



Climate Adaptation: The Role of the Insurance Market

A Danish Insurance Perspective on Europe's Climate Resilience

Europe must act before climate risks become uninsurable

Climate change is no longer solely an environmental issue. It is an issue for our economy, homes, businesses, critical infrastructure and insurance. Europe's response should therefore start with prevention and climate adaptation, before the costs become so high that more risks become difficult or impossible to insure.

In Denmark, DTU's national analysis commissioned by F&P shows that damage from cloudbursts and storm surges could amount to approximately DKK 406 billion in present value over the next 100 years: approximately DKK 157 billion from cloudbursts and DKK 249 billion from storm surges. The analysis does not include all wider societal consequences, including impacts on health and overall business output, and the figure should therefore not be considered a comprehensive measure of total risk. [1]

DENMARK IN NUMBERS

- Approx. DKK 406 billion in expected damage over 100 years.
- Investments of approximately DKK 130 billion could prevent most of the expected damage.
- Approx. 4,700 permanent homes are affected by cloudbursts annually under today's climate, rising to approx. 10,000 in 2124.
- Approx. 1,100 permanent homes are affected by storm surges annually today, rising to approx. 6,900 in 2124. [1][2]

The Protection Gap: More than a question of insurance coverage

The protection gap is the uninsured share of economic losses caused by extreme weather and climate events. However, the concept can easily become overly simplistic. F&P recommends that the EU distinguish between three separate questions: whether insurance is available, whether households and businesses demand and can afford it, and how high the underlying climate risk is. [8]

1. Can the risk be insured?

On the supply side, increasing frequency and severity of losses, limited risk appetite, insufficient data and higher reinsurance costs can reduce capacity or make coverage more difficult in particularly exposed areas. EIOPA/ECB describe the insurance protection gap as being driven by both demand- and supply-side factors. [8]

2. Is insurance available but not purchased?

Low insurance coverage does not necessarily mean that insurance is unavailable. Insurance may be available, but households or businesses may decide not to purchase it because of low-risk awareness, expectations of government assistance following a disaster, or price.

It is important to distinguish between *availability* and *affordability*. If an insurance product is available but a household cannot afford it, the challenge is a social and distributional policy issue, not necessarily evidence that the risk has become uninsurable. [8]

3. The protection gap must be assessed in relation to the level of risk

A single national percentage for the protection gap can conceal significant differences in risk. Insurance needs and insurability depend on the probability and severity of an event. The risk associated with a 10- or 20-year event is not the same as the risk associated with a 50- or 100-year event.

DTU's analysis shows, for example, that what is currently considered a 100-year storm surge event could

A high protection gap is a symptom, not a single diagnosis

The EU should distinguish between a lack of insurance supply, lack of demand or affordability, and an underlying risk that has become so high that it cannot be carried on normal market terms.

Policy should address the underlying cause: prevention and climate adaptation, social policy instruments where affordability is the issue, and targeted national public-private solutions for residual or systemic risks.

Denmark has a broad private insurance market, while storm surge damage is covered through a public scheme for properties with fire insurance. Taken together, this means that Denmark's protection gap is 0%. This illustrates why the EU should recognise different national models and risk profiles. [3]

correspond to approximately a 20-year event by 2050 and occur more frequently than a 5-year event by 2124. F&P therefore recommends that EU analysis of protection gaps, to the extent possible, link insurance coverage levels to specific hazards, geographical areas and return periods. [1]

At the same time, public authorities in Denmark are often self-insured. If the protection gap is measured as the share of losses not covered by private insurance, this may therefore give a misleading picture. For example, private insurance will not necessarily be taken out to cover damage to a bridge, motorway or public building.



Five Danish contributions to Europe's climate resilience

1. Prevention first

Insurance can absorb and distribute risk, but it cannot replace physical climate adaptation. DTU estimates, for example, that adapting to a present-day 20-year cloudburst event would cost approximately DKK 69 billion and reduce damage by approximately DKK 112 billion, corresponding to DKK 1.6 in avoided damage for every DKK 1 invested. For storm surges, protection against a present-day 100-year event is estimated to reduce damage by DKK 67 billion at a cost of DKK 37 billion. [1]

2. Stop building new risks into society

Climate risk must be integrated into spatial planning and building requirements. F&P advocates more specific requirements for new construction, particularly in coastal and low-lying areas.

The Danish legislative proposal L 22, which includes stricter climate adaptation requirements, was introduced

on 7 October 2026. F&P recommends that new construction in areas with high flood risk should not be permitted unless it is protected against at least a 100-year event. [4][5][9]

3. Use data to improve prevention

Insurance claims data can make municipal climate adaptation efforts more precise and targeted. F&P supports legislation that would allow cloudburst damage data to be shared confidentially by insurers with municipalities. Currently, disclosure rules under the Danish Insurance Business Act constitute a barrier to this type of data sharing. [5]

4. Preserve risk-based pricing

Risk-based pricing provides an important signal about where risks are high. It supports a sustainable insurance market and creates incentives for prevention. Public support should therefore promote prevention rather than ex-post compensation that weakens incen-

tives for risk reduction. For catastrophic or systemic risks, national public or public-private schemes may be necessary. [4]

5. Mobilise private capital without shifting public responsibility

The pension and insurance sector can contribute as a long-term investor when projects are of sufficient scale, have predictable cash flows and provide a balanced allocation of risk. However, responsibility for public safety, spatial planning and critical infrastructure remains a public responsibility. [6]

Two Danish examples Europe can learn from

River City Randers: climate adaptation as value-creating urban development

In Randers, flood protection is integrated directly into a major urban development project. A “climate ribbon” is intended to address storm surges, heavy rainfall and rising groundwater while also supporting new housing, infrastructure and urban development. The political lesson is important: investment in climate adaptation generates more value for society when it both reduces risk and creates new opportunities for development. [5]

Copenhagen: protect systems and critical infrastructure as a whole

The Greater Copenhagen area is planning large-scale storm surge protection, including dikes, barriers and gates. The approach focuses on protecting entire geographical systems as well as critical infrastructure such as the metro, railways and airport. It requires coordination across municipalities and long-term national planning. [5]



Four additional areas the EU should address

1. Climate adaptation is also about prioritisation and managed retreat

Prevention cannot mean protecting all assets at any cost. Where risks become very high or recurrent, policy also needs to address which areas should be protected, which should be adapted and where managed retreat may be the more socio-economically robust solution.

F&P therefore recommends that the EU framework should not reduce climate adaptation to building more infrastructure alone.

2. Affordability should not be addressed by removing the risk signal

If climate risk makes insurance expensive for vulnerable households, this raises a legitimate social policy issue. However, broad requirements for low or uniform premiums could conceal the underlying risk and weaken incentives for prevention.

F&P therefore recommends that any support should be targeted at people or preventive investments rather than making insurance premiums independent of risk.

3. New protection gaps are also created by new investments

Europe should not simply finance its way out of existing risk. Spatial planning, construction and investment decisions must prevent new homes and critical infrastructure from being located or designed in ways that create tomorrow's protection gap.

F&P therefore recommends that focus, as in Denmark, be on protection against 100-year events for new construction in high-risk areas. [4][5]

4. Incentives before and after a loss must be aligned

If public compensation schemes following disasters are perceived as an alternative to insurance or prevention, they may weaken risk awareness and demand for insurance coverage.



F&P therefore recommends that the EU should consider insurance, support for prevention and post-disaster assistance as one integrated system of incentives, while respecting national schemes and arrangements. [4][8]

What should the EU do now?

- **Put prevention and climate adaptation before compensation and risk transfer.** EU initiatives should be assessed against whether they reduce risk and help preserve insurability.
- **Avoid one-size-fits-all solutions.** Financing prevention and specific insurance models should, as a general rule, remain national, as exposure, risks, existing schemes and insurance markets differ significantly across Member States. [4]
- **Make climate-resilient spatial planning and construction a European priority,** while allowing Member States sufficient flexibility to implement risk-specific solutions. Climate resilience should equally be incorporated into building regulations and permitting processes.
- **Create better frameworks for secure and lawful data sharing** between insurers and public authorities, enabling preventive measures to be targeted where losses occur.
- **Remove regulatory bottlenecks, including at EU level.** F&P calls for greater clarity on the interaction between, among others, the Habitats Directive, Water Framework Directive and Floods Directive, so that necessary climate adaptation projects are not unnecessarily delayed. [4]

- **Use the announced European Climate Insurance Alliance to prevent new protection gaps, not merely to increase insurance coverage.** The Alliance should build on existing national schemes, support prevention and risk reduction, and promote a clear allocation of responsibilities between the public and private sectors, as well as other stakeholders and citizens. [10][11]

Europe cannot insure its way out of climate change

If we want to preserve a well-functioning insurance market, we need to reduce the underlying risk: act earlier on prevention, build more resiliently, improve data sharing and better target public investment.

The EU should provide direction and remove barriers, but solutions and financing must be adaptable to national risks, markets and institutional systems.



Climate-related losses are already increasing

F&P's November 2025 figures show DKK 4.6 billion in insurance payouts and storm surge compensation following severe weather between the beginning of 2023 and mid-2025.

More than 131,000 weather-related claims were reported under building, household contents, commercial property and contents insurance. The figures do not include all wider economic losses, including damage to public infrastructure. [7]

At the same time, DTU's model shows that expected annual damage from cloudbursts and storm surges in Denmark could increase from approximately DKK 7 billion in 2024 to DKK 12 billion in 2050 and DKK 27 billion annually by 2124, if no additional climate adaptation measures are implemented beyond existing initiatives. [1]

At the same time, we know from the Danish Meteorological Institute that storm surges which statistically occur once every 20 years today could in the future become events occurring every two years.

F&P's principles for a European Climate Insurance Alliance

- **Prevention first:** Reduce risk before it is transferred or compensated.
- **National flexibility:** Recognise the diversity of national NatCat and insurance models.
- **Clear responsibilities:** The public sector is responsible for public safety, spatial planning and infrastructure; insurers price and carry insurable risks.
- **Risk-based pricing:** Avoid EU requirements that disconnect pricing from risk and thereby weaken the risk signal.
- **Data and transparency:** Improve shared risk data and establish appropriate legal frameworks for data sharing, while recognising that insurance data alone does not provide a complete picture of society's vulnerability.
- **Public-private solutions for residual risk:** Use targeted national arrangements where catastrophic, correlated or uninsurable risks require public-sector involvement.

Sources

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- [4] Insurance & Pension Denmark (12 January 2026), F&P Position on EU Climate Adaptation. Approved position paper on prevention, national financing, risk-based pricing and EU regulatory barriers.
- [5] Insurance & Pension Denmark (2026), Overview of Initiatives for Natural Catastrophe Prevention and Resilience – DK Input. Danish cases and initiatives, including Randers, the Greater Copenhagen area, data sharing and planning.
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- [8] EIOPA and ECB (18 December 2024), Towards a European System for Natural Catastrophe Risk Management. Definition of the insurance protection gap and analysis of demand, supply, affordability and risk-sharing issues.
- [9] Danish Parliament, Bill L 22, parliamentary session 2026–27, Bill amending the Planning Act and other legislation (Improved Development Opportunities for Rural Areas and Strengthened Climate Adaptation Requirements, etc.), introduced on 7 October 2026.
- [10] European Commission (16 September 2026), State of the Union 2026: Main Initiatives. Announcement of the Climate Insurance Alliance as an initiative under climate and resilience.
- [11] European Commission, DG FISMA (21 September 2026), SOTEU: A More Integrated, Competitive and Resilient Europe. Description of the Climate Insurance Alliance as a platform for the insurance sector, public authorities and other relevant stakeholders.

Methodological caveat: The DTU figures are model-based estimates expressed in net present value, based on SSP2-4.5, the current building stock and land use, as well as the stated assumptions regarding damage and protection costs. The results constitute a nationwide assessment and should not be used as project-level budgets without local analyses. [1]