

Comments Template for IAA Paper - Introduction to Climate-Related Scenarios
Deadline: 12 October 2020

Please use this template to comment on the IAA Paper - Introduction to Climate-Related Scenarios.

The IAA invites comments on this paper, and on the questions set out below.

Comments are most helpful if they:

- (a) Are comments on the questions as stated;
- (b) Take full account of what will be addressed under the topics in other papers in the series of papers as stated in the cover memo;
- (b) Indicate the specific row or group of rows to which they relate;
- (c) Contain a clear rationale; and
- (d) Include any alternative that the IAA should consider, if applicable within the scope of the [Statement of Intent for IAA Activities on Climate-related Risks](#).

Identification and instructions		
Name of Individual:	Please indicate if your comments are personal, or represent your organization:	Represent the organization
Name of organization:		Canadian Institute of Actuaries
Disclosure of comments:	Please indicate if your comments should be treated as confidential, and if so why:	Not confidential
Instructions for filling in and sending the template:	<p>Please follow the following instructions for filling in the template:</p> <ul style="list-style-type: none"> ⇒ Do not write in the yellow shaded cells ⇒ Write in the white cells ⇒ When commenting on a specific paragraph: <ul style="list-style-type: none"> ○ Please use a separate row for each paragraph, sub paragraph, or bullet. ○ Please include the full reference to the row number(s) you are commenting on under the first column “Full row number reference”; e.g., Rows 223-225. ○ Please insert/append extra rows to this format as needed. <p>Please send the completed template by email, attached in <u>MSWord format</u>, to climaterisk.comments@actuaries.org.</p>	

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	Specific Questions asked by the IAA Climate Risk Task Force	Response
	Considering this paper to be an introduction to climate-related scenario development, and also considering the topics of papers to follow in this series	
Q1:	Does it cover the right level of background information on climate change?	Yes, it covers the background information in good detail. As a suggestion, thought should be given on citing more actuarial sources from the full member associations (FMAs), such as the IFoA, the CIA, the SOA, the CAS, and the AIA.
Q2:	Does it adequately cover the principles needed for developing climate change scenarios?	It does cover the principles, but does not provide enough information for practicing actuaries to develop their own scenarios for their own areas of actuarial practice.

	General Comments on the Paper
	The paper provides a lot of detail, however thought should be given to restructure the paper such that matters of importance for practising actuaries can be accessed in the early part of the paper. Equally, background information on climate change can be put later in the paper or in the appendices.

Comments on specific content/wording in the Paper (rows have been numbered for easy reference)		
Full row number reference	Change proposed to the row(s) (markup preferred)	Reason the change is needed (can be kept very brief or left blank if obvious from the change)
General	Suggest using either “climate scenarios” or “climate-related scenarios” consistently throughout document.	

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General	In general, this document has a lot of good information but the structure is hard to follow, particularly for Section 1.	
General	This paper could use more concrete examples for actuaries.	
General	It would be a good idea to have a glossary of terms as an appendix, e.g., adaptation, mitigation, etc.	
General	References to “insurer” should be expanded to cover other financial institutions and users of actuarial services.	
Rows 2–6	It would be good to describe upfront what’s not in scope of this paper – e.g., it doesn’t help you quantify the impact of a scenario once you’ve picked one.	
Row 26	The subtitle “Sources of Information on Climate Change” is a bit confusing: the text describes the causes of climate change but then only one source of information (IPCC) is mentioned. Any references should include an official title and location where they can be found.	
Row 75	Suggest to introduce the Keeling Curve before the concept of future pathways or scenarios, since it has more to do with the past than projecting the future. The term “scenario” gets used in different contexts throughout the paper, such as in reference to emission scenarios in contrast to scenarios that incorporate the four components outlined in Section 3.3. The Keeling Curve could be introduced in the “Sources of Information” section.	
Row 96	A lot of the existing research refers to the RCP precursor scenarios (SRES) and it may be useful to briefly introduce this.	
Row 155	There is reference to transition risks without using the word.	
Row 159	There is a lot of good information in this section about the complex nature of climate change	

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	risks – tipping points, feedback loops, ripple effects, etc. – but it’s a bit confusing for this to be presented under the banner of “Adapting Scenarios to Changes.” What “changes” are we talking about here? Also, consider labelling the diagram, i.e., Figure X.	
Row 160	It’s a bit confusing to talk about physical risks without first introducing the distinction between physical/transition risks.	
Row 257	The paper doesn’t discuss climate models at all, let alone the difference between global and regional models. This feels like an omission in a section entitled “Considerations in Applying Global Scenarios to Regional/Local.”	
Rows 259–265, 278	It would read better if some of the content in the preamble was moved to the subsections so as to avoid repetition. Also, the mention of “forest fires” should be added to line 278.	
Line 382	There is a typo in line 382 – “Carbon” should replace “Carbone.” Also, Figure 4 is a great chart and should be highlighted for the necessity of scenario testing in different countries.	
Row 406	This reads like a generic introduction to legal risks. It could be more clearly linked into “Considerations in Applying Global Scenarios to Regional/Local.” Also, the section should be considered to be rewritten in light of the reference to the TCFD definition of liability risks.	
Row 461	It would be important to discuss in more detail the likelihood of regulatory agencies (financial, insurance, etc) to expect disclosure. Notably, New Zealand has recently announced its expectations for climate risk disclosure.	
Rows 481–486	Historical trends in CO2 seem a bit out of place.	
Rows 554–560	Would it be more appropriate to refer to this as types of analysis/models as opposed to types of scenarios? It’s not clear why there is no mention of top-down vs. bottom-up approaches in this paper.	

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Rows 562–570	Frozen Balance Sheet – needs to consider the impact on liabilities, notably those of an insurer or pension plan, regarding the risks from climate change.	
Row 595	With regard to “external providers,” the CFRF guide provides assessment questions which would be useful to incorporate here.	
Row 598	<ul style="list-style-type: none"> • Not sure if “examine transmission channels” is going to mean much to readers. • Reporting and disclosure is not listed as one of the steps, neither is establishing objectives/governance. These are pretty common steps referred to in the TCFD and elsewhere. 	
Rows 641–644	This is getting at the concept of translating scenario narratives into parameters and assumptions for modelling. This will be covered in a subsequent paper, but this paper could do a better job of introducing this step with more clarity. It’s not listed in the process diagram, for example. Also, “will help estimate stranded assets and the impact on future cash flows and investments” seems to ignore the liability side of things.	
Rows 648–649	The paper doesn’t do justice to the considerations involved in setting an appropriate horizon for the analysis. The CFRF guide offers guidance (borrowed from PRA) which would be useful to mention.	
Row 593	This section is meant to be about “selecting scenarios.” The goal of showing the entire scenario analysis process is to say that it’s iterative, but the message is getting lost a bit.	
Row 593	<p>There are a few guidance points that would be useful to add to the paper:</p> <ul style="list-style-type: none"> • Best to have a cross-functional approach. • Start small, with a pilot. • Have appropriate support from BoD, Exec Mgmt, etc. 	

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	<ul style="list-style-type: none"> • Scenarios should be considered illustrative and exploratory, rather than definitive. 	
Row 708	<p>Consider adding:</p> <ul style="list-style-type: none"> • The Institutional Investors Group on Climate Change; • Climate Measurement Standards Initiative; • IEA; • IFoA information; • CIA Public Statement: “Time to Act: Facing the Risks of a Changing Climate”; • AIA recent announcement; and • Actuaries Climate Index (North American & Australian versions). 	
Rows 715–729	Unclear why the references are repeated at the bottom of the paper.	