



investment
management

August 2024

SAVILLS INVESTMENT MANAGEMENT

Approach to Climate Resilience



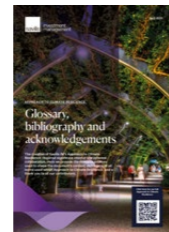
Contents

- 1 Foreword..... 4
- 2 Executive Summary..... 6
- 3 Overview of our Approach to Climate Resilience 8
- 4 Purpose10
- 5 Climate Resilience12
- 6 Addressing Physical Climate Risk..... 16
- 7 Embedding Climate Resilience Into The Investment Life Cycle 20
- 8 Climate Hazard Risk Identification 26
- 9 Next Steps 36

Additional resources



Approach to Climate Resilience: Toolkit for the Built Form within an Urban Environment



Approach to Climate Resilience: Glossary, Bibliography and Acknowledgements



For a complete overview of this document - including why and how Savills IM is integrating climate resilience into its operations - please see page 8.



1. Foreword

Apwinder Foster
Global Head of Strategy and Client Capital,
Savills IM



The consequences of the climate crisis are worsening. 2023 was confirmed as the hottest year on record, June 2024 was warmer globally than any previous June, and the World Economic Forum's latest Global Risks Report highlighted 'extreme weather events' as one of the most severe risks to a material crisis on a global scale over both the short and long-term.^{1, 2}

Against this backdrop, the built environment finds itself ever more vulnerable to the profound impacts of our changing climate.

From physical damage causing operational disruption, to increased risks to the health and safety of occupiers and local communities, examples of how climate change is impacting real estate are becoming widespread.

In cities, the urban "heat island" can negatively impact the comfort and health of occupiers and the surrounding community. Heat stressed locations may exacerbate this effect, resulting in an increase in the more energy intensive activities such as cooling, which leads to an increase in greenhouse gas emissions.

When considering resilience, it is imperative that investment managers understand the interplay between buildings and their wider city environments, including the importance that nature-based solutions play on climate mitigation and adaptation.

¹ World Economic Forum "The Global Risks Report 2024".

² Copernicus "2023 is the hottest year on record, with global temperatures close to the 1.5°C limit", January 2024 & "June 2024 marks 12th month of global temperature reaching 1.5°C above pre-industrial", July 2024

"It's fantastic to see Savills IM is using the BBP Climate Resilience Guidance to publish their approach to climate resilience to fulfil the requirements of the BBP Climate Commitment. Our members continue to drive for decarbonisation across their portfolios, at the same time real-life events demonstrate a pressing need for property owners to develop comprehensive climate resilience strategies. Savills IM is showing real leadership in this space which we hope will provide a useful resource for other property owners and them to follow."

Sarah Ratcliffe
CEO, Better Buildings Partnership



From a climate adaptation perspective, we need to think differently. Instead of thinking about buildings in isolation, we must consider the impacts of a building on the wider environment – and vice versa. To do so requires a deep understanding of 'place' and collaboration with stakeholders including occupiers, local governments, and communities.

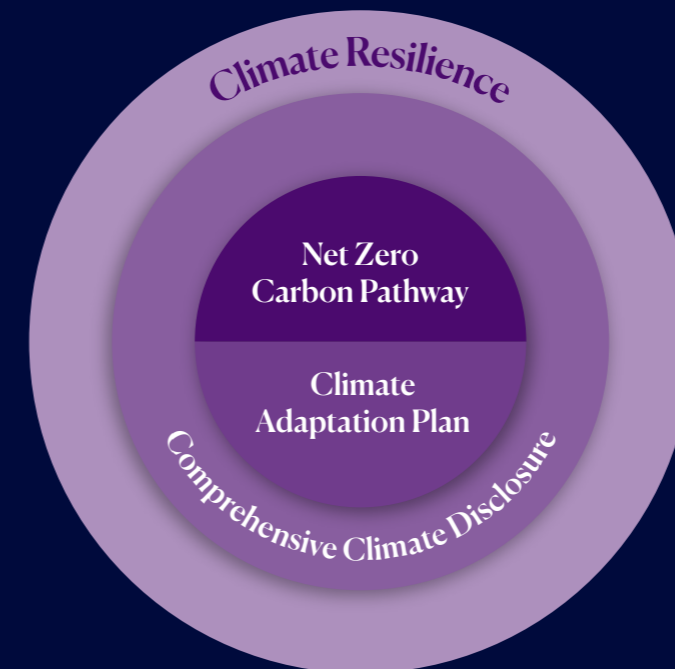
Adapting buildings to become climate resilient in their environs is critical to maintain asset value. It is essential that the real estate industry seizes the opportunity to invest in a resilient future.

Savills IM stands committed to our goals of reaching net zero carbon by 2040. We believe that collaboration with partners and peers gives us the best chance of mitigating the worst effects of climate change and adapting to the consequences of a warming world.

We are publishing this document to share our knowledge and describe our progress. More importantly, we want to provide insight into what we are learning, and what more we need to do. Our intent is to be open, transparent and to encourage others to do the same.

This is our approach to climate resilience.

COMPONENTS OF A CLIMATE RESILIENCE STRATEGY



A climate-resilient business has a strategy in place to:

Mitigate...
the worst impacts of climate change by becoming 'net zero' carbon before 2050

Adapt...
to operating in a world in which climate-driven disruption is more frequent and severe

Disclose...
climate related information to investors, regulators and other stakeholders in a useful and timely way

Source: Better Buildings Partnership "Climate Resilience Guide".

2. Executive Summary

Savills IM’s Approach to Climate Resilience details why we believe it is crucial to consider climate resilience in the context of real estate investing, and how we are embedding climate-related considerations into our operations.

Our [Overview](#) (page 8) highlights how our climate is becoming permanently changed with the increasing severity and frequency of climate-related events, why the built environment has a unique role to play in the fight against climate change due to the emissions it creates and its exposure to physical risk, as well as Savills IM’s current and future plans to integrate climate resilience measures throughout our business.

The [Purpose](#) (page 10) of this report is to:

- Show how real estate can be impacted by extreme weather events and why we must adapt to the worsening climate;
- Respond to the Better Buildings Partnerships’ (BBP) climate adaptation guidance; and
- Detail our approach to climate resilience.

Our definition of [Climate Resilience](#) (Page 12) aligns to the BBP’s guidance. We view climate resilience as **mitigating** the worst impacts of the climate crisis, **adapting** to a world where climate-driven disruption is more frequent, and being transparent and accurate in our **disclosure** of climate-related information.

[Addressing Physical Climate Risk](#) (Page 16) is a core component of a climate resilience strategy. We view physical risk as a material risk and a few of the assets we manage have already been affected by climatic events. We believe that identifying and addressing physical climate risk can provide an opportunity to increase an asset’s value as well as its overall resilience.

At Savills IM we are continuously working to embed climate resilience throughout our [Investment Life Cycle](#) (Page 20). Physical climate and natural hazard risk of targeted geographies are considered at strategy inception, climate risk screening is conducted for all acquisitions, reporting processes are in place throughout portfolio management, and our sustainable development checklist guides climate-related renovations in the event of redevelopment.

[Climate Hazard Risk Identification](#) (Page 26) at Savills IM involves five main factors. The **Location** of the asset; the asset **Type and Characteristics**; how the asset is impacted under various **Scenarios**; how differing types of Hazards can impact the asset; and the **Insurance** available.

Savills IM’s Sky Homes Valencia case study on page 19 details how the Savills IM team designed a range of nature-based solutions upon identifying exposure to heat stress. These measures will be implemented in the near future and have been allowed for in the asset business plan.

We also discuss our [Next Steps](#) (Page 36). Our Approach to Climate Resilience will evolve over time and we are taking steps to quantify the value of real estate at risk from climate events, better understand the resilience of our supply chain, and develop a climate resilience toolkit for asset managers.

We believe that real estate investment managers have a responsibility to respond to the climate crisis, and as we transition our assets to become ever more climate resilient over the coming years we plan to share more material like this to provide transparency on our approach.

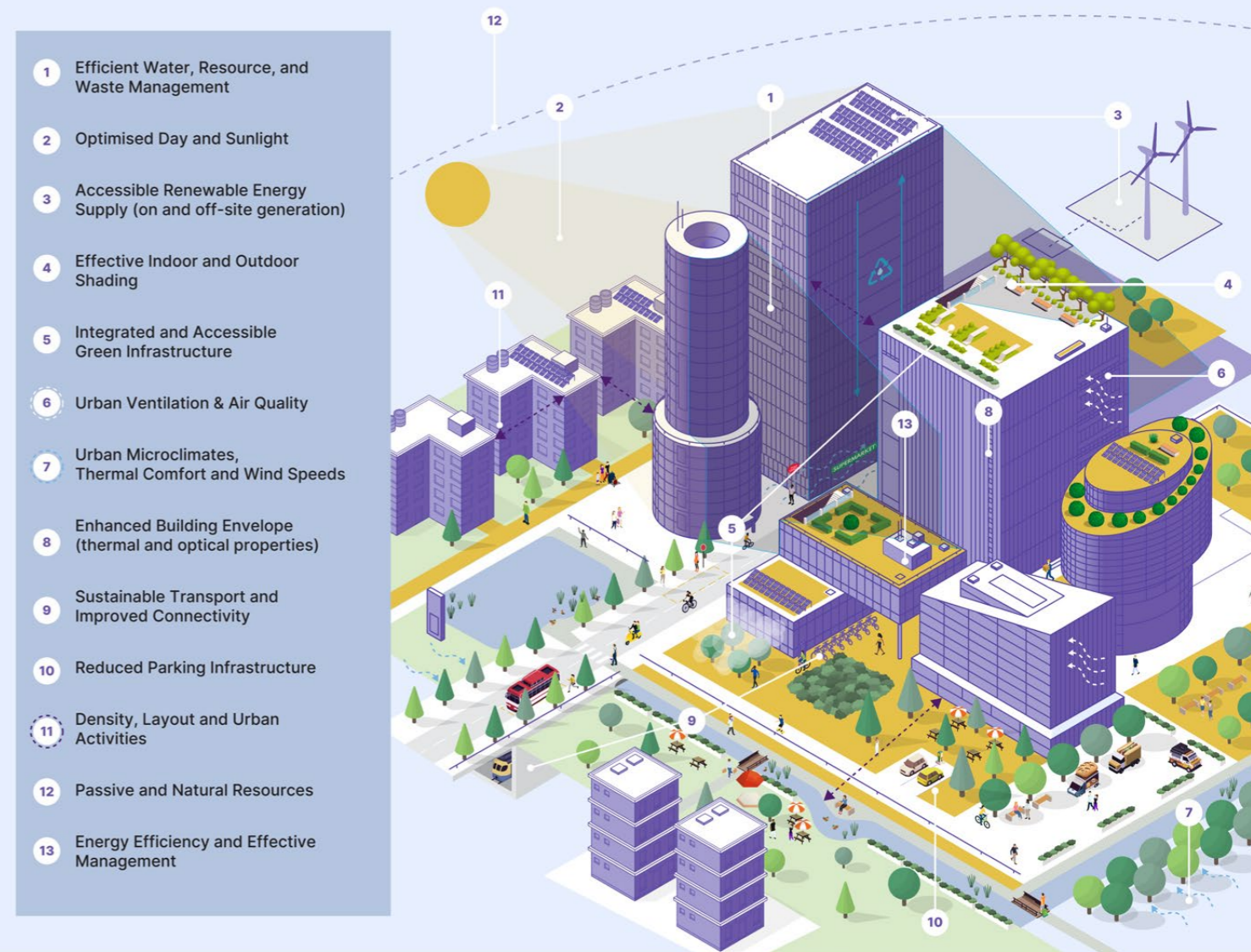
Climate Resilience in Real Estate

In order to achieve climate resilient real estate assets we need to understand the interaction between their placement and the local climate. This is most notable in cities where the interaction between a building and its environment can impact the resilience of the location. The below image depicts a selection of various urban and building-level climate resiliency considerations. Nature-based solutions are a core component of a climate resilience approach, helping to cool urban environments, reduce flooding risk and increase biodiversity.

Our objective is to incorporate these considerations into a comprehensive tool, aiding due diligence and other assessments of climate risk. For more detail on our toolkit, nature-based solutions and the below climate resiliency considerations please see our [Supporting Document – Toolkit For The Built Form Within An Urban Environment](#), developed in collaboration with Dr. Julie Fletcher.

This toolkit is expected to be a living document and will evolve over time. We are sharing our research to further understanding in the sector on this important topic.

URBAN AND BUILDING-LEVEL CLIMATE RESILIENCY CONSIDERATIONS



3. Overview of our Approach to Climate Resilience

In this document we outline why it is crucial to consider climate resilience in the context of real estate investing. We also explain how we are embedding resilience into our processes, and how we plan to take it to the next step.



The climate crisis is not in the distant future, we are feeling the effects now

The impact of the climate crisis is worsening.

Records are tumbling. Data from the World Meteorological Organisation highlights that 2023 was the hottest year on record; Antarctic sea-ice extent reached an absolute record low; global mean sea level reached a record high; and observed concentrations of Greenhouse Gas (GHG) emissions reached record high levels in 2022.³

Our cities are at risk. The onslaught of extreme weather events, which we are already experiencing, is expected to increase in frequency and severity over time. The C40 – a global network of nearly 100 mayors of the world's leading cities – predicts that damages from severe flooding in these cities is expected to cost USD 64 billion per year by 2050, even with current levels of global flood protections in place.⁴

As our climate becomes permanently changed and urban environments face new risks, the world's real estate must adapt.

³ World Meteorological Organization "WMO confirms that 2023 smashes global temperature record", January 2024.

⁴ C40 Cities "Climate-related flooding and drought expected to impact millions of people and cost world's major cities \$194 billion annually", 2022.



The built environment has a crucial role to play

According to the International Energy Agency's Global Status Report, the built environment is responsible for 39% of global energy-related carbon emissions.⁵

Real estate must adapt. Not only must the real estate sector reduce its anthropogenic emissions, but it must also be at the forefront of combatting the climate crisis through climate adaptation.

To create a climate resilient portfolio, real estate investors must address climate risk, which is broken down into:

1. Physical risks: How nature-related events caused by climate change can impact buildings, occupiers, and communities; and
2. Transition risks: The potential risk and disruption of transitioning our assets to meet net zero carbon targets.

There will be consequences of inaction. Not integrating climate resiliency measures into investment strategies will not only increase the likelihood of stranding assets, but there are risks asset value decreases as a direct consequence.

Our **Net Zero Carbon Pathway** details our commitment and targeted steps to reach Net Zero Carbon by 2040, while this document outlines our approach to climate resilience in respect to physical risk.

⁵ International Energy Agency "Global Status Report for Buildings and Construction", December 2019.



Our approach to climate resilience is continuously improving

Climate resilience considerations are continuously being integrated and improved in every stage of Savills IM's investment lifecycle.

A range of factors must be considered. From geographical considerations at investment strategy inception, to mandatory hazard screening of assets at acquisition. Asset-level factors such as location, type and value, are modelled against the Intergovernmental Panel on Climate Change's (IPCC) emission pathways to identify exposure against acute and chronic hazards (see page 26).

Once inherent physical climate and natural hazard exposures are identified, they are integrated into Savills IM's investment lifecycle (see page 20).

Our approach must respond to a variety of risks. Savills IM invests in jurisdictions across the globe, which exposes it to a wide variety of physical and transition risks. Instances of how we are responding to physical risk (see page 19) as well as how extreme climate events have already impacted the assets we manage (see page 31) are highlighted in case studies throughout this document.



We want to help our industry combat the climate crisis

Despite taking steps to integrate climate resilience considerations into our investment lifecycle, further improvements need to be made.

Collaboration is needed. In our supporting guidance, we have collaborated with Dr Julie Fitcher, a chartered architect and urban planner, with expertise in urban climates and environmental design. Dr Fitcher has been advising us in the development of a toolkit that will be designed to assist investment teams in identifying climate resiliency risks and opportunities at both asset and community level.

Our approach will evolve. Our expectation is to continuously improve our approach to climate resilience using creative, credible means which are backed by science. Our future plans are described on page 26 and include continued collaboration with internal and external stakeholders to enable better adaptation, identification of relevant climate metrics and baselining to leverage and explore nature-based adaptation solutions.

How are extreme weather events impacting real estate?

See pages 32-35 for more detail.

Windstorms

Hurricanes, typhoons and winter storms can cause damage to buildings and dislodge unanchored equipment.

EXAMPLE RESILIENCY CONSIDERATION: Regularly assess the anchorage of critical equipment.

Hailstorm

Solidified ice storms can damage to windows and glass facades.

EXAMPLE RESILIENCY CONSIDERATION: Conduct durability surveys for cladding and skylights.

Lightning

Lightning damage can include loss of electricity to the building and can heighten fire risk.

EXAMPLE RESILIENCY CONSIDERATION: Install building surge protection.

Wildfires and Fire Weather

Destructive fires can cause catastrophic building damage, cause disruption and displacement to occupiers and inhabitants.

EXAMPLE RESILIENCY CONSIDERATION: Implement early warning systems.

Heat Stress

Overheated buildings can lead to discomfort, health and well-being risks to occupiers, and require increased energy consumption via cooling.

EXAMPLE RESILIENCY CONSIDERATION: Create solar shading or install green roofs.

Drought

Drought can cause building water stress and impact adjacent green areas/green roofs.

EXAMPLE RESILIENCY CONSIDERATION: Introduce greywater or rainwater systems.

Floods

Foundations, drainage systems and ground level inventory can all be damaged by flooding.

EXAMPLE RESILIENCY CONSIDERATION: Engage with flood and coastal risk management agencies.

4. Purpose

The climate is changing, and it is set to have a profound impact on real estate. Savills IM has produced this document using guidance from the Better Buildings Partnership to provide transparency on why and how we are responding to the crisis.

THE BUSINESS CASE FOR CREATING CLIMATE RESILIENT REAL ESTATE

Research indicates that projected global average temperature trends are largely driven by the cumulative effects of greenhouse gas (GHG) emissions in the atmosphere. With the real estate sector responsible for 39% of global GHG emissions, how the industry adapts and decarbonises is paramount to combatting the climate crisis.

The Intergovernmental Panel on Climate Change's (IPCC) latest report (AR6), highlighted that 170 countries and many cities have incorporated adaptation into their climate policies and planning processes. However, most observed adaptation responses are fragmented, incremental, sector-specific and unequally distributed across regions.⁶

Headlines of the AR6 state that mitigation policies have contributed to a decrease in global energy and carbon intensity. Low-emission technologies are becoming more affordable, with many low or zero emissions options now available for energy and buildings. Consequently adaptation planning and implementation progress has generated multiple benefits, with effective adaptation options having the potential to reduce climate risks and contribute to sustainable development. Global tracked finance for mitigation and adaptation has seen an upward trend since the IPCC's last report (AR5) but is still falling short of needs.

With evidence clearly showing how adaptation and mitigation strategies lead to emissions reduction, Savills IM developed this document to provide transparency on our climate resilience adaptation journey.

⁶ IPCC 2Synthesis Report of the IPCC Sixth Assessment Report (AR6): Longer Report", March 2023.

PURPOSE OF THIS DOCUMENT

As a signatory to the BBP Climate Commitment we are committed to developing a comprehensive climate resilience strategy for our assets under management. We are working towards developing consistent industry disclosure on climate change risks in line with industry standards, including the Taskforce on Climate-Related Financial Disclosures (TCFD), and the International Sustainability Standards Board (ISSB).⁷

We have published several documents which cover our approach to ESG and climate mitigation, such as our net zero carbon pathway document and latest sustainability report.

This document describes the approach Savills IM takes towards climate resilience. Its purpose is to provide an overview of what we are doing today, and where we are heading. As capital markets, technologies, laws, regulations and climate science evolve over time, the ideas, processes, procedures and controls defined within this document will likely adapt to meet evolving market needs and standards.

The content of this document has been developed using guidance and input developed by the Better Buildings Partnership (BBP), Willis Towers Watson (WTW), the UK Green Building Council, other industry working groups and academic advisors. References to sources have been noted throughout. This document seeks to respond to the **BBP's guidance** and the eight considerations for property owners in developing climate adaptation plans:

- Which physical and transitional climate impacts might impact our assets and supply chain?
- What is the value-at-stake or 'Climate Value at Risk' (CVAR) if no action is taken?
- What practical measures and processes will be applied at the building level to increase resilience?
- How are climate adaptation measures integrated into the investment lifecycle?
- How might climate adaptation measures support or hinder climate change mitigation?
- How is collaboration between business units and with external stakeholders enabling better adaptation to climate change?
- What is the role of nature-based solutions in our climate adaptation strategy?
- How might climate adaptation measures impact social outcomes?

⁷ IFRS "IFRS Foundation welcomes culmination of TCFD work and transfer of TCFD monitoring responsibilities to ISSB from 2024".

The economic impacts of climate change are expected to worsen...

World Economic Forum analysis released in 2024 warns that climate-intensified natural disasters may lead to USD\$12.5tn in economic losses by 2050.

...and significant damages are expected in the world's largest cities.

The C40 – a global network of nearly 100 mayors of the world's leading cities – predicts that damages from severe flooding in these cities is expected to cost USD\$64bn per year by 2050, even with current levels of global flood protections in place.

Climate related damages are not yet extensively covered...

Reuters report that natural disasters - many driven by climate change - caused global economic losses of USD\$313bn in 2022. Losses from these natural catastrophes covered by the insurance sector amounted to USD\$132bn leaving a global 'protection gap' of 58%.

...and the adaptation finance gap is leaving the world exposed.

The UN Environment Programme calculates that the adaptation finance needed to implement domestic adaptation priorities is estimated at USD\$387bn per year. In 2021, public multilateral and bilateral adaptation finance flows to developing countries stood at USD\$21bn. The latest adaptation finance gap is reported at in between USD\$194bn to USD\$366bn per year.



5. Climate Resilience

In responding to the BBP's guidance, we outline the climate impacts relevant to our business, how we collaborate on climate resilience and our approach to climate value at risk metrics.

Definition

Our definition of climate resilience is aligned to the BBP's Climate Resilience Guidance, which is to:

Mitigate

the worst impacts of climate change by becoming 'net zero' carbon before 2050

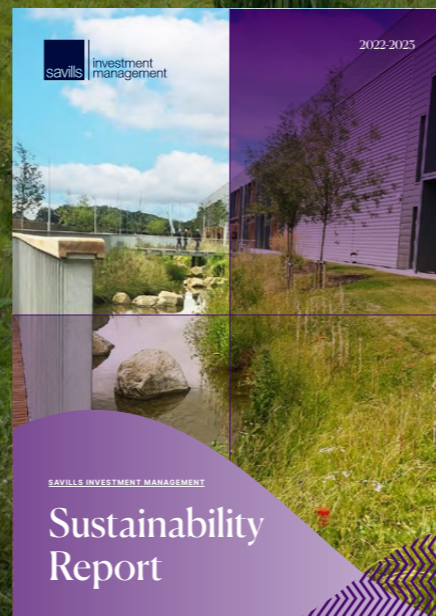
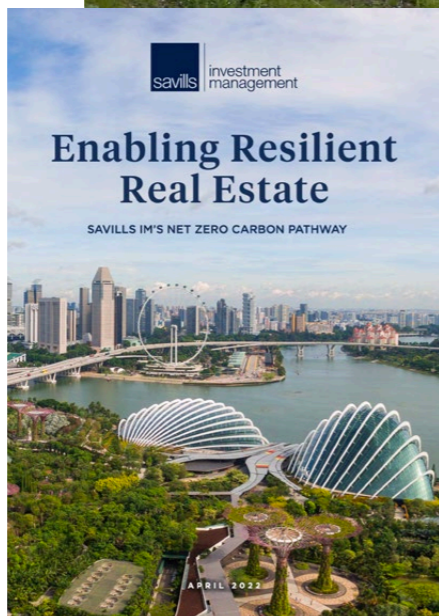
Adapt

to operating in a world in which climate-driven disruption is more frequent and severe

Disclose

climate-related information to investors, regulators and other stakeholders in a useful and timely way

Savills IM's plan to mitigate the worst impacts of climate change can be evidenced in the Net Zero Carbon Pathway. Savills IM is consistently improving its operating model to incorporate climate resilience practices into its processes. This can be evidenced in Savills IM's Sustainability Report and noted throughout this document.



"The Earth's climate is changing, and like all real estate investment managers, we are experiencing its effects.

It is widely reported – from NASA to the World Economic Forum – that we will see an increase in both the frequency and severity of extreme weather events, and the physical hazards that pose a growing threat to the built environment.

Savills IM is committed to responding to the climate crisis and empowering its people with the knowledge and expertise required to strategically navigate and adapt to the most severe consequences of the crisis. This approach involves developing cutting-edge tools and methodologies aimed at adapting assets to ensure resilience across the portfolios we manage.

By engaging in collaborative efforts with industry stakeholders, academia, architects, and climate experts, we are building our processes using guidance from a range of experts. This proactive approach is geared towards not only future-proofing our fiduciary responsibilities to investors but also championing forward-thinking initiatives aimed at driving sustainable investment returns."

Steven Evans
Senior Sustainability Risk Manager,
Savills IM

Which physical and transition climate impacts are relevant to the assets we manage and our supply chain?

Risk management of physical and transition impacts are embedded into Savills IM's asset acquisition process.

Investment critical criteria includes identifying: physical hazard exposures, energy use and efficiency such as energy performance certificates/ratings which vary by jurisdiction, energy intensity and using the Carbon Risk Real Estate Monitor (CRREM) tool to identify stranding risk. Investment teams use this information as an opportunity to identify areas requiring improvement in the relevant managed portfolio to meet its decarbonisation targets. Additionally, standing assets which are held in managed portfolios for a longer duration will commission a net zero audit and have recommendations incorporated into asset plans.

Our supply chain contains organisations which service individual assets, fund vehicles, and provide professional services to support investment decision-making.

Supply chain climate-related risks are far-reaching and there is an opportunity for Savills IM to explore this topic further with market participants, industry experts and third-party suppliers.

How is collaboration between business units and with external stakeholders enabling better adaptation to climate change?

Savills IM's **purpose** is to build prosperity by investing in resilient real estate, and our **vision** is to be a trusted investment manager – respected for our expertise in resilient real estate investments, enabling people, communities and ecosystems to thrive. We will collaborate with investors, occupiers, and supply chain partners to deliver this ambition, focusing attention to where the most impactful contributions can be made.

External collaboration

- As an active signatory to the BBP, the Savills IM team collaborates in multiple workstreams to develop guidance and best practice within the real estate industry. Savills IM is a member of the BBP's Net Zero and Climate Resilience working groups.
- We have sponsored and contributed to ULI's C Change initiative which was launched in 2023 to standardise the assessment and quantification of transition risks into real estate valuations.⁸
- We also provide support to other sustainability-focused groups such as the GRESB Real Estate Net Zero Working Group, INREV, CREFC Europe, UK GBC and the CRREM Global Scientific & Investor Committee (GSIC).
- To provide transparency on Savills IM's RI approach we report on an ongoing basis to the United Nations Principles for Responsible Investment (UNPRI), Net Zero Asset Managers Initiative and to GRESB on behalf of select pooled funds and separately managed accounts.
- Our latest **sustainability report** outlines our commitment and contribution to the UN's Sustainable Development Goals (SDGs). The UN SDGs - as well as our internal ESG focus areas of climate action, people and nature - help to guide our approach.

Internal Collaboration

- Savills IM collaborates with our parent company Savills Plc to align approaches and reporting requirements
- In 2022 we built a Restorative Business Champions network which comprised of 28 colleagues from across Savills IM in its first year and expanded to over 40 colleagues in its second year. The champions undertake a bespoke and extensive training programme focusing on how to reframe business challenges to achieve sustainable outcomes.
- Our Global RI Committee comprises of senior leaders from across our business including the Chief Investment Officer, Global Head of Strategy and Client Capital, Global Head of Investment Risk, Chief Sustainability Officer, Regional Leads and members of the ESG team. The committee is tasked with providing oversight, leadership and guidance on RI issues across Savills IM, as well as monitoring progress towards our long-term goal of becoming a sustainable business.
- We operate a global Senior Asset Manager ESG forum to provide asset managers guidance and support in the practical implementation of RI initiatives.
- Our ESG Data Champion network ensures all Savills IM employees have access to a local language lead on ESG data.

⁸ ULI "C Change", 2023.



What is the value at stake or 'Climate Value at Risk' if no action is taken?

Modelling Climate Risk

In 2021, Savills IM performed a global climate risk exercise which identified modelled Average Annual Loss for floods and windstorms. This included modelling low likelihood and high-impact events such as 1 in 200-year floods, which are often used as a stress test for insurance capital requirements. Since then, the screening of physical climate risks has been further embedded into the asset acquisition process and into portfolio management. The current model accounts for exposures in relation to fund assets under management (AUM). We plan to continue our investigation and assessment of adaptation measures at asset level with the support and advice of technical environmental consultants.

Value-at-Risk

Value-at-Risk (VaR) metrics quantify the estimated potential loss an investment portfolio or asset could face over a specific timeframe at a certain level of confidence. According to the TCFD's 2020 financial sector consultation, climate VaR aims to assess potential financial sensitivity to climate-related risks and opportunities, expressed as a numeric value or range in a selected currency.⁹

Real Estate Considerations

Real estate, as an asset class, is not homogeneous. Factors such as location, occupier activities, building fabric, and lease lengths collectively influence the distinct performance of each asset. Consequently, the intricacies of physical risks introduce a landscape of varying impacts. Investment managers may navigate this complexity using third-party climate analytics to shape their decision-making and risk tolerance. However, differences between analytics providers pose a limitation and may offer an incomplete perspective to the overall risk landscape.

ULI and LaSalle's 2022 report clearly summarised such divergences.¹⁰ Investors interviewed for the report noted limited consistency between analytics providers for the same building and hazard. Likely causes are attributed to underlying data sets, geospatial processing techniques, and differences in modelling approaches. A lack of standardisation and increase in proprietary techniques pose a market risk for investors, particularly if outcomes are contradictory or the methodology is unclear or not well understood.

Similar challenges have also been noted in the banking sector. The European Central Bank's (ECB) 2022 climate risk stress test report highlighted the heterogeneity of climate-related data used across banking institutions in the EU.¹¹

Savills IM's Approach

Given these challenges, Savills IM continues to evolve its climate VaR capabilities with service providers, consultants, academia and industry. At this stage, current offerings do not appear mature enough to provide a "one-size fits all" approach. Until the market matures, Savills IM will continue to monitor its current exposure to physical risks using IPCC representative concentration pathways (RCP) / Shared Socioeconomic Pathway (SSP) scenarios over various time horizons.

How climate VaR becomes adopted depends on many variables including maturity of the market, transparency, and acceptance by market participants. The TCFD concluded in their report that climate VaR is a relatively new metric with few available methodologies that are available or not yet fully transparent or comparable. Savills IM will continue exploring options until the metric(s) and analytics become more suitable and better understood by real estate market participants.

⁹ TCFD "Forward-Looking Financial Sector Metrics Consultation", October 2020.

¹⁰ ULI and LaSalle "How to choose, use, and better understand climate-risk analytics", 2022.

¹¹ ECB "2022 climate risk stress test", July 2022.

6. Addressing Physical Climate Risk

Physical risks can impact real estate in a variety of ways and must be viewed as a material risk.

Savills IM invests in many countries across the globe, which exposes it to a wide variety of transition and physical risks.

Transition risk refers to the potential financial risks and disruptions to transitioning assets to meet net zero carbon targets. Savills IM has outlined its objectives and progress towards addressing transition risks within its **Net Zero Carbon Pathway** and subsequent **sustainability reports**. Savills IM's formal climate-related financial disclosures consistent with **TCFD guidance** are provided by Savills Plc.

Physical risks represent both acute and chronic nature-related events which are directly attributed to climate change and have an adverse impact on the location of assets managed and occupied by Savills IM. This section describes Savills IM's approach towards managing physical climate risk, and principally focuses on adaptation efforts to address adverse impacts.



Physical climate and other natural hazards

Savills IM has partnered with Willis Towers Watson (WTW) to identify physical climate exposures and how to address building and people-level vulnerabilities.

Screening for physical climate hazards is split between acute and chronic risks, either of which may be linked to climate change. Other natural hazards are also included as they pose a physical risk to buildings, but there is either a lack of data, research or a climate signal which supports a future change in frequency or severity of events directly linked to a changing climate.

Acute physical climate risks relate to exposure of assets to sudden or short duration events exacerbated by climate change. These might include storms (including hurricanes), wildfires, droughts, heatwaves, precipitation extremes and floods. These scenarios are becoming more extreme due to the changing climate.

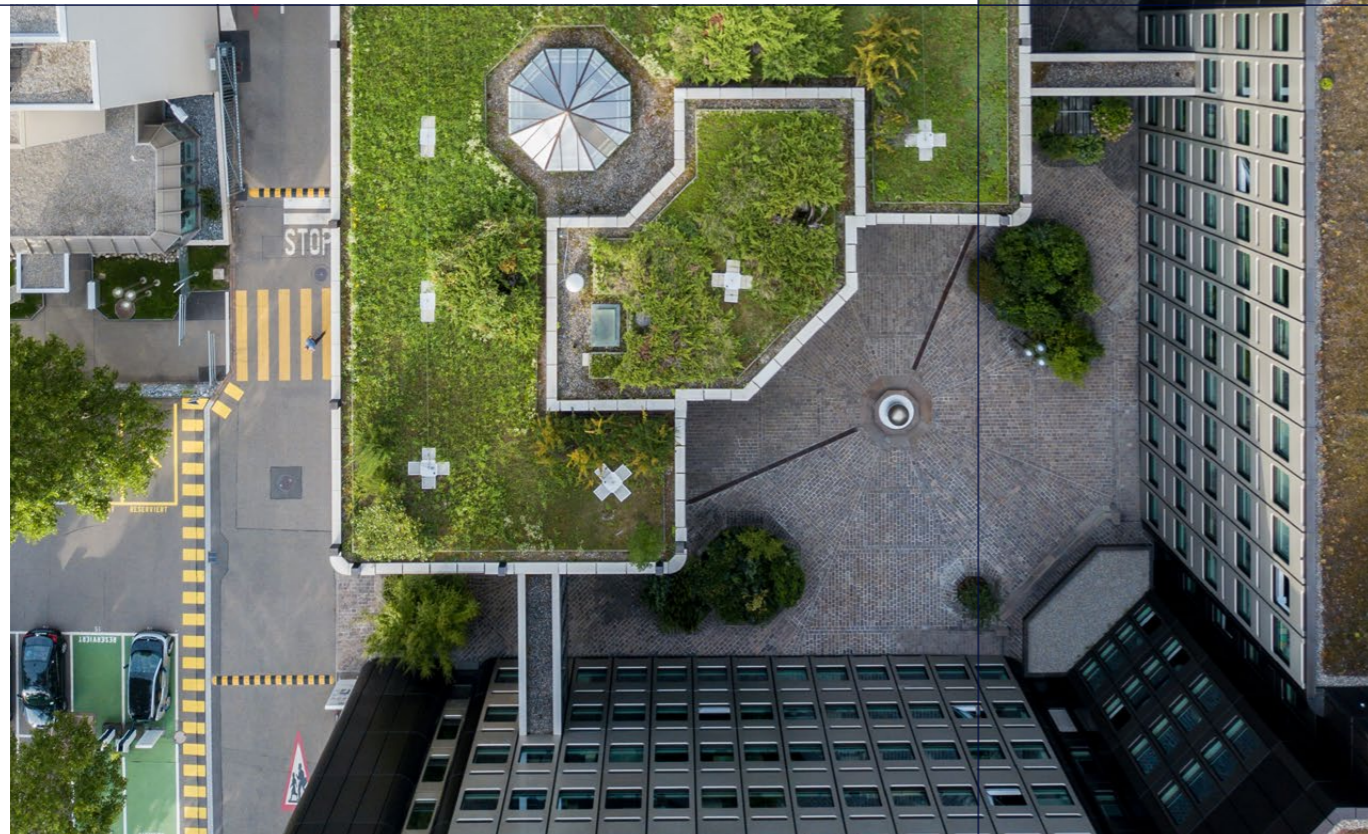
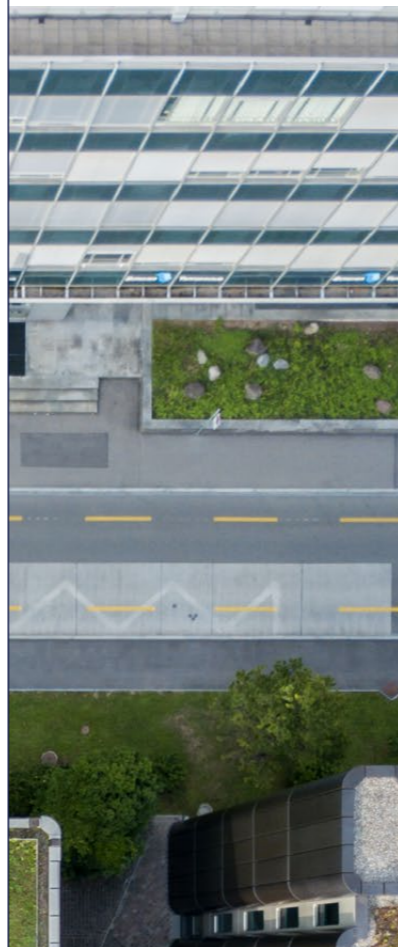
Chronic climate risks impact assets that are exposed to physical hazards which include gradual, long-term trends such as rising sea levels, rising average temperatures and changing precipitation patterns. In other words, chronic risks relate to a slow onset due to the ever-changing climate.

Collectively both acute and chronic risks could be referred to as natural hazards. However there are other atmospheric and geologic natural hazards - such as earthquakes, tornadoes, tsunamis, hail and lightning - with either no relation or a strong signal with regards to climatic changes causing damage to standing assets owned within a portfolio.

Savills IM views physical climate risk as a material risk. Climate hazards may result in damage to physical assets and have negative impacts on the health and well-being of occupiers and employees. They may also lead to an increase in insurance premiums, loss of insurability or make assets difficult to sell. Conversely, identifying physical climate hazards presents an opportunity for retrofitting to increase value and resilience for a climate transition.

WHAT ARE DIRECT AND INDIRECT IMPACTS?

Physical impacts of climate change and other natural hazards may have a direct or indirect effect on real estate assets. Examples include physical damage due to a climate change-related event which results in occupiers ceasing operations due to the building becoming inaccessible (direct). Adverse climate or weather-related events could also impact an occupier's supply chain, resulting in the inability to manufacture or transport goods, source materials, or provide services (indirect). Either of these scenarios could result in operational risks for the business with respect to the payment of rents, exposing an investment vehicle to a loss of distribution to investors, or unanticipated, premature write-downs and devaluation of assets.



CASE STUDY

Sky Homes Valencia, Spain

Savills IM's acquisition, Sky Homes, is set to showcase the integration of green infrastructure to mitigate heat stress and enhance the climate resilience of residential buildings. This forward-looking initiative reflects dedication to proactively address climate-related challenges while ensuring long-term value for investors.

Climate Risk Context

The region's moderate-high exposure to heat stress prompted the investment team to explore innovative solutions that not only enhance the quality of the property but also contribute to the overall well-being of the community.

Recognising the potential impact of rising temperatures on the property and its surroundings,



the team collaborated closely with ecologists and sustainable development consultants to conduct a comprehensive ecological assessment. The findings revealed the opportunity to harness the power of nature by implementing a range of measures to combat heat stress effectively.

The Outcome

A cornerstone of this effort will be the installation of a green roof and a green wall, designed to harmoniously blend with the property's aesthetics while delivering tangible environmental benefits.

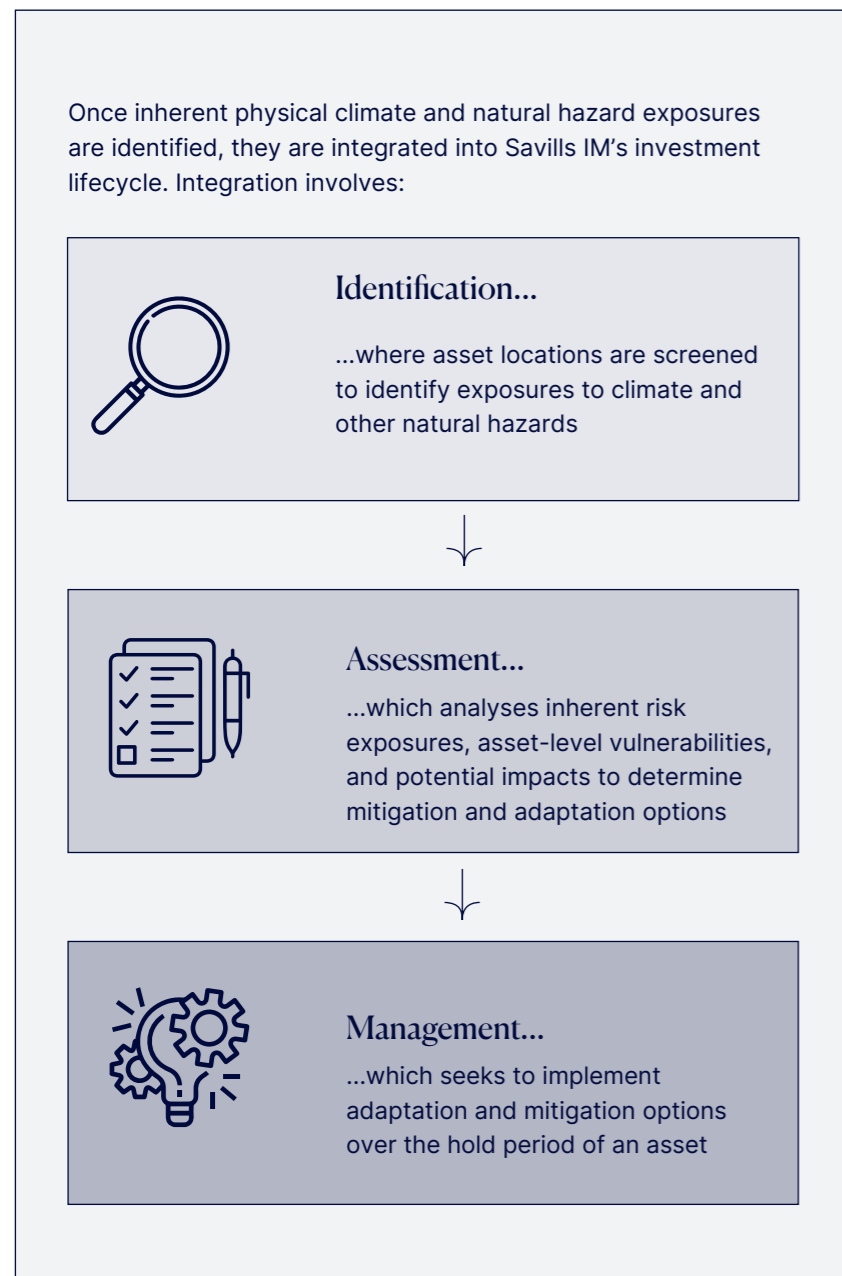
The green roof will act as a natural insulator, reducing indoor temperature fluctuations and providing additional thermal comfort to residents. This innovative installation will not only shield the building from direct solar radiation but also absorb and dissipate excess heat, thus mitigating the urban heat island effect prevalent in many cities like Valencia.

Furthermore, the future installation of a natural vertical garden, in collaboration with experts in ecological restoration will contribute to the property's cooling capacity and will provide shade as well as facilitate evaporative cooling through transpiration. Additionally, the installation of nests for insects, birds, and bats will foster a biodiverse ecosystem that plays a crucial role in regulating local temperatures and enhancing the property's overall resilience.



7. Embedding Climate Resilience Into The Investment Life Cycle

Each stage of the investment cycle requires unique climate resilience considerations. Here we detail our approach.



Strategy and capital raising

Our Product Management Committee oversees the development of new products, onboarding of new mandates and business development activities. The concept stages of new products will involve engagement amongst investors to understand appetite within the market. There, assets may not yet be identified for purchase, but specific asset types may form part of an overall concept and/or strategy for which market testing will be undertaken to identify investor interest. This may, for example, involve a fund concept targeting the affordable housing sector or regenerative agriculture.

Where asset geography is an element of the concept, consideration of physical climate and natural hazard risks will be a key part of product development decision making. Reflecting this, we require that any proposed new discretionary product must, at a minimum, align to SFDR Article 8 disclosure standards and analyse alignment to the EU Taxonomy, which acts as a first stage to addressing climate exposure in the overall management process.



Asset acquisitions

Pipeline process

Savills IM's pipeline forms part of its overall transaction allocation process. This is led by representatives in APAC and Europe who are tasked with identifying assets for potential purchase. The pipeline committee considers characteristics, return profiles, and credentials to decide which portfolio is most suitable for the asset. ESG criteria are incorporated into the asset investment committee (IC) proposal templates - also referred to as 'IC Papers' - which record specific asset-level information and confirms that physical climate and natural hazard risk screening used for risk identification purposes has been completed.

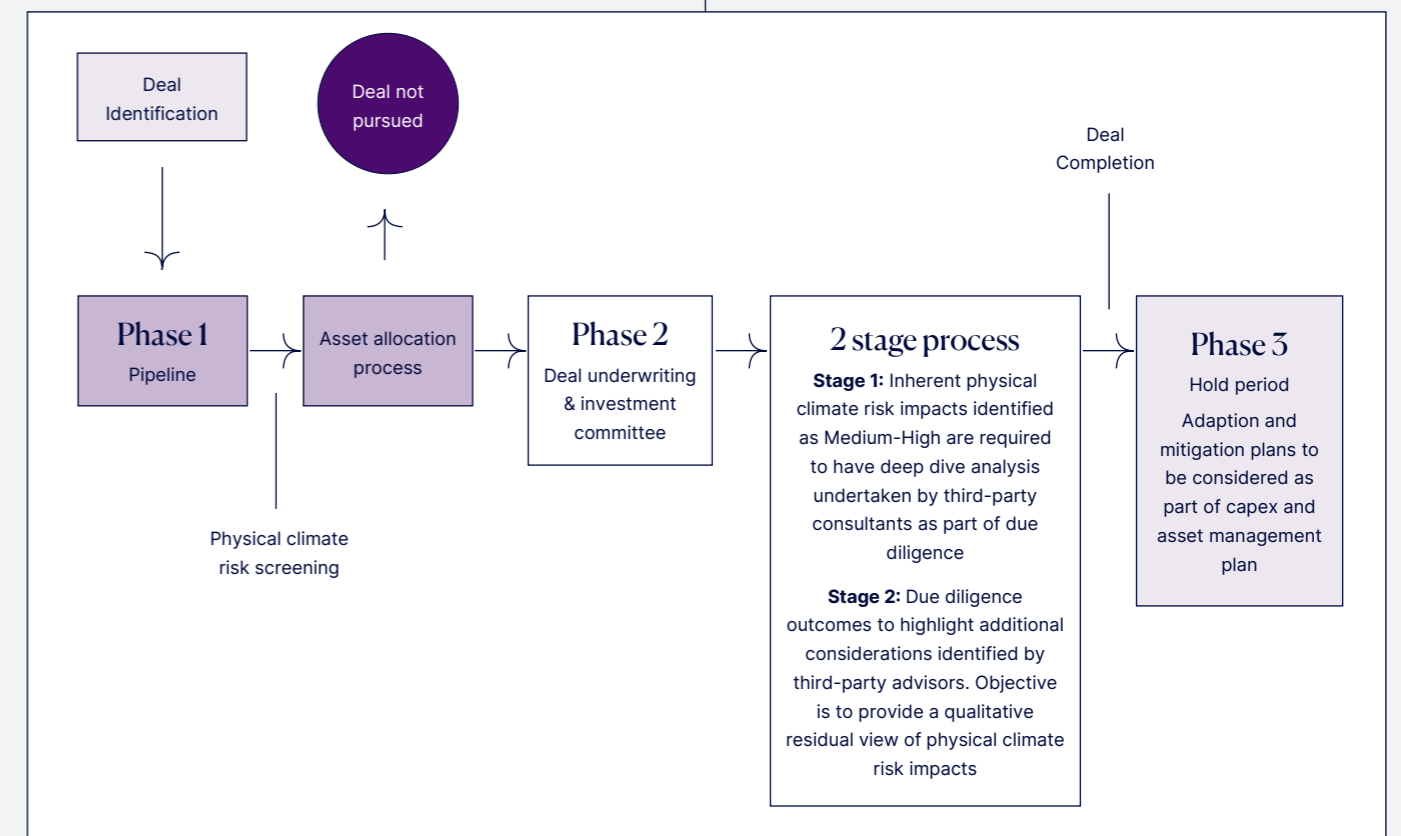
There may be some circumstances where an asset is pursued off-market outside of the pipeline process. In such instances the investment manager will liaise with the ESG team directly to undertake physical climate and natural hazard screening to identify the inherent risk

exposure.

Deal underwriting and investment committee

Upon successful transaction allocation, an asset is progressed for acquisition. Depending on the size and value of an asset as described in our IC's terms of reference, underwriting is undertaken through a two-stage process. At stage 1, medium to high exposures identified from climate risk screening are included as standard in IC papers. These inherent exposures may be challenged by independent committee members to understand how climate risk can be addressed, and whether this could have an impact on the wider portfolio. **Investment teams add commentary around the identified exposures, what opportunities may be available to minimise these exposures, and how this would impact the residual risk.**

Climate risk is an element reported by fund teams on a regular basis, which provides governance committees with oversight of climate exposure, and whether there are any heightened levels of concern. The process continues to evolve.



Technical due diligence

As part of stage 2 IC, technical due diligence is performed to understand an asset's intrinsic qualities, identify weaknesses or vulnerabilities. Where physical risk screening ranges between a medium to high exposure, **investment teams will commission a "deep dive" assessment with an external consultant to identify any opportunities for mitigation, and whether adaptation measures should be put in place.**

From a mitigation perspective, the output of due diligence considers asset-specific improvements to reduce climate impact. This involves working towards the elimination of carbon intensive activities, through retrofitting activities or excluding occupiers in emission intensive industries.

From an adaptation perspective, the deep dive will consider inherent screening exposures, location and topography. We also seek to understand what existing infrastructure is located in the surrounding area to minimise impact. Examples include dykes which defend against flooding, traffic tunnels which can turn into drains, or whether there are permeable pavements or raised roads.

External advisors can support the screening process by providing their expert view, reviewing any existing historical data with respect to local hazards, identifying asset vulnerabilities and highlighting measures which could minimise or prevent major financial impacts, damage, or harm. Such interventions may require retrofitting which could involve, painting buildings and roofs white to reflect sunlight or procuring renewable-powered cooling systems.

The stage 2 IC due diligence review will highlight high risk findings identified by the technical advisor. These results will form part of ultimate decision-making, determining whether a transaction will proceed or what is to be factored into an asset business plan during the hold period.

The Asset Management function forms part of this process as their responsibilities involve delivering on asset business plans, engaging with occupiers and property managers, and governing the capital expenditure budget.

Where required, the ESG team will work with investment teams in reviewing the independent analysis and providing guidance and feedback. Mitigation and adaptation measures which are recommended will be added into the capital expenditure budget and accounted for as part of the asset's financial appraisal. Subsequently, the drawdown of this element of expenditure will be reported and updated in annual business plans and investor reports.

Forward Commitment and Forward Funding

Certain transactions may involve forward commitment, purchase or funding of a site which has yet to be developed. The process of identifying climate hazards related to the site will be considered as part of the overall due diligence process. As a result, any developer appointed must comply with Savills IM's mandatory Sustainability Obligations Checklist.¹² Regarding any mitigation or adaptation measures, this will be taken into account as part of the construction and design of an asset, with oversight by asset management and respective fund team.

From an adaptation perspective, Savills IM's due diligence process highlights measures which anticipate likely climate effects by minimising or preventing major financial impacts, damage, or harm.

¹² Mandatory Sustainability Checklist for Developments may be made available to market participants upon request. Contact ESG@savillsim.com.



Portfolio management

Savills IM's IC maintains oversight of portfolio management, and fund teams are required to report on aspects of asset and fund management activities to the IC at least on an annual basis. Any material matters relating to physical climate and natural hazards are considered in IC portfolio management reviews to highlight opportunities, issues and/or progress on adaptation and mitigation measures.

Fund management teams are also required to report on ESG aspects on a quarterly basis as part of a wider risk scorecard process. At a high-level, the risk scorecard highlights risk exposures which are then used by internal governance committees, senior management, and the risk management function. Physical climate and natural

hazard exposures are included in this analysis, and any progress on mitigation and/or adaptation measures will be highlighted. It is an expectation of the IC that high-risk issues relating to physical climate and natural hazard risks are channelled from the risk scorecard into portfolio management reviews for additional consideration by the IC.

This process is constantly evolving and is expected to become more comprehensive over time.

Lettings, Renewals, Expiries

To address climate risk at asset level, the activities of occupiers need to be analysed to determine whether exposure is aligned with product and corporate requirements. Collaboration with occupiers remains a key component to achieving transition and adaptation objectives.

Identifying whether occupier activities give rise or risk to contravene product and corporate level restrictions forms part of Savills IM's Occupier Exclusions Policy, whereby screening of occupiers is performed alongside anti-money laundering controls. If an alert is raised against the occupier exclusions policy, the point is escalated to a member of the ESG team for further investigation, with consideration given by the IC.

Savills IM has an occupier exclusions policy in place for several products. Occupiers engaged in any of the following activities may be excluded from tenancy arrangements:

- the production, use, storage, trade, maintenance, transportation and financing of controversial weapons
- actively associated with human rights abuses having violated UN Global Compact
- the fossil fuel industry or other industry which contributes directly to the climate and biodiversity crisis
- deriving a percentage of annual turnover from the production of tobacco.

The above is not a definitive list. Further work is being done to enhance this methodology which will widen applicability across Savills IM's product range.

Occupier (tenant) engagement plays a significant role as part of Savills IM's ESG strategy. Presently, when acquiring a building, Savills IM will research an occupier's position on sustainability to identify whether opportunities exist for collaboration, and to determine if green lease clauses can be incorporated into existing lease contracts. In the event that this is not feasible at the acquisition stage of the investment lifecycle, new leases, renewals and regears typically present a more pragmatic opportunity to negotiate, and agreed initiatives are incorporated into asset management business plans.

Common green lease clauses in respect of climate risk include energy data collection from the occupier and restrictions on negatively impacting the energy efficiency of the leased area. These elements may fall under the dilapidations clause of a lease contract, which safeguards energy intensity-related works. Provisions in the lease may allow the owner (landlord) to control occupier works in the event that they result in major alterations. Therefore, any adaptation plans which are incorporated into business plans could be safeguarded / optimised within the context of this clause. Some green lease clauses may provide, for example, the owner rights to access data logs at reasonable notice, including that the owner retains certain provisions to generate and control on-site solar panels.

Whilst occupier engagement is a standard mandate across all assets under management, there are acknowledged challenges to successful engagement in the area of ESG. Savills IM's Chief Sustainability Officer is Co-Chair of the BBP's Owner Occupier Forum, collaborating with market with market participants and the wider industry on occupier engagement approaches. An internal occupier engagement programme is being developed to uncover innovative ways to overcome these challenges and improve engagement on ESG topics. This will support a consistent approach in how climate risk is addressed as part of the lettings, renewal and expiries process.

Property management

Each country where Savills IM operates maintains its own environmental legislation, and therefore it is fundamental that asset management teams oversee compliance. It is a standard requirement of contracted property management agencies and their elected third-party suppliers to adhere to relevant local and regional regulations and governance standards.

Savills IM's latest property management agreements will follow a Property Management Specification document that integrates ESG-specific expectations. The first of these is to support implementation of a sustainability strategy, which is aligned with the product's ESG Programme. The property manager is mandated with an indirect role in monitoring climate transition risk both in terms of adhering to relevant regulations and through environmental data collection and improving energy efficiency of the asset. This sustainability strategy extends to working with occupiers and the asset owner to enhance the property and adapt it to physical climate risks as

identified by Savills IM. Property managers and other relevant stakeholders are required to attend all ESG training organised for them by Savills IM.

Planned maintenance measures are overseen by asset management, which maintains an improvement list which reports upwards on elements to be addressed during the hold period. It is a requirement of Asset Managers to select a consultant to undertake specialist technical inspections including Planned Preventative Maintenance (PPM). It is the responsibility of the property manager to produce and maintain an up-to-date PPM schedule. **Explicitly, the document does not specify how resilience will be impacted, however each instance may be treated on a case-by-case basis to identify whether measures considered contribute towards ensuring resilience.**

Performance management of property managers involve official KPIs but there is no direct accountability formalised with respect to climate resilience. Processes remain in place at Asset Management level for data to feed into an external data platform. Savills IM's ESG team maintains oversight over the data collection process. Formal KPIs do not yet exist to monitor suppliers and their performance on Savills IM's climate resilience projects. It is an ambition of Savills IM to evolve its climate resilience programme and ensure all future ESG contracts include KPIs.



Redevelopment and Renovation

The identification of physical climate and natural hazards is a requirement of development partners. Savills IM's mandatory Sustainable Development checklist must be used to understand what renovation or refurbishment works may be needed to mitigate or adapt to inherent physical climate hazards. The funding for projects will be allocated in the capital expenditure budget and, depending on spend, may or may not require additional endorsement by the IC. The same approach for asset acquisitions is to be expected for standing assets, with priority given to assets with the medium to highest exposure scores.

Further work is to be concluded on how climate resilience is incorporated into the development process.



Asset disposals

The asset lifecycle ends at exit. As it is Savills IM's expectation for physical climate and natural hazard exposures to be considered and addressed from acquisition into the hold period, the disposal process reflects the measures taken to mitigate and/or adapt during this time. The implementation of such measures acts as an opportunity to increase the overall resilience of an asset, and to identify how this influences the overall capital value. Such actions taken may be priced into the sale to deliver a net positive change to its occupiers, local community and biodiversity within the asset's surrounding location. According to a CBRE Research 2022 global ESG survey, 75% of respondents think a building's resilience to climate change has an impact on real estate decisions; nearly 40% would pay a premium for a building with superior resilience, while 22% would seek a discount for a building without superior resilience.¹³ This represents an anticipated risk if relevant adaptation interventions are not addressed before the sale of an asset.

75%

of respondents to CBRE's
Strengthening Value
Through ESG survey think
a building's resilience
to climate change has
an impact on real estate
decisions

¹³ CBRE Research "Strengthening value through ESG, Survey of global property professionals", February 2023.



8. Climate Hazard Risk Identification

At asset-level, Savills IM has worked with external advisors to integrate climate hazard risk identification into its investment process.¹⁴ Here are five key factors to consider when determining material climate risk:

1. Asset location

This means that assets may be exposed to unique or multiple hazards due to their geographic location. Climate screening identifies these exposures. The methodology includes an asset-by-asset exposure analysis for a range of climate hazards and physical risks at present day as well as for future projections under the selected scenarios where data is available.

Physical assets ("locations" in the tool) are considered exposed if they are situated in an area where a climate hazard may occur. The degree of exposure is defined by the frequency and/or severity of that hazard. For example, if an asset has a very high flood exposure, the hazard is represented by the probability (or return period) of a flood, which in the case of 'very high' means 1% probability in a given year. That is equivalent to 100-year return period.

The frequency/severity measures could be different for each hazard but if an exposure is high, it means there could be a material impact. Not all physical climate risks can be expressed with a return period and for those a relative intensity metric is used.



2. Asset type and characteristics

Whilst asset location may determine physical climate and other natural hazard exposure, assets are not homogeneous and therefore could be impacted in different ways. For example, city centre offices are more likely to be affected by the increasing severity and likelihood of extreme heat events, whereas logistics warehouses may be impacted by damage due to wind or flood, or access could be impacted during and after an extreme weather event. The closeness of standing assets in a city centre, for example, can also have an impact to the urban climate depriving access to natural light resulting in an inability to benefit from solar panels, or impacting the circulation of airflow and wind within a specific radius.

Extreme weather events can threaten resilience in several ways:

- the transportation of materials for development and refurbishment projects - whether by road, sea or air freight - can be impacted.
- construction sites may be disrupted causing damage, losses, or delays to project timescales.
- access to the asset via local road networks and public transport infrastructure may become limited or impossible.

3. Scenarios

Screening is performed using scenario analysis over time horizons of present day, 2030, 2050 and 2100 using RCPs 2.6, 4.5 and 8.5. At present, the dataset uses CMIP5 and are presently being updated to CMIP6, which improves the emissions narrative and describes how it is projected to develop over time. The CMIP6 dataset introduces shared socioeconomic pathways (SSPs) instead of the RCPs (representative concentration pathways) with a more robust storyline on factors like population growth and urbanization.

Coupled Model Intercomparison Project (CMIP)

CMIP is an international climate modelling project, designed to better understand past, present and future changes in the climate.¹⁵

CMIP6 data is the most current global climate model data available.


DESCRIPTION OF SSP'S FROM CARBON BRIEF

Emissions Pathway	Narrative Title
	Sustainability – Low challenges to mitigation and adaptation
SSP1-2.6	The world shifts gradually, but pervasively, towards a more sustainable path, emphasizing more inclusive development that respects perceived environmental boundaries. Management of the global commons slowly improves, educational and health investments accelerate the demographic transition, and economic growth more broadly shifts towards an emphasis on human well-being. Driven by an increasing commitment to achieving development goals, inequality is reduced both across and within countries. Consumption is oriented toward low material growth and lower resource and energy intensity.
	Middle of the Road - Medium challenges to mitigation and adaptation
SSP2-4.5	The world follows a path whereby social, economic, and technological trends do not shift markedly from historical patterns. Development and income growth proceeds unevenly, with some countries making relatively good progress while others fall short of expectations. Global and national institutions work toward, but make slow progress in achieving, sustainable development goals. Environmental systems experience degradation, although there are some improvements, and overall the intensity of resource and energy use declines. Global population growth is moderate and levels off in the second half of the century. Income inequality persists or improves only slowly and challenges to reducing vulnerability to societal and environmental changes remain.
	Fossil-fuelled Development – High challenges to mitigation, low challenges to adaptation
SSP5-8.5	This world places increasing faith in competitive markets, innovation and participatory societies to produce rapid technological progress and development of human capital as the path to sustainable development. Global markets are increasingly integrated. There are also strong investments in health, education, and institutions to enhance human and social capital. At the same time, the push for economic and social development is coupled with the exploitation of abundant fossil fuel resources and the adoption of resource and energy intensive lifestyles around the world. All these factors lead to rapid growth of the global economy, while global population peaks and declines in the 21st century. Local environmental problems like air pollution are successfully managed. There is faith in the ability to effectively manage social and ecological systems, including by geo-engineering if necessary.

4. Physical climate and other natural hazards

Screening is split between acute and chronic hazards which may be linked to climate change. Other natural hazards are also included as they pose a physical risk to assets, but there is understandably either a lack of data, research or simply a climate signal which supports a future change in frequency or severity of events directly linked to a changing climate.

The below list highlights different hazards that Savills IM screens for risk identification. A materiality assessment was performed to identify which hazards of the EU Taxonomy are most relevant to Savills IM's existing assets under management and which hazards are not. This exercise identified some gaps with respect to the current hazard universe Savills IM is screening against. However, there are also certain hazards where data is scarce or may be covered by proxy. As data sets evolve, the hazard screening universe will improve, and exposures will move towards alignment with the EU Taxonomy.

Acute & Chronic Hazards		Other Natural Hazards	
	Extratropical Cyclone		Earthquake
	Tropical Cyclone		Hailstorm
	River Flood (Defended & undefended)		Lightning
	Heat stress		Tornado
	Heavy Precipitation		Volcano
	Sea level rise		Flash flood
	Fire weather		Coastal flood
	Drought stress		Tsunami



5. Insurance

In [Willis Towers Watson's Global Real Estate Risk Outlook 2024 survey](#), 350 global senior real estate executives - from investors, asset managers and pension funds - were asked on their approach to insurance for the impact of extreme weather events.

10%

have cover that ensures extreme weather would not have a serious impact on their business/ financial results

57%

have some cover for extreme weather events, but they are not sure if it is sufficient

33%

reported that adverse weather could have a serious financial impact on their business and they have no insurance for this

Insurance coverage and climate change – what about chronic risks?

A significant portion of present-day acute risks are covered by insurance, and it is important to regularly review and understand the specific insurance arrangements for assets. The terminology in insurance policies generally refer to natural catastrophe events or natural hazards rather than climate change. Natural catastrophes are considered floods, windstorms, tornados, earthquakes, and other events that could create a loss or result in damage. Some of these hazards are essentially the acute climate risks in the present day.

Chronic climate risks which are generally associated with temperature, are not typically covered by standard insurance policies as they cannot be easily attributed to a single damaging event or occurrence. As properties are typically built for a specific environment, the chronic risks could impact usability, well-being, and costs, but are unlikely to cause a damage event. This means that the quantum of non-transferable risk associated with such hazards may increase, which is the reason for introducing adaptation measures rather than insurance.

Insurance policies work in the “here and now” – not the “here to come”.

Policies are written typically on a short-term basis (e.g., 1 year) compared to the longer-term climate shifts which provides a way for insurers to adjust their exposure and appetite. The insurance market has a mechanism to adjust and adapt to uncertainty as a result of climate change. If the frequency of natural hazard events and losses increase, profitability is eroded, and insurers costs go up. These effects then cascade down to clients in the form of increasing premiums and decreasing protection. Climate change could amplify those effects even further as the underlying risk is increasing.

Insurance coverage gaps exist and will likely widen. This reinforces the need for adaption planning.

In 2023, the European Central Bank (ECB) reported that only one quarter of losses from climate-related disasters is covered, and in some European countries the figure is less than 5%.^{16, 17} Climate change's growing effects will likely shrink coverage as premiums rise and insurers reconsider underwriting for exposed locations or provide only low coverage. Low insurance coverage means that the public sector often must provide disaster relief which could have a financial impact on the local economy. Therefore, at local government level, authorities could consider climate adaptation options as precautionary measures. These might include sea walls, irrigation, or creating fiscal buffers such as national reserve funds for emergencies. The purpose, as the ECB describes, is to lower the share of catastrophe losses borne by the public sector, while simultaneously incentivising and improving physical climate risk mitigation and adaptation.¹⁸

Given these effects, it is possible that for some regions and some risks, insurance might not be a feasible or cost-effective risk transfer method - or it might not even be available. Insurers will also be likely to mitigate their exposure by increasing the mandatory deductible. In those circumstances good risk management and adaptation will become increasingly important for avoiding the adverse impacts of climate change.

How can real estate investors manage this risk?

Engagement with insurers is essential. This helps investment managers understand the impact physical risks have on insurability of assets and premium increases. It is also necessary to understand whether any adaptation efforts which result in risk reduction may be taken into consideration for a reduction in premium costs.

To oversee insurability risks, Savills IM engages with its broker on an ongoing basis and monitors climate-related claims using a loss ratio stipulated within our Global Insurance Policy. The loss ratio represents the relationship between the cumulative insurance claims paid to Savills IM, to total premiums received from Savills IM over the course of a multi-year (“LTA”) agreement. As such, it can be used to monitor climate risk by tracking the value of climate-related claims across our AUM. The loss ratio threshold protects Savills IM against annual rate increases providing the ratio is not breached during the policy's term. The use and availability of LTA's may however vary for other commercial reasons.

In the period 2022-2023, Savills IM claims relating to storms represent 58% of all incurred claims over the period. Six of these claims represent 82% of all storm-related claim value and are considered material (a claim of over £100k).

CASE STUDY

Flooding due to Heavy Storms in Emilia-Romagna

Climate Risk Context

In May 2023, the Emilia-Romagna region of Italy received half of its annual rainfall in 36 hours, equating to 350 million cubic meters of water. This triggered mudslides, landslides, and flooding resulting in injury, damage to buildings, and displacement of inhabitants. The region is one of Italy's most important agricultural centres and damages following the storm were estimated at EUR 8.8billion.¹⁹



The Outcome

Savills IM manages several assets in this region. A retail asset in particular experienced flood damage resulting in a material insurance claim.

As a direct consequence of the weather event the asset's car park flooded. The water level reached 10cm high at its peak and resulted in damages. Savills IM's insurance claim totalled EUR 1.2mn and at time of writing, the full financial impacts are still being determined. According to climate modelling and scenario analysis, the asset does have “very high” flood risk exposure in the near-term scenario (2030) under RCP 8.5.

This event highlighted the need for process improvements to better assess climate vulnerability to our existing assets under management. Identifying physical risk adaptation and mitigation measures are now incorporated into asset business plans.

¹⁶ ECB “What to do about Europe's climate insurance gap”, April 2023.

¹⁷ European Insurance and Occupational Pensions Authority “Dashboard on insurance protection gap for natural catastrophes”, November 2023.

¹⁸ ECB & EIOPA Discussion paper “Policy options to reduce the climate insurance protection gap”, April 2023.

¹⁹ Satellites map “Aftermath of Emilia-Romagna floods”, July 2023.

Examples of climate resiliency measures

In collaboration with external partners we have developed the following guidance on how climate resiliency may be considered, including assessing impacts to properties and people, and how different resiliency measures can be actioned.

Windstorms

Includes the wind-related impact of different types of storms such as extratropical cyclones (winter storms), and tropical cyclones (hurricanes, typhoons).

POTENTIAL IMPACTS

PROPERTIES

- Building infrastructure damage
- Damage to building fabric including claddings, roofs, windows and any external gear attached to the building
- Damage to building access points and vehicles in open parking areas
- Damage from flying debris ("missiles")
- Damage from broken windows and skylights and consequent flooding with rain water
- Impact to water supply
- Impact to energy supply
- Impact to telecoms / internet
- Impact to building access points
- Possible long disruptions for repairs or installation of critical utilities

PEOPLE

- Long-term/temporary road and railroad damage and closure
- Traffic congestion, delays, or passengers being stranded
- Threat to life

EXAMPLE CLIMATE RESILIENCY MEASURES

PROPERTIES

1. Deep dive (engineering) assessment for high-risk assets to inform the windstorm risk at each site and recommend course of action
2. Make sure that any critical equipment and utilities attached to the building and installed on rooftops is well fixed and secured
3. Review vulnerabilities to flying debris and 'missile' impacts including, portable contents, un-anchored equipment, trees in the vicinity and exposed utilities
4. Review building design for level of protection. Survey external claddings / screens attached signs and others for durability
5. Strengthening and regular maintenance of roofs, external critical equipment fixtures, window systems and skylights to accommodate for high wind speeds if required
6. Prepare Business Continuity and Emergency Response Plans and create stress test scenarios
7. Work closely with local authorities and emergency response / disaster management agencies to have a warning system in place allowing preparation for highly impacting windstorm events
8. Consider relocation in extreme situations where the city or country government does not have an appropriate adaptation plan in place for future windstorms

PEOPLE

- Monitor and warn people of government / met office windstorm warnings and associated guidance on personal protection



KEY CONSIDERATIONS (FOR URBAN AREAS)

When considering storm impacts in urban areas, it's crucial to assess how nearby buildings, particularly tall buildings, influence each other and the surrounding infrastructure.

The design and form of these buildings can either shelter or exacerbate the effects of a storm. For instance, tall buildings can intensify the microclimate effects on nearby structures due to the increased strength and variability of winds during storms.

Key considerations include the proximity of an asset to tall buildings and whether it's positioned on their windward or leeward side during a storm.

Hailstorm

Storms with solidified water (ice) precipitation.

POTENTIAL IMPACTS

PROPERTIES

- Damage to windows, glass facades, canopies
- Impact to energy supply
- Impact to vehicles in open parking areas

PEOPLE

- Temporary road and railroad closure
- Traffic congestion, delays
- Threat to life

EXAMPLE CLIMATE RESILIENCY MEASURES

PROPERTIES

1. Review façade and glass elements design for level of protection
2. Survey external claddings/screens and skylights for durability
3. Protection of open lot car parks if relevant

PEOPLE

- Consider travelling by rail which is usually less impacted by hailstorms than travel by road
- Seek shelter / provide architectural features to act as shelter

Lightning

Naturally occurring electrostatic discharge. A lightning storm is characterised by the presence of lightning and thunder.

POTENTIAL IMPACTS

PROPERTIES

- Damage to work station and other electrical equipment
- Loss of electricity
- Risk of fire

PEOPLE

- Accidents due to direct lightning strike
- Accidents due to low visibility during storms

EXAMPLE CLIMATE RESILIENCY MEASURES

PROPERTIES

1. Review building design for level of surge / lightning protection
2. Do not store hazardous and flammable materials on roofs
3. Test and maintain surge / lightning protection systems
4. Implement guidance on unplugging non-essential appliances when not being used
5. Provide surge protected power trays for workstations
6. Install uninterruptable power supply / back up critical equipment, servers etc. if required
7. Install and integrate warning systems with building control / people safety systems if required

PEOPLE

- Awareness campaigns for travel

Wildfires and Fire Weather

Large, destructive fires that spread quickly over forest, woodland, brushland, or crops. Temperature, wind speed, humidity and precipitation are weather conditions that contribute to the likelihood of wildfires.

POTENTIAL IMPACTS

PROPERTIES

- Building infrastructure catastrophic damage
- Loss of electricity
- Impact to telecoms / internet
- Loss of water pressure
- Inaccessibility

PEOPLE

- Road closures/detours, extended travel time
- Smoke / fine particle inhalation
- Loss or damage to personal property
- Stress impact on mental health

EXAMPLE CLIMATE RESILIENCY MEASURES

PROPERTIES

1. Review local plans for warning and evacuation and implement an early warning system
2. Review surroundings and if there is sufficient separation from other buildings, trees and material that can act as fuel
3. Review building design for level of building protection, considering:
 - Presence of ignition-resistant roofs
 - Resistant materials: stucco, face brick, tile, adobe, concrete block, or metal siding
4. Do not store hazardous and flammable materials on roofs
5. Introduce tempered glass or roll down metal fire doors built into roof overhangs if required
6. Build firewalls if required
7. Introduce metal core doors if required

PEOPLE

- Fire safety/drill training



Heat Stress

An extended period of hot weather relative to the expected conditions of the area at that time of year.²⁰

POTENTIAL IMPACTS

PROPERTIES

- Increased OPEX, energy consumption and carbon emissions due to increased cooling demand
- Failure of cooling systems may interrupt business
- Uncoated / non-reflective glazing can trap heat
- Uncoated / non-reflective glazing traps heat
- Inadequate passive/active ventilation; opening windows for ventilation may increase indoor temperatures
- Overheated buildings and streets

PEOPLE

- Rail delays, passenger discomfort and anxiety
- Fainting potential if exposed to temperature over 35°C.
- Threat to life for the vulnerable
- Reduced productivity
- Psychological impacts resulting in additional stress and ineffective work performance

EXAMPLE CLIMATE RESILIENCY MEASURES

PROPERTIES

1. Review building design for low performance elements
2. Consider additions such as solar shading, trees, double glazed windows, thermal insulation
3. Use of heavy building materials, high ceilings and air tightness can also help to moderate temperature fluctuations (these need to be considered along with ventilation opportunities as on their own could result in increased overheating especially during heatwaves where cooling opportunities are limited)
4. Introduce natural cooling and ventilation solutions
5. Complement traditional air conditioning with energy efficient cooling (i.e. water cooled ceilings, beams)
6. Converting to green roofs, introducing shade
7. Irrigation and permeable paving

Many of these adaptation measures could also reduce the carbon footprint of the properties

PEOPLE

- Identify tedious/discomforting commute journeys and encourage transport modes that are less affected by heatwaves



KEY CONSIDERATIONS (FOR URBAN AREAS)

Managing heatwaves in cities and associated overheating risks can be effectively addressed through strategies involving the use of materials with favourable thermal and optical properties, effective shading, strategic vegetation planting, water features and improved ventilation, to combat the challenges posed by urban heat.

Each of these strategies contributes to reducing urban heat and enhancing the comfort and safety of city dwellers.

These strategies, when thoughtfully integrated into urban planning and building design, can significantly reduce the impact of heatwaves, enhancing the liability and sustainability of urban areas.

Effective management of urban heat and heatwaves involves integrating strategies such as optimising building materials, vegetation shading, ventilation, and water use into urban planning. These approaches, focused on leveraging both technological and natural solutions, contribute to reducing heat risks and improving city dwellers' comfort. Comprehensive planning that considers the local climate, layout, and resources is essential for creating sustainable and resilient urban environments.



Drought

Period of abnormally dry weather sufficiently prolonged for the lack of water to cause serious hydrologic imbalances.

POTENTIAL IMPACTS

PROPERTIES

- Water stress
- Potable, process and cooling water supply reduction/ disruption
- Impact on adjacent green areas or green roofs and water supply for irrigation
- Impact on power utilities reliant on hydropower

PEOPLE

- Impact on mental health:
- Anxiety/depression
- Fewer recreational activities
- Aggravated clinical disorders
- Worsens likelihood of heat stroke and threat to life

EXAMPLE CLIMATE RESILIENCY MEASURES

PROPERTIES

1. Water system audits, pipe repair and leak maintenance
2. Incentivise and encourage water saving by employees
3. Install drinking water fountains in offices
4. Engage with water supply and disaster management agencies and utility companies on water resources and droughts planning
5. Introduce grey / rainwater collection and input to non-potable uses

PEOPLE

- Awareness campaigns promote long-term adaptation
- Include resource conservation in employee performance reviews



KEY CONSIDERATIONS (FOR URBAN AREAS)

Urban droughts cause water scarcity, health risks, economic impacts, energy shortages, and intensified heat effects. Cities can respond with strategies like water-efficient cooling, green infrastructure, reflective surfaces, shade structures, and drought-tolerant vegetation, improving resilience and sustainability.



Floods

Includes inland floods caused by heavy precipitation (flash floods), river bank overflow (river flood) and tidal and coastal flood exacerbated by sea level rise.

POTENTIAL IMPACTS

PROPERTIES

- Building infrastructure damage
- Damage to foundations
- Damage to drainage systems and possible reverse flow
- Damage to building access points and vehicles in underground or non-elevated parking areas
- Damage to main or back up utilities stored in basements
- Damage to contents stored on ground and basement level
- Impact to water supply
- Impact to energy supply
- Impact to telecoms / internet
- Impact to building access points
- Possible long disruptions for repairs or installation of critical utilities

PEOPLE

- Long-term/temporary road and railroad damage and closure
- Traffic congestion, delays, or commuters stranded
- Threat to life

EXAMPLE CLIMATE RESILIENCY MEASURES

PROPERTIES

1. Deep dive (engineering) assessment for high-risk assets to gauge the flood risk at each particular site and recommend the most suitable course of action
2. Review water ingress routes (including drainage) with facility management and local protection and/or elevation features that could minimise the exposure
3. Engage with flood and coastal risk management agencies to understand current and future flood and coastal management policies, plans and levels of protection
4. Prepare Business Continuity and Emergency Response Plans and create stress test scenarios
5. Consider temporary and portable flood defence systems, investing in backup utilities, door guards, etc.
6. Reduce critical equipment and operations in basements
7. Consider relocation if coastal or city level flood adaptation measures are deemed inadequate

PEOPLE

- Encourage commute by rail, usually less impacted by floods than roads
- Monitor and warn occupiers of government / met office flood (and coastal) warnings and associated guidance on personal protection

9. Next Steps

Our approach to climate resilience will evolve and we are planning improvements in our supply chain, further collaboration and the use of climate resilience metrics.

Whilst we have taken initial steps to identify the impact of climate change on the assets we manage, there is still work to be done. Throughout this document, certain sections may have highlighted areas where further development is needed. The expectation is to continuously improve and evolve processes using creative means which are credible and backed by science. Addressing the climate crisis requires unified action, both internally and externally, and it is our mission to progress a sustainable and resilient agenda for the environment, the communities surrounding the assets we manage, and the investors we serve.



FUTURE ASPIRATIONS AND NEXT STEPS:

As signatory to the Better Building Partnerships Climate Commitment, we have produced this document to bring transparency to where we are on our climate resilience journey. Using the BBP's Climate Resilience guidance, here we outline the next steps in incorporating climate resilience into our existing and future frameworks.

Definition	Indicator
Processes in place and operational. Regular enhancements made to align with current market practice.	
Processes are operational but require improvement. Enhancements needed.	
Processes in development not fully operational. Testing and market research needed.	

BBP Climate Resilience Guidance Questions	Next Steps	Proposed Timeline	Indicator
Which physical and transitional climate impacts might impact the assets we manage and supply chain?	Determine how supplier DDQ clauses can be improved. Better investigate how supply chain elements can be further integrated into resilience considerations.	2025	
How is collaboration between business units and with external stakeholders enabling better adaptation to climate change?	Continue collaboration.	Ongoing	
What is the value-at stake or 'Climate Value at Risk' if no action is taken?	Identify metrics / solution which is most practical for Savills IM and the needs for real estate. Run pilots with advisors and service providers.	2024	
What practical measures and processes will be applied at the building level to build resilience?	Work with Dr Julie Fitcher on the development of the guidance toolkit, testing and integration for urban resilience. Map to current and existing updates elsewhere from transition perspective.	2024 - 2025	
How might climate adaptation measures support or hinder climate change mitigation?	Complete global biodiversity baseline to inform nature-based adaptation solutions.		
What is the role of nature-based solutions in our climate adaptation strategy?	Align climate adaptation measures with the EU Taxonomy requirements.		
How might climate adaptation measures impact on social outcomes?			
How are climate adaptation measures integrated into the investment lifecycle?	Improvements to be actioned and considered with development of guidance toolkit and pilots with consultancies and third-party service providers.	Ongoing	

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