

INTRODUCTION TO CLIMATE-RELATED SCENARIOS

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The International Actuarial Association (IAA) recently announced the publication of the paper **Introduction to Climate-Related Scenarios** developed by its Task Force on Climate Risk.

Identifying a strategic need to respond in a timely and proactive manner to promote the role of actuarial approaches and contributions to addressing climate-related risks, the IAA Executive Committee established the Climate Risk Task Force to deliver on several IAA activities over a five-year time horizon relating to climate-related risks. The objective of these activities is to contribute to the valuable global efforts to further identify, measure and manage climate risks, thereby serving the public interest.

This paper is the second of a series of papers that will be developed, aimed at creating awareness and promoting actuarial approaches in climate-related risk management and reporting.

The first paper - **Importance of Climate-Related Risks for Actuaries** – was released in September 2020. Recordings of the webinars to present these papers are available on the **IAA's YouTube channel**.

Climate-related risks are getting more and more attention worldwide. Whether those risks arise from more frequent and severe weather events, or the transition to a net-zero-carbon economy, they have the potential to trigger substantial impacts with consequential implications for the work carried out by actuaries. Actuaries therefore need to stay up to date with the science underlying climate change, and with the political and economic responses to it.

Scenario analysis is an important tool that can be used to assess the potential financial and business impacts of climate change in a decision-useful way. In a world of uncertainty, scenarios are intended to explore alternatives that may significantly deviate from the

basis of 'business as usual' assumptions.

Actuaries are increasingly involved in considering the potential business and financial impacts of climate-related risks on an organization, its customers and society. There is also an increasing demand for actuaries to use scenario analysis to ensure these risks are identified, measured, monitored, managed and reported. This work will form a basis for mitigation/adaptation strategies, as well as building resilience.

The main conclusions of this paper are summarized in the following points:

1. In the sphere of climate change, the focus of the actuarial profession is on climate-related risks and opportunities, rather than the multiple broader impacts of climate change.
2. Climate-related risks can be analyzed into main categories

comprising physical risks, transition risks, and legal and reputational risks. Each of these will be affected by initiatives from governments, enterprises and individuals.

3. Climate-related risks are complex and entail a high level of uncertainty as to both the timing and intensity of their impacts. There is an abundance of material, tools and data that can be used by actuaries to assess and monitor these risks in cooperation with climatologists and other professionals.
4. Analysis of scenarios covering a wide range of potential futures is best suited to developing fact-based policy options for governments, and management information for enterprises. This approach aims to maximize the sustainability of their policies, strategies and business models.
5. The main source of basic research information about climate change is the Intergovernmental Panel on Climate Change (IPCC). 1
6. Scenarios need to accommodate interactions between the risks that are not linear but take place at multiple levels. They can occur on different timelines and horizons, and their impacts can be at the global, regional or enterprise level. Actions may be taken by a variety of stakeholders, each controlling

only segments of the risks, but should be coordinated at both the local and global level.

7. Actuaries should not necessarily aim to create scenarios by themselves. They should be able to work in multi-disciplinary teams to develop scenarios that are appropriate to a set of circumstances. Parameters should be customized to produce results that are relevant, credible and aligned to the needs of the users.
8. Guidance is provided on the criteria and components of, and requirements to be met by, scenarios as well as on the process, which must be iterative.

In order to address the needs of actuaries, more papers are scheduled to be released over the following years, such as:

- a paper designed to further stimulate development of effective and globally applicable links between climate-related risk scenarios and insurance and pension risks and costs;
- a paper on the application of climate-related risk scenarios to asset portfolios with an important subsidiary goal of encouraging consistency between assets and liability modelling;
- advice on climate-related risk management and addressing emerging third-



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party regulatory/reporting/disclosure requirements;

- a paper on the potential effects of transition and adaptation steps; and
- a paper on the link between climate-related risk scenarios and social security.

A review of existing IAA publications is also planned to identify and address any gaps related to climate-related risks. The IAA Climate Risk Task Force welcomes and encourages input and involvement in these activities. To learn more about the work of the IAA on this topic, contact the Director of Technical Activities at the [IAA Secretariat](#).

To access the paper, and other papers published by the IAA, please visit their [website](#).