

GREEN ROOFS NEED A COORDINATED EFFORT FROM AUTHORITIES AND INSURERS

Institute for Environmental Studies (IVM) - Vrije Universiteit Amsterdam, Climate Adaptation Services (CAS), Tyrsky Consulting, Finnish Meteorological Institute, Politecnico di Milano, LocalTapiola



The **green roof pilot** assessed the co-benefits and economic feasibility of green roofs as an adaptation measure, while evaluating how insurer interventions can encourage their adoption. The pilot also explored the key barriers and enabling factors influencing the uptake of green roof.

HAZARDS	STATUS	TARGET GROUPS	PILOT CONTEXT
Urban pluvial floods & heat stress	(present/outlook): acute and intensifying in Europe	insurance companies, authorities, urban planners, technical experts, climate change adaptation community, building/homeowners	The Netherlands, complemented with surveys in the Scandinavia and the Mediterranean

Why are green roofs a beneficial climate change adaptation solution for urban areas?

- Green Roofs mitigate flood damage and heat stress
- Green Roofs increase biodiversity
- Green Roofs provide roof protection
- Green Roofs offer aesthetic amenities



Key Results

- In the Netherlands, urban households exhibit a clear and positive willingness to pay for green roof benefits and cobenefits, as indicated by a large nation-wide survey
- Green roofs tend to be more economically attractive when public benefits are considered.
- Also, non-monetary policy instruments, such as targeted information campaigns, have a role in complementing financial incentives and insurance-based solutions (e.g. premium discounts) for raising adoption levels.



How to achieve business cases and replicability:

- Develop a coordinated, region-specific approach aligning insurers, municipalities and regulators, and climate change adaptation schemes to local climatic and market conditions
- Generate evidence via building-level performance data, standardised monitoring, and ultimately link incentives to verified risk reduction



Recommendations to enable a wider uptake of green roofs:

- **Local authorities** can adopt multi-year public subsidy schemes, reduce fragmentation across planning, give guidance on maintenance responsibilities, and reduce lifecycle costs for homeowners
- **Cities** can establish regulatory requirements (e.g. building codes, planning rules and stormwater regulations) to facilitate adoption of green roofs
- **National governments and the EU** should establish standardised monitoring and reporting protocols for green roofs and enable shared data on performance and risk-reduction
- **Insurers** can stimulate green roof adoption, e.g. offer premium/deductible discounts
- **Insurers** can offer homeowners guidance on how to reduce climate-related damage, and offer insurance policy advice or home inspections
- **Insurers** can create a climate label for buildings

Learn more:

Awareness Web Tool for insurers on Innovative Insurance Solutions: Green Roofs

PIISA Report: [Pilots for Cities and well-being](#)

PIISA Report: [Barriers and Enablers for Nature-based Solutions: Insights from European insurers](#)

PIISA Blog: [Dutch insurers need best practices & partnerships to integrate nature-based solutions into products](#)

PIISA Blog: [Incentivizing Green Roof adoption through insurance](#)

PIISA Info Card 3: ["Barriers and opportunities for Natural Risk Insurance"](#)

Scientific article: [Behavioural public policy for natural disaster preparedness and the role of economic experiments \(Robinson & Botzen 2025\)](#)

Scientific article: [Assessing effects of nature-based and other municipal adaptation measures on insured heavy rain damages \(Ooms et al. 2025\)](#)