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**IAA's General Insurance Forum
in collaboration with the
Climate Change Reserving Working
Party of the IFoA present:**

**Reserving for Climate Change:
The Emerging Risk Frontier**

Moderator: Ryutaro Yamada, Chair, GIF
Panelists: Alex Marcuson, Josie Durley,
Sarah Grimshaw, and Konrad Farrugia

10 December 2024

A few housekeeping items before we begin:

1. Questions & Comments – Speaking capabilities have been turned off for participants. Please submit your questions or comments by clicking on the Q&A icon at the bottom of your screen.
2. Recording – A YouTube recording and a copy of the slides will be made available on the IAA website within the next day or so which can be found under Events/Past Events.

Moderator and Speakers

Ryutaro Yamada, Chair of the IAA's General Insurance Forum

Speakers are the Climate Change Reserving Working Party representatives of the IFoA:

- Alex Marcuson
- Josie Durley
- Sarah Grimshaw
- Konrad Farrugia

Disclaimer

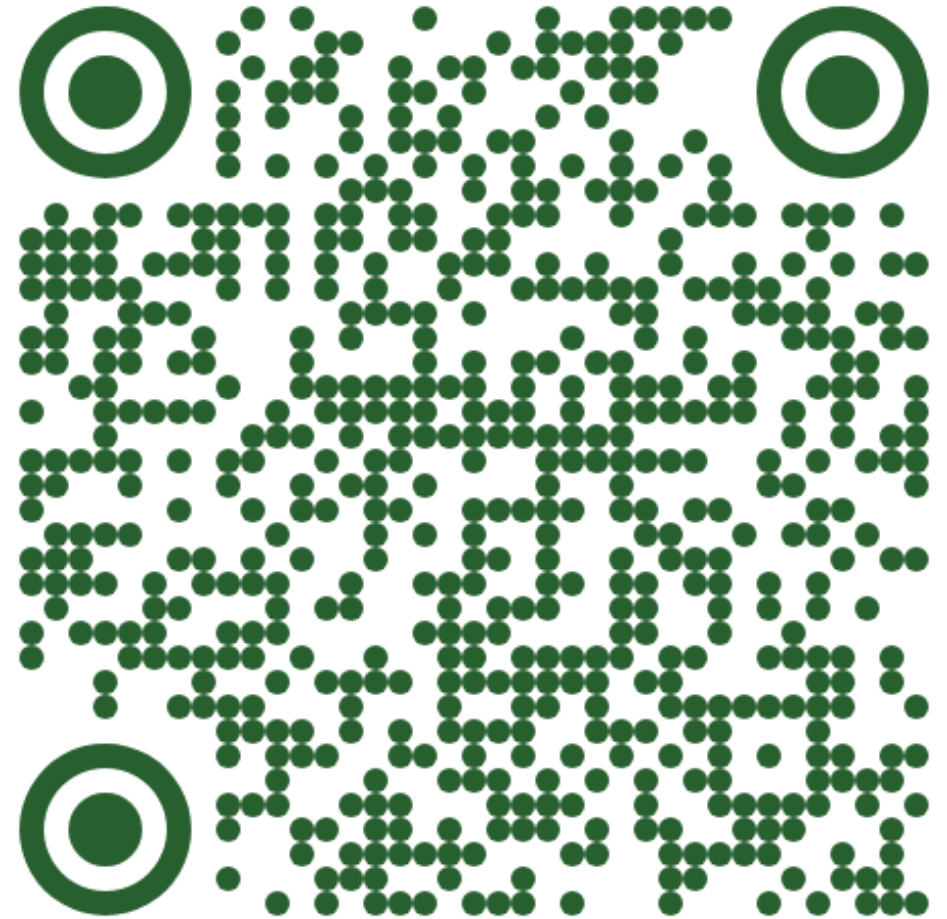
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In preparing the paper being discussed today, members of the working party of the IFoA have reviewed an extensive volume of underlying legal and other documents and research papers in order to summarise in a generic fashion what they believe to be the key points to bring to the attention of reserving actuaries. The working party emphasises that this is not a legal or scientific analysis of the arguments, and no conclusions should be drawn from this paper regarding the merits or otherwise of the legal, scientific and moral arguments presented. The paper is intended to provide an overview of the materials reviewed and of areas which, in the opinion of the working party, may be of interest to actuaries. It should be noted however that the topics presented reflect only a small number of the areas which could have been considered in relation to this topic.

While care has been taken to present the information accurately and as understood by members of the working party at the time of preparing this paper, no duty of care is accepted by the authors, nor is any liability for any errors or omissions contained within it. Any party choosing to place reliance on the information contained within the paper or this presentation does so at their own risk. Seminar attendees and readers of the paper should therefore ensure that (i) they should obtain their own legal or other professional advice regarding matters presented in this paper, including, but not limited to, specific questions relating to the legal and regulatory cases presented and their impact on the insurance lines of business discussed; (ii) they are aware of subsequent updates that may affect their interpretation of the matters presented. While care has been taken to present the information as understood at the time of preparing this paper, recent and future developments may affect the interpretation of the matters presented, potentially materially.

Objectives for today

- Provide an update on latest developments
- Understand what good practice looks like
- Opportunity for questions and discussion



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Agenda

Insurance Litigation

How to Model Climate
Reserves

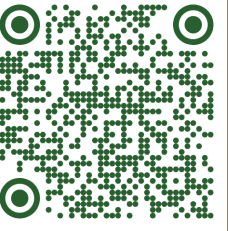
Briefing your Board
Writing your Report

Market survey results

Climate related litigation:
D&O insurance

Where to focus your
attention





Insurance Litigation

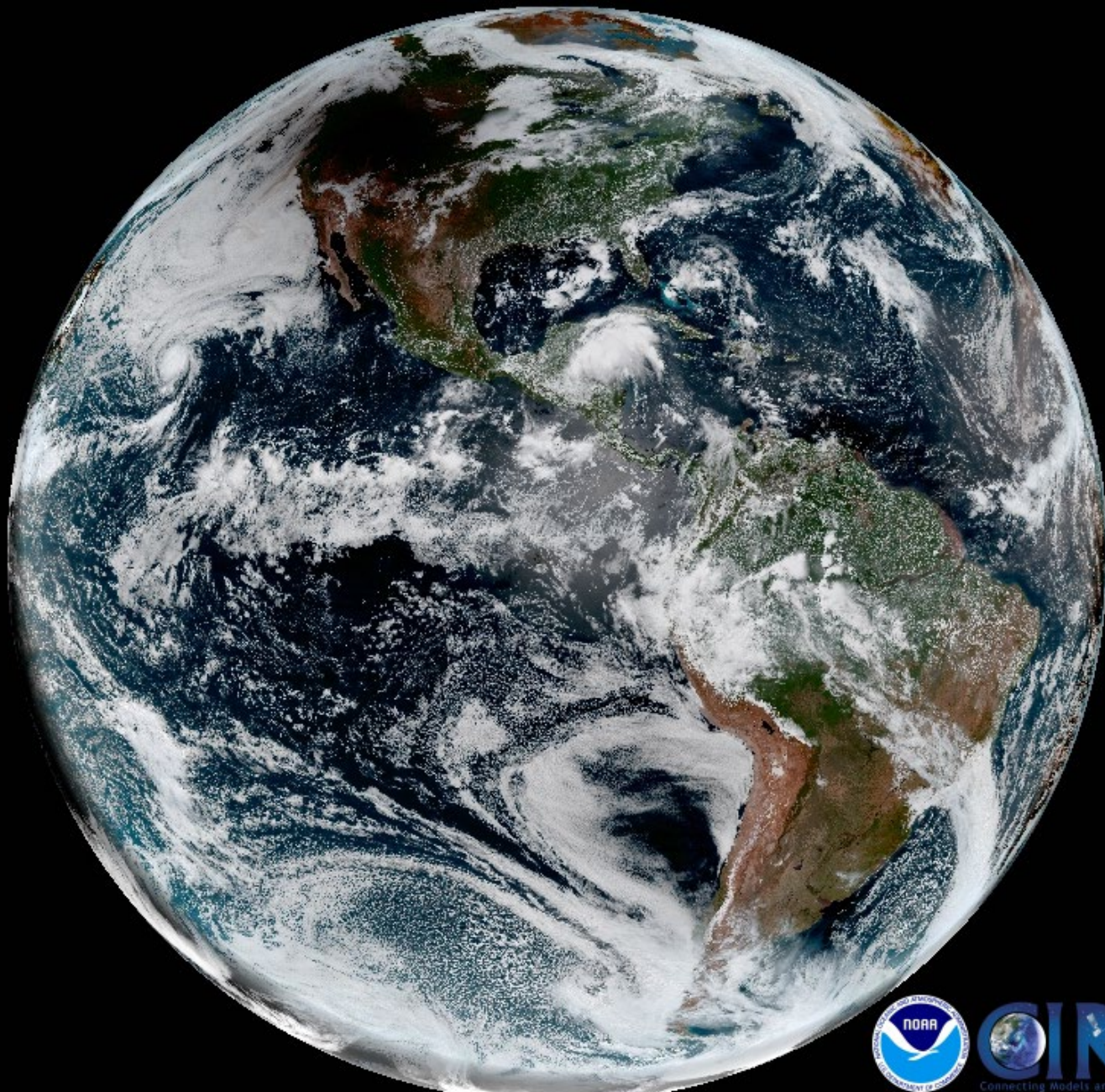


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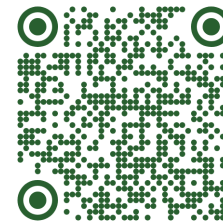




Litigation Update

- Climate change litigation and insurance
- Things to look out for in 2025

[CCRWP Discussion Paper - Climate Change key litigation summary - November 2024](#)



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Litigation Update

Climate change and insurance

- Steadfast Insurance Co. vs. AES Corp. (2008 – 2012)
 - Exclusion of intentional acts.
 - No accident or occurrence.



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Litigation Update

Climate change and insurance

- Steadfast Insurance Co. vs. AES Corp. (2008 – 2012)
 - Exclusion of intentional acts.
 - No accident or occurrence.
- Arkema chemical factory explosion (2017)
 - Cause was flooding of site following Hurricane Harvey.
 - Flood risks identified by insurer's inspection report but not acted upon.



Source: [csb_arkema_exec_summary_08.pdf](https://www.csb.gov/arkema-exec-summary-08.pdf) U.S. Chemical Safety and Hazard Investigation Board - <https://www.csb.gov/arkema-inc-chemical-plant-fire->, Public Domain.



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Litigation Update

Climate change and insurance

- Steadfast Insurance Co. vs. AES Corp. (2008 – 2012)
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- Arkema chemical factory explosion (2017)
 - Cause was flooding of site following Hurricane Harvey.
 - Flood risks identified by insurer’s inspection report but not acted upon.
- Aloha Petroleum, Inc. vs. NUFIC and American Home (Ongoing)
 - Linked to Honolulu/Sunoco case
 - Existence, timing and effectiveness of pollution exclusions; alleged “bad faith” denial of claims.



Honolulu by [Nick Youngson](#) CC BY-SA 3.0 Alpha Stock Images



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Litigation Update

Things to look out for in 2025

- Ongoing cases:
 - Federal vs. State jurisdiction in Honolulu/Sunoco; will this be the end of the matter?
 - Arguments and expert evidence on Lliuya/RWE.
- Wordings and interpretations:
 - Is CO2 a pollutant?
 - Exclusion of intended acts – but what about their unintended consequences?
- Emerging litigation types and targets:
 - Counter claims – ESG Backlash and SLAPPs.
 - Green on Green litigation – Whales or Windmills?

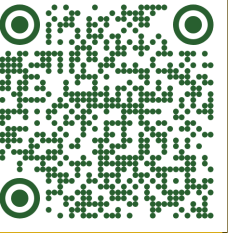


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How to Model Climate Reserves



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Is there a magic bullet?

- Unfortunately, there is no one-size-fits-all allowance for climate change reserves.
- Climate change risk is ever evolving and so it is impossible to say what the impact will be.
- Different classes will be impacted different
- The same risk in the same class will impact different portfolios differently.



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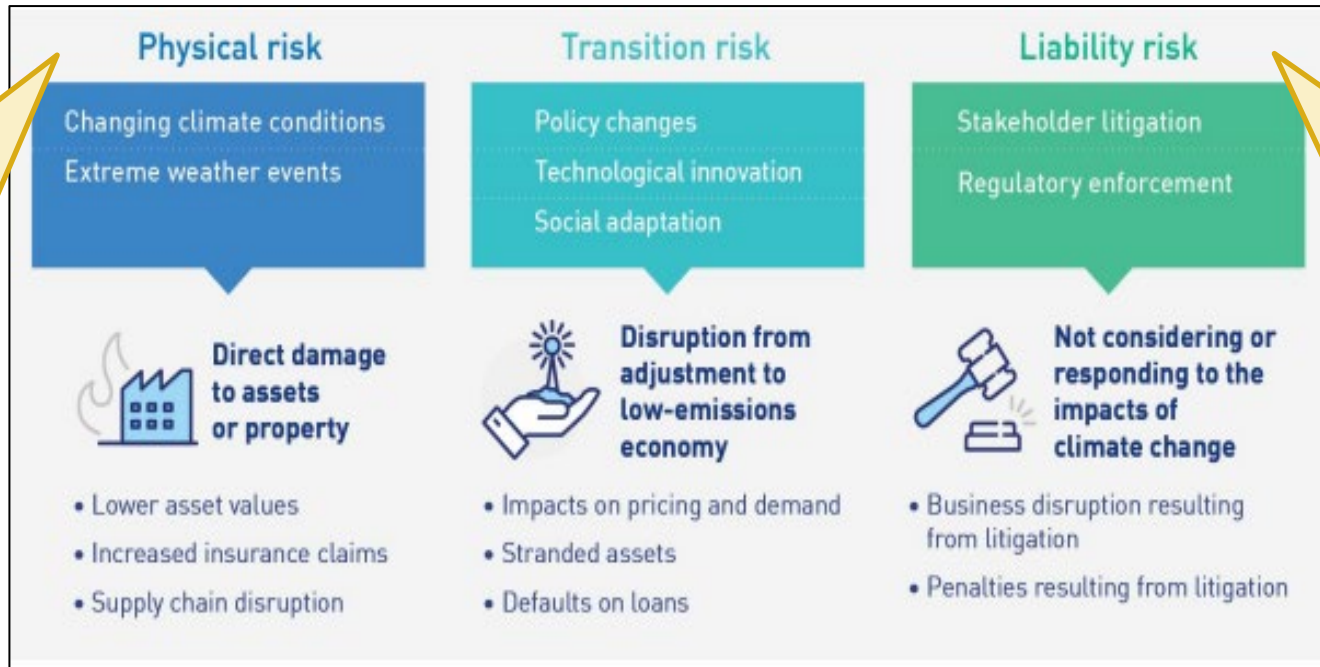
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How to approach reserve setting for climate change

At the moment, the best thing to do is a qualitative assessment of your lines of business and exposures that may impact your book. The best way we found to do this is to split climate change into different categories of risk and then consider the impact of each on each LoB.

If this is a large driver of claims, split Physical Risks further into Acute and Chronic



If this is a large driver of claims, split Liability Risks further into Mitigation, Adaption and Regulatory / Governance

How to approach reserve setting for climate change

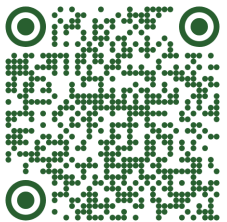
Use a rating system to make it clear if there is any impact, and for some the answer may be no idea.

It will also be useful to add any comments e.g.

- Claims made so think about expiring risk.
- May come in as a latent claim
- Listing sectors or geographies that may be more at risk

We have done this for a few lines of business in this blog post:

[CCRWP Discussion paper - Modelling Climate Reserves - November 2024](#)



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	Climate Litigation Risks		
	Mitigation	Adaptation	Governance/regulation
General/public liability	Potential historic exposures.	Post-event blame?	Unclear.
Environmental liability	Exclusionary language?	Pollution definition?	Monitor regulatory change
D&O	Monitor active claims.	Monitor active claims. Check back years.	Monitor active claims.
Professional indemnity	Unclear.	Silent climate claims.	Unclear
Product liability	“Failure to warn” litigation exposures.	Monitor active claims.	Unclear
Workers Comp/Employer’s liability	Unclear	Failure to adapt workplace/practices	Regulatory action associated with failure to adapt workplace or working practices.



Next steps

- For classes which are high risk, look in more detail at your portfolio. For example, if considering risk drivers and how they impact both frequency and severity of claims.
- Be aware that different classes may require different types of modelling. Some might require a tail factor to be included, some may require general/specific loads and others will be the result of stress testing.
- There is a chance that the insurer could be targeted as the financier of climate change.

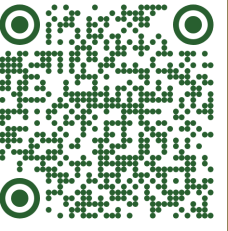


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Briefing your Board

Writing your Report



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Briefing your Board – Writing your Report Overview

- What are you hoping to achieve?
- A useful reserving paper on climate change for 2024 year-end.
- Framing uncertainty in your reserving report.



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Briefing your Board – Writing your Report

What are you hoping to achieve?

- Board understanding of reserve exposures
- Coherent posture across the firm
- Role of reserving in firm-wide response



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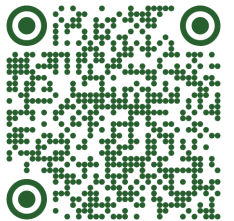
Briefing your Board – Writing your Report

A useful reserving paper on climate change (2024 YE)

Structure around the following headings:

- a) Describing the risks
- b) Assessing risk by line of business
- c) Assessing the current state of knowledge
- d) Performing detailed analysis for high-risk classes
- e) Developing risk metrics
- f) Determining next steps

[CCRWP Discussion paper - Board Reporting - November 2024](#)



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Briefing your Board – Writing your Report

Framing uncertainty in your reserving report



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<http://www.defenceimagery.mod.uk/fotoweb/fwbin/download.dll/45153802.jpg>

<https://www.whitehouse.gov/people/donald-j-trump/>



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Briefing your Board – Writing your Report

Framing uncertainty in your reserving report

General uncertainties:

- Future climate pathways, and impact on your insureds and/or those suing them.
- Adaptation, mitigation and other costs.
- Attribution of responsibility (including changing social and legal attitudes).
- Defence costs.
- Policy and insurer identification.

Specific uncertainties:

- Who and what lines of business have you insured in the past?
- What coverage wordings, exclusions and write-backs did you have in place?
- Where are climate claims emerging? How easily can you identify them?

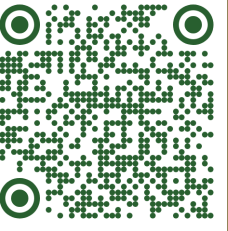


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Market survey results



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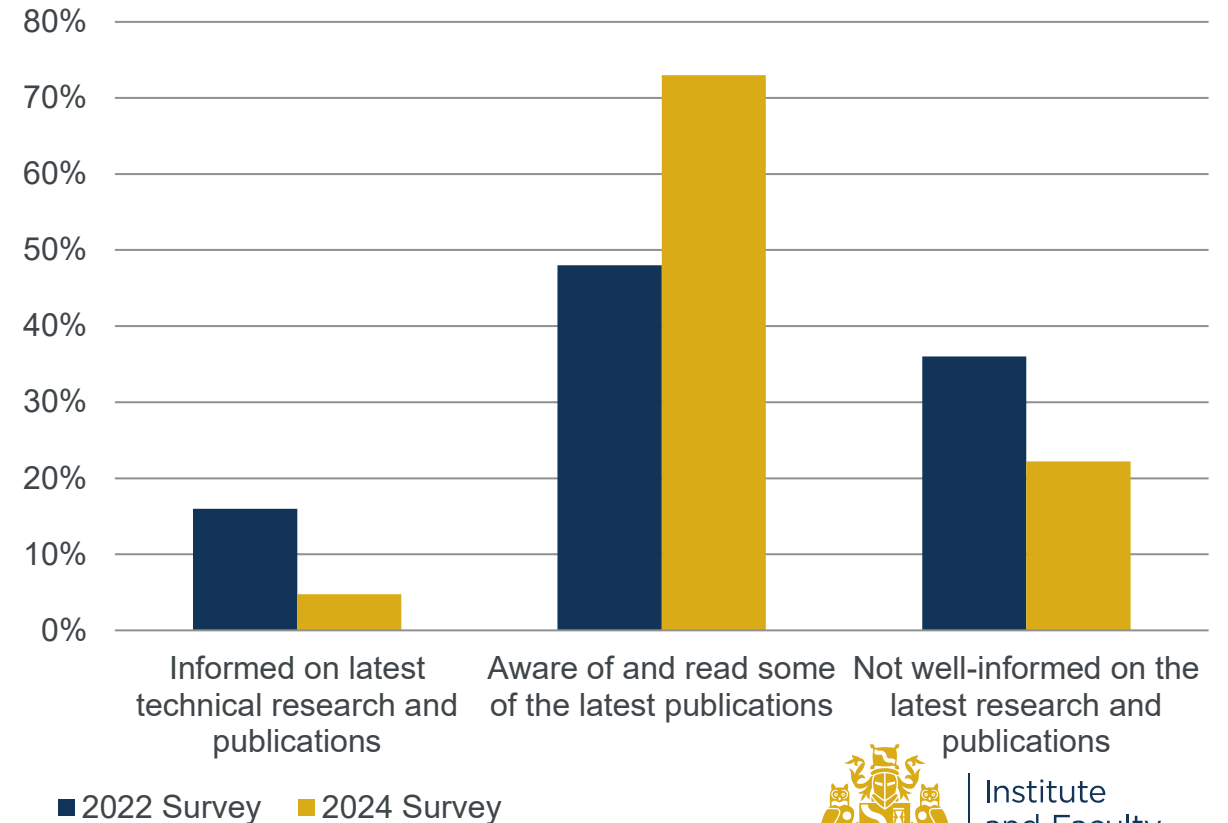


Survey Overview

- Over 60 respondents
- 43% from London Market and Reinsurance companies
 - 37% from other Commercial and Personal Lines
 - rest did not work for (re)insurers (consultant/regulators)
- 36% with net reserves greater than a billion, 30% with net reserves less than a billion
- Property, Casualty and Motor were the largest classes for respondents (by reserve size)
- Most respondents consider themselves to be aware of and somewhat informed on the latest research and publications

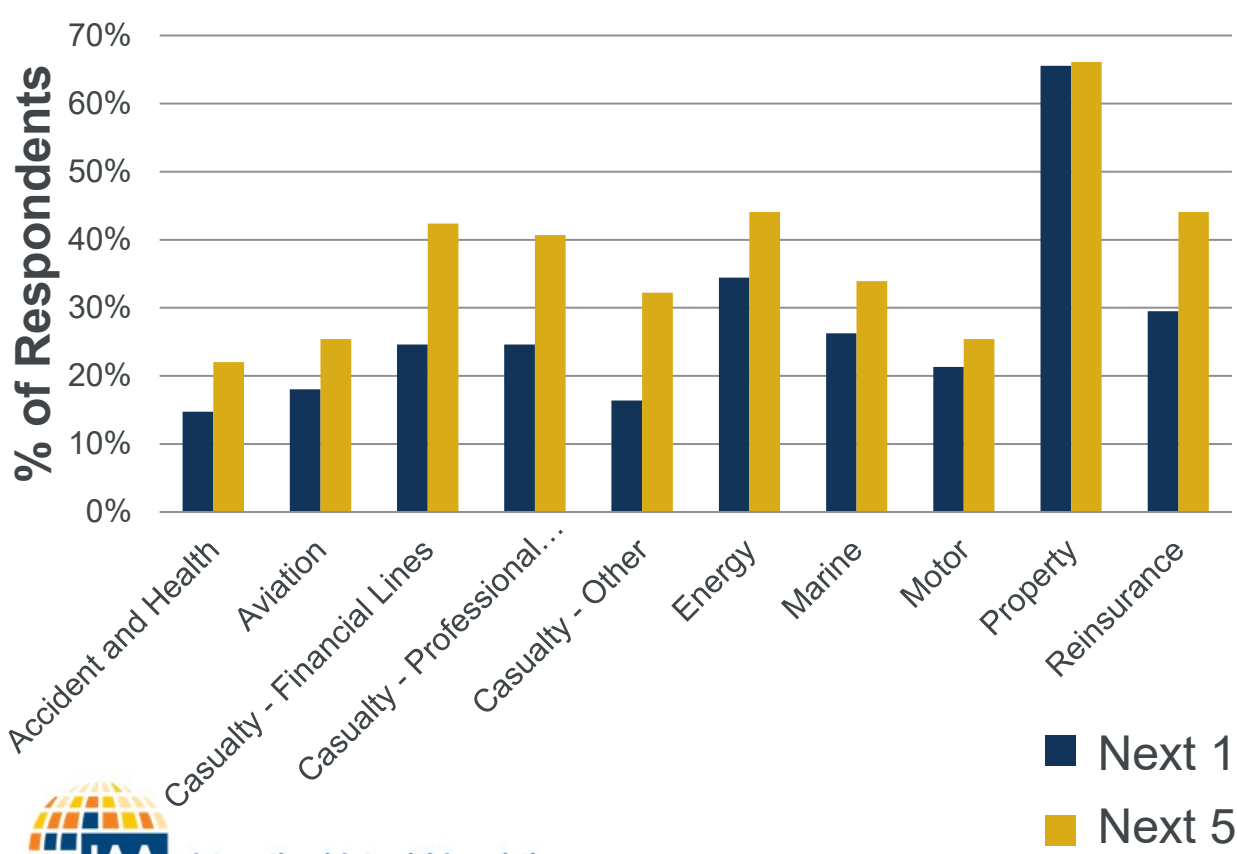


How would you evaluate your current understanding of climate issues?

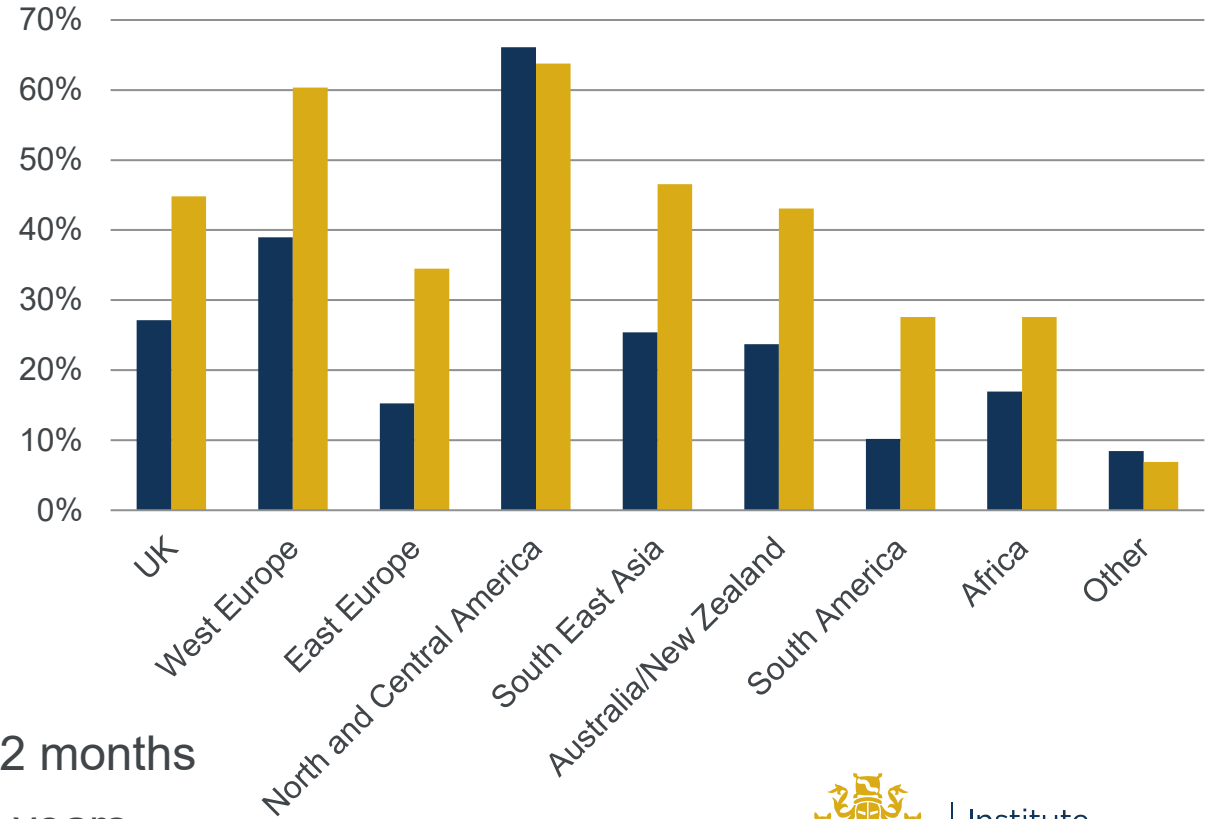


Expected Climate Related Reserving Challenges

Classes of Business



Territories



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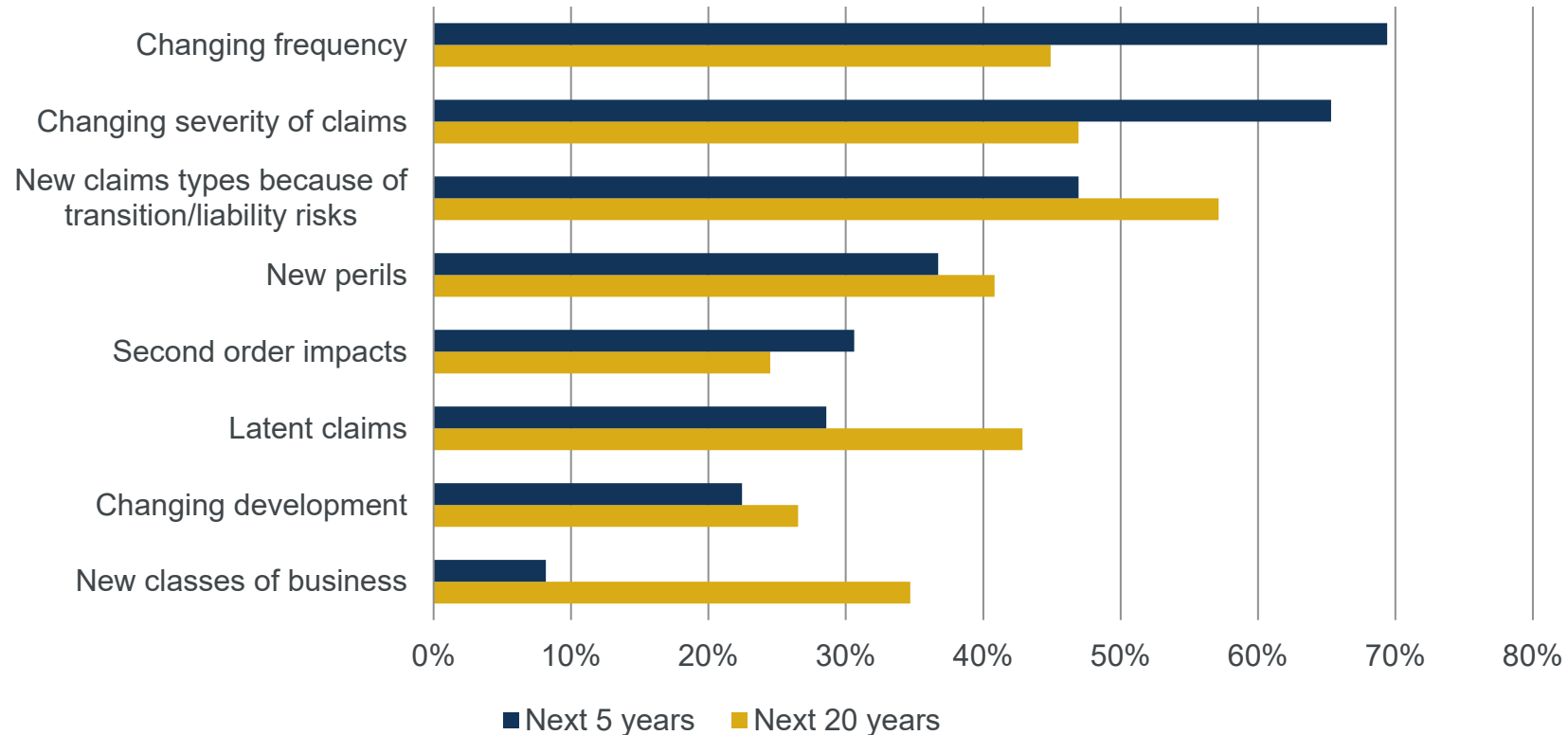
■ Next 12 months
■ Next 5 years



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Reserving Concerns

Top three thoughts or concerns as to how climate change will impact reserving



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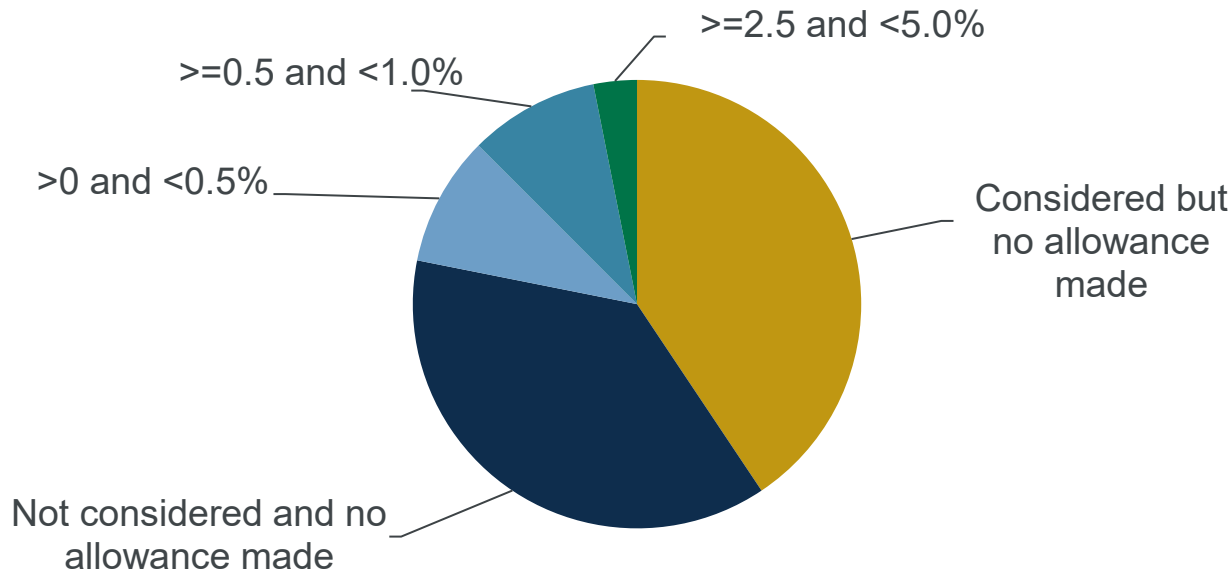


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Action taken to date

How big is your current best estimate climate change allowance as a percentage of net reserves?



Most common actions currently taken within reserving:

- **39%** are “starting to consider through looking at potential scenarios”
- **14%** are making expert judgement loadings – e.g. allowing for a higher return period for certain events
- **8%** are making implicit allowances
- **27%** aren’t yet making any allowance but are considering the impact of climate change on their reserves

What next?

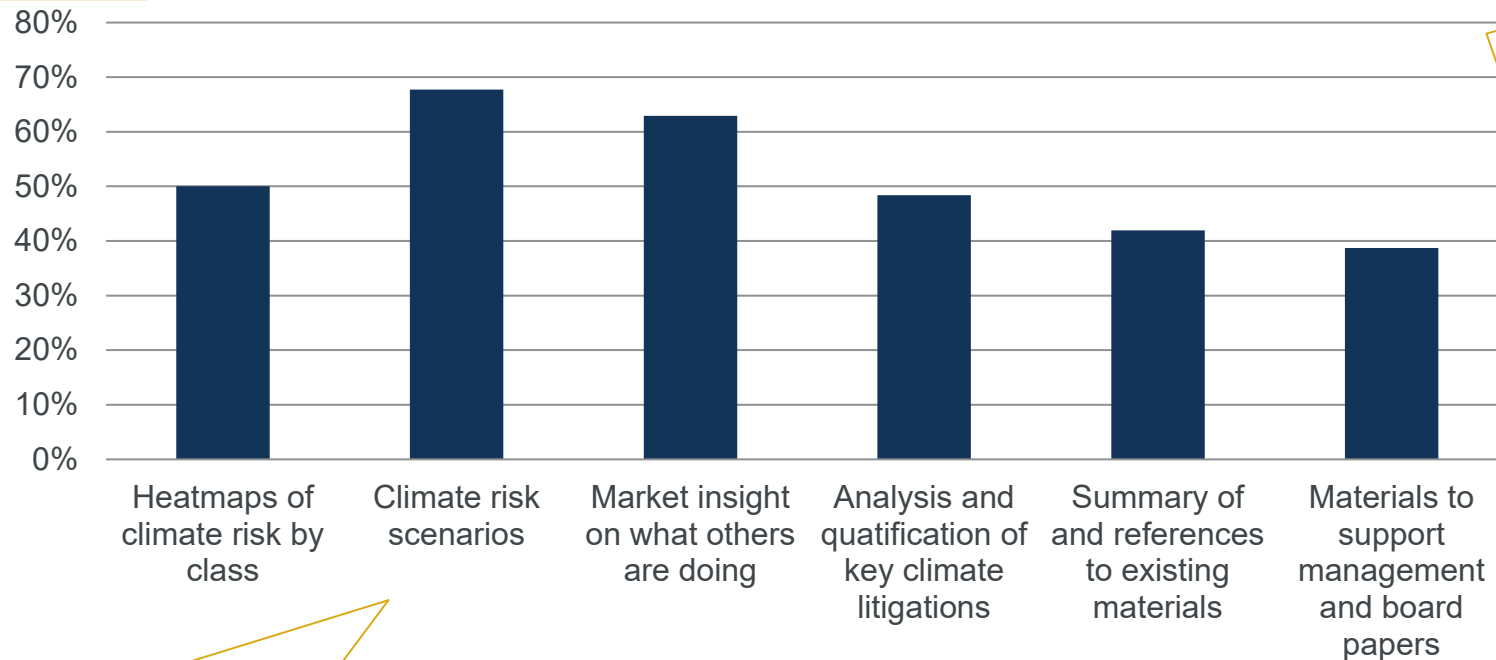
“This issue is currently marginal from a reserving perspective and there are far greater near term risks to setting adequate reserves.”

“Climate change is a very good example on emerging trends, but not the only one ... emerging trends invalidating the core reserving assumption of "history may predict the future" could be an interesting consideration”



“We need to consider the moral hazard on liability of potential encouragement of legal action where we would be better to invest those funds in climate change research”...“The climate doesn't actually listen to courts, it responds to our collective day-to-day actions.”

What IFoA climate related content would be the most helpful?



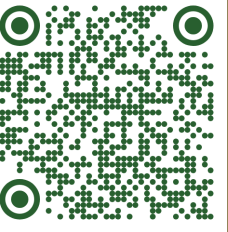
“I suspect most respondents are”... “thinking about it but no explicit reserving allowance. It would be interesting to ask if there is a particular trigger which would change this position, and what that trigger might be.”

“Existing publications are relatively vague or focused on large loss wording (which feels more about how to caveat and cover oneself than actually being proactive)”

“Good work. It has helped to start bring some order to a previously pretty opaque issue.”



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Climate related litigation: D&O insurance



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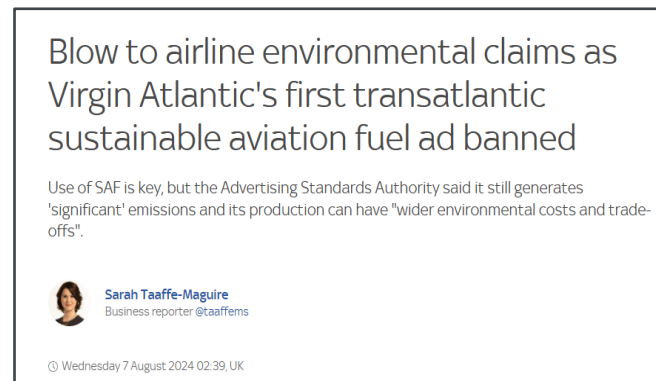


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Setting the context

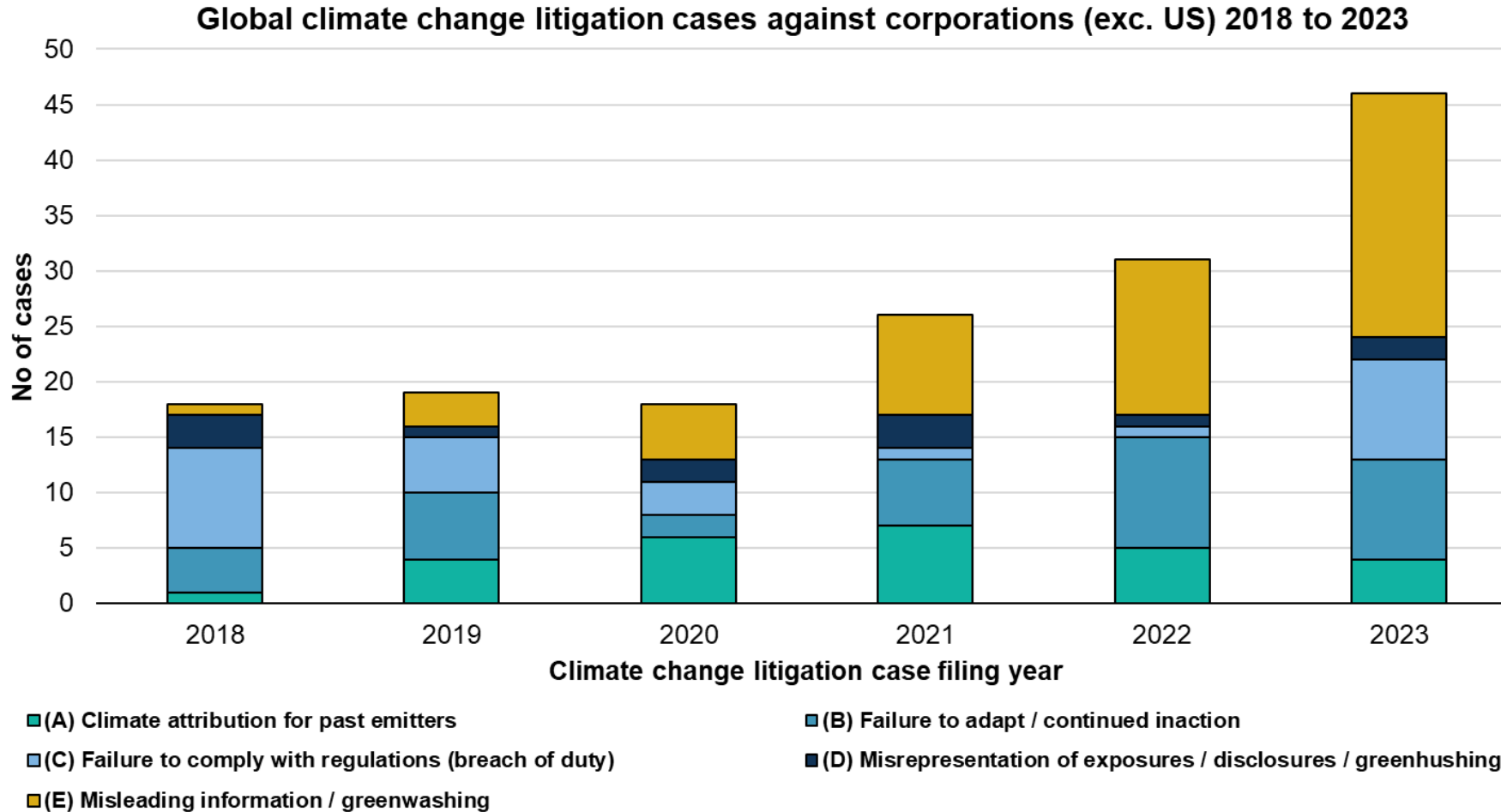
- **GIRO 2023** - Heatmaps developed for D&O and Property classes of business as a framework for reserving actuaries to assess the impact of climate risks on reserves¹.
- D&O policies are affected by climate change. **Why?**
 - Inaction or failure by company directors or officers to adequately address climate related obligations could be classified as a breach of fiduciary duties. This leads to increased risk of climate litigation.
- The five main causes of D&O policy claim (**Triggers**):
 - A. Climate attribution for past emitters
 - B. Failure to adapt / continued inaction
 - C. Failure to comply with regulations (breach of duty)
 - D. Misrepresentation of exposures / disclosures / greenhushing
 - E. Misleading information / greenwashing



Climate litigation trends – Research Methodology

- **Objective** – Provide further insights into climate litigation trends.
- **Methodology:**
 - Reviewed sources of climate litigation cases from the Columbia Sabin Center for Climate Change Law, Global Climate litigation databases, <https://climatecasechart.com>.
 - Non-US cases against corporations were mapped to D&O Triggers.
- **Assumptions and limitations:**
 - The information sourced as at 10 May 2024 has been treated as accurate.
 - Correct mapping of the database case categories.
 - No further detailed legal scrutiny of the individual cases was performed.

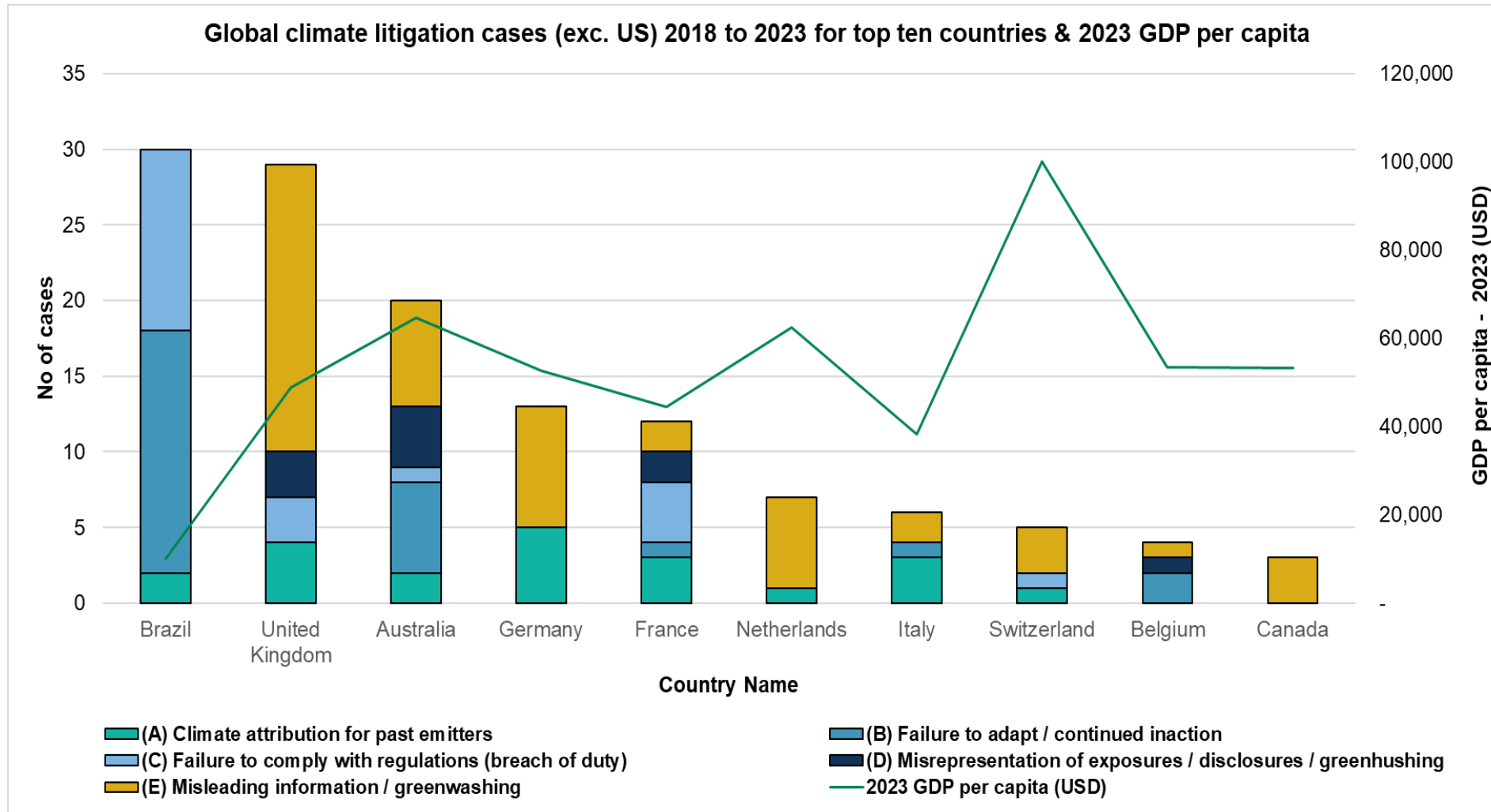
Key findings – Cases split by filing year



- Increasing trend in climate related litigation cases against corporations.
- Misleading information / greenwashing cases were the largest Trigger (E) for cases filed in 2022 & 2023.
- Cases filed for failure to adapt are the 2nd largest Trigger (B).
- Climate inaction / past emitter cases reducing over time – Trigger (A).



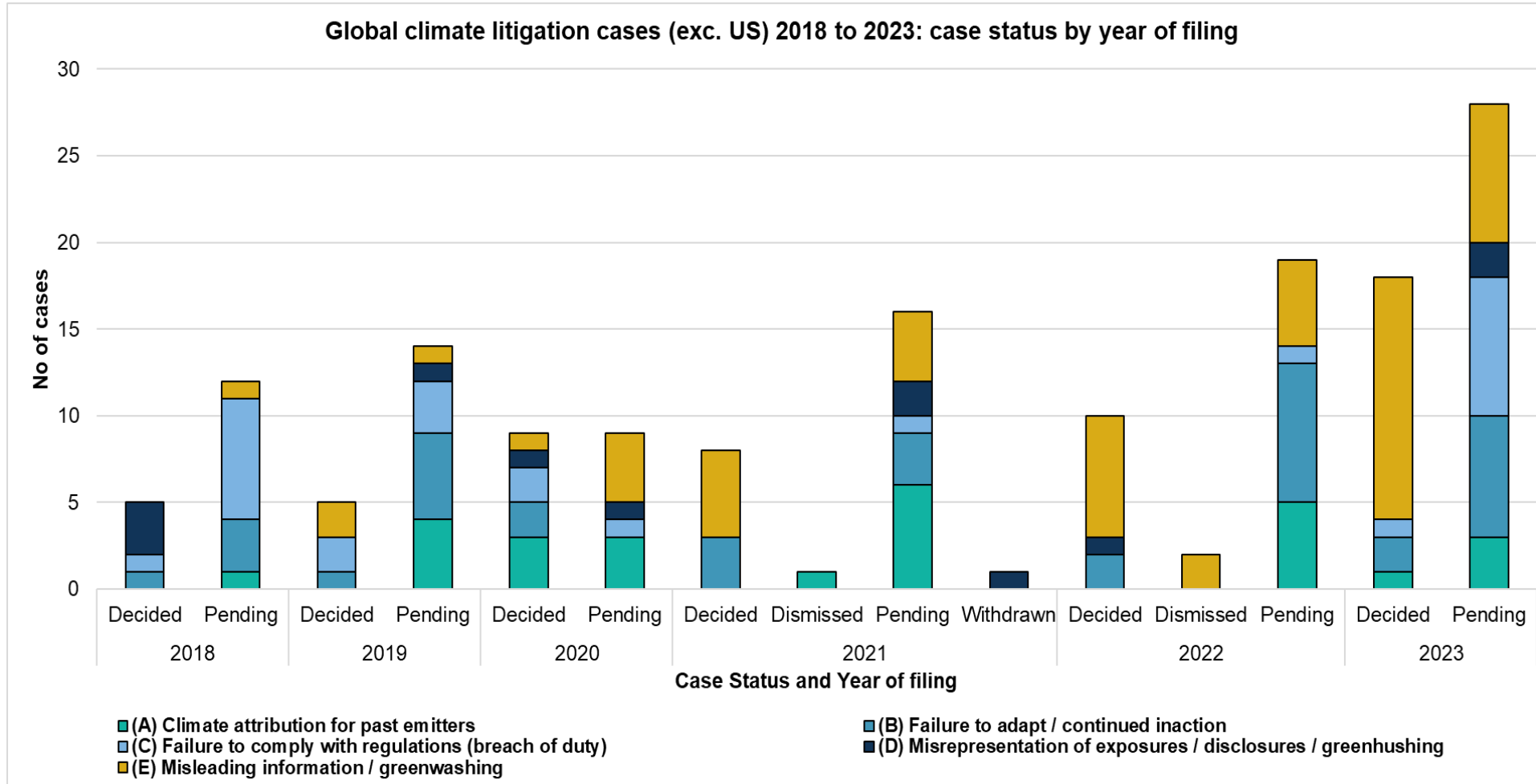
Key findings – Top ten countries and GDP per capita



- Brazil and UK have the highest climate litigation cases (excluding the US).
- Correlation between GDP per capita and D&O Triggers.



Key findings – Cases by year and status



- Cases filed against corporations between 2018 – 2023 - circa 34% have been decided
- 62% are still pending.



Key findings - Feedback from a leading D&O underwriter

- **Validation** of the D&O heatmap.
- **D&O litigation growth trends** will be climate related from European jurisdictions.
- **Litigation concerns** relate to Trigger (C) - failure to meet local legislation and inability to evidence progress in transition plans.
- **Underwriters' concerns** about future uncertainty associated with litigation against companies who made climate commitments from 2030.
- **Underwriters' actions**: from 2029 - respond by focusing on risk selection and management of portfolio risks.
- **Underwriting strategy**: develop more stringent underwriting criteria and greater customer engagement.



Considerations for reserving actuaries

- Understand the D&O Triggers and ongoing claim trends across jurisdictions.
- Monitor recent trends in claim frequency / severity and shifts in claims payment patterns.
- Review back-book liability policies written and any ongoing litigation to assess future potential exposures, particularly for high emitting companies and sectors.
- Be aware of underwriters' concerns in relation to future uncertainty and potential changes in their D&O strategy e.g. future climate exclusions.
- Consider allowance for uncertainty in D&O claims reserves.
- Communicate with key stakeholders in the organisation and across the insurance sector.

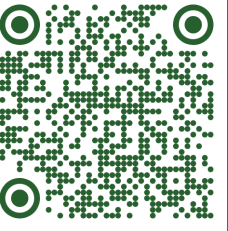


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Where to focus your attention



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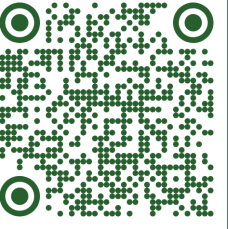


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Questions, Comments and Panel Discussion?

- Expressions of individual views by attendees are encouraged.
- If you have any questions for our speakers, please use the Q&A box on the bottom right-hand side of your screen to submit your questions.
- Please note that this webinar is recorded and will be available for access from the IAA website within the next few days.



Takeaway Actions



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Takeaway actions

- It's time to get started...
- Have a nominated climate change specialist within your reserving team
- Ensure you have agreed with your Board a clearly articulated reserving philosophy
- Implement a more granular reserving taxonomy



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Thank you for joining today's webinar!

Should you have any further questions or comments,
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