

To: Sustainability WG; Solvency II WG
From: General and Personal Insurance Department
cc:
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Subject: OECD paper on the insurance sector's contribution to climate adaptation

Summary of the OECD's paper on the insurance sector's contribution to climate adaptation

On 28 March, the [Organisation for Economic Co-operation and Development \(OECD\)](#) published a [paper](#) on the insurance sector's contribution to climate adaptation. In the paper, the OECD explores how the insurance sector contributes to risk reduction through climate adaptation and identifies potential approaches for policymakers, regulators and supervisors to help them further support that contribution.

The secretariat prepared a summary (below) of the paper as some of its content is relevant in the context of the ongoing European Commission (EC) Climate Resilience Dialogue (CRD), in which the insurance sector is well represented. As such, the paper could inspire the discussions within the Dialogue and, subsequently, certain sections of the upcoming CRD report on reducing the climate protection gap. In particular, the OECD's considerations in respect to the industry's role in climate adaptation and impediments to the industry's contribution in risk reduction and adaptation could be of interest.

Key points in the report

The OECD paper underlines that climate change has exacerbated the economic losses from climate-related disasters over the past years. In this regard, the crucial role of insurance in absorbing the costs of future disaster events is acknowledged. Additionally, it is stressed that greater insurance penetration has proven to be a factor of faster recovery and less disruption of the economy. Nevertheless, it is noted that insurance penetration is still relatively low in both advanced and developing economies.

Despite the global mitigation efforts, some level of global warming is expected to occur, which will require investment in climate adaptation measures in order to minimise the losses caused by climate change. In this respect, while the role of insurance in providing financial protection against the incurred losses is of utmost importance, the paper underscores that the industry's role in climate adaptation should not be underestimated.

In particular, the paper identifies the following ways in which the sector contributes to climate adaptation, as well as the respective challenges the sector may face while doing so:

- 1) Insurance sector's risk analytics capturing the impact of climate change:** for the purposes of underwriting low-frequency/high-severity climate-related events, insurance companies have developed catastrophe models that can estimate to a significant extent the average annual losses and exceedance probability.

→ **Challenges/obstacles/other observations:**

- a) There are many uncertainties (ie., the level of future emissions, hazard frequency and severity, future exposure and vulnerability) that impede the predictability precision of loss distributions

estimated by the climate-conditioned catastrophe models. These are increasingly addressed through emerging technologies and innovation (ie., machine learning and Artificial Intelligence).

- b) Some business case impediments to assessing climate risks using modelling include: insufficient resources or expertise; limited consumer acceptance; or limited access to climate-conditioned catastrophe models for certain perils/regions.
- c) Regulatory requirements could limit, or not incentivise enough, the use of catastrophe models or emerging technologies and innovations for the pricing of property insurance. This is the case for jurisdictions where the pricing of peril coverage is fixed, is based on specific criteria or historical losses, or there is a prohibition on the use of models and innovative tools in insurance pricing.
- d) Annual renewals of property coverage have an adverse impact on the demand for risk assessment and pricing tools that include a long-term perspective that observes the long-term impact of climate change.

2) Leveraging insurance sector's expertise to support climate adaptation: the insurance sector can contribute: by providing (ie., to governments and policyholders) climate risk information for the purposes of awareness about exposure to climate risk (eg., national risk maps) and better land-use planning; and by advising on potential risk reduction and adaptation investments.

→ Challenges/obstacles/other observations:

- a) There is not enough evidence suggesting that awareness on risk reduction and adaptation options results in more investment by policyholders in climate adaptation.
- b) Only a relatively small share of insurance companies provides information on risk reduction and adaptation. Even fewer companies provide such information to residential policyholders, as the transaction costs in identifying potential risk reduction investments at the level of individual buildings are high.
- c) Digital distribution of insurance products prevents policyholders from receiving useful information from a knowledgeable intermediary.
- d) There are regulatory and supervisory challenges for the approval of using emerging technologies to provide risk prevention or mitigation services.

3) Insurance providing incentives to support climate adaptation: insurers may offer premium reduction to high-risk policyholders who invest in adaptation.

→ Challenges/obstacles/other observations:

- a) Premium discounts are not commonly offered and are not offered in a consistent manner by insurers.
- b) There is lack of policyholder awareness of adaptation measures to be implemented for an insurance discount. Additionally, policyholders may underestimate the risks or the costs of a disaster and the benefits of adaptation measures.
- c) Policyholders lack funding or financial means to implement risk reduction and adaptation measures.
- d) Effective risk reduction and adaptation measures are often outside the control of individual policyholders and require a wider level of implementation (eg., community level).
- e) Insurance discounts may be available only for high-risk properties. Insurers may not be convinced that certain risk reduction measures are effective enough in reducing future losses.
- f) A mismatch between premium pricing and the actual climate risk may weaken the price signal.
- g) Some jurisdictions may not allow risk-based premiums and/or premium discounts or may impose specific requirements related to the pricing of property insurance for climate-related perils.

4) Insurance sector supporting climate adaptation during reinstatement: insurance companies can encourage the reconstruction of damaged buildings with higher standards through their pay-outs to policyholders.

→ Challenges/obstacles/other observations:

- a) There are additional costs for insurers and little incentive to contribute to resilient reinstatement.

Furthermore, the paper outlines potential approaches to be adopted by policy makers, regulators and supervisors to enhance the insurance sector's contribution to adaptation:

- 1) **Encouraging the development of risk analytics and catastrophe models that account for climate change**: companies may be required through regulatory or supervisory rules to develop longer-term climate risk assessments. The Commission's proposal amending the Solvency II Directive includes such requirements.
- 2) **Addressing barriers to insurance sector risk management services, risk-based pricing and resilient reinstatement**: regulators should examine if the measures in place that restrict risk-based pricing could be replaced by measures that achieve the same objectives without restricting risk-based pricing. Jurisdictions with flat pricing frameworks could consider providing policyholders and governments with information on the risk-based price for the particular peril/area in order to demonstrate the actual risk they are facing.
Regulators and supervisors could encourage insurance companies to provide premium discounts for specific risk reduction and adaptation measures. They could also encourage the industry to support resilient reinstatement by offering policyholders coverage that would provide additional payments for post-event risk reduction and adaptation measures. Extending the duration of insurance contracts in exchange for investments in resilient reinstatement could be also considered.
Additionally, insurers could provide the following information to policyholders:
 - a) an indicative evolution of policyholder premium in the future that accounts for climate change impact;
 - b) risk reduction and adaptation measures, including potential sources of funding;
 - c) available premium discounts and the respective eligibility requirements;
 - d) contractors to implement adaptation investments.
- 3) **Public funding or guarantees for resilience measures to complement insurance**: in order to address the investment cost for policyholders when investing in adaptation, governments could provide grants and loans to households facing climate risk or guarantees for lending by banks to reduce the cost of borrowing for such households. Such government help could be combined with premium discounts and/or additional financial support for reinstatement for households that already suffered damages.