

# Insurance against climate change

*Climate change may increase the frequency and severity of certain weather extremes. Insurers can promote adaptation to more natural disasters by spreading risks and providing incentives for risk reduction.*

Climate change projections indicate that an increased frequency and severity of weather events may further augment already increasing natural disaster losses. This requires innovative adaptation policies for which the experience of the insurance sector with assessing, managing, and spreading risks may be useful<sup>[1]</sup>. This project explored the role of insurance arrangements in the Netherlands in designing comprehensive climate change adaptation policies that comprise risk prevention and reduction, and efficient risk sharing strategies.

This study identifies the exposure of insurers to climate risk, which is large for extreme precipitation and possibly storms<sup>[2]</sup>. Statistical models show that global warming may increase insured hailstorm losses in the Netherlands.

Adaptation strategies for insurers are identified as well as new business opportunities. Flood insurance is not offered in the Netherlands, which is exceptional in Europe. At present, households rely on ad-hoc compensation of flood damage by the government.

The introduction of a public-private partnership (see Figure 1) to insure flood risks is proposed to enhance financial security and provide incentives to invest in risk reduction<sup>[3]</sup>. A survey shows that incentives provided by insurance, e.g. premium discounts, can be effective to encourage households to invest in 'flood proofing' houses<sup>[4]</sup>.

Household demand for flood insurance has been examined by applying theories of decision-making under risk<sup>[5]</sup> and by a survey of approximately 1000 homeowners using contingent valuation and choice modelling. Results indicate that household willingness to pay for flood insurance may be sufficiently high for a (partly) private market. Also we find that, even though individual perceptions of flood risk are low<sup>[6]</sup>, they significantly influence demand for insurance. The findings of this research highlight the useful role insurers can play in adaptation to higher flood risks.



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<b>Layer 3:</b>	Extreme losses	Government
<b>Layer 2:</b>	Middle sized losses	Capital markets Reinsurance companies Primary insurance companies
<b>Layer 1:</b>	Small losses	Households and companies

**FIGURE 1.**  
A multi-layered public-private partnership to insure flood risk