

## **A comparative study of European insurance schemes for extreme weather risks and incentives for risk reduction**

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This paper provides an analysis of the insurance schemes that cover extreme weather events in twelve different EU countries and the risk reduction incentives offered by these schemes. Economic impacts of extreme weather events in many regions in Europe and elsewhere are on the rise due to climate change and increasing exposure as driven by urban development. In an attempt to manage impacts from extreme weather events, natural disaster insurance schemes can provide incentives for taking measures that limit weather-related risks.

Insurance companies can influence public risk management policies and risk-reducing behaviour of policyholders by “rewarding behaviour that reduces risks and potential damages” (Botzen and Van den Bergh, 2008, p. 417). Examples of insurance market systems that directly or indirectly aim to incentivize risk reduction with varying degrees of success are: the U.S. National Flood Insurance Programme; the French Catastrophes Naturelles system; and the U.K. Flood Re program which requires certain levels of protection standards for properties to be insurable. In our analysis, we distinguish between four different disaster types (i.e. coastal and fluvial floods, droughts and storms) and three different sectors (i.e. residential, commercial and agriculture). The selected case studies also provide a wide coverage of different insurance market structures, including public, private and public-private insurance provision, and different methods of coping with extreme loss events, such as re-insurance, governmental aid and catastrophe bonds. The analysis of existing mechanisms for risk reduction incentives provides recommendations about incentivizing adaptive behaviour, in order to assist policy makers and other stakeholders in designing more effective insurance schemes for extreme weather risks.