to help improve the quality and quantity of sustainability and climate-related data available to the manager



Case study: “zero bills” homes at Stanford-Le-Hope

As part of its Shared Ownership Environmental Charter, ReSI LP has outlined its commitment to the delivery of sustainability and carbon reduction targets, with a goal of achieving operational Net Zero carbon by 2025.

The Charter states that the team will work with industry partners to achieve Net Zero carbon for all new homes by 2050. In Q1 2023, ReSI LP will deliver the first of the 153 new build shared ownership homes at its development in Stanford-le-Hope.

This scheme uses rooftop solar panels and air source heat pumps to support the delivery of high-quality energy efficient homes. The site will deliver 101 homes that are EPC A and operationally Net Zero.

Furthermore, 21 homes have guaranteed energy bills of zero; these homes are equipped with additional insulation, improved air tightness and battery storage and are guaranteed no energy bills through our partnership with Octopus Energy, saving owners up to £40,000 over 20 years.¹¹

¹¹ 40,000 saving over 20 years per household assuming an average energy bill of £2,000 per annum



Figure 12: example climate risks and opportunities for Real Estate

Risks & opportunities: Real Estate					
Risk/ opportunity	Risk: policy & legal	Risk: market	Risk: physical	Opportunity: resource efficiency	Opportunity: energy source
Description	Changes to regulation requiring more energy efficient properties	Reduced demand for properties in favour of more energy efficient properties	Damage to properties through extreme weather events	Move to more energy efficient property	Use of lower-emission sources of energy
Likelihood	Medium	Medium	Low	High	Medium
Potential impacts	Increased expenditure on energy efficiency improvements	Reduced demand for properties leading to re-pricing of assets	Increased costs, write-offs and early retirement of existing assets	Increased demand leading to increased revenues and enhanced property values	Lower energy prices for tenants, reduced exposure to fossil fuels and carbon prices
Time period	Medium & long term	Medium term	Long term	Medium term	Medium term
Divisional commentary	UK Housing portfolio future proofed by having energy efficiency rating above average. Green lease provisions included in all new commercial property leases to improve energy and carbon data collection	Increasing energy costs place financial constraints on residents. In UK Housing, this risk is mitigated through committing to delivering all new homes as a minimum of EPC B, with 80% of new homes funded in 2022 meeting EPC A.	A key criteria in due diligence of new investments is the determination of whether they are located in areas prone to flood risk. Shared Ownership charter commits us to not building in areas of medium/ high flood risk. The cost of property insurance is closely monitored as such costs will rise as a result of extreme weather events.	UK Housing working with an external consultant to determine to what level carbon emissions can be reduced through retrofitting. Shared Ownership Charter targets increasing the number of homes delivered that meet the future homes standard year on year	UK Housing increasing the number of homes with renewable energy generation on site and other energy efficiency measures (e.g. heat pumps). Commercial property funds working to retrofit existing buildings to ensure they continue to meet regulatory and market expectations
Example KPIs/ trends to monitor	<ul style="list-style-type: none"> Operational carbon emissions (tCO₂e) Operational carbon intensity (tCO₂e/m² floorspace) Breakdown of EPCs by property type 	<ul style="list-style-type: none"> Breakdown of EPCs by property type # properties with renewable electricity generation on site 	<ul style="list-style-type: none"> % properties in areas prone to flooding and other extreme weather events Average cost of property insurance 	<ul style="list-style-type: none"> Breakdown of EPCs by property type # properties with renewable electricity generation on site 	<ul style="list-style-type: none"> # properties with renewable electricity generation on site Energy mix of tenanted properties

Climate strategy: Strategic Equity

Gresham House's Public and Private Equity teams target superior long-term returns by applying an active private equity approach, engaging with companies, applying rigorous due diligence and developing a deep understanding of each investment.

Environmental (including climate change) and social factors are assessed as risk factors during due diligence to eliminate companies that face environmental and social risks that cannot be mitigated through engagement and governance changes. Investment teams are also increasingly engaging on climate change-related risks and opportunities as part of stewardship activities.

Integration of climate considerations in the investment process

Climate-related considerations are integrated into the lifecycle of each public and private equity investment as part of broader ESG analysis as follows:

01 Initial appraisal

Material ESG and climate-related matters requiring further investigation are identified during the due diligence stage. If certain risks are unlikely to be sufficiently managed or mitigated, then the teams may choose not to proceed at this stage.

02 Due diligence

The ESG Decision Tool and, where possible, meetings with management, are used to assess material ESG and climate-related risks that need to be mitigated. ESG and climate-related opportunities that could drive value are identified. Specialised consultants may be used to provide additional information.



03 Investment appraisal

A summary of the ESG and climate-related analysis is included in every Investment Committee submission. Appropriate risk mitigation approaches will be referenced and assurance that the business is open to making improvements is sought.

04 Holding period

Public Equity: The team regularly engages with boards and management teams, focusing on strategic, financial and operational matters, including ESG and climate-related factors, and consistently uses its voting rights.

Private Equity: A 100-day post-investment plan is developed to address shorter term risks uncovered in the due diligence stage. The team uses its position as a board member and active investor to influence management to proactively address longer term risks and opportunities.

Climate-related opportunities

The Strategic Equity division's investment strategy is primarily focused on companies operating in parts of the economy that it believes are benefiting from long-term structural growth trends and in sectors where the division has deep expertise and networks. As a result both the Public and Private Equity teams can invest in companies exposed to climate-related opportunities based on size, sector, financial strength and valuation.

For example, the Gresham House Global Thematic Multi Asset Fund looks to invest in companies that align with its sustainable themes, one of which is Climate & Energy, and also applies exclusionary criteria. For all new investments made by the fund (except for cash or cash equivalents, or sovereign bonds), a company note including an investment and sustainability thesis must be produced prior to investment. This includes an analysis of the thematic alignment of the security and includes detail such as the theme targeted and a description of how the asset aligns to the theme. One of the exclusion criteria of the fund is "Fossil Fuels Production and/or Exploration >10% Revenue".

Our Ventures business recognises the opportunities inherent in backing cutting-edge technologies that are critical pieces of the Future of Energy value chain. It has identified three core variables into which it aims to drive investment over the near- and medium-term. These include energy generation, balancing & trading, and energy consumption. Over the next few years the division expects to invest in a number of early-stage growth capital businesses exposed to the Future of Energy theme across these three verticals.



Climate-related risks

Within Private and Public Equity, ESG and climate factors are considered as part of risk analysis but the divisions do not specifically target positive outcomes on certain environmental or societal characteristics. As well as risk analysis undertaken through completion of the ESG Decision Tool, research is used to inform engagement objectives that the investment teams work with companies on throughout the holding period.

While our Public and Private Equity divisions do not typically invest in carbon intensive sectors, one of Gresham House Ireland's funds has exposure to four companies involved in oil and gas exploration. The Sustainable Investment team is currently working with the relevant investment team to undertake additional research on these stocks to better understand their climate risk exposure and the viability of the stocks' transition plans.

Being an active, long-term steward of our investments is an important part of being a responsible investor and therefore investment teams actively incorporate engagement and voting activities into their investment process over time. The ability to influence change at portfolio companies will partly depend on the proportion of the company we own.

Over the coming years we will endeavour to improve the level and accuracy of our climate risk analysis within our Strategic Equity division and look forward to reporting progress in future TCFD reports.

Engagement

We recognise the importance of engagement as an essential part of being effective stewards of the investments we make. One of the ways in which the Private Equity division engages with its portfolio companies on ESG and climate-related matters is through its annual ESG survey.

This survey asks investee businesses a range of questions based on the ESG_VC framework and helps to identify an understanding of how portfolio companies think about ESG and climate-related issues, and which ESG and climate-related data is reported on and monitored. The results of the survey are used to build engagement plans for investee businesses based on specific ESG and climate-related matters.

The division also recognises the opportunity to educate investee companies on the importance of material ESG issues to their business. Alongside the Group's Sustainable Investment team, it hosts a quarterly webinar series to provide a toolkit for investors to better integrate ESG and sustainability into their businesses. This webinar series follows the structure of the TCFD and aims to generate sustainable value creation through a better appreciation of climate risks and opportunities, among other ESG factors.

Scenario analysis

Scenario analysis and climate projections play an important role in several of Gresham House's Real Asset divisions. In order to provide long-term solutions to the transition to a low-carbon economy, we recognise the importance of weather and climate projections in highlighting potential investment opportunities and futureproofing our assets and the returns that they are able to generate.

When identifying and evaluating the risks that we face, it is important that we understand how the climate will change over the short, medium and long term, and how climate change could influence the availability of certain raw materials, the health of natural assets and the direction of the market and regulation. This need is most apparent with Real Assets, where our typical investment horizon is over 10 years.

While the complex models at the heart of global temperature scenarios are becoming more accurate, their outcomes remain rather uncertain, driven by three factors:

- 1 Internal variability.** This is the measure of the variability of the climate system independent of human activities. This states that while overall temperatures will increase, these increases are not linear, and short-term fluctuations will be driven by internal variability which leads to forecast uncertainty.
- 2 Model spread.** Humans possess incomplete knowledge of the effect of the climate system on model outcomes. This means that running the same model with the same assumptions multiple times can still lead to different outcomes. This variability results in "model spread" uncertainty which again leads to forecast uncertainty.
- 3 Scenario spread.** This is a measure of the uncertainty about future emissions and atmospheric CO₂ capture. Representative Concentration Pathways (RCPs) describe different scenarios in terms of the evolution of CO₂ concentration over time; it is impossible to know what climate actions will be taken and what RCP scenario will be closer to the reality, and this leads to additional forecast uncertainty.

These sources of uncertainty in climate projections are discussed in more detail by the Intergovernmental Panel on Climate Change (IPCC) [here](#).

While we use modelling and scenario analysis in some of our investment divisions to inform decision making, we recognise their limitations and therefore use them alongside other information that informs our investment analysis.

TCFD recommendation



Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios

The resilience of our strategy to future climate scenarios

We have identified four core mitigations to the physical and transitional effects of climate change on our business strategy.

- 1** Climate change is a core part of our strategy. Our Corporate Sustainability Strategy (CSS) identifies climate change as a priority area and we recognise that the creation of stakeholder value is contingent on our delivery of services supporting climate change mitigation and resilience. Embedded within the CSS is the requirement for us to monitor and reduce our impact on the environment, notably through the reduction of the carbon emissions of our operations and our investments.
- 2** Many of our investment solutions will benefit from the transition to a low-carbon economy given the climate benefits that they offer. Our role as specialists in sustainable alternatives means we are committed to assets that provide long-term solutions to the transition to a low-carbon economy.
- 3** Our balance sheet is well diversified across different sectors of the economy. Our strategy covers a broad range of sectors, asset classes and geographies. This helps to manage volatility arising from potential external, climate-related events, and provides a stable path for our growth strategy.
- 4** Climate risk is considered prior to all proposed investments. Each division's proprietary ESG Decision Tool asks investment teams to consider specific physical and transition climate risks prior to a proposed transaction. For our Real Assets divisions, this includes the recommendation to overlay a proposed investment's asset location into the Met Office's **UK Climate Projections (UKCP)**. Investment teams are supported in considering the impact of projected changes in weather patterns by our Sustainable Investment team. KPIs are used to form meaningful engagements with investee businesses and to track progress on how assets are taking advantage of climate-related opportunities and managing and mitigating climate-related risks over time.

As we continue to grow over the coming years, we will continue to evolve how we assess our resilience against future climate scenarios, most notably within our Strategic Equity division.

The role of scenario analysis within Real Assets

Most of our Real Assets divisions will benefit from the opportunities afforded by the transition to a low-carbon economy. Central to those opportunities is the ability of investment teams to understand the likely impact of climate change on the weather and on other transitional areas such as policy, regulation and the cost of energy.

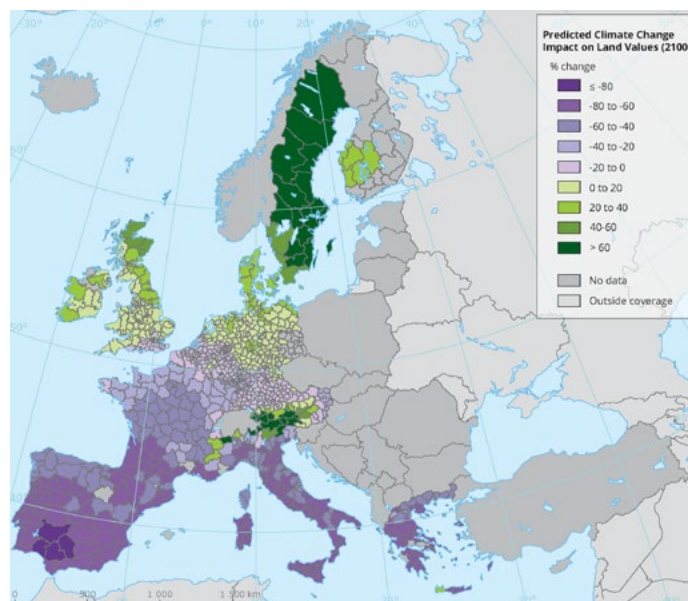
Forecasting weather patterns in Forestry

The forecasting and modelling of climate patterns plays a prominent part of the Forestry division’s investment process. The team aims to manage and develop its forests so that they are best positioned to address potential future climate-related risks such as changes in growing conditions, fires, flooding, or limited water availability. Climate predictions are used by the Forestry division in the following ways:

- To improve the way in which forests are planned and managed in order to enhance their resilience to climate change and to mitigate the risks posed by the negative impacts of a changing climate.
- To help select the tree species most tolerant to certain climatic conditions before planting.

Climate change poses a threat to commercial forestry around the world, where global warming will continue to shape the optimal geographies for growing commercial grade timber. However, in some regions a changing climate, leading to warmer and wetter forests, will be positive for growth rates. For example, Northern European countries are estimated to be less impacted from global warming with forestry land values expected to rise as indicated in Figure 13.

Figure 13: predicted climate change impact on land values (2100)



Source: European Environment Agency

Regional climate projections are used in the selection of tree species for new planting. Climate considerations are also used in tree breeding, the process by which the underlying genetics of trees are enhanced to better suit its surroundings.

As an example of tree breeding, the team initiated the recent development of the use of Lutz spruce as an alternative to other spruces on drier sites in the UK. This species appears to be better adapted to drier, more continental conditions and the division is actively trialling the species where climatic moisture deficit is relatively high.



Modelling energy prices in New Energy

Through the Gresham House Energy Storage Fund plc (GRID), Gresham House's investments in Battery Energy Storage Systems (BESS) are well positioned to benefit over the short, medium and long term by participating in the opportunities arising in the UK and overseas from the decarbonisation of energy usage and the increased penetration of renewable energy.

The division already benefits from climate-related opportunities arising from the transition to renewable energy technologies which are inherently intermittent, and which therefore create additional requirements for ancillary services, which BESS can provide, to support the transmission network balancing mechanism.

This also presents wholesale trading opportunities for the division.

Over the coming years, it is likely that the wholesale energy markets will be significantly impacted by a number of climate-related factors.

These include:

- government policy (including carbon cost regimes and mandated plant closure)
- penetration of renewables
- development in future technologies designed to deal with climate-related matters (e.g. a move to a hydrogen-based energy system)
- changing patterns of demand (including the impact of electric vehicles and heat pumps)

The division uses the services of third-party experts to estimate the impact of these factors on energy prices over the short, medium and long term to create low, high and central case scenarios.

These scenarios, which factor in government Net Zero commitments, a view on the likelihood of their implementation, and expected carbon prices, are then embedded within financial modelling.



03 Risk management

Gresham House is aware of the potential impact of both physical and transition climate risks on the financial value of the Company, its assets and its investments.

Physical risks are those arising from the climatic impact of higher average temperatures (such as the increased frequency and severity of extreme weather events), whilst transition risks are those arising from the changes in technology, markets, policy, regulation, and consumer sentiment as a result of the transition to a lower-carbon economy.

Gresham House recognises that transparency around material climate-related financial information can help support investment decisions throughout the transition to a low-carbon economy. Reporting in line with the full recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD) will assist with the analysis, understanding and disclosure of relevant climate-related financial information.

Identifying and assessing climate-related risks

The responsibility for climate-related risk management has been embedded into the activities of each business unit throughout the lifecycle of an investment.

Enterprise risk assessment

The identification and assessment of climate-related risk takes place through the same risk identification process as other risks using our Enterprise Risk Management (ERM) Framework. This framework assesses and manages Group-wide risks based on the likelihood of the risk materialising and the business exposures faced if it does.

Risk identification and assessment is a two-step process involving:

- Identification of the strategic objectives of the Group as a whole and supporting business processes; and
- Identification and assessment of the risk events that might impede the achievement of objectives or delivery of business processes. Risks are assessed on two dimensions, likelihood, and financial impact; these scores are then combined in line with ERM methodology to obtain a total risk score.

TCFD recommendation



Describe the organisation's processes for identifying and assessing climate-related risks

TCFD recommendation



Describe how climate-related processes are integrated into the organisation's overall risk management

Figure 14: Risk management framework



03 Risk management

Gresham House maintains a risk register which records all the key risks which are relevant to the Group. In 2023, the risk register was updated to give greater prominence to physical and transition climate risks in the risk identification and management process.

Risk owners are supported in the identification of division-specific climate risks by the Group's Sustainable Investment team, which regularly reviews and provides guidance on the sustainability and climate-related risks facing each division.

New product risk assessment

As part of the design of new collective investment schemes, fund managers are required to identify and assess the relevant climate-related risks the fund may potentially be exposed to. The fund manager's assessment is subject to review and challenge from the risk management and sustainable investment functions and formally documented as part of the product governance committee workflow.

Investment case risk assessment

Individual investment decisions are overseen by formal Investment Oversight committees, which review and challenge proposals in line with defined procedures which capture climate-risk.

The Gresham House ESG Decision tool is a key component of Gresham House's approach to ESG and climate-related risk integration and is applied to all investment divisions.

The ESG Decision tool requires the investment team to analyse how a broad range of ESG risks – including climate-related risks – may impact upon a proposed investment. The outcomes of the ESG Decision Tool shape the due diligence process and provide rational ESG factors to be tracked, monitored, and managed over time by our investment teams. More information on the ESG Decision Tool can be found later in this section.

TCFD recommendation



Describe the organisation's processes for managing climate-related risks

Managing climate-related risks

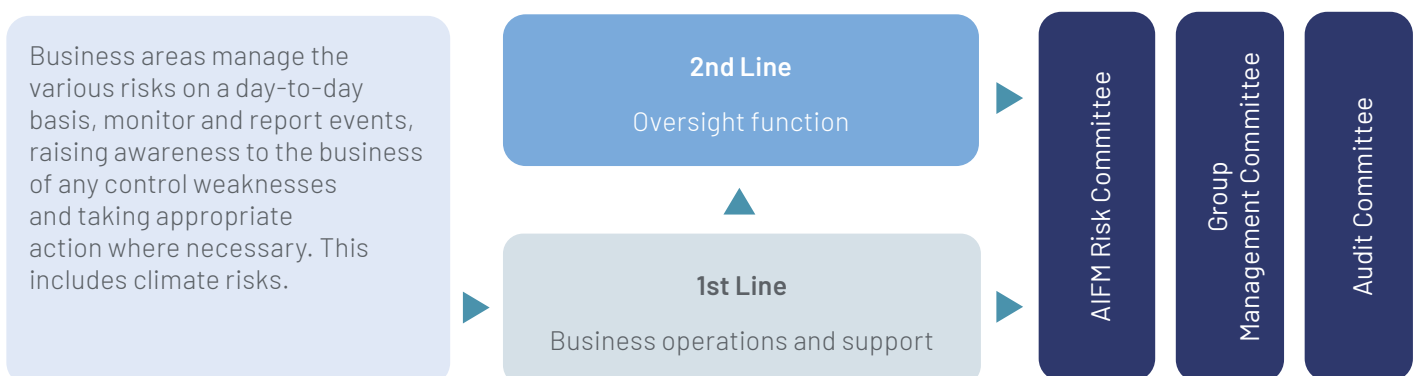
Climate risks are managed in line with all other enterprise-related risks, and as such, for each material risk identified, controls and mitigating actions are documented, and risk owners acknowledge ownership for the maintenance and operation of these controls.

Business-unit risk owners have the day-to-day ownership, responsibility, and accountability for assessing, controlling and managing risks within their units.

Fund managers submit formal quarterly risk reports to the AIFM Risk Committee, chaired by the CFO. The AIFM Risk Committee reviews the risks relevant to each fund's investment strategy to which each fund is or may be exposed.

On a six-monthly basis, divisional heads report on the status of risks within their division and an updated Group Risk Register is reported to the Audit Committee.

Figure 15: Two lines of defence model



Climate engagement with investee businesses

Over the last 12 months Gresham House has taken steps to improve the quality and quantity of ESG and climate-related data that it collects from its investee businesses.

Division-specific ESG KPI banks have been drawn up and finalised so that investment teams can improve their understanding of ESG issues within their investments. On climate, Gresham House has worked with expert carbon consultants to understand the carbon footprint and intensity of its investments and their sources and uses of carbon, all of which will improve future climate risk management processes.

Engaging with investee businesses to improve their disclosure and practices relating to climate-related risks is a crucial first step in helping to improve their ability to identify, manage and mitigate these risks. Examples of division-specific climate-related engagements include:

- All portfolio companies in the Sustainable Infrastructure division are required to sign up to a sustainability policy, requiring them to mitigate any adverse environmental impacts, conserve resources, avoid emissions, and continually strive to improve their environmental performance.
- The Private Equity team undertakes an annual ESG survey of its investments, several questions of which are centred on climate change. Throughout the feedback process, the team has encouraged investee businesses to calculate and understand their carbon baseline and to take action to reduce their carbon footprint.
- The Forestry team has surveyed its woodland managers, sawmill and main nursery supplier to improve the quality and quantity of carbon-related data that they disclose.

Risk time frames

We consider risks in the context of the following time frames:

- 0-3 years: short term
- 3-10 years: medium term
- 10+ years: long term

Divisional climate risk management

Each asset division has its own ESG Decision Tool which helps support the identification of potential material ESG risks prior to investment. The Tool is based on the ten themes of Gresham House's Sustainable Investment Framework (Figure 5 in the Strategy section).

The Tool focuses on material ESG risks, including climate risks, which can then be tracked, monitored, and managed over time. The tools will not tell the investment teams whether to invest or not, instead they aim to provide a rational and replicable assessment of key ESG risks which should be considered prior to investment. It is up to the investment teams to decide whether they are sufficiently comfortable with these risks to proceed with an investment.

For Gresham House's Strategic Equity division, completion of the ESG Decision Tool is the primary way through which climate risks are identified. Where material climate risks are identified as part of this process, they are discussed with management teams and monitored throughout the life of the investment.

Please note that for some Gresham House Ireland funds, proprietary ESG Decision Tools are currently in development and will be introduced in 2023.

A summary of core risks and opportunities can be found in the Strategy section.



04 Metrics and targets

Methodology

Group-level metrics methodology

Over the last few years we have looked to improve the quality and quantity of climate-related data that we collect and report on. For the first time in 2021 we undertook an exercise to understand the carbon emissions of our operations and our investments alongside expert carbon consultants, and this exercise was repeated in 2022.

In this section we disclose the scope 1, scope 2 and scope 3 greenhouse gas (GHG) emissions covering both our operations and our investments.

Group consolidated emissions 2022

Following guidance from Carbon Trust, Forestry operational activities are considered to fall under Gresham House’s direct control. As a result, these emissions are reported under Scope 1 & 2 for Gresham House plc consolidated Group emissions.

We include all Forestry Scope 1 & 2 emissions within the “Carbon footprint of our investments” section given they remain associated with investment assets we manage on behalf of our clients. More detail relating to Forestry carbon removals (biogenic emissions) can be found on [page 41](#).

Figure 16: Gresham House consolidated group emissions

Category	2021	2022
Total Scope 1	26,252	26,162
Corporate operations - fuel use	11	86
Forestry - emissions associated with management, harvesting and roading of forestry assets	26,241	26,076
Total Scope 2	22	38
Corporate operations - electricity (location based)	22	38
Total Scope 3	515,794	497,231
Corporate operations (see Corporate operational emissions for breakdown)	60	238
Investment activities - scope 1,2 & 3 excluding Forestry Scope 1& 2 emissions ¹²	515,734	496,993

12. This figure is based on 2022 Investment emissions (scope 1, 2 & 3) of 512,165 tCO₂e minus 2022 Forestry scope 1&2 emissions of 26,076 tCO₂e.

TCFD recommendation



Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process

Greenhouse gas (GHG) emissions

Scope 1: direct emissions from owned or controlled sources

Scope 2: indirect emissions from the consumption of purchased electricity, steam and cooling

Scope 3: all other indirect emissions that occur within the value chain

Divisional-level metrics

When discussing the carbon footprint of our investments, in addition to disclosing our absolute emissions, we report on three KPIs that will help us to manage our climate impact over the coming years:

- Weighted average carbon intensity (WACI)-measures a portfolio’s exposure to carbon-intensive companies, expressed as tCO₂e/£m revenue:

$$WACI \left(\frac{tCO_2e}{\$m \text{ revenue}} \right) = \sum_{i=1}^n \frac{Investment_i}{Total \text{ Portfolio Value}} \times \left(\frac{S1\&2 \text{ emissions}_i}{\$m \text{ revenue}_i} \right)$$

- Carbon emissions intensity- measures the volume of carbon emissions per million dollars of revenue, also known as the carbon efficiency of a portfolio, expressed as tCO₂e/\$m revenue:

$$Carbon \text{ Intensity} \left(\frac{tCO_2e}{\$m \text{ revenue}} \right) = \frac{\sum_{i=1}^n \frac{Investment_i}{EV_i} \times (S1\&2 \text{ emissions}_i)}{\sum_{i=1}^n \frac{Investment_i}{EV_i} \times (\$m \text{ revenue}_i)}$$

- Portfolio carbon footprint- total carbon emissions for a portfolio normalised by the market value of the portfolio, expressed in tCO₂e/\$m invested.

$$Carbon \text{ Emissions per } \$m \text{ invested} \left(\frac{tCO_2e}{\$m \text{ invested}} \right) = \frac{\sum_{i=1}^n \frac{Investment_i}{EV_i} \times (S1\&2 \text{ emissions}_i)}{Portfolio \text{ Value } \$m}$$

The methods used for calculations are aligned with the Partnership for Carbon Accounting Financials (PCAF) Global GHG Accounting & Reporting Standard for the Financial Industry¹³. The calculations cover scope 1, scope 2 and, where possible, scope 3 of the investments.

An additional metric that we consider as part of our analysis is return on carbon. Return on carbon shows the revenue generated per tonne of carbon emitted from our investments. This figure further contextualises the carbon footprint of our investments in the context of the returns that were generated throughout the year.

Carbon footprint of our investments

Figure 17: Gresham House financed emissions

Investment emissions source	2021	2022
Scope 1 & 2 emissions (tCO ₂ e)	116,287	110,366
Scope 3 emissions (tCO ₂ e)	425,688	412,703
Emissions intensity (tCO ₂ e/£m) scope 1 & 2	19.5	16.5
Emissions intensity (tCO ₂ e/£m) scope 1, 2 & 3	91.0	78.1
WACI	176.1	481.0
Return on carbon (£m revenue/tCO ₂ e)	0.012	0.016
Data quality score ¹⁴	3.5	3.4
Portfolio coverage (% reported AUM)	99%	98%

Source: We worked with the Carbon Trust to gather and calculate our emissions using the Partnership for Carbon Accounting Financials (PCAF)'s "Global GHG Accounting and Reporting Standard for the Financial Industry" in conformance with the requirements set forth in the GHG Protocol's Corporate Value Chain (Scope 3) Accounting and Reporting Standard for Category 15, "investment activities".

Investment emissions cover all asset divisions managed by Gresham House including Forestry, New Energy, Sustainable Infrastructure, Housing, Public Equity and Private Equity.

Scope 1 & 2 investment emissions fell by 5% in 2022 compared with 2021. The most notable increase in Scope 1&2 investment emissions was driven by our Sustainable Infrastructure division making new investments. This increase was outweighed by reductions in Scope 1 & 2 emissions within Strategic Equity portfolios, stemming from divestments in both our Public and Private Equity divisions.

13. Partnership for Carbon Accounting Financials, The Global GHG Accounting and Reporting Standard for the Financial Industry. First edition (November 2020).

14. In line with PCAF data quality scoring, 1 is most accurate and 5 is least accurate.

Scope 3 emissions fell by 3% in 2022 vs. 2021, driven by divestments within Strategic Equity portfolios.

The Weighted Average Carbon Intensity (WACI) metric includes only Strategic Equity and Forestry assets, for which revenue data is available. This figure, which is sensitive to outliers, more than doubled from 2021 to 2022. Despite reductions in WACI for Public Equity and Private Equity, Forestry WACI increased by 280% due to both a decline in reported revenue for one large fund, following amendments to the methodology for revenue calculation, and the addition of a new Forestry fund yet to generate any revenue.

Some of the scope 3 emissions estimates of the investments are uncertain and, in most cases, not complete, meaning they only cover selected categories. The collection and quality of scope 3 emissions is a key area in which we will look to improve our carbon-related data over the coming years.

Biogenic emissions and removals

In 2022 our forests sequestered more carbon than the carbon footprint of our investments. However, as per current accounting practices, the emissions and removals cannot be reported in this way as these removals are factored into our clients' and the UK government carbon accounts.

The total biogenic emissions for the forestry portfolio have been calculated in the table below. Biogenic emissions refer to the carbon embedded within our forests that have been removed from the atmosphere, but which would eventually be released as CO₂ due to the natural degradation process.

The carbon emissions associated with the forest portfolio detailed in the table below were calculated based on harvested wood, and forest disturbance.

The table below shows this net position for comparison purposes only.

Figure 18: Gresham House Forestry emissions

Forestry emissions	2021	2022
Total annual sequestration (tCO ₂)	-2,024,201	-1,977,453
Emissions from forest loss through disturbances (tCO ₂ /year)	11,012	0
Carbon emissions due to harvest (tCO ₂ /year)	1,467,169	1,125,163
Net footprint (tCO ₂ /year)	-546,020	-852,290

Source: We worked with the Carbon Trust to calculate the emissions associated with harvested wood, adapting IPCC 2006 chapter 2 methodology."

04 Metrics and targets

The reduction in total annual sequestration reflects the reduced sequestration of an Australian forestry asset following a fire event in 2020. This event led to a retrospective decline in forest standing inventory measured at year end 2021 and a consequential decline in measurable annual carbon sequestration for the forest in 2022. This reduction was matched by the increase in annual sequestration associated with a new investment in New Zealand carbon forestry, planted and managed solely for the generation of compliance credits in the local market.

Divisional-level KPIs

ESG and climate-related data play a prominent role in our divisions' investment processes. For our Real Assets divisions, where many of our assets positively contribute to climate resilience and mitigation, climate-related KPIs play an important role in monitoring whether assets are performing in line with their stated intention.

Over the last 12 months, in conjunction with our Sustainable Investment team, each investment division has increased the list of ESG KPIs that it will track for each of its investments.

These KPI banks have been created with reference to a number of well-known sustainability reporting frameworks and reflect the unique nature of our asset classes and the ESG and climate-related risks and opportunities that they face.

These KPIs are intended to support the analysis undertaken by investment teams into their underlying investments.

This greater quality and quantity of data enables more effective engagement and allows investment individuals to track the progress a particular asset is making towards its ESG and climate-related ambitions, and to what extent climate-related risks are being managed effectively.



The following climate-related KPIs are being collected across all of our Real Assets and Strategic Equity divisions:

- Scope 1, 2 and 3 GHG emissions (tCO₂e)
- Carbon footprint (Scope 1&2, tCO₂e)
- GHG intensity (tCO₂e/£m revenue)
- Operational energy consumed (kWh), percentage renewable (%)

In addition to the above, for our Real Assets divisions, examples of additional climate-related KPIs that are being collected, tracked and monitored include:

Forestry

- Total annual GHG emissions sequestered (tCO₂e)
- Area certified to a third-party forest management standard, % (Ha)
- Area managed for afforestation (Ha)(Cumulative)
- Number of trees planted annually
- Timber harvest volume (m³)
- Percentage of timber sold in m³ that is certified (%)

New Energy

- Operational BESS capacity (MW)
- BESS capacity under construction (MW)
- Renewable energy generation (MWh)
- Total GHG emissions avoided (tCO₂e)

Sustainable Infrastructure

- Low-carbon energy generated (MWh)
- Carbon emissions avoided through low-carbon technologies (tCO₂e)
- Water savings (m³)
- Hectares of biodiversity created
- Carbon emissions of our investments (tCO₂e)

Real Estate

- Average EPC rating of portfolio
- Operational energy consumed (kWh), percentage renewable (%)
- Percentage of buildings producing zero-carbon energy produced on site (%)
- Percentage and number of homes with access to electric vehicle charging



Operational metrics and KPIs

For the first time in 2021 we worked with a specialist consultant to calculate our corporate carbon emissions. The output of this analysis highlighted that most of our emissions are Scope 3 and come from the use of third-party vehicles.

In 2022 we undertook several projects to improve the quality of the operational carbon data that we collect and report on.

These include undertaking a commuting survey of all of our staff and enhancing the expenses system to improve the granularity of business travel data.

Figure 19: Gresham House operational emissions

Operational emissions source	2021	2022
Total carbon emissions (Scope 1, 2 & 3)(tCO ₂ e)	91.7	362.3
Scope 1 emissions (tCO ₂ e)	10.9	86.2
Scope 2 emissions (tCO ₂ e)	21.8	38.2
Scope 3 emissions (tCO ₂ e)	59.7	237.9
Emissions intensity (tCO ₂ e/£mn revenue)	1.30	4.66
Carbon intensity (tCO ₂ e/full time employee)	0.53	1.62
Return on carbon (£mn revenue/tCO ₂ e)	0.77	0.22

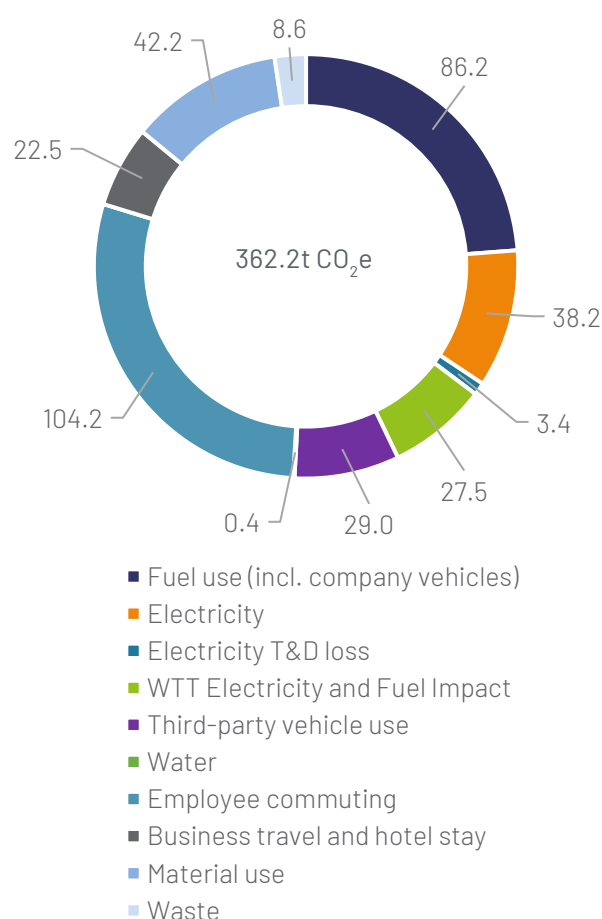
Figure 20: Gresham House operational energy consumption

Operational electricity usage	2021	2022
Total electricity use (Scope 1, 2 & 3)(kWh)	297,219	642,463
Scope 1 emissions (kWh)	42,070	360,968
Scope 2 emissions (kWh)	99,199	189,074
Scope 3 emissions (kWh)	155,951	92,421

The increase in our year-on-year emissions was predominantly driven by an effort to improve data capture and granularity. For example, the increase in Scope 1 emissions in 2022 was caused by the inclusion of natural gas consumption across our offices, which was excluded in 2021 due to a lack of appropriate data.

The rise in Scope 3 emissions reflects the incorporation of new data, such as employee commuting and material usage. Employee commuting contributed almost a third of total operational emissions in 2022. Additionally, the COVID-19 pandemic and associated restrictions on business operations in 2021 also helps to explain the relative increase in fuel and energy impact.

Figure 21: Gresham House operational emissions sources



04 Metrics and targets

Improving accuracy

Improving the quality and scope of operational emissions data was the priority for 2022 in order to create a suitable and appropriate baseline for any future emissions reductions work.

The measurement of carbon emissions impacts uses accepted conversion methodologies and accounting standards. These methodologies and supporting sector frameworks are continually improving, as more input data becomes available, enabling more granular and accurate measurement over time.

At Gresham House we recognise that some of the sectoral data sets used to support our emissions impact are broad and accordingly we have and will continue to invest time and effort into improving existing methodologies to deliver investment and sector level emissions analysis to better inform our decision making.

During the last 12 months this has included commissioning specialist research to deliver this aim as previously referred to in this disclosure.

Forward-looking targets

We have not set forward reduction targets covering our investment and operations at this time. We will look to set targets once we have completed further analysis of our emissions profile and our forward plans for the business.

We aim to set Net Zero targets aligned to the Science Based Targets initiative (SBTi) covering both our investments and our operations. We are currently in the process of exploring the investment and legal implications of setting targets for each of our investment divisions and working with expert carbon consultants to draw up a proposed strategy.

As we progress this project, we aim to make a public commitment to set a science-based target aligned to the SBTi's target-setting criteria in 2023.



Outlook

We are committed to continuing to improve both the quality and granularity of our climate-related disclosures over time.

We have a stated ambition to be recognised leaders in sustainable investment by 2025.

In order to meet this ambition, we must make sure that we continue to evolve and advance our Corporate Sustainability Strategy in the coming years.

As detailed on [page 14](#), our Corporate Sustainability Strategy sets out our priority topics, core objectives to be achieved by 2025, and actions to be completed over the short and medium term.

Climate Change and Pollution has been identified as a priority topic covering our role both as an investor and business and employer. The following outlines some of our core Climate Change and Pollution actions that we will take between now and 2025 to support our climate ambitions.

Gresham House as a sustainable investor

- Engage with investments across all divisions to support the improved measurement of their carbon footprint and establishment of climate change strategies
- Expand the climate data that is reported for all funds, including through climate accounting and scenario analysis

- Continue to assess the key climate-related risks across our investments and develop a process to reduce exposure or mitigate these risks
- Continue to assess key climate-related opportunities across our investments and develop processes that allow Gresham House to allocate to these opportunities where possible
- Set science-based Net Zero targets for each division/fund and regularly monitor progress against these targets

Gresham House as a sustainable business & employer

- Have a climate change mitigation plan in operation to address material climate-related risks and opportunities
- Set a science-based Net Zero target for our operational emissions, aiming to reduce our emissions as far as possible and set necessary policies to support the identified target
- Work with suppliers to support the achievement of their carbon emission targets
- Continue to identify, participate in and/or lead industry climate-related initiatives



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About Gresham House

Gresham House plc (Gresham House) is an LSE-quoted specialist alternative asset management group, dedicated to sustainable investing across a range of strategies, with expertise in forestry, housing, sustainable infrastructure, renewable energy and battery energy storage, public and private equity.

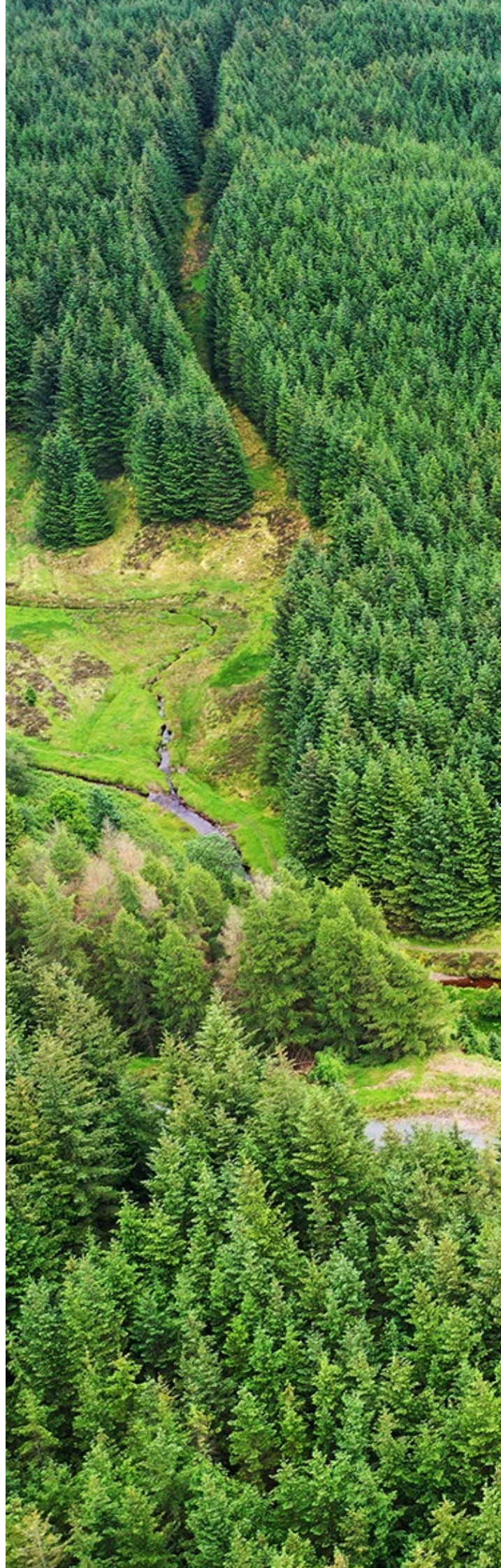
Gresham House actively manages over £7.8bn¹ of assets on behalf of institutions (including pension funds), family offices, charities and endowments, and private individuals.

Gresham House is well-positioned to provide differentiated alternative investment opportunities to pension funds, allowing them to diversify their asset allocation and deliver on income requirements, without exposure to 'traditional' stock market volatility.

As a signatory to the UN-supported Principles for Responsible Investment (PRI), Gresham House is committed to operating responsibly and sustainably, taking the long view in delivering sustainable investment solutions.



1. As at 31 December 2022, Gresham House





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