Position Paper

Response to EIOPA discussion paper: Methodology on potential inclusion of climate change in the nat cat standard formula

Our reference:	ECO-SLV-21-63		
Referring to:	EIOPA discussion paper: Methodology on potential inclusion of climate change in the nat cat standard formula		
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Pages:	10	Transparency Register ID no.:	33213703459-54

General comments

Insurance Europe welcomes the European Insurance and Occupational Pensions Authority's (EIOPA) discussion paper on the methodology on potential inclusion of climate change in the natural catastrophe (nat cat) standard formula.

Climate change is an important issue which will impact nat cat risks and their future evolution. Insurance Europe supports appropriate recognition of these risks in the standard formula and agrees that climate change may also influence the future scope of the natcat submodule in the standard formula.

The most appropriate approach for capturing the evolution of nat cat risks in the standard formula due to climate change is to reassess the parameters on a regular basis: ie every three to five years, as proposed by EIOPA. This will also capture any exposure, vulnerability and model changes, which are also important considerations during any recalibration.

If the reassessment demonstrates a need for a recalibration of a particular parameter or set of parameters this should be done via a standardised, transparent process which is comprehensible and clearly documented. Materiality will be an important aspect of the reassessment exercise. EIOPA should clearly define materiality in this context and apply it consistently.

Q1. *Do you agree with the definition of the perils?*

- ■ No

Please explain

It is vital that the scope of each standard formula (SF) peril is clearly defined to ensure consistency and clarity for all stakeholders.

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Likewise, it is important that the methodology in the standard formula works well with established actuarial practices and underwriting: for example, with the risk definitions in the non-binding model terms and conditions.

Q2. *Do you think that it should be clarified that the peril currently named "Hail" in the SF refers to "Convective Storm"?*

- No

Please explain

Insurance Europe understands that currently the hail peril refers to only hail and does not include losses from other events such as tornadoes, lightning etc. It does not support expanding the scope of this SF peril.

As noted by EIOPA, the term "convective events" can refer to very different phenomena, such as hail, thunderstorm gusts, heavy rain, and lightning. These events result in very different types of damage and also differ in terms of meteorological observations and modelling.

Q3. *Do you think that the peril currently named "Hail" in the SF should be renamed as "Convective Storm"?*

- No

Please explain

As noted in response to Q2, the SF hail peril is not currently considered to reflect convective storms. Moreover, only hail causes very costly damage and represents a major event (eg the storm Ela in 2014). The other events can be considered as so-called "attritional losses".

In any case, renaming perils in the SF could create additional confusion.

Q4. *Do you think that it should be clarified that the peril currently named "Windstorm" in the SF refers to "Cyclonic storm"?*

- No

Please explain

According to the usual definition in insurance terms and conditions, only the wind speed on site is decisive for the insured event storm, regardless of the meteorological history. Major damaging winter and summer storm events, such as Ela in 2014 or tornadoes, are part of the hazard storm or are more of a cyclonic nature. This should be reflected by the standard formula. Therefore, windstorm should not be renamed, and the current definition should be kept.

Q5. *Do you think that the peril currently named "Windstorm" in the SF should be renamed "Cyclonic storm"?*

- No

Please explain

Renaming perils in the SF could create additional confusion.

Moreover, windstorm defines all low-pressure systems/cyclones within medium latitude in the EU, while cyclonic storm in meteorology refers to cyclones only formed in the Indian Ocean.

Q6. *Do you agree with the risks identified where there is a high confidence level on the current and short-term impact of climate change in Europe?*

- Yes

Please explain

The analysis has been performed using widely acknowledged sources and its conclusions are shared. However, this analysis is independent from the need to include new perils in the standard formula, or to recalibrate existing ones.

Q7. *Do you agree to refer to a 1.5°C warming scenario for short-term (5-10 years) projection of climate change?*

- No

Please explain. If no, would you suggest an alternative scenario?

The climate projections are designed primarily for long-term developments (mid to end of the century). This is a problem for all climate projections, regardless of the assumptions (scenarios) for the development of greenhouse gases.

In the short-term the results of the modelling for different greenhouse gas scenarios practically do not differ. In addition, the projections with 1.5°C have not been investigated as intensively as the other scenarios. Therefore, it might be advisable to also include the other scenarios in order to obtain a broader spectrum of the research results — if this is considered necessary.

Q8. *Do you agree to take into account adaptation measures when assessing weather-related risks?*

- Yes

Please explain.

Adaptation and prevention measures are an essential component for insurance business and should therefore be considered for assessing weather-related risks.

These measures, which are often initiated by governments to ensure the safety of their citizens, help to mitigate exposure to certain risks; not considering them could result in the overestimation of risks. It is important to clarify that not taking prompt adaptation measures could bring impacts, not only on the estimates, but also on a broader economical and human level, with escalating effects that could be very significant.

More climate-resilient buildings and more climate-resilient economic activity are needed to adapt to the impact of climate change. Land use planning also has an important function: eg to keep particularly exposed areas free of buildings. The insurance industry is engaged in this area. Insurers work in standardisation organisations and advise policyholders on preventive measures. Successful prevention can significantly reduce the loss and accumulation expectation. Therefore, it makes sense to appropriately consider the current average resilience. Therefore, it might be advisable to also include the other scenarios in order to obtain a broader spectrum of the research results — if this is considered necessary.

Q9. *Do you agree that in light of climate change, it is necessary to explicitly consider climate change in the recalibration of the Nat Cat SF for certain perils/regions as identified in Part 3?*

- Yes

Please explain.

Insurance Europe partially agrees in so far that the standard formula should represent the best view of the climate risk (and all other parameters such as exposure growth, etc) at the time of recalibration, given its one-year time horizon.

To achieve this outcome, Insurance Europe supports the regular assessment of the standard formula to identify if there is a need for recalibration of any nat cat parameters. Where a need is identified, a transparent process should be followed to recalibrate the parameter. See response to Q20 for comments on assessing the need for a recalibration and the design of the process.

The need for recalibration is likely to be partially driven by climate change. However, there are other factors including changes in exposure and/or vulnerability and model development which could also contribute to the need for recalibration (paragraphs 4.44 and 4.45 cover these factors in more detail).

Implicitly capturing the impact of climate change within the regular recalibrations should be sufficient to capture the evolution of these risks within the standard formula due to their long-term development.

Besides a regular recalibration, transparency is another component for adequate consideration of climate change. Disclosure of the handling of climate change for any model used in this context would be very useful for the industry as well as supervisors. Undertakings could use this information to assess possible deviations of risks that are not reflected in the calculation of the solvency capital requirement (SCR). To do so, the industry is asked to build further knowledge on that topic. Therefore, transparency and expertise will enable undertakings to better reflect risks enhanced by climate change in their risk management and governance: eg by recognising any issues with their risk profile when climate change has an impact and addressing this in their own risk and solvency assessment (ORSA).

In case of a sudden rise of climate risks due to, eg reaching a tipping point, an immediate recalibration should take place. As a last resort and only if these exceptional circumstances based on an objective base require additional measures, supervisors may set a capital add-on for an undertaking if the risk profile deviates significantly from the assumptions underlying the SCR (Article 37, Solvency II Directive).

Q10. *Do you agree that for relevant perils/regions where climate change is expected to have an impact, Nat Cat models explicitly considering climate change should be used if available?*

- No

Please explain.

Where models are available which consider the impact of climate change, these should be included within the recalibration process. However, the extent to which these models should be solely relied on is questionable, as it may result in overreliance on a single model vendor and/or restricted view of the peril.

On the other hand, if a model correctly captures current climate change, even if implicitly, we see no reason why it should not be considered. All nat cat models should be valid for usage. Models can be chosen properly for recalibration and for individual application by undertakings. Additionally, a large variety of models ensures better choices for individual modelling emphasis.

Q11. *Are you aware of models, which would explicitly consider climate change which could be used to perform the Nat Cat SF parameters' calibration?*

- No

Q12. *Do you think that new countries should be considered in the SF in light of climate change?*

Any consideration of additional countries to be included in the standard formula must first consider the materiality of the given peril in that country. Where the chosen materiality threshold is met for a given peril/country, it should be considered for inclusion, regardless of the driver of the risk.

The existing materiality threshold of the country factor being 1/15 of the largest peril-specific factor for the given country is easy to understand and should continue to be used as a basic reference point for materiality.

On the specific country proposals put forward by EIOPA:

- **Germany and Italy:**
  - Subsidence is not material.
  - Considering coastal flood, there is some risk given, however, the exposure is not material. Barely any products insuring against coastal flood are offered in the German and Italian market.
- **Spain:**
  - The risk of subsidence is not material in Spain as it is located in areas that are not populated/urbanized and where the possible risks are controlled. Subsidence is either implicitly covered by other perils (flood). In addition, the Consorcio de Compensación de Seguros partly covers this risk.
  - Hail risk: there is no evidence of the need for its recalibration in Spain.
- **Denmark:**
  - No, we do not believe that flood risks are sufficiently material for inclusion.
  - The 2011 Copenhagen flooding was severe but in the following years both companies and authorities have worked on a variety of adaption strategies. We therefore consider most of this risk mitigated. Not due to "risk mitigating techniques", but rather due to responsible infrastructure planning.
  - EIOPA did not show any river cases for Denmark. The reason for this is that all river cases have been covered by the national "stormflods ordning" and therefore have not been a major risk to a single company. The purpose of the "stormflods ordning" is to mitigate risk from a single market company or region to the community.

- **Netherlands:**
  - Inclusion of flood risk for the Netherlands could be considered, however only for those business lines where there is an insured risk with respect to flood: eg motor. A number of consultants/reinsurance brokers have developed flood models for the Netherlands that can be used for the assessment.
- **Finland:**
  - Hail is not material. Convective storms causing hail risk is not material in Finland due to the Nordic climate.
- **Croatia:**
  - Flood, hail, subsidence and wildifire are not likely to be material for the time being, due to low to moderate exposure.
  - Flood risk has low exposure due to low insurance penetration.
  - Another obstacle for consideration of these perils in SF for Croatia would be the fact that there are no relevant models available at the moment for some of these perils.
- **Sweden:**
  - Flood should not be considered for Sweden. Windstorm is the dominant peril in the Nordics. Flooding as a peril in the Nordics would also be dependent on seasonal snow melting and not only rain fall; currently there is no clear consensus that there would be a decrease or increase in snowfall or increased occurrences of colder winters in a warming climate overall.
- **France**
  - Coastal flood risk exists but it is not considered a material risk, especially since the Xynthia storm in 2010 which led to preventive measures in order to limit the exposure at a non-catastrophic level.
- **Bulgaria:**
  - Hail risk is considered to be relevant for the Bulgarian market. There is a historical precedent for its manifestation, and it is necessary for it to be analysed. However, a study for the inclusion of hail risk in the standard formula must be based on clear criteria and include the whole region without exception.
  - EIOPA's assessment of countries with similar climate conditions in south eastern Europe appears to be inconsistent and we do not find a connection of this proposal with the data on which it is based in Annex B of the discussion paper (Climate in Europe under Global Warming) and in particular EIOPA's comment in items 6.38 and 6.39, as well as with the data in figure 17 (Observed annual median and trend of the Mean Potential Hail Index (PHI) over the period 1951-2010), where Romania, Bulgaria and Greece are completely absent.
- **Greece:**
  - Wildfire risk exists in Greece and constitutes an increasing concern since the Mati incident in 2018 which led to an increase of the levels of state readiness towards the phenomenon to mitigate the exposure. Therefore, we do not agree to add the specific peril to the standard formula.
- **Poland:**
  - Additional perils for Poland should not be included as they are not material. We are not aware of any refined models for hail, so it will be difficult to properly evaluate this risk. Polish insurers with a large share in agricultural insurance do not observe any significant catastrophic losses due to this risk.

Q13. *For new perils, EIOPA has focused on wildfire. Do you see additional "new" perils which could be of relevance for the SF?*

- No

As noted in response to Q12, the inclusion of a new peril in the standard formula should be driven by its relevance in terms of materiality. Drought and wildfire events have generated substantial economic and

sometimes insured losses, in Europe and elsewhere, and appear to occur with increased frequency. These two perils are so far not part of the standard formula (apart from a drought related peril, subsidence, which is modelled for France), but should be captured, if material.

Any consideration of additional perils to be included in the standard formula must consider the part already captured in the calibration of the non-life premium and reserve risk sub-module and in the calibration of the "other non-life catastrophe risk" sub-module to avoid potential double-counting on the SCR.

Q14. *Do you think that wildfire could potentially be material enough for the insurance sector to be considered in the SF?*

- No

Please explain.

See comments on materiality of perils in Q12.

- **Italy:** Currently, wildfire is not considered to be material.
- **Spain**: Currently wildfire is already covered on forestry farms by a pool (Agroseguro). Most wildfires are caused by people. The risk of climate-driven increase would be partially or totally offset by adaptation strategies (eg traditional fire prevention or land use management).
- **Finland:** Wildfire is not material and it should not be included as a new peril.
- **Croatia**: Wildfire is not likely to be material due to low to moderate exposure.
- **Sweden**: Wildfire is not considered to be a material peril in Sweden. Windstorm is the dominant peril in the Nordics, also for forest exposure. Any new perils in the standard formula from a long-term climate change perspective should be clearly derived from empirical evidence of materiality in connection with a clear consensus from the scientific community of an increased risk compared to the historical data.
- **France:** Even if the wildfire risk is an increasing concern in France in terms of frequency, the intensity will be limited at a non-catastrophic level. The scale of risks is not the same when compared to California or Australia. Consequently, we do not agree with the inclusion of this new peril in the SF for France.
- **Poland**: Wildfires have been observed and are considered to be the consequence of drought which have become uninsurable in parts of Poland. However, the scale of forests is not the same as in California or Australia and we do not consider it necessary to add this peril to the standard formula.
- **Austria**: Wildfire is not considered to be a material peril in the CEE region.

Q15. *Are you aware of models or data which could be used for the calibration of parameters for wildfire risk in Europe?*

- No

Q16. *For new lobs, EIOPA has focused on agricultural insurance and NDBI. Do see additional lobs, which could be of relevance for the SF?*

See comments on materiality of perils in Q12.

Q17. *Do you think that crop insurance could potentially be material enough for the insurance sector to be considered in the SF?*

See comments on materiality of perils in Q12.

Comments on specific countries:

- In Germany and the Netherlands, crop insurance is offered by only a few companies. Hail as a component of crop insurance is taken account for in the risk category hail.
- The hazard "drought" might occur more frequently in Germany. However, the exposure for the German market is currently very low, and it is not expected to change any time soon.
- In Spain, the Spanish Agricultural Insurance System, managed by Agroseguro, aims to establish technically and financially viable coverage that allows the agricultural sector to deal with the serious damages caused to crops by uncontrolled and unforeseen risks of catastrophic consequences. Agroseguro's premiums and capital are being included in hail and storm risks. Hail and storm components of crop insurance are taken account for in the risk category hail and storm.
- In Poland, this is a risk specific to several companies on the Polish market. It is not such a large sector of insurance that would require special treatment.

Q18. *Do you think that adding a loading factor is the right approach to capture climate change?*

- No

Please explain.

As noted in the discussion paper, there are a significant number of complexities and drawbacks to the use of an explicit loading factor.

This type of approach should therefore be avoided. It would also not be necessary if regular and transparent assessment of the parameters was undertaken to identify those which were in need of recalibration.

Insurance Europe agrees with EIOPA that this approach would:

- Add complexity.
- Be very challenging to implement due to the difficulties in attributing/isolating the impact of climate change on the perils.
- Potentially create double counting.

The occurrence of events cannot necessarily be extrapolated to a 1 in 200 year event. EIOPA should also consider whether the use of a loading factor would still constitute a 1 in 200 year event.

Q19. *Do you think that revaluating the correlation matrices is the right approach to capture climate change?*

- No

Please explain.

This approach should be avoided, as it will only lead to significantly increased complexity and spurious accuracy.

Insurance Europe understands that the calibration of the correlation matrices has been undertaken using

an iterative process to combine and refine input from multiple vendor models and relies heavily on expert judgement.

Introducing an additional consideration of accounting for the potential impact of climate change is very unlikely to result in increased risk sensitivity or increasing the resilience of insurers against climate change.

Q20. *Do you agree that there is a need to formalise an approach to re-assess current Nat Cat SCR parameters on a regular basis?*

- Yes

Please explain. If yes, how often should this take place? Who should participate to such a reassessment? What should be the parameters considered?

Insurance Europe fully agrees that it is necessary to formalise the approach used to assess the nat cat parameters in the future.

It is imperative that the process is consistent, comprehensible, documented and transparent. It should be unambiguous on what data the current calibration is based and how the process of recalibration is performed.

- The factor used in the calculation should be confirmed, and if necessary, updated in a fixed and well-defined time horizon by a standard process.
- A reasonable recalibration assessment could be between three to five years. The assessment should ensure that recalibrations are only undertaken where material changes have occurred to avoid unjustified volatility in the parameters.
- The time horizon needed for each individual parameter could therefore be different in order to reflect the differences, peculiarities and evolution of the specific risks. Moreover, recalibration should be only triggered if there is a change that lasts for a time sufficient to assess the recalibration.
- Any recalibration should avoid any double-counting with the other sub-modules of the "non-life underwriting risk module".
- The recalibration process should be transparent with respect to the data used and the methods applied.
- Where expert judgement is applied, appropriate documentation should be made of the expert judgement, in particular where recommendations are made which deviate significantly from the input data. Quality documentation is of utmost importance.
- Representatives of model vendors, academics, insurance and reinsurance companies as well as scientists can all provide valuable insights into the process.

Q21. *Do you agree that regular recalibration is needed but under the condition that the changes are material in order to not include artificial volatility?*

- Yes

Please explain.

See comments to Q20.

Care must be taken to avoid unstable predictions and artificially high volatility. However, this does not mean that a regular assessment of the parameters is not necessary. If high quality data and methods are

used for recalibration purposes in a transparent manner, even small changes to the parameters could be appropriate.

Q22. *Do you agree that any recalibration should take in account adaptation measures in a future calibration?*

- Yes

Please explain. If yes, do you have any insights on how this can be done.

Adaptation and prevention measures are an essential component for insurance business and should be taken into account for future calibrations, as long as that is practically feasible from a modelling perspective.

Adaptation measures reduce losses and the calibration of the parameters should consider the real effects of the catastrophic event. It is important to clarify, as previously stated, that not taking prompt adaptation measures could bring impacts, not only on the estimates, but on a broader economical and human level, with increasing effect that could be very significant.

Q23. *Do you have any other comments on the draft Opinion?*

- Yes

If yes, please provide these other comments.

The standard formula should use the best information available at the time of calibration: eg in terms of climate exposure, etc. Forward-looking aspects, such as mid-term climate trends, are best implemented via the ORSA, which can then inform the future calibration of the standard formula.