

# CLIMATE PHYSICAL SHOCKS RISK MANAGEMENT: WHO PICKS UP THE BILL?

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## ESG risk management framework for the financial sector – WU Wien / SUERF

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Wien, 29 May 2024



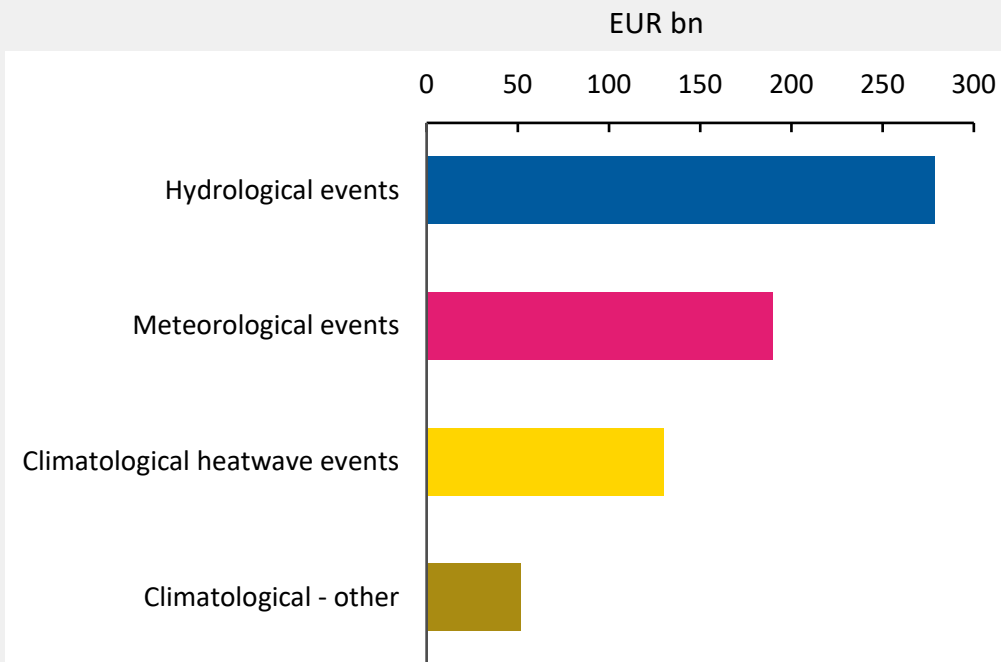
## MAIN TAKE-AWAYS

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- Extreme climate-related physical events and higher probability of compound events increases the cost of insurance
- Two objectives: preserve coverage and minimise contingent liabilities
- Shared solutions (private sector, public sector, investors) as a way forward:
  - Layering of interventions (public-private partnerships)
  - Diversification of risks
  - Climate-related financing clauses
- Incentive-compatible schemes as the key challenge of shared solutions

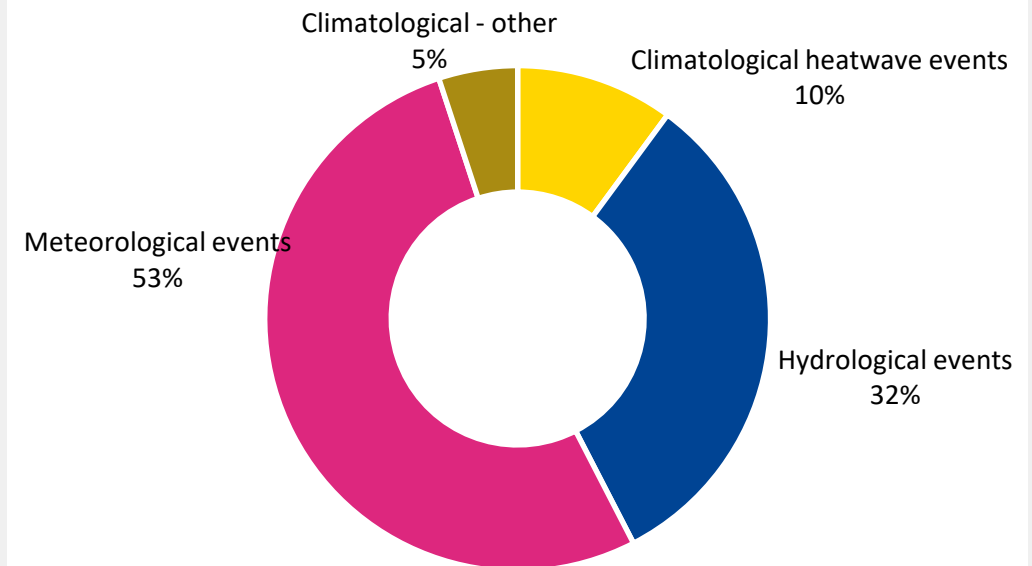
# LOSSES ARE HIGH BUT ONLY A FRACTION IS COVERED THROUGH PRIVATE INSURANCE

## Total losses 1980 to 2022 (EU-27)



Source: European Environment Agency

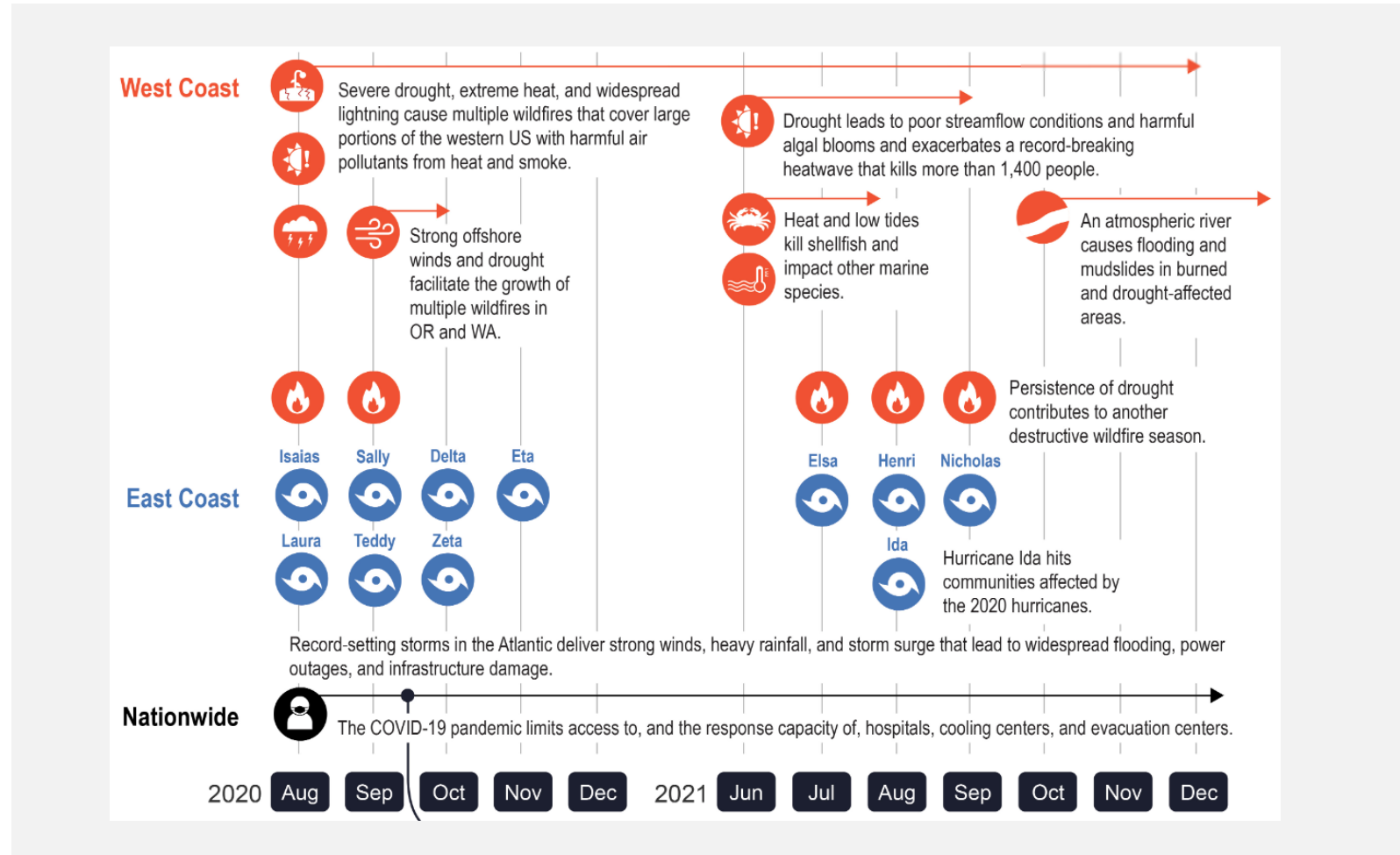
## Insured losses 1980 – 2022 (EU-27) by type of event (as % of total insured losses)



Source: European Environment Agency

Meteorological events: storms, landslides, subsidence, hydrological events: floods, climatological events: heat waves, cold waves, droughts, forest fires

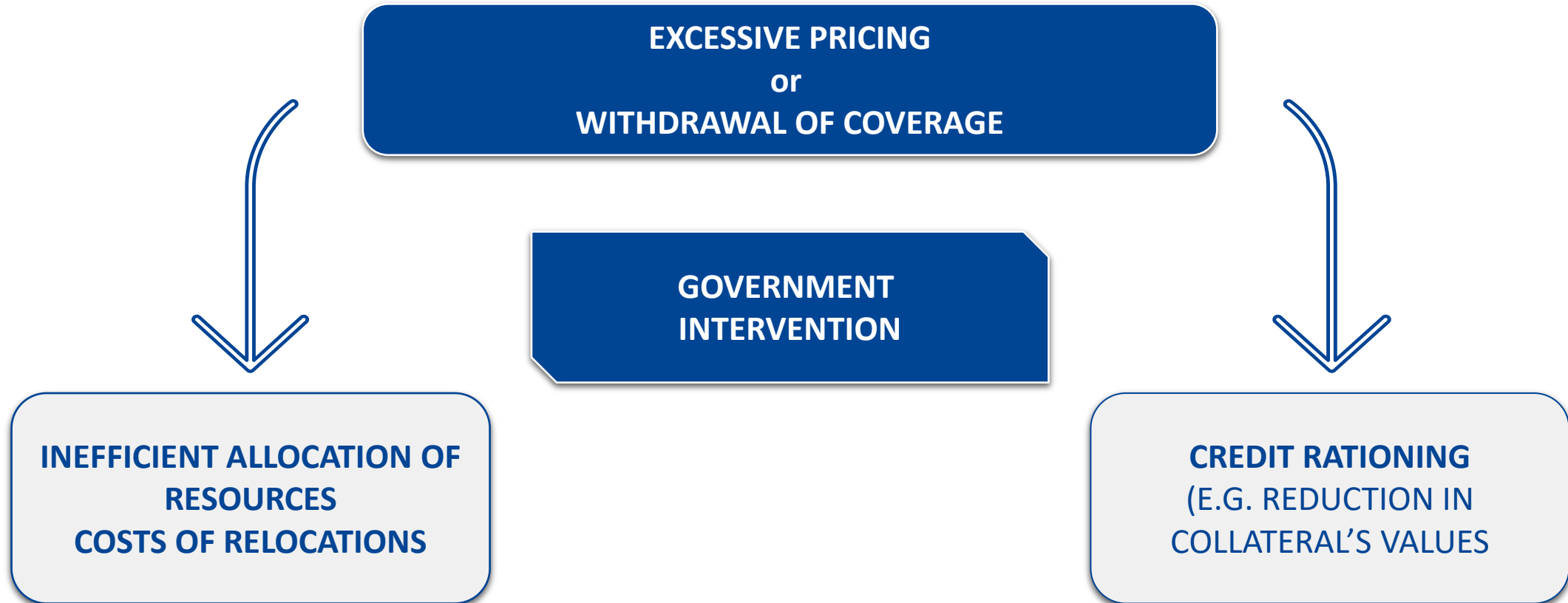
# COMPOUND CLIMATE (AND NON-CLIMATE) EVENTS



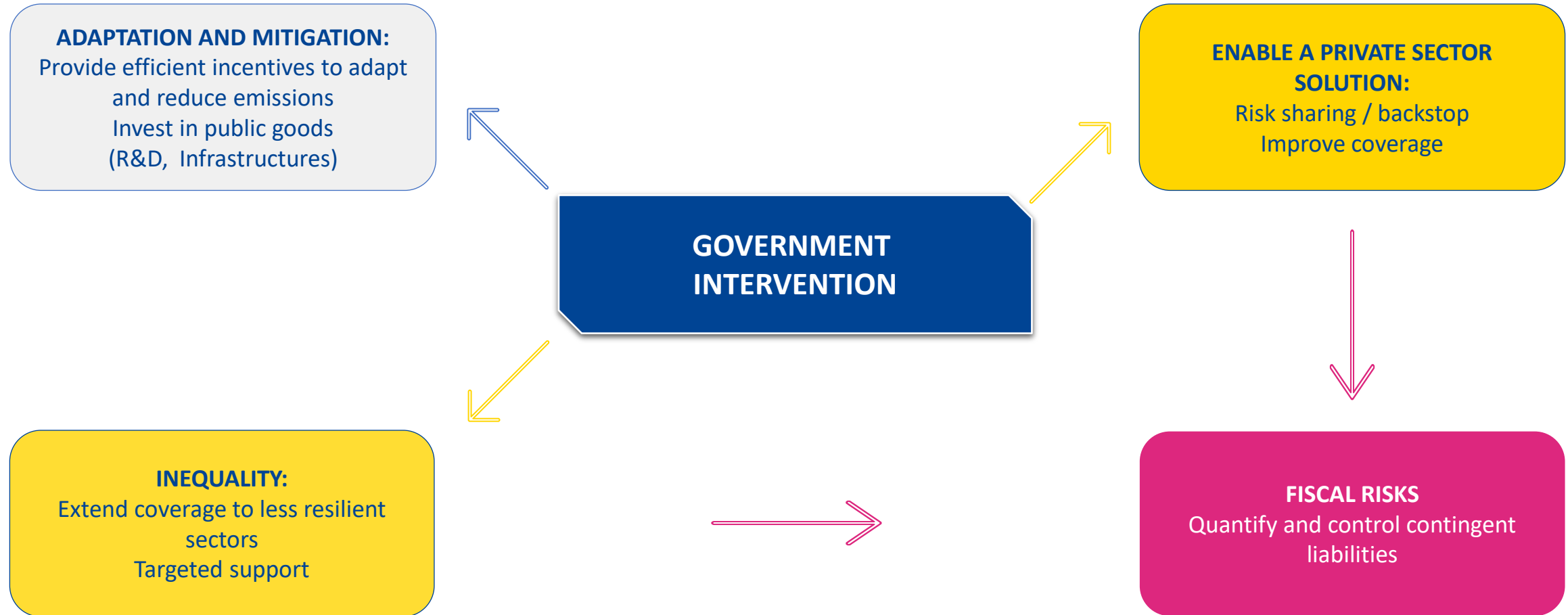
**Source:** NCA 5 report, available [here](#), The timeline shows temporally compounding events in 2020–2021 on the West and East Coasts and their cascading impacts on communities and ecosystems

# ECONOMIC CONSEQUENCES

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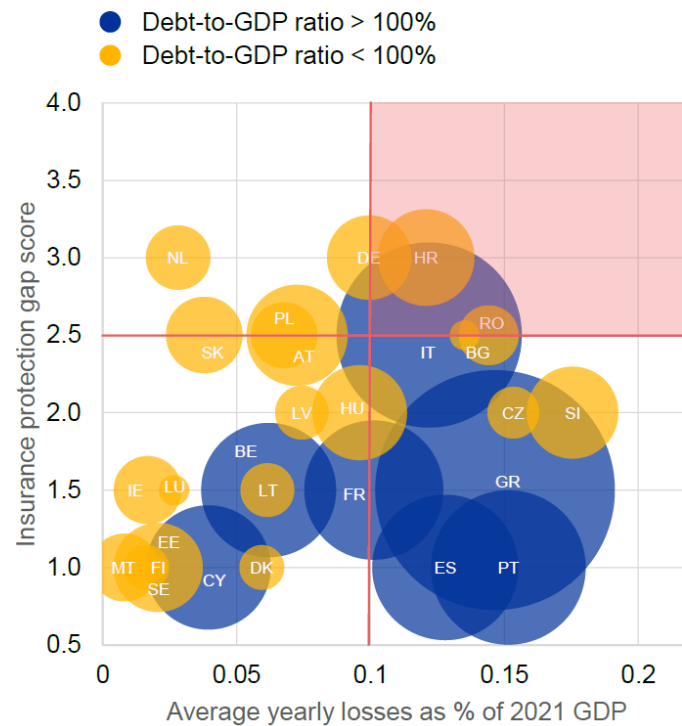
# WHY AND HOW SHOULD THE PUBLIC SECTOR CARE ABOUT INSURING AGAINST CLIMATE RISK?



# IMPACT ON DEBT SUSTAINABILITY

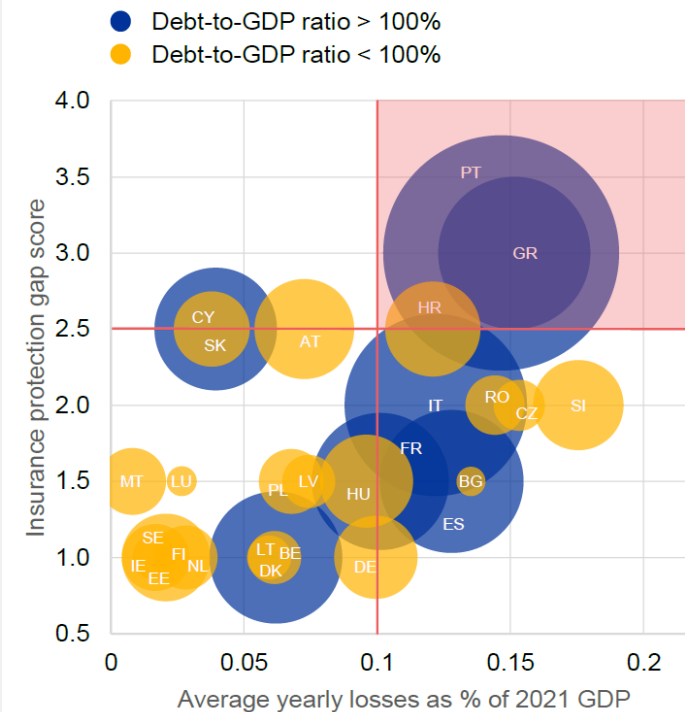
## Historical losses and protection gap for floods

(x-axis: average yearly losses (1980-2021), percentages of 2021 GDP; y-axis: protection gap score; bubble size: government debt, percentages of 2021 GDP)



## Historical losses and protection gap for wildfires

(x-axis: average yearly losses (1980-2021), percentages of 2021 GDP; y-axis: protection gap score; bubble size: government debt, percentages of 2021 GDP)



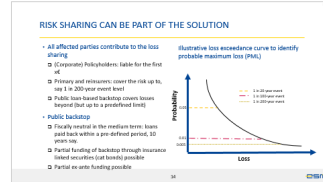
# DISASTER RISK AND SOVEREIGN SPREADS IN THE EA

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- ❖ Government bond issuances in the EA preceded by a large climate disaster tend to see larger spreads-at-issuance
  - Even after accounting for other factors that drive primary market outcomes
- ❖ Evidence still surrounded by uncertainty but...
- ❖ ...in the future the impact could be further amplified by insurance gaps and possible limited fiscal space



# RISK SHARING – AN INTERPLAY BETWEEN DIFFERENT STAKEHOLDERS

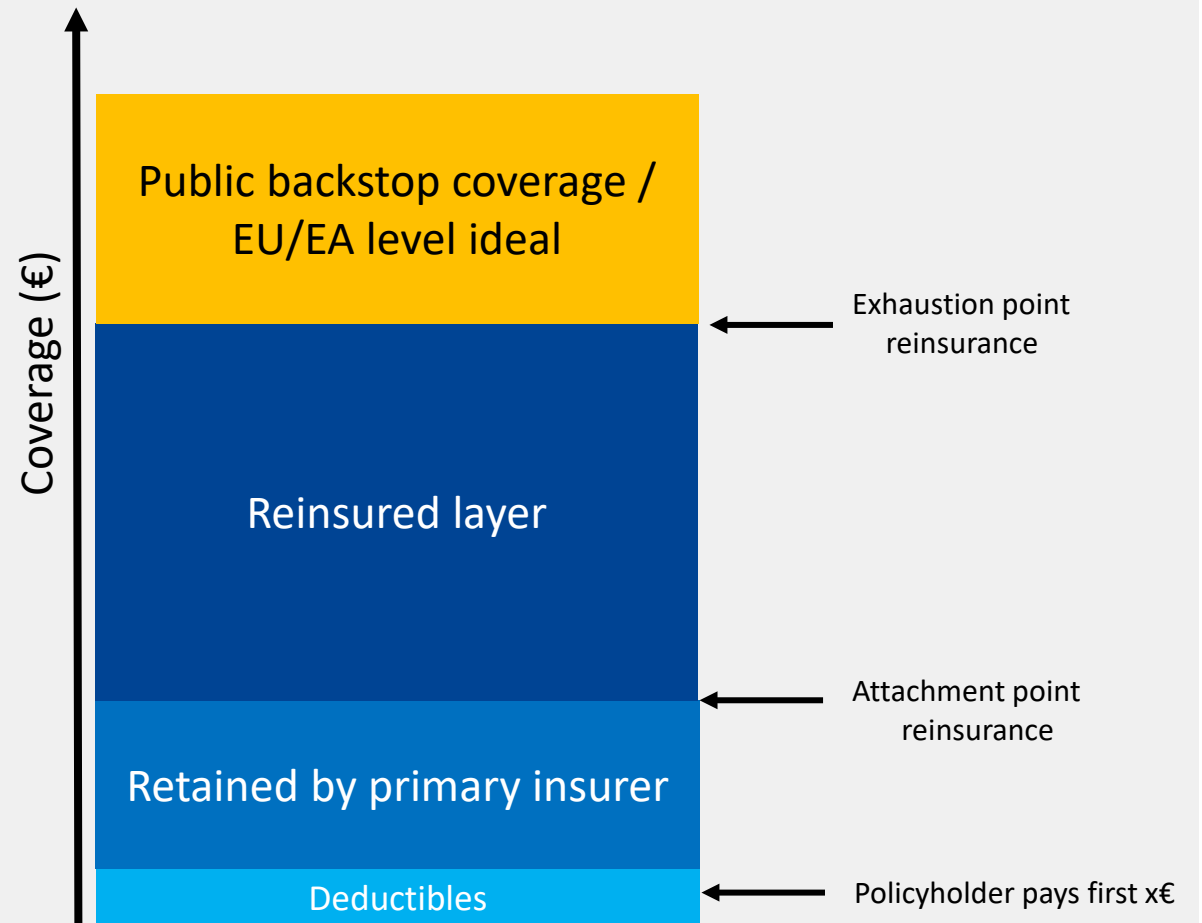


**Highest layer:** Public backstop could cover this layer / EU/EA-level backstop

**Reinsurers:** cover risk from and up to a certain level. They may themselves (*retro*)cede some of the risk or issue insurance linked securities on the capital markets

**Primary insurers:** insure the *first risk layer* and cede risk above a certain limit

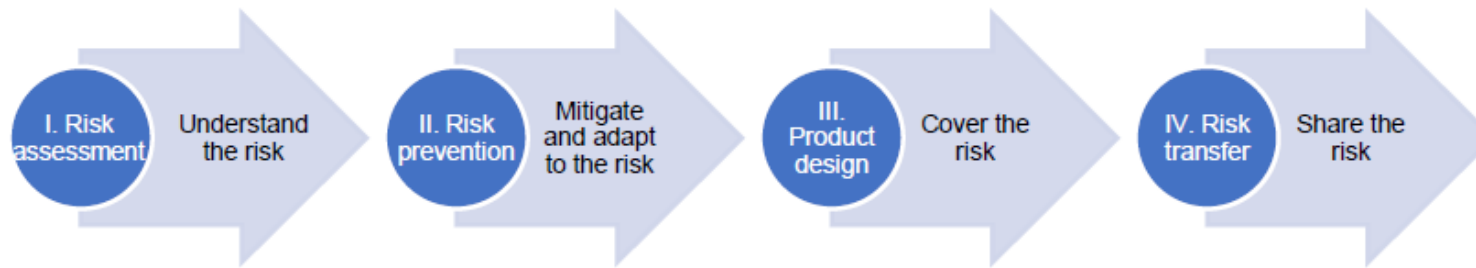
**Insured pay the first layer of costs (deductibles - risk-based pricing):** Increase risk awareness and possibly fosters risk adaptation



# PUBLIC-PRIVATE PARTNERSHIPS

- Caisse Centrale de Réassurance (CCR) in France
- Consorcio de Compensación de Seguros (CCS) in Spain
- Flood Re in the United Kingdom
- National Flood Insurance Program (NFIP) in the United States

## Elements of a shared resilience solution

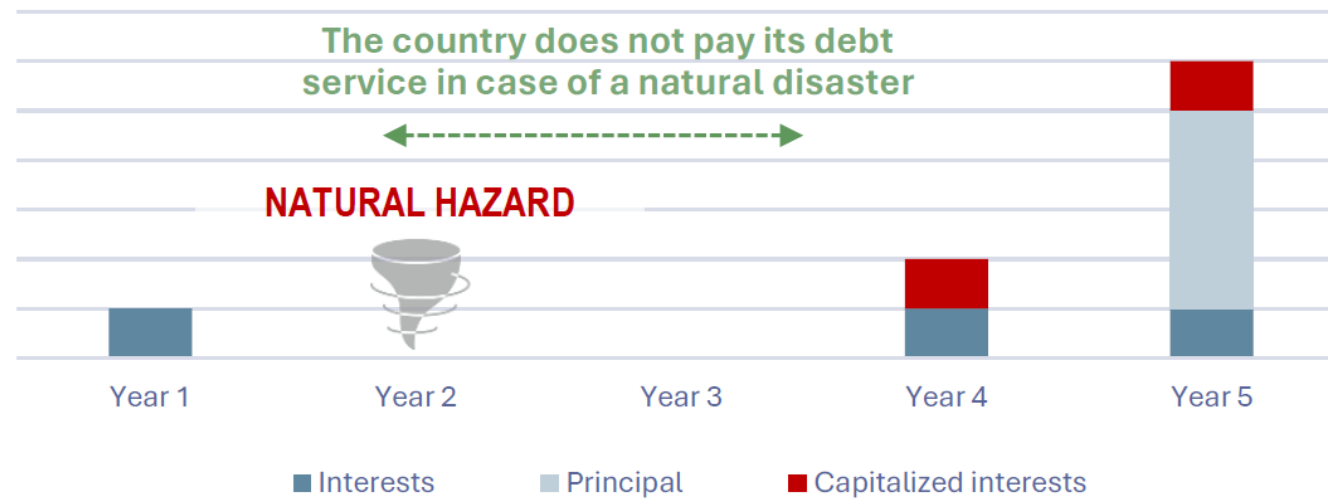


Source: EIOPA (2020).

# CLIMATE-RELATED DEBT CLAUSES: AN OPTION FOR CRISIS TIMES?

NPV-neutral debt service suspension in case of extreme events (CDB, WB)  
Suitable for low-income and small countries: an option for crisis times?

Climate-contingent loans allow the country to skip or capitalize coupons and/or amortization for a pre-defined period, thus creating fiscal space in times of need





## CONTACT

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# BACKGROUND SLIDES

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# RISK SHARING CAN BE PART OF THE SOLUTION

- All affected parties contribute to the loss sharing
  - ❑ (Corporate) Policyholders: liable for the first x€
  - ❑ Primary and reinsurers: cover the risk up to, say 1 in 200-year event level
  - ❑ Public loan-based backstop covers losses beyond (but up to a predefined limit)
- **Public backstop**
  - ❑ Fiscally neutral in the medium term: loans paid back within a pre-defined period, 10 years say.
  - ❑ Partial funding of backstop through insurance linked securities (cat bonds) possible
  - ❑ Partial ex-ante funding possible

Illustrative loss exceedance curve to identify probable maximum loss (PML)

