Welcome to the

ECRA® Roadshow

Lisbon | Friday, 24 October 2025

EFFAS | The European Federation of Financial Analysts Societies

APAF ASSOCIAÇÃO PORTUGUESA DE ANALISTAS FINANCEIROS

in collaboration with

MarshMcLennan

24 October 2025

Lisbon, Portugal

Manuel Puerta da Costa

APAF Chair & EFFAS EMC Member

EFFAS The European Federation of Financial Analysts Societies

APAF ASSOCIAÇÃO PORTUGUESA DE ANALISTAS FINANCEIROS

in collaboration with

MarshMcLennan

Gestão dos Riscos Climáticos
The Next Big Thing

Sofia Santos

ISEG

24 outubro 2025

ESG: Temas ESG que devem ser geridos pelas empresas

Ambiente

- Alterações climáticas
- Poluição
- Recursos Hídricos e Marítimos
- Gestão de Recursos e economia circular
- Biodiversidade e Ecossistemas

Social

- Mão de Obra da Empresa
- Trabalhadores na Cadeia de Valor
- Comunidades Afetadas
- Consumidores e Utilizadores Finais

Governança

- Conduta Empresarial

Environmental, Social and Governance (ESG) **refere-se a um conjunto de critérios usados para analisar/avaliar o desempenho ambiental, social e de governação de uma empresa;**

Este desempenho decorre também da forma como a empresa identifica e atua sobre os seus riscos ESG.

É por isso usual ouvirmos a expressão "Riscos ESG"

MAJOR CLIMATE RISKS

Hoje temos uma definição clara do que são riscos climáticos

- Riscos Climáticos
  - Físicos
    - Agudos
    - Crónicos
  - Transição
    - Legais/políticos
    - Tecnológicos
    - Mercado
    - Reputação/Litigação

Como é que a potencial ocorrência destes riscos pode impactar financeiramente a organização?

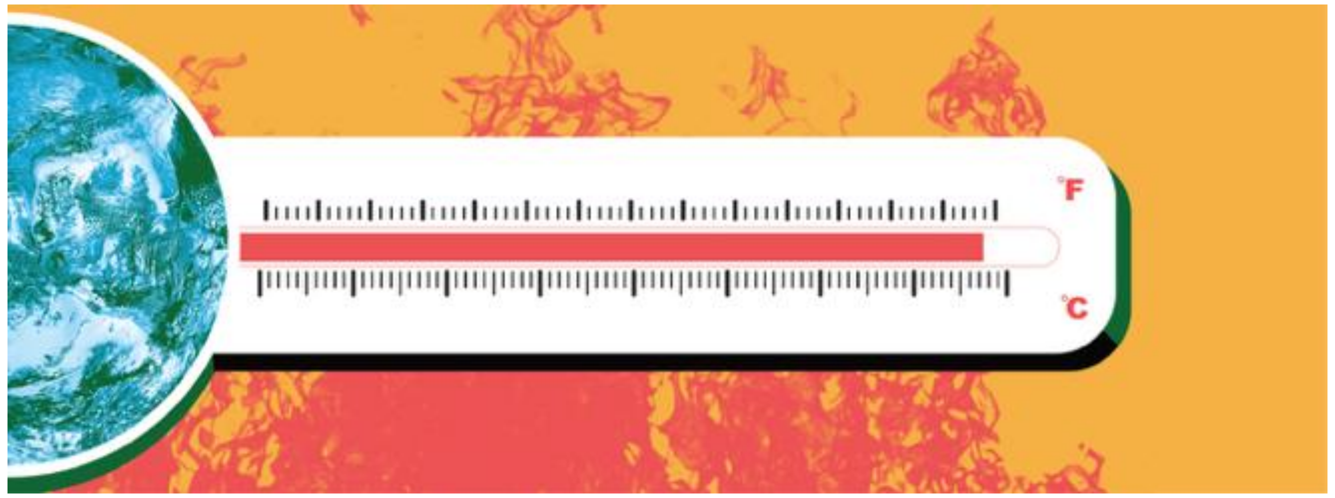
TCFD, 2017; IFRS S2

Estes riscos climáticos são assim tão preocupantes?

Em 2015: expectativas da temperatura estavam subavaliadas

Em 2015, os países concordaram em fazer o possível para que a temperatura não aumentasse mais de 2ºC até ao final do século (2100)

Em 2018: de 2ºC para 1,5ºC



A partir de 2018, a narrativa começou a mudar ...
ambição de os países tudo fazerem para que temperatura não aumentasse mais de 1,5ºC até ao final 2050

Em 2024: tudo indica que já aumentámos 1.5ºC (e não em 2050)

WMO confirms 2024 as warmest year on record at about 1.55°C above pre-industrial level

PRESS RELEASE

10 January 2025

The World Meteorological Organization (WMO) has confirmed that 2024 is the warmest year on record, based on six international datasets. The past ten years have all been in the Top Ten, in an extraordinary streak of record-breaking temperatures.

BBC

2024 first year to pass 1.5C global warming limit

10 January 2025

Share Save

Mark Poynting, Erwan Rivault and Becky Dale

BBC Climate & Verify data journalism teams

Portugal regista em 2025 verão mais quente dos últimos 94 anos

Portugal viveu em 2025 o verão mais quente dos últimos 94 anos, com três ondas de calor e temperaturas médias 1,55°C acima do normal, segundo os dados do Instituto Português do Mar e da Atmosfera.

CLIMA

Onda de calor dos últimos dias será “novo normal” no futuro

Fenómeno extremo já passou o seu pico, mas Verão terá condições para trazer eventos semelhantes, diz climatologista. Boletim do IPMA anuncia que Junho foi o terceiro mais quente e o quarto mais seco.

Nicolau Ferreira

4 de Julho de 2025, 9:00

Possivelmente chegaremos a 2050 com +2ºC ... (e não em 2100)

BBC

Government told to prepare for 2C warming by 2050

2 days ago

Share Save

Justin Rowlatt Climate Editor and Tabby Wilson

The UK should be prepared to cope with weather extremes as a result of at least 2C of global warming by 2050, independent climate advisers have said.

UN sees the world entering ‘extremely dangerous’ climate era as CO2 spikes by the most in the history of human civilization

By The Associated Press

October 15, 2025 at 1:57 PM UTC

15 Outubro 2025 – Notícia da BBC acerca do Reino Unido

"... The country was "not yet adapted" to worsening weather extremes already occurring at current levels of warming, "let alone" what was expected to come, the Climate Change Committee (CCC) wrote in a letter addressed to the government. **The committee said they would advise that the UK prepare for climate change beyond the long-term temperature goal set out in the Paris Agreement."**

Aceleração no aumento da temperatura

Expectativas em 2015

+ 1,5ºC

2024

2050

+ 1,5ºC

+ 2ºC

Expectativas em 2025

What happens if the world warms up by 2°C

Aceleração no aumento da temperatura

Expectativas em2015

+ 1,5ºC (2050)

+ 2ºC (2100)

2024

2050

2100

+ 1,5ºC (2024)

+ 2ºC (2050)

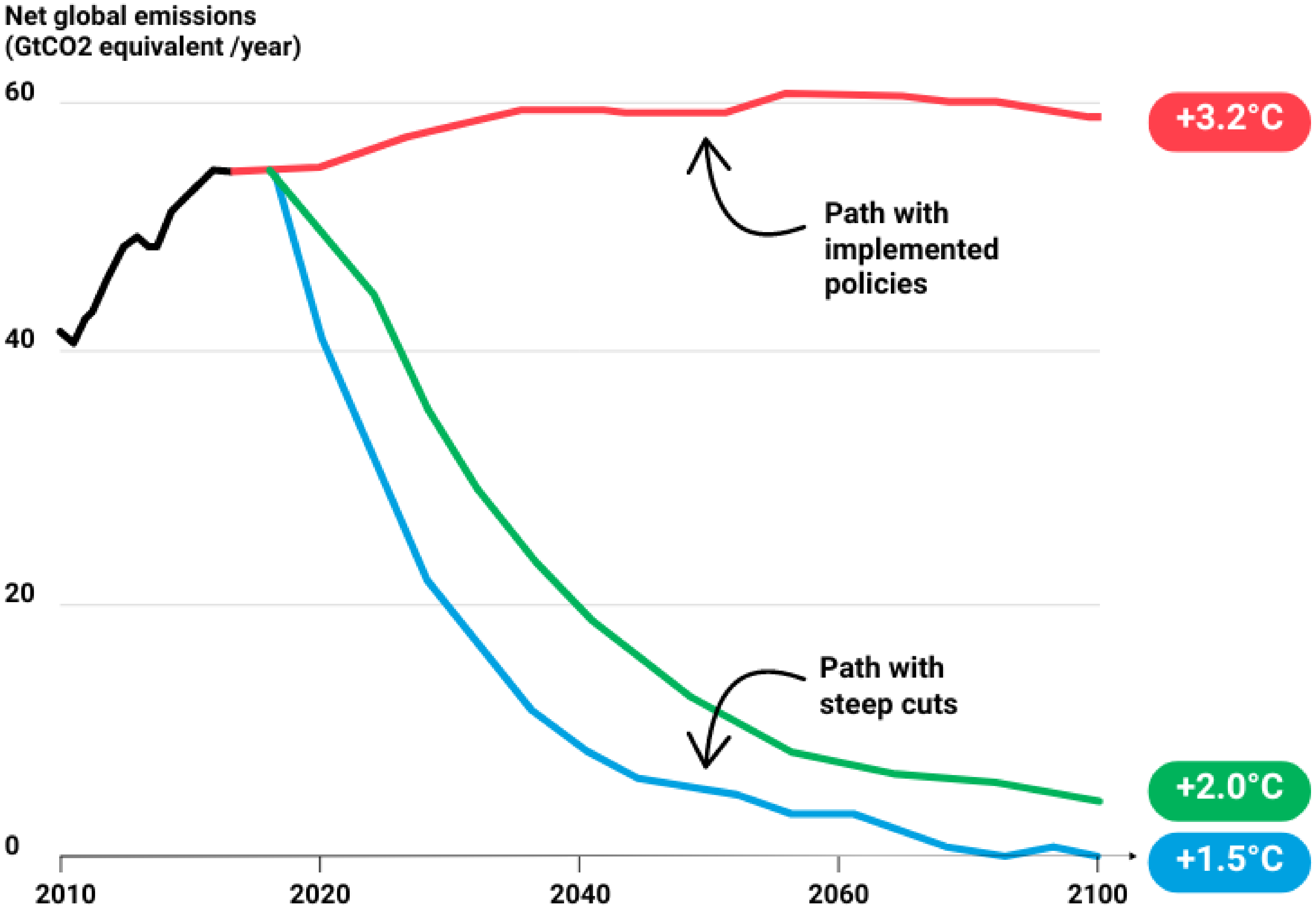
+ 3ºC (2100)

Expectativas em 2025

Tudo indica que podemos chegar a 2100 com + 3ºC

CLIMATE FACTS

If we act now, steep cuts to greenhouse gas emissions can limit global warming



Source: IPCC, 2023: Summary for Policymarkers. In: Climage Change 2023: Synthesis Report. A Report of the Intergovernmental Panel on Climate Change.

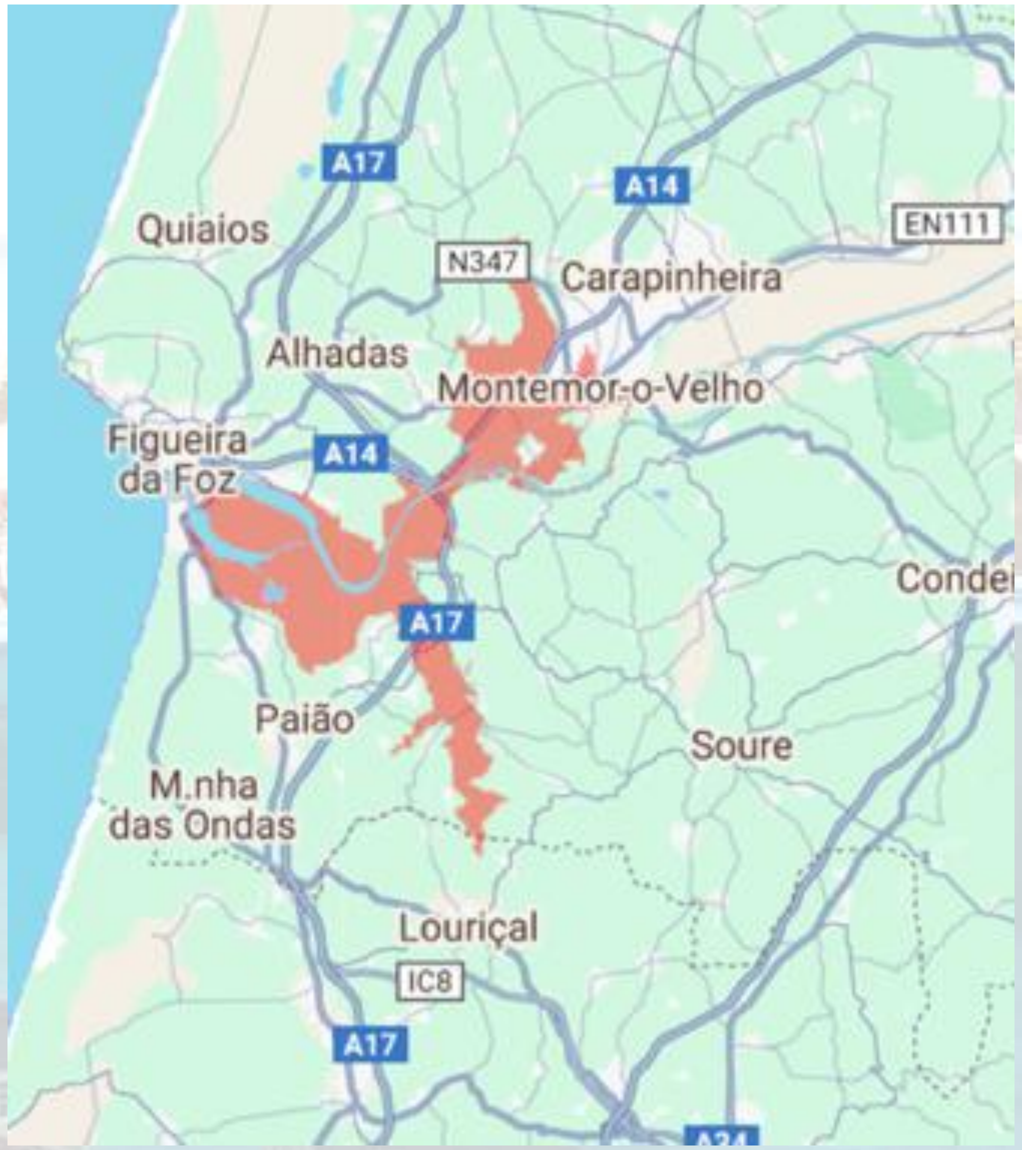
"We now expect a 3°C world"

Analista da Morgan Stanley, março 2025

Fonte: link

Climate Change_ What Happens If The World Warms Up By 4°C

Aumento de 1m do nível das águas do mar ... Já aumentou 30 cm



https://coastal.climatecentral.org/map/10/-8.8113/39.008/?theme=sea_level_rise&map_type=ice_sheet&basemap=roadmap&contiguous=true&elevation_model=best_available&ice_loss_level=1.0&ice_sheet=antarctic&refresh=true&water_unit=m

Dos eventos climáticos aos impactos financeiros

Riscos Climáticos

R. Transição
- legais e regulatórios
- tecnológicos
- preferências do consumidor

R. Físicos
- crónicos
- agudos

Canais de transmissão económicos

Microeconómicos (nas empresas e famílias)
- **Empresas**: perdas de ativos ou de redução de negócio por eventos climáticos; alterações na procura de produtos e serviços; responsabilidade legal em caso de incumprimento de adaptações
- **Famílias:** diminuição de rendimento, perdas em ativos físicos ou patrimoniais

Macroeconómicos (impacte agregado na economia)
- diminuição de capital fixo e necessidades de investimento
- mudanças de preços
- mudanças de produtividade (maior aversão a risco)
- distorções no mercado de trabalho
- mudanças socioeconómicas
- impactes na balança comercial, câmbios, taxas de juro, receita fiscal e despesa

Riscos Financeiros

R. Crédito
- incumprimento de empréstimos
- deterioração de colaterais

R. Mercado
- desvalorização de ativos

R. Seguros
- perdas por eventos

R. Operacional
- disrupção cadeia de valor
- encerramento instalações

R. Liquidez
- refinanciamento

Fonte: NGFS

Riscos Climáticos e os Canais de Transmissão

As organizações devem identificar os seus riscos fisicos, compreender os impactes que os riscos podem ter nas várias áreas da empresa, e devem identificar medidas para evitar e mitigar os impactos possíveis

Exemplo: Matrix de Risco Climático Físico

Risco	Descrição do Risco	Probabilidade	Horizonte temporal	Distritos mais afetados	Impactes	Oportunidades/Medidas

Suscetibilidade Nula

Suscetibilidade Reduzida

Suscetibilidade Moderada

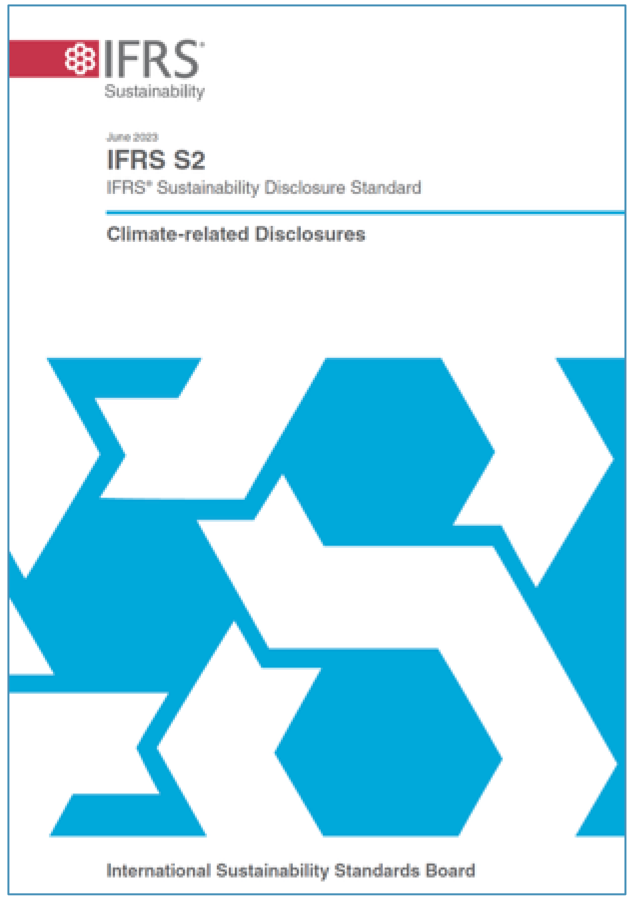
Suscetibilidade Elevada

Suscetibilidade Muito Elevada

Exemplo: Matrix de Risco Climático Transição

Risco	Descrição do Risco	Causa Raiz	Probabilidade	Horizonte temporal	Impactes Potenciais	Oportunidade Associada

IFRS e ESRS: Reportar impactos financeiros decorrentes dos riscos



As organizações devem reportar:

... "os efeitos desses riscos e oportunidades relacionados com o clima na **posição financeira, desempenho financeiro e fluxos de caixa da entidade para o período de reporte**, e os seus efeitos previstos na posição financeira, desempenho financeiro e fluxos de caixa da entidade **a curto, médio e longo prazo**, tendo em consideração a forma como esses riscos e oportunidades relacionados com o clima foram tidos em conta no planeamento financeiro da entidade"

As organizações devem reportar:

.. os **efeitos financeiros esperados das alterações climáticas** nos seus negócios, incluindo riscos e oportunidades.

Precisamos de desenvolver competências e métodos que liguem clima com os modelos financeiros das empresas

Aceleração no aumento da temperatura

Expectativas em2015

+ 1,5ºC (2050)

+ 2ºC (2100)

2024

2050

2100

Expectativas em 2025

+ 1,5ºC (2024)

+ 2ºC (2050)

+ 3ºC (2100)

Expectativas em 2030?

+ ?ºC (2050)

+ ?ºC (2100)

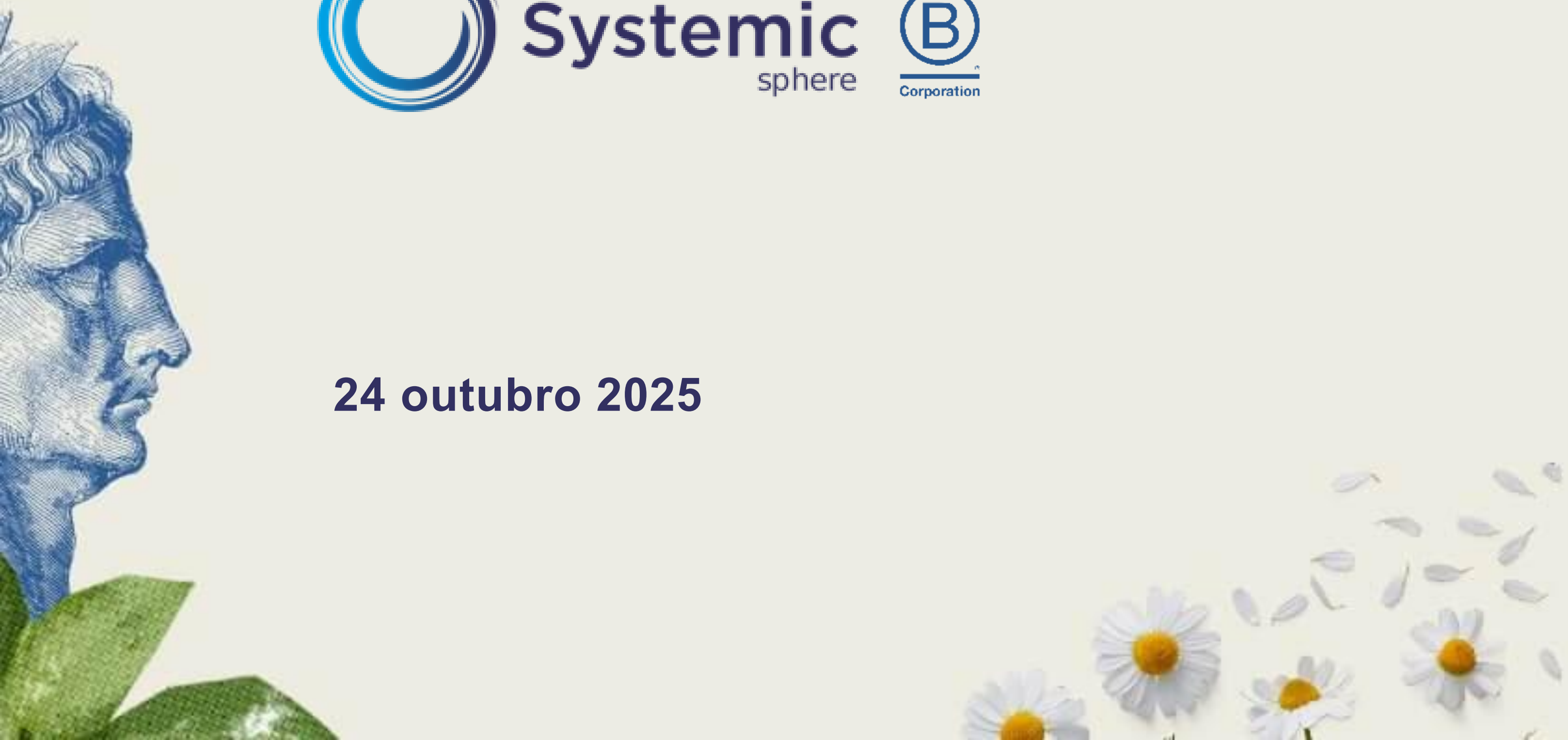
Qual é o impacto financeiro que estes cenários podem ter no meu negócio?
Que planos de adaptação e transição posso desenvolver?

Sofia Santos

Systemic sphere

Certified B Corporation

24 outubro 2025



Marsh

Climate Adaptation 2025 Survey – Europe Findings

A business of Marsh McLennan

1. Context
2. Key findings and key takeaways for Europe

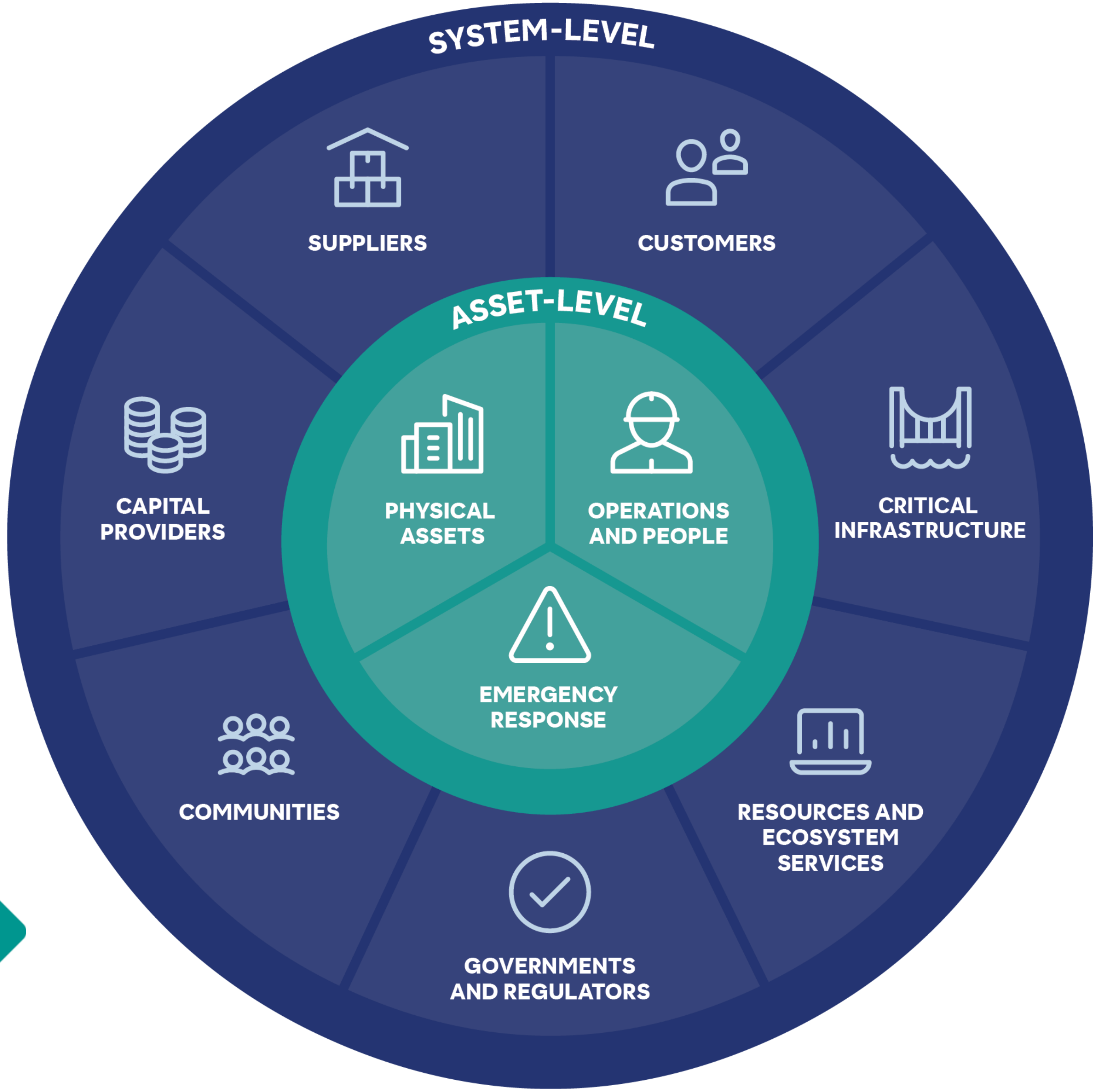
Agenda

Context

1

Our survey hinges on Marsh’s Climate Adaptation Framework. We believe that to truly adapt to climate change, organizations need to consider both asset- and system-level risks.

Marsh Climate Adaptation Framework



Overview: about our annual Climate Adaptation Survey

Marsh launched its Climate Adaptation Survey last year with the aim of understanding how adaptation is considered by private sector organizations, and how this perspective is informed by the risk manager.

The results provide unique insights, unpacking corporate adaptation through the eyes of those tasked with developing and implementing strategies.

We have received an increase in respondents for 2025, which has enabled us to give further insights into how organizations are getting to grips with climate adaptation.

This report provides our key takeaways. If you would like to discuss the results further, or how Marsh can support you with your climate adaptation efforts, please contact your Marsh advisor.

Click here to see last year's results

2024 Survey Results

Note: We have not performed a year-on-year analysis due to differences in the cohorts

We are a part of Marsh McLennan

World-class businesses

- Marsh
- Guy Carpenter
- Mercer
- Oliver Wyman

Market-leading capabilities

- Risk
- Strategy
- People

Who responded to our survey this year?

- **~130** Private sector organizations
- From **All major regions**
- Across **Multiple Industries**
- With revenues of **<$1M to >$1B**

Key findings and key takeaways for Europe*

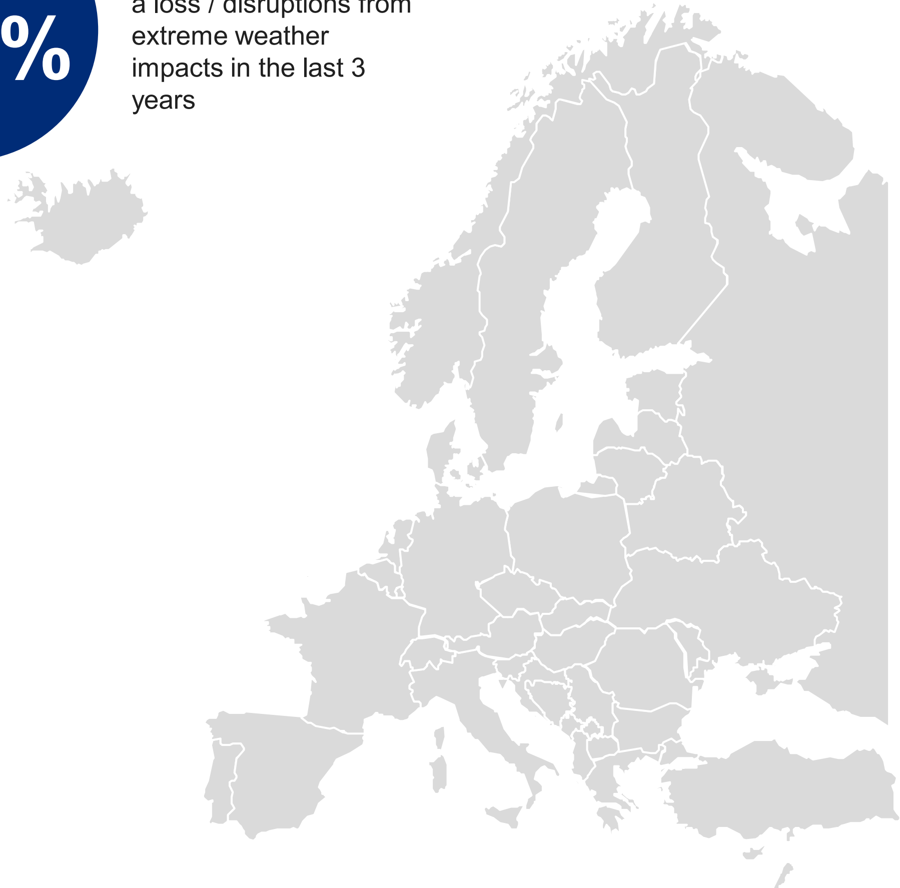
2

*based on ~50 respondents

Respondents were impacted by climate-related weather events, this is consistent with global reports of increasing losses

40%

Of respondents suffered a loss / disruptions from extreme weather impacts in the last 3 years



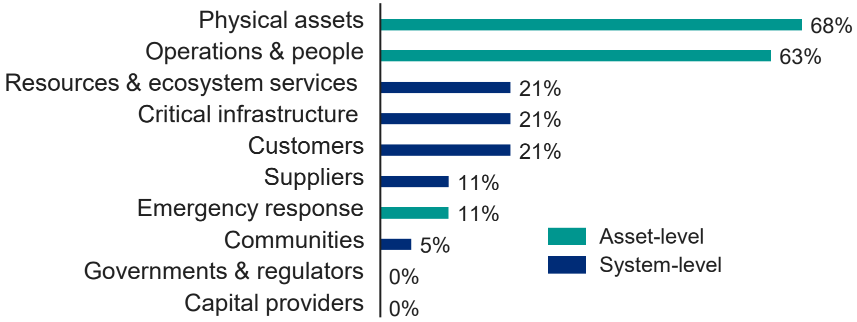
Of the respondents who experienced a loss or disruption from extreme weather…

… they were impacted by the following perils:

Descending order

- Flooding
- Water stress
- Other (tornado, hail, sea level rise)
- Heat stress
- Tropical storm (typhoon / hurricane / cyclone)
- Wildfire
- Subsidence/landslide

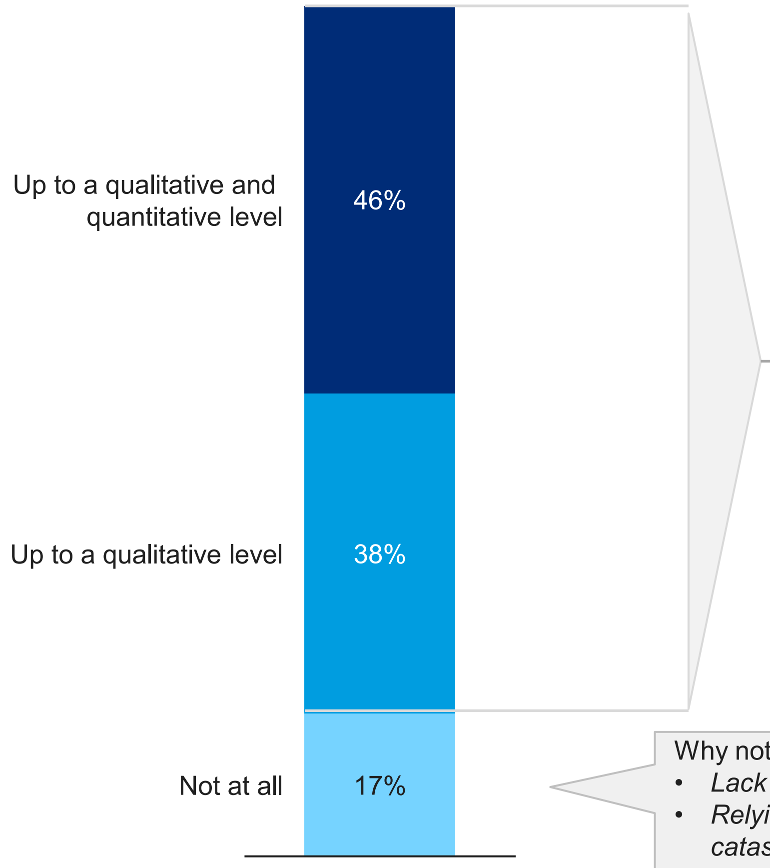
… and in the following areas* of their business:



* Marsh Climate Adaptation Framework (shown on slide 4)

Over 80% of respondents are assessing how climate will impact them in the future, but mostly for assets, operations & people

Level to which respondents have assessed their risk to future extreme weather impacts



Why not?
- *Lack of available data*
- *Relying on modelling output of catastrophe models for today*
- *Relying on their business continuity plan to respond to events*

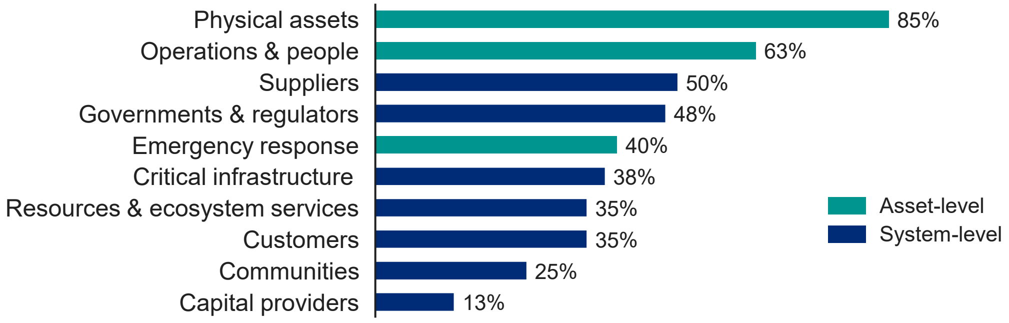
Of the respondents who are performing climate risk analysis…

… they assess the following perils

Descending order

Acute	Flooding
Chronic	Heat Stress
	Water Stress
Acute	Wildfire
	Tropical storm (typhoon / hurricane / cyclone)
	Other (tornado, hail, sea level rise)
	Subsidence/landslide

… and in the following areas* of their business:



Marsh

* Marsh Climate Adaptation Framework (shown on slide 4)

BCM and engineering are the most widely implemented measures; spend increases are still perceived to be 1-3 years away

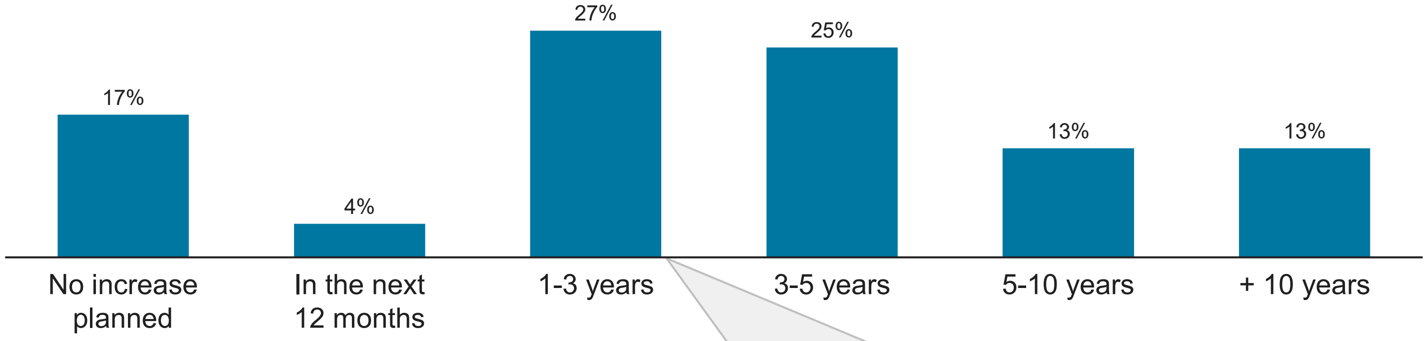
Proportion of adaptation measures implemented by category[1]

Top measure

Operational	Financial	Strategic
Step up effort for business continuity management (BCM) and testing	**Invest in asset engineering to better withstand extreme events without downtime**	**Change our product/service mix to deliver more reliably**

Over 50% of respondents have already implemented or planning to implement this measure

Time frame over which respondents expect their climate adaptation spend to materially increase



1-3 years is the time frame over which the largest number of respondents expect their climate adaptation spend to increase

31%

of respondents listed the **Chief Risk Officer** (or equivalent) as responsible for managing climate adaptation in their organization,
60% of respondents listed Sustainability officer (or equivalent).

1 : organization could choose multiple options in this question

70% of respondents believe they have the funding for adaptation; of the 30% who don't, other business priorities tend to compete

70% of respondents that believe they have funding for adaptation do not perform a cost benefit analysis.

70%

of respondents **do believe they have appropriate levels of funding** for climate adaptation.

Of those, the **top 3 measures respondents need support with are:**

- Asset engineering
- Business continuity management
- Early-warning systems

30%

of respondents **do not believe they have appropriate levels of funding** for climate adaptation.

When asked "why not?" global respondents said:

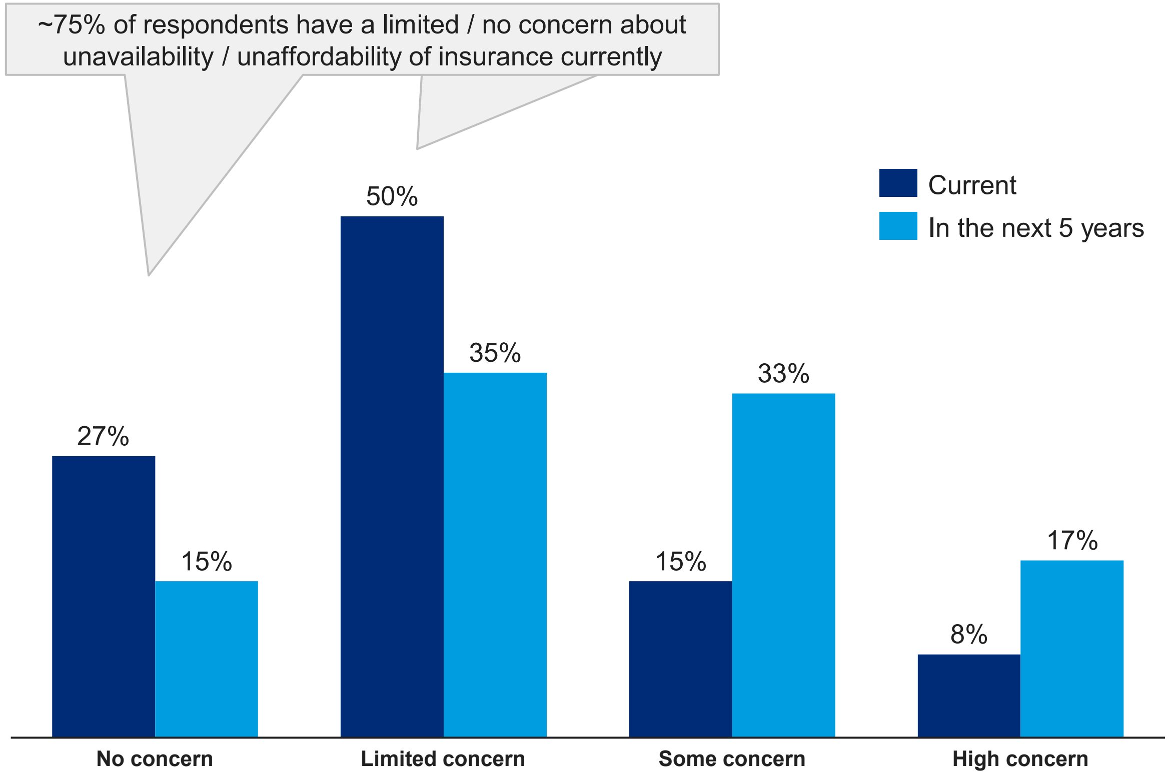
*"Climate change impacts are unpredictable… occur at such large time scales… urgency to address it is a **lower priority** than immediate actions."* - Pacific real estate respondent

*"**Lack of knowledge** of the negative impact on the business."* - Latin America & Caribbean chemical respondent

*"Could always do more, but there are **competing interests for resources**."* - Canadian power and utility respondent

Insurance isn't necessarily motivating action on adaptation, but a need to manage risk is

The extent of respondents that are concerned about 'unavailability' or 'unaffordability' of insurance for one or more of their assets in 2025



Primary motivations respondents are investing in climate adaptation

Need to manage risk	52%
Source of competitive advantage	19%
Pressure from regulators	17%
Other (e.g. financial risk)	8%
Access to Insurance	4%
	100%

Where the demand for climate adaptation is coming from for respondents

Regulators	16%
Investors	15%
Customers	14%
Senior Management / Board	12%
Public sector / Governments	10%
Communities	9%
Insurers	8%
Employees	7%
Nobody yet	5%
Industry peers	4%
	100%

Our key takeaways

Assessing the impacts of chronic perils is becoming more of a priority

More respondents identified heat and water stress (chronic) perils than any other peril as part of their physical risk assessments – only flooding ranked higher.

Organizations are most focused on BCM and engineering measures

Over 50% of respondents have already or are planning to implement Business Continuity Management (BCM) or engineering measures, and these are also the areas they identified as most needing support with.

Cost-benefit analysis isn't considered a 'must' for implementing adaptation measures

Over 70% of respondents that believe they have enough funding for adaptation do not perform a cost-benefit analysis prior to implementation.

Access to insurance is not yet driving investment into adaptation

Only 4% of respondents stated "access to insurance" vs 52% "the need to manage risk" as their primary motivation for investing in adaptation.

Marsh

Climate Adaptation 2025 Report

A business of Marsh McLennan

A business of Marsh McLennan

EFFAS Certified Climate Risk Analyst

A business of Marsh McLennan

Why ECRA?

1. International certification, combines risk, financial impact, opportunities
2. Based on international standards and climate science: IPCC, ISSB, CSRD, EU Taxonomy
3. Developed with Climate Risk Professionals (Marsh McLennan) following the highest academic standards
4. Differentiates from CFA, GARP, CISI

ECRA® is the analytical specialisation that positions you as a climate risk leader.

ECRA® becomes your next strategic step.

Target Audience

Risk Managers

To incorporate climate risks into their risk management frameworks and ensure resilience

Financial and Investment Professionals

To integrate climate-related risks into financial modelling investment decisions and portfolio management.

Environmental Engineers and Technicians

To connect technical knowledge with financial and strategic perspectives, enabling them to play a key role in managing climate resilience.

Sustainability Managers

To integrate climate risk into strategy, reporting, compliance and prepare their organizations for climate-related risks and opportunities.

Risk and Sustainability Consultants

Assisting companies and governments in understanding and addressing the impacts of climate change on operations, resources, and supply chains.

Programme Objectives

ECRA equips professionals in risk management, sustainability, and investment, with the knowledge and tools to navigate one of today's most critical challenges. Upon completion, participants will be able to:

- Understand the **science** behind **climate change** and Its **financial impacts.**
- Explore opportunities in **climate investments** and **renewable energy**.
- Understand **global climate regulations and frameworks** and the requirements for **corporates and financial institutions.**
- Understand **climate adaptation plans** and how they incorporate **'Net Zero' goals.**
- Identify and model **climate risks**, including **asset vulnerability and exposure.**
- Manage **climate risks** and **integrate them into financial strategies**.
- **Quantify** climate-related risks' financial impacts **on portfolios and businesses.**
- Gain insights into **green finance** and the growth of **sustainable markets**.

Programme Structure

MODULE 1
Climate change science

MODULE 2
Policies, regulations and sector-specific initiatives in response to climate change

Module 3
Climate risk identification and modelling

MODULE 4
Climate risk financial impact quantification

MODULE 5
Climate opportunities

MODULE 6
Net Zero and adaptation plans

MODULE 7
Economic effects of climate-related risks

MODULE 8
Sustainable Finance

MODULE 9
Climate risk and asset classes

ECRA’s Faculty

Prof. Dr. Emanuele Campiglio
Academic Director of the ECRA® Programme

Prof. Dr. Alexander Bassen
Inaugural Chair Independent Standards Board – GHG Protocol

Álvaro Cangas
C&S Leader
Marsh Spain

Prof. Swenja Surminski
C&S Managing Director
Marsh McLennan

Dr. René Nicolodi
Head of Equities –
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Dr. Nick Faull
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Susana Peñarrubia
Head of ESG Integration – Active DWS

Pablo Arufe, CAIA
Associate Director
Cardano

ECRA Roadshow

Brussels
Thursday,
16 Oct 2025
In-person Online

Lisbon
Friday,
24 Oct 2025
In-person Online

Frankfurt
Thursday,
30 Oct 2025
In-person Online

Madrid
Tuesday,
18 Nov 2025
In-person Online

ECRA Open Day
Monday,
17 Nov 2025
In-person Online

ECRA Open Day
Thursday,
29 Jan 2026
In-person Online

Marsh

MARSH, S.A. MEDIADORES DE SEGUROS, Correduría de Seguros y Reaseguros, con domicilio social en Paseo de la Castellana, nº 216, 28046 Madrid y con N.I.F. A-81332322. Se encuentra inscrita en el Registro Mercantil de Madrid en el Tomo 10.248, Libro: 0, Folio: 160, Sección: 8, Hoja: M-163304, Inscripción: 1 y en el Registro de la Dirección General de Seguros y Fondos de Pensiones con la clave nº J-0096 (Correduría de Seguros) y la clave nº RJ-0010 (Correduría de Reaseguros). Tiene concertados los Seguros de Responsabilidad Civil y de Caución, según se establece en la normativa sobre la distribución de seguros aplicable.

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24 October 2025

Lisbon, Portugal

Thank you for joining

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