

# Consultation on an Opinion on Sustainability within Solvency II

Fields marked with \* are mandatory.

## Responding to this paper

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EIOPA welcomes comments on its draft opinion on integrating sustainability in Solvency II.

Comments are most helpful if they:

- respond to the question stated, where applicable;
- contain a clear rationale; and
- describe any alternatives EIOPA should consider.

Please send your comments to EIOPA using the EU Survey tool, by **26 July 2019 23:59 hrs CET**.

Contributions not provided via the tool, sent to a different email address or submitted after the deadline, will not be processed.

### Publication of responses

Contributions received will be published on EIOPA's public website unless you request otherwise in the respective field in the template for comments. A standard confidentiality statement in an email message will not be treated as a request for non-disclosure.

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Contributions will be made available at the end of the public consultation period.

\* Confidentiality. Please indicate if you wish for your contribution to remain confidential.

- ☒ My comments can be published on EIOPA's website.
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Rating

Question 1	    
Question 2	    

### Data protection

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## Information about the respondent

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## Challenges on integrating sustainability risks in prudential Pillar 1 requirements ("time horizon")

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\* Question 1:

Do you agree that no change in the time horizon for capital requirements would be required to integrate climate change considerations?

- ☒ Yes  
☐ No  
☐ n/a

\* Please elaborate.

No such change is required or desirable. The whole structure of Solvency II capital requirements is based on a one-year time horizon and the value-at-risk of the (re)insurer's basic own funds at a confidence level of 99.5 %. To change this would necessitate a full re-design of the Solvency II regime.

From a theoretical point of view, integrating climate change considerations in Pillar 1 would require the inclusion of risks resulting from climate change in the calculation of the SCR. However, risks resulting from climate change may materialise only in the medium- to long-term future. Within a one-year time horizon, significant effects are unlikely to be seen.

Climate change risks also need to be adequately captured in the valuation of both assets and liabilities. In theory, a valuation of assets based on market values already reflects the risk of climate change as appraised by the market. The impact of expected future developments with a material impact on liability cashflows have to be considered in the calculation of technical provisions as part of the current requirements.

From a Natural Catastrophe risk perspective, it does not make sense to extend the period for which capital should be held. Climate change principally affects the frequency and impact of individual events, and so, over time, the one-year SCR should adapt to cover any worsening scenarios. Emerging research suggests that climate change has been and is already impacting severe weather and by extension property, health and life insurance. However, there is, as yet, insufficient evidence, from a technical point of view, that this would materially impact the 99.5th percentile over one year. The effect of climate change on the probability distribution of own funds over the one-year time horizon can be assessed as adequately captured.

Long-term risks, such as climate risks, demographic risks, a prolonged low-interest-rate risk and emerging disruptive technologies, should be dealt with differently.

- Firstly, we lack reliable forward-looking data to quantify the risk. We will elaborate on this issue in our responses to particular questions below.

- Secondly, (re)insurers can often adapt to future developments by updating their premium rates, policy terms & conditions, contract boundaries, hedging strategies etc.

- Finally, if the time horizon were extended, then earned profits (capital generation) should also be recognized too, as they will (gradually) become available to absorb the possible losses.

It would be better to handle these emerging risks qualitatively in questionnaires (for creating awareness) and ORSA scenario analyses, as necessary. However, if increased losses arising from climate change have already emerged, then this change should be thoroughly analysed and reflected in a regular re-calibration based on the most up-to-date experience.

When referring to historical data, it needs to be considered that any observed increase in losses over recent decades may also have been driven by demographic and economic forces. For example:

- overpopulation has resulted in housing development in riskier locations (e.g. near rivers, coasts, volcanos, and so on); while
- simultaneously improving risk coverage by insurance contracts leads to higher insured losses

\* Question 2:

Do you agree that insurers should consider sustainability risks, and in particular climate change risks, in a forward-looking manner?

- ☒ Yes  
☐ No  
☐ n/a

\* If yes, how should this be incorporated into current or new requirements?

All material and relevant risks, including climate change risks, should be considered in a forward-looking manner as is prescribed in the Solvency II framework for the ORSA.

Therefore, the forward-looking treatment of sustainability risk and more general sustainability considerations are already incorporated in the current Pillar 2 requirements, such as the ORSA and the System of Governance. New requirements in this regard, whether in the Directive or in Delegated Regulation, are not necessary.

Depending on the materiality of an undertaking's exposure, sustainability, and in particular climate change risks, can already be reflected in more specific, and potentially more severe, stress and scenario testing than heretofore. This is already required: for example

- the Directive, in article 45 (2) says each undertaking "shall have in place processes which are proportionate to the nature, scale and complexity of the risks inherent in its business and which enable it to properly identify and assess the risks it faces in the short and long term and to which it is or could be exposed"
- The guidelines on own risk and solvency assessment state in Guideline 7: "The undertaking should provide a quantification of the capital needs and a description of other means needed to address all material risks irrespective of whether the risks are quantifiable or not. Where appropriate, the undertaking should subject the identified material risks to a sufficiently wide range of stress tests or scenario analyses in order to provide an adequate basis for the assessment of the overall solvency needs."

\* Question 3:

Do you agree that long-term scenario analysis in risk management, governance and ORSA should enable insurers to develop a forward-looking approach with regard to sustainability risks, and in particular climate change risks?

- ☒ Yes  
☐ No  
☐ n/a

\* Please elaborate.

Forward-looking analysis is already now a core element of the risk calculation and management of the insurance balance sheet (including SII s shocks). Recognisable (including sustainability) risks the undertaking is exposed to will be considered using short-term scenarios or suitable stress tests. Indeed, forward-looking is usually based on 3 to 5 years balance sheet projection which is online with insurer's business plan.

Long term qualitative and, in certain circumstances, quantitative scenario analysis should form part of undertakings' strategic planning and risk management activities, reflecting risks likely to evolve and emerge in the long term, including sustainability.

Finally, almost every risk is accompanied by corresponding opportunities, which are often disregarded when focussing on sustainability risks in isolation

\* Question 4:

What are your views on incorporating a standardised set of quantitative climate change scenarios in the ORSA, e.g. derived from the IPCC representative concentration pathways (RCP) - which are likely to evolve over time? Can you please elaborate on which scenarios you would use and which time span should be covered by such scenario analysis, specifying your approach for the valuation of assets, liabilities and your own solvency assessment (for standard formula and internal model users)?

We note that the ORSA is by, definition, entity-specific. Therefore, we do not recommend the application of standardised scenarios in the ORSA. The ORSA requires the consideration of company specific ('own') scenarios covering material risks of any kind. Risks due to climate change are therefore already included in the scope. Climate change impact is long term. Specific climate change scenarios typically extend beyond the time periods of 3-5 years, a timespan usually used in ORSA practice.

A standardised set of quantitative climate change scenarios including risk mitigation assumptions might be a starting point for company specific development of scenarios to be used in ORSA. Medium-term, undertakings should be encouraged to perform their own research instead of using such scenarios.

When requiring new activities, proportionality and materiality have to be considered.

Regulators could instead assess the impacts of climate scenarios by applying standardised climate stress tests outside the ORSA process. A standardised set of quantitative climate change scenarios could facilitate oversight by regulators under Pillars 1 and 2 and disclosure to wider stakeholders under Pillar 3. The scenarios should be selected based on a review of the IPCC's work schedule. Efforts should be made to align with the IPCC's work schedule so that standardised climate change scenarios are quickly refreshed in step with new publications from the IPCC. Both short-term and long-term scenarios should be assessed. However, it would be vitally important to recognise that any standardised climate change scenarios would come with a wide range of uncertainty. A precautionary approach would suggest focusing on the range, not simply a probability-weighted best estimate.

Irrespective of this, the following imponderables must be considered:

- Significant differences only arise after decades which is a horizon that enables successful management actions (unless the insurer is in hibernation) mitigating the losses to a great extent.
- Losses that are not mitigated can be absorbed by generated own funds (for example: if a yield of 8% would be assumed on own funds at the start, the accumulated own funds would be approximately 5-fold, over a 20-year horizon, if capital was conserved.)
- On the flip side of climate change, any benefits and opportunities are disregarded which arguably makes the projected outcomes biased and almost useless.
- Avoid procyclicality! Prescribing risks and scenarios could stimulate herd behaviour like moving away from possible stranded assets which could become a self-fulfilling prophecy.
- The climate discussion is highly politicised with huge interests at stake, potentially leading to biased results and ubiquitous "fake news". In addition, the system dynamics of climate change are ill understood. The connection between human activity, rising CO2 levels and increasing temperatures has been made, but how the feedback loops are working and which tipping points exist is still not well known.
- If a long-term view can be incorporated for sustainability risk, then other risks should also be properly addressed in a similar way, e.g. prolonged low interest rates, changing mortality, development of expenses, etc.. Therefore, it seems more appropriate to use Pillar 2 to focus attention about emerging risks like climate change.

## Valuation of assets and liabilities

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### Valuation of assets

#### \* Question 5:

Do you agree that the principles of valuation of assets of Solvency II allow for the consideration of sustainability factors?

- ☒ Yes  
☐ No  
☐ n/a

\* Please elaborate.

Solvency II already provides a qualitative framework that, in general, requires a review of the risk, quality, liquidity and profitability of all assets. Sustainability factors should not be used to incentivise investment in such asset classes without cause.

Valuation based on quoted market prices reflects all risks perceived by economic agents, including sustainability risks. If the market recognises ESG factors as important for valuation purposes, then the market value will reflect ESG.

Where alternative valuation methods are applied, a recommendation to take sustainability risks (as well as other risks and factors) into account could be made according to valuation best practices.

\* Question 6:

How in practice could the valuation of assets adequately (better) reflect sustainability risks?

Sustainability should not alter the market valuation. It could however, pose a risk or opportunity which should be dealt with in Pillar 2.

In practice, reflecting sustainability risks in the valuation of assets would pose some challenges:

- **Marked-to-Market Valuation**

Where a marked-to-market valuation, in compliance with Solvency II principles is available, it is difficult to justify any deviation, as the market price should by definition reflect the price that can be reached in an arms-length transaction, meaning the price is correct by definition. Valuation by insurance industry for the Solvency II purpose cannot be different. In theory, a market price includes all available information and already reflects all risks, including sustainability risks.

- **Mark-to-Model Valuation**

For illiquid assets (e.g. real estate, private equity/debt), mark-to-model approaches, based on discounted cash flows models, are normally used. Such valuations should reflect the uncertainty of the amount and timing of the cash flows, requiring higher expected yields (i.e. lower valuations) with increasing uncertainty. Sustainability risks contribute to this uncertainty, and should be reflected adequately.

\* Question 7:

Should prudential disclosure requirements (e.g. Articles 263 and 296 of the Delegated Regulation) be amended to explicitly include sustainability considerations?

- ☐ Yes  
☒ No  
☐ n/a

\* Please elaborate.

Articles 263 and 296 of the Delegated Regulation are so conceptual / general in their formulation that explicit reference to sustainability factors would not be appropriate.

There are many considerations that could be included explicitly in these articles: e.g. geopolitical stability, financial stability, new customers, policy holders, shareholders, the economy, employees, service providers, food safety etc. Explicitly calling-out any one, could risk ignoring the others. Such detail would fit better a more specific setting, for example EIOPA guidelines.

According to these articles, emphasis should be on the full spectrum of risks, including, of course, sustainability risk. This implicitly includes any related disclosure requirements. Therefore, it should already be standard practice to disclose material effects including any sustainability considerations. Conversely, if sustainability risks are not relevant for an entity, no additional disclosure requirements should be required.

\* Question 8:

Should other enhancements / changes to the current regulations be envisaged regarding the consideration of sustainability factors in the valuation of assets?

- ☐ Yes  
☒ No  
☐ n/a

\* Please elaborate.

Consideration of sustainability factors in the valuation of assets is not only an issue in Solvency II. It should be left to experts; e.g. IASB

\* Question 9:

Do you have additional views and evidence to be considered with regard to the exposure to physical risks?

Dealing with physical risk is the business of insurance. If these risks are, or become, too great for any given insurer, then reinsurance should be sought. The probability of a tail-risk event should be remote, and its impact should be reinsured as far as possible. Reinsurers will be the first to detect trends in evolving risks. In case of significant new evidence, an SCR review should be carried out. Re-calibration of evolving risks in the standard formula and internal models should be aligned with recent and reliable evidence. Outliers should be recognised and eliminated as far as possible.

Outliers have to be recognised and eliminated as far as possible.

Physical risk should mainly affect natural events. As discussed in question 32, this should be dealt with by a periodic review of catastrophe risk parameters, rather than balance sheet valuation.

\* Question 10:

Do you have additional views and evidence to be considered with regard to the exposure to transition risks?

No

## Valuation of liabilities

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\* Question 11:

Do you agree with the good practices EIOPA is suggesting for undertakings to apply for integrating sustainability in the valuation of liabilities?

- ☒ Yes  
☐ No  
☐ n/a

\* Would you have further suggestions? Please elaborate.

We share EIOPA's view that there are no gaps in the regulatory framework which would impede the integration of sustainability in the valuation of liabilities. Climate risk is just one risk amongst many risks which need to be considered when valuing liabilities.

The good practices suggested by EIOPA would be sensible for certain longer-term duration lines of business which are exposed to climate change risks. We agree with EIOPA's acknowledgement that business whose claims occurrence or claims settlement periods are short term might be less affected, when sufficiently reinsured.

Determining the impact of a scenario is a start but incorporating these outcomes in the valuation also requires a probability parameter which is not available because it assumes highly reliable, predictive climate modelling which does not exist yet.

Combining experience data with scientific expertise is always a good idea. Instead of dealing with emerging risks in the valuation, we would recommend an alternative approach under Pillar 2.

The use of forward-looking catastrophe modelling can be complex and financially onerous to operate in practice. It is our view that requirements for insurance companies to develop forward looking climate models should be focused on those lines of business which are exposed to material climate change risks (for example, business where the premium is set in advance for many years and where the risk is a significant proportion of the entity's exposure).

Overall, it is important to consider proportionality aspects and to refrain from making best-practice mandatory for all (re)insurance undertakings. The application of best-practice should depend on materiality considerations of the relevant (re)insurance undertaking.

\* Question 12:

What is your view on adopting a forward-looking modelling approach in the calculation of the best estimate to assess climate change-related risks?

Please elaborate.

Where exposures warrant it, and subject to the principle of proportionality, the adoption of a forward-looking modelling approach, such as commercially available catastrophe models, would complement a retrospective approach, by generating thoughts and discussion around the uncertainties inherent in a retrospective approach and the potential range of possible outcomes.

One should remember that those catastrophe model can be heavy, and should not been made mandatory unless materiality requires it (major non-life exposure, combined with limited reinsurance).

The direct use of scientific literature in setting best estimate assumptions could prove difficult in practice. More than 2000 (full time equivalent) scientists collaborating in IPCC are working on a predictive climate model for decades and still do not know exactly the effects of feedback loops and tipping points. This wide variance in scientific opinions, could lead to wide variations in selected assumptions between entities with similar risk profiles.

The major catastrophe models used in the insurance industry can also give significantly divergent results regarding the risk of a single portfolio.

However, the use of scientific literature as an aid in understanding the risks and uncertainties in selected assumptions could lead to a better understanding of the best estimate ranges and uncertainties and assist with risk management.

Perhaps EIOPA could support the sector by providing adequate models (validated, documented and so on) with which the sector could do its what-if analyses. However, imposing forward looking modelling approaches on the industry would be onerous, recognising that it would address only one of many emerging risks.



Question 13:

What would you consider to be proportionate good practices for such a forward-looking modelling approach in the calculation of the best estimate?

Forward looking modelling is not part of Solvency II and should not be a general requirement in the calculation of the best estimate. A general requirement for insurance entities should be to:

- ensure historical data is up-to-date;
- consider possible events not captured by the undertaking's historical dataset;
- apply stress-testing or scenario analysis.

If capital buffers are adequate, and capital generation is sound, they can absorb unexpected losses, from a variety sources, including climate change.

For life insurance, it is not possible, in practice, to explicitly reflect climate change in the calculation of the best estimate due to the scarcity of relevant data and the highly uncertain impact on biometric best estimate assumptions. In a similar way, the impact of future technical or medical advancements on biometrical assumptions or trends cannot be reliably assessed.

For undertakings with a significant exposure to natural catastrophe risk, the adoption of catastrophe models (eg windstorm, flood) using granular exposure and risk information as inputs, could provide very useful insight into the particular risks and exposures.

However, these models are complex to operate and to understand, as a result they should only be required where exposure to catastrophe risk is material to the solvency of the company. Materiality in this case should be defined both as a percentage of the company's total exposure and in monetary terms, for example by using the standard formula catastrophe charge as a base.

\* Question 14:

Do you agree that climate risks may affect the technical provision calculation for the life insurance?

- ☐ Yes
- ☒ No
- ☐ n/a

\* Please elaborate.

No. The impact of climate change is highly uncertain. Future developments such as behavioural changes, technical and medical advancement and the future viability of social security systems may be more relevant for risks written in Europe.

The key assumptions that could be impacted by climate risks – as well by factors related to other risk sources - are linked to the general economy, policyholder behaviour (in particular withdrawals, surrenders and lapses), mortality/morbidity, maintenance expenses and expense inflation. The assumption setting process typically considers any secular trends or new environmental conditions that would influence the expected future experience.

Other risk sources like technological developments, demographic trends, loss of biodiversity causing food supply to collapse, and geopolitical risks (war) could have an effect on mortality and morbidity. Identifying emerging tail-risks is an important first step to take. Developing policies to deal with these risks is an important second step. Such policies may include mandatory exclusion from coverage.

\* Do you agree that the two main assumptions/areas where climate may impact the calculation of life technical provisions are the Economic Scenario Generators and the mortality rates? What about morbidity rates?

- ☐ Yes
- ☒ No

☐ n/a

\* Please elaborate.

No, climate risks are unlikely to impact these two main assumptions in any material or instantaneous way. Please refer to our answers regarding Q16 and Q14/Q17.

Question 15:

Is climate change relevant for Economic Scenario Generators?

- ☐ Yes  
☒ No  
☐ n/a

\* If not, please elaborate.

Economic Scenario Generators used for the calculation of technical provisions, or the valuation of options and financial guarantees, must comply with Article 22 (3) of the Delegated Regulation. In particular, it should be consistent with the absence of arbitrage hypothesis. It is impossible to imagine how a risk-factor based on "climate change" should be incorporated into an ESG that allows for a risk-neutral calibration to (at least) the risk free curve and (a part) of the volatility cube for rates options (mainly receiver/payer swaptions). We believe that assumptions for Economic Scenario Generators are set according to the use and needs of the model itself – so typically with a larger uncertainty factor for longer duration projections. Within this context, climate risk is just a specific example of one possible future path that leads to the widening funnel of doubt over the longer term. Other possible paths of uncertainty include medical advances, new disease manifestations, war, global human mobility, relative economic conditions, etc. Using Economic Scenario Generators for real life projection:

- For real-life projections, it is in general possible to include a risk-factor, "climate change". However the practical implementation might be difficult:
- If the same Economic Scenario Generator is used for both valuation purposes and real-life projections, only the calibration is different, i.e. incorporating "real-life" risk premia to asset classes and using "real-life" volatilities/correlations. Usually, the models used are "correlative" and not "causal".
- If the Economic Scenario Generator is based on a "causal" model (e.g. deriving risk premia from macroeconomic factors like inflation and economic growth), in theory it is possible to incorporate climate change either directly or indirectly by modelling the effect on the underlying factors (e.g. economic growth). However, the incorporation of "climate change" into the Economic Scenario Generator requires the formulation and parameterization of a functional model.

\* Question 16:

Is the impact of climate change relevant on the mortality rates?

- ☐ Yes  
☒ No  
☐ n/a

\* If no, please elaborate.

See answers to questions above. In our opinion, key factors regarding mortality rates in Europe include medical progress, social security schemes or geopolitical stability. We believe mortality assumptions are set according to the use and need of the model itself – so typically with a larger uncertainty factor combining all risk elements for longer duration projections

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## Investment and underwriting practices

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### Investment practices

\* Question 17:

Do you identify other relevant practices to include sustainability risks in (re)insurers' investment strategy and decisions?

Preliminary remark (Q18 – Q21): The availability of a common taxonomy, at least at the European level, and preferably at a global level, is an important prerequisite to facilitate the integration of sustainability considerations in undertakings' investment practices. It is essential to bring transparency and to facilitate appropriate investment practices especially in those undertakings with less resources.

Best-in-Class is another relevant practice that is not mentioned in the consultation paper so far. Here, for each industry sector, the most sustainable representatives are identified. In contrast to the exclusion strategy, investment into non-sustainable industries are still possible.

\* Question 18:

Do you have any further views on the analysis of returns on sustainable assets?

The study "ESG and Financial Performance: Aggregated Evidence from more than 2,000 Empirical Studies" by Gunnar Friede, Timo Busch, Alexander Bassen, published in the Journal of Sustainable Finance & Investment, 2015, Vol. 5, No. 4, 210–233, concludes "ESG investing is for all kinds of rational investors a way to fulfil their fiduciary duties and could better align investors' interests with the broader objectives of society. There are no performance disadvantages when implementing sustainability in the assets"

DWS's Gunnar Friede has performed, in collaboration with the university of Hamburg, a meta study "ESG & Corporate Financial Performance: Mapping the global landscape" concerning the relationship between reporting of ESG data and performance in 2015. The study was endorsed by all the major initiatives like PRI. In the meantime, this study has become the standard study in this respect.

We note that market prices in theory incorporate all available information. Thus, potentially different return expectations have already been taken into account in the market price. the returns should be similar. Please note that the only relevant returns in a Solvency II setting are the risk-neutral returns used for valuation. As a result, we do not see how different return expectations, if they exist, could materially impact Solvency II-valuations.

\* Question 19:

To what extent do you align your investment strategy and decisions with your underwriting practice and decisions in respect of sustainability risks?

As an Actuarial Association, we cannot express ourselves on particular companies' strategy. We nevertheless anticipate that, at least under both customer and regulation pressure, sustainability risk will be increasingly taken into account in investment and underwriting strategy.

Sustainability is getting more and more important in these decisions. If the EU taxonomy is finalised, the importance of sustainability will certainly grow.

\* Question 20:

Which good practices do you identify to deal with transition and physical risks in (re)insurers asset portfolios?

We agree with 8.22 and 8.23 in the consultation paper. Overall the general problem is to identify relevant data and to collect it for analysis.

## Underwriting practices

\* Question 21:

Do you consider “impact underwriting” as described in the opinion to be a relevant way to take into account sustainability in underwriting policy?

- ☒ Yes  
☐ No  
☐ n/a

\* Please elaborate.

Impact underwriting is defined as “explicitly considering risk mitigation and adaption strategies in product design (e.g. terms and conditions for underwriting to support environmental goals), eventually lowering the costs for (re)insurance for climate-related risks”.

Impact underwriting is likely to be a relevant way to take sustainability into account in underwriting policy. As a concept, we do not consider it yet to be clearly defined or established. For impact underwriting to succeed it would need to be universally adopted by insurers or to be imposed on insurers. Even if it were universally adopted by insurers, it could still be undermined by alternative products from capital markets which were not required to apply an impact approach.

Impact underwriting could potentially lead to a number of benefits for the industry and the consumer of insurance in terms of availability of insurance and better risk management by undertakings and customers.

\* Question 22:

(a) Do you explicitly consider risk mitigation and adaption strategies addressing climate change in your products?

- ☐ Yes  
☒ No  
☐ n/a

\* Please elaborate.

As an actuarial association, we do not underwrite insurance products.

We do not expect many completely new products resulting from climate change. We expect climate change to influence many insurance products in the long run especially in the area of property insurance.

Clearly, we expect that climate change will impact weather and elementary risk related risks (NatCat).

Climate change will influence both the frequency and severity of claims. As part of companies' business-as-usual practice, such changes are already monitored routinely and reflected in premium rates and policy terms and conditions.

\* (b) What would be the main benefits/obstacles of the generalisation of such a practice?

A key challenge would be to ensure we have a very clear definition of what exactly is meant by Impact Underwriting if it is to be universally adopted.

If universally adopted, and with protections to ensure it was not undermined by non-insurance alternatives,

Impact Underwriting could help reduce the impact of climate change. This could in turn help limit the growth of uninsurable risks.

\* (c) Which measures would you recommend to assess the risk mitigating effect of such underwriting?

We see this as a societal risk-mitigation rather than something that any individual insurer can apply independently. If an insurer adopts impact underwriting, this will not mitigate its risks in isolation. A key question is whether there is any incentive, in the absence of compulsion or regulation for insurers to apply impact underwriting. Although impact underwriting may serve to mitigate the total risk facing the insurance market, it is not clear that it will mitigate the particular risk for any individual insurer in isolation. As such, there is a risk that, if impact underwriting is imposed by regulation, it becomes a box-ticking exercise by insurers rather than a true risk-mitigation tool.

\* Question 23:

Do you identify other good practices than those described above?

- ☐ Yes  
☐ No  
☒ n/a

\* Please describe.

No answer

\* Question 24:

What are your views on climate change potentially widening the protection gap for natural catastrophe (re) insurance?

Climate Change is expected to influence the frequency and severity of natural catastrophes. This influence can, on the one hand, lead to an increased risk in certain regions and, on the other hand, reduce the frequency and severity of natural catastrophes in other regions.

The development of a protection gap depends on a complex dynamic including the interplay of the public and private sectors at national, regional and global levels. Climate change discourse may raise awareness and contribute to narrowing the protection gap. Conversely, the inherent uncertainty may lead to less affordable premiums widening the protection gap.

Climate change will inevitably increase the number of uninsurable risks. In the absence of national or supranational governmental regulatory intervention, insurers will withdraw from some areas of the market, or sharply increase premium levels in order to manage their own risk profiles. In this case, we expect a widening of the existing protection gap for natural catastrophes.

\* Question 25:

Do you have evidence on Solvency II impacting the insurance protection gap (e.g. for natural catastrophe risks) in light of climate change?

Please elaborate.

No, we do not have hard evidence/statistics to indicate a growing protection gap. However, even if there were a growing gap it would not necessarily be attributable to climate change and could instead be explained by, for example:

- better data analysis leading to identification of uninsurable risks; and /or
- higher volumes of property being built in risky areas

## Capital requirements

### Market risk

\* Question 26:

(a) Do you support the views on the treatment of sustainability risks in the market risk module?

- ☒ Yes  
☐ No  
☐ n/a

\* Please elaborate.

Yes, though it might not be easy to identify sustainability risk with regard to market risks. We agree that property risk, spread risk and equity risk are those risks potentially affected by climate change.

\* (b) Do you have further evidence which should be considered?

- ☐ Yes  
☒ No  
☐ n/a

\* Please elaborate.

There is, at this stage, still no reliable evidence that sustainable investments have a different risk profile. The lack of data is the weak point in connection with questions 27 to 31 relating to capital requirements.

The Solvency II framework should abstain from giving investment incentives. Such incentives, if at all, should be given by fiscal policy or legislative/law policies affecting all investors and not specifically the (re)insurance sector. This does not prevent a continuation of research and monitoring and the work on a common taxonomy would give an important boost to facilitate data gathering and treatment.

A shift to assets qualifying as sustainable could change the level of liquidity in the various markets with different effects:

- In the short term, the valuation of sustainable assets (increased liquidity) would increase, driving their yields down and vice versa for non-sustainable assets (decreased liquidity), similar to a bond losing liquidity when moving from Investment Grade to non-Investment Grade rating.
- In the longer term, a new "equilibrium" would depend on the universe of investors for both asset classes, e.g. less regulated investors could invest.
- If the market anticipates changes in liquidity, relative valuations of sustainable assets versus non-sustainable assets could change, making the analysis of risks and returns very demanding, i.e. regulatory changes could well impact market prices.

\* Question 27: Property risk

Do you have additional views and evidence to be considered with regard to the integration of sustainability risks in property risk?

- ☐ Yes  
☒ No  
☐ n/a

\* Please elaborate

We agree with EIOPA's opinion (para 9.24) that more data would be needed. We agree with the need to have more than one index to identify a difference in risk profile for sustainable investments.

\* Question 28: Equity risk

(a) Do you have comments on the analysis of risk differentials for listed equity?

- ☒ Yes  
☐ No  
☐ n/a

\* Please elaborate.

We agree with EIOPA's conclusion, that the coverage of more than one economic cycle is necessary to draw a meaningful conclusion on the difference in risk profile for sustainable and non-sustainable listed equities.

\* (b) Do you have additional views and evidence to be considered with regard to the integration of sustainability risks in listed equity risk capital charges?

- ☒ Yes  
☐ No  
☐ n/a

\* Please elaborate.

We agree, that a reconsideration may be possible, when adequate data is available, to allow a differentiation between the risk profiles of assets based on their sustainability characteristics.  
However, in the absence of reliable evidence at this stage, there is no reason to assume a meaningful difference in risk profile for sustainable equities compared to other equities.

\* (c) Do you have additional views and evidence to be considered with regard to the integration of sustainability risks in unlisted equity risk capital charges?

- ☐ Yes  
☒ No  
☐ n/a

\* Please elaborate.

No additional views

\* (d) Which data sources or research conducted would be relevant to consider for unlisted equity risk capital charges?

A long data history would be required including a broad range of different sectors and companies.

\*

Question 29: Spread risk

(a) Do you have additional views and evidence to be considered with regard to the integration of sustainability risks in spread risk capital charges?

- ☒ Yes  
☐ No  
☐ n/a

\* Please elaborate.

Sufficient information would be an indispensable prerequisite in order to justify the integration of sustainability risks in spread risk capital charges.

\* (b) Which data sources or research conducted would be relevant to consider for the integration of sustainability risks in spread risk capital charges?

See answer to Q29 d)

\* (c) What are your views on the methodology for a green bond index?

There are already methodologies for green bond indices. It would be good to merge them in one single methodology to create a market standard.

\* (d) Do you have additional views and evidence to be considered with regard to the integration of sustainability risks in unrated debt capital charges?

No

\* (e) Which data sources or research conducted would be relevant to consider for the integration of sustainability risks in unrated debt capital charges?

See answer to Q29 (d)

\* Question 30:

Do you agree that climate change should be captured in a forward-looking manner in the ORSA for market risk especially by incorporating a quantitative approach based on a standardised set of climate change scenarios?

- ☐ Yes  
☐ No  
☒ n/a

## Natural catastrophe underwriting risk

\* Question 31:

Do you agree that regular recalibration of the parameters for the natural catastrophe risk module of the standard formula will allow to capture climate related developments, including the impact of climate change?

- ☐ Yes  
☒ No



☐ No  
☐ n/a

\* Please elaborate.

It is not clear that recalibration will involve an explicit allowance for climate change. In the absence of an explicit allowance for climate change then how could it be confirmed or denied that the standard formula captures climate related developments?

Climate change will influence both the frequency and severities of claims. The relevant data needs to be monitored carefully. Changes should be reflected in the calibration of the standard formula by way of regular updates. However, such regular recalibration will need to allow not just for the updated data, but also to make appropriate adjustments for any climate related trends in the data.

It may make sense to schedule recalibration to coincide with the IPCC's publication schedule, or related evolution in catastrophe modelling circles, rather than some fixed 3 to 5 years interval.

\* Question 32:

Would you advise changing the design of the natural catastrophe risk module of the standard formula to capture climate related developments, including the impact of climate change?

☐ Yes  
☒ No  
☐ n/a

\* If no, please elaborate.

not at this stage. In principle, the Standard Formula structure can allow for the main types of risks. Based on currently available data, recalibration rather than re-design seems to be a reasonable first step for now.

\* Question 33:

Do you agree that climate change should be captured in a forward-looking manner in the ORSA for natural catastrophe underwriting risk especially by incorporating a quantitative approach based on a standardised set of climate change scenarios?

☒ Yes  
☐ No  
☐ n/a

\* If yes, which scenarios/tools could be used for quantitative assessments and which time span would apply?

We agree that climate change should be captured in a forward-looking manner in the ORSA for natural catastrophe underwriting. However, we caution against the use of standardised scenarios within the ORSA as discussed in our response to Q4.

Regulators could instead assess the impacts of climate scenarios by applying standardised climate stress tests outside the ORSA process. The scenarios should be selected based on a review of the IPCC's work schedule. Efforts should be made to align with the IPCC's work schedule so that standardised climate change scenarios are quickly refreshed in step with new publications from the IPCC

The consultation paper notes (in paragraphs 6.8 and 9.73) that, "Sustainability developments, and in particular climate change risks, are expected to materialise over the next 10 to 20 years." However, the precise timeframe for irreversible tipping points related to sustainability risks, and in particular climate change risks, is uncertain. Therefore, both short-term step-change and long-term scenarios should be assessed for Natural Catastrophe risks.

Finally, any new requirements, relating to the use of specific catastrophe models, or to additional reporting and/or stress-testing, should be subject to the principle of proportionality.

\* Question 34:

How do you take into account the long term view of climate-related developments, including the impact of climate change for the management of your natural catastrophe risks?

n/a

## Internal models

\* Question 35:

Do you agree the rules relating to internal model design and calibrations do not prevent internal model undertakings from accounting for sustainability factors, with particular regard to the climate risk that existing insurance and reinsurance obligations are exposed to?

- ☒ Yes  
☐ No  
☐ n/a

\* Please elaborate.

The rules relating to internal models do not prevent undertakings from accounting for sustainability risk. On the contrary, they require a consideration as soon as climate change related risks are material for the undertaking.

The approval of any future models should be subject to the model having allowed appropriately for sustainability/climate risk-factors. To the extent existing internal model users may wish to develop their own climate change models tailored to their own risk profiles then an approval process should be required.

\* Question 36:

Could you provide further explanation/examples on how sustainability factors, with particular regard to the climate-change risks are taken into account in your internal model?

As an actuarial association, we do not own any internal model.

Existing internal models consider climate change in particular:

- Through the use of catastrophe models (RMS, AIR, Equecat...) which commonly include climate change in their calibration (whether as base calibration or as an option).
- Regarding pricing risk, by taking into account trends in frequencies and severities of claims
- Regarding reserving risks, climate change generate instabilities in pattern development and thus are taken into account in the calibration (typically bootstrap or Merz-Wuthrich)

Regarding market risks, the current scientific literature does not allow to calibrate a specific volatility stemming from climate change. Actuaries should work in order to get a better understanding of this topic.

## Contact

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