



EUROPEAN CENTRAL BANK

EUROSYSTEM

# Climate change: perspective from a central bank

First Workshop under  
the Sharm el-Sheikh  
Dialogue - Bonn

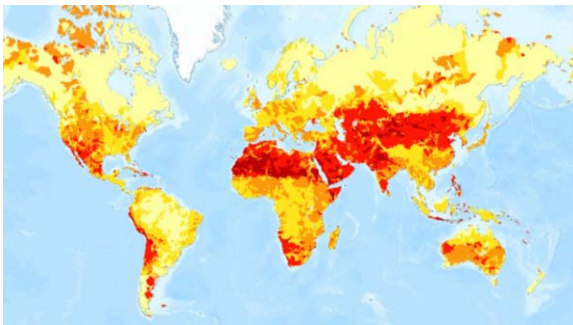
12/06/2024



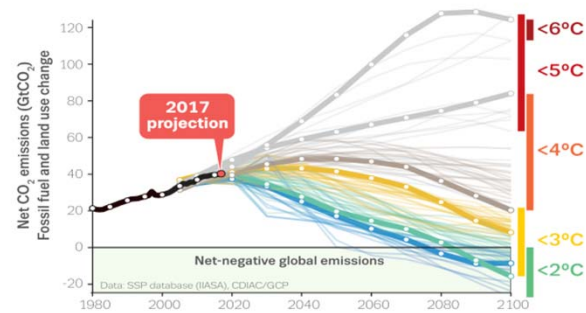
**Irene Heemskerk**  
Head - Climate Change Centre

# What makes climate-related and environmental risks unique

## 1. Far-reaching impact and irreversibility



## 2. Extended time horizon and correlation of risks



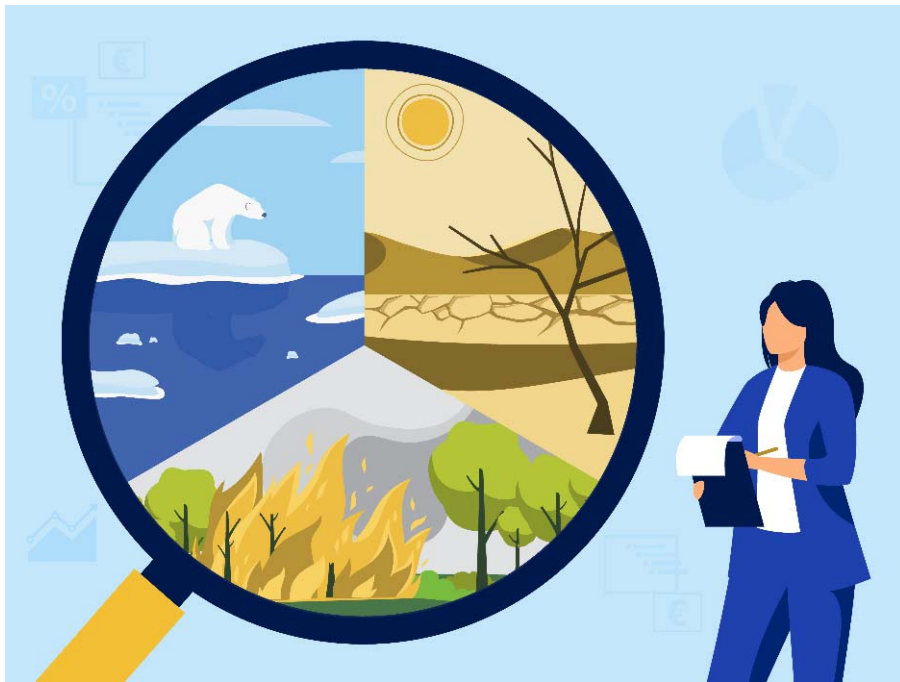
## 3. Short-term action



**Large uncertainty** (exact policies, time horizon for implementation, transition pathway) combined with **interconnections** make it **challenging to understand and assess the impact with reasonable certainty...**

**...but systemic risk with high degree of certainty of materialization in the future, depending on the actions taken today**

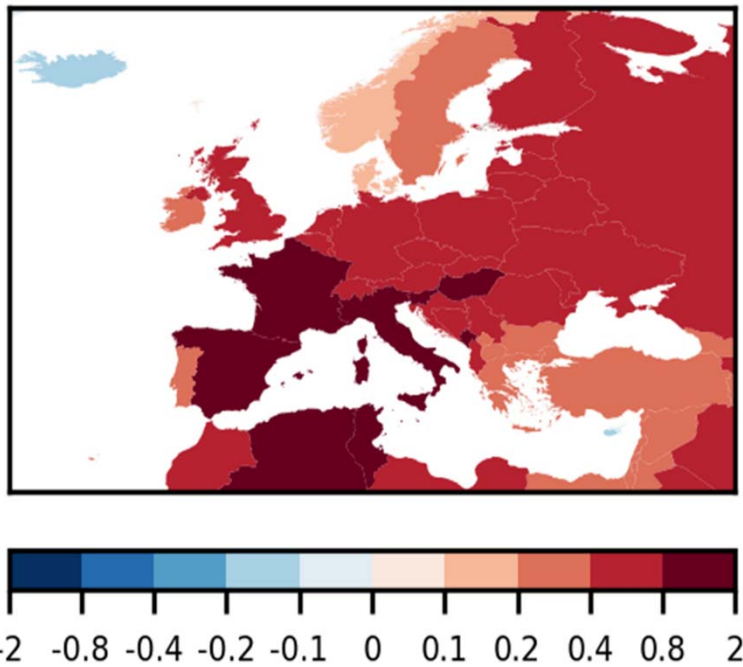
# Climate change is already affecting our economy and society



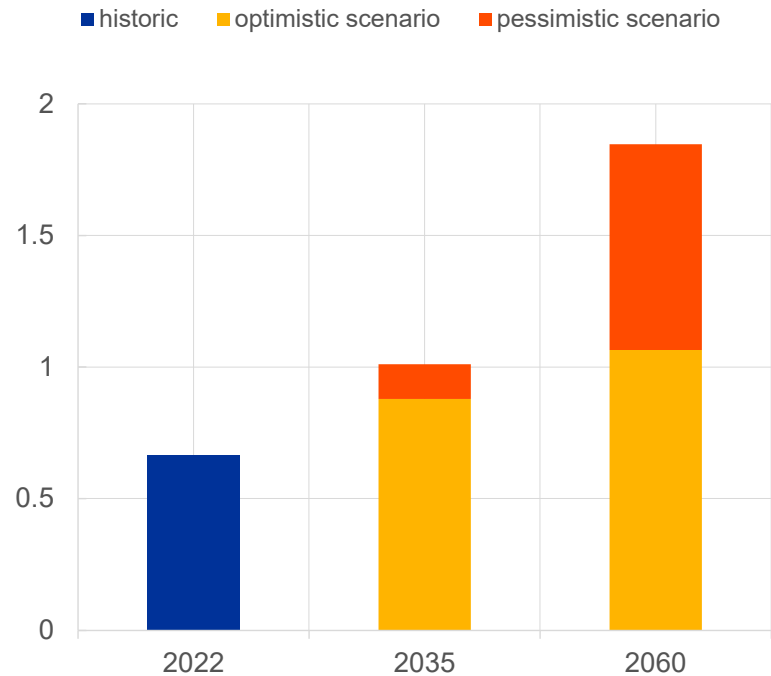
- **Physical impacts** of climate change are rising faster than expected and are having **more severe consequences**.
- Delivering on our tasks require us to improve our **understanding of these effects**, the related risks and the transmission channels to the macroeconomy and financial system
- **Our work** on the physical impact of climate change **brings insights in the need for adaptation** and resilience building

# Climate change and heat extremes can affect inflation

## Impact of the 2022 summer heatwave on food price inflation (percentage points)



## Impact of extreme summer heat on food price inflation in Europe (percentage points)

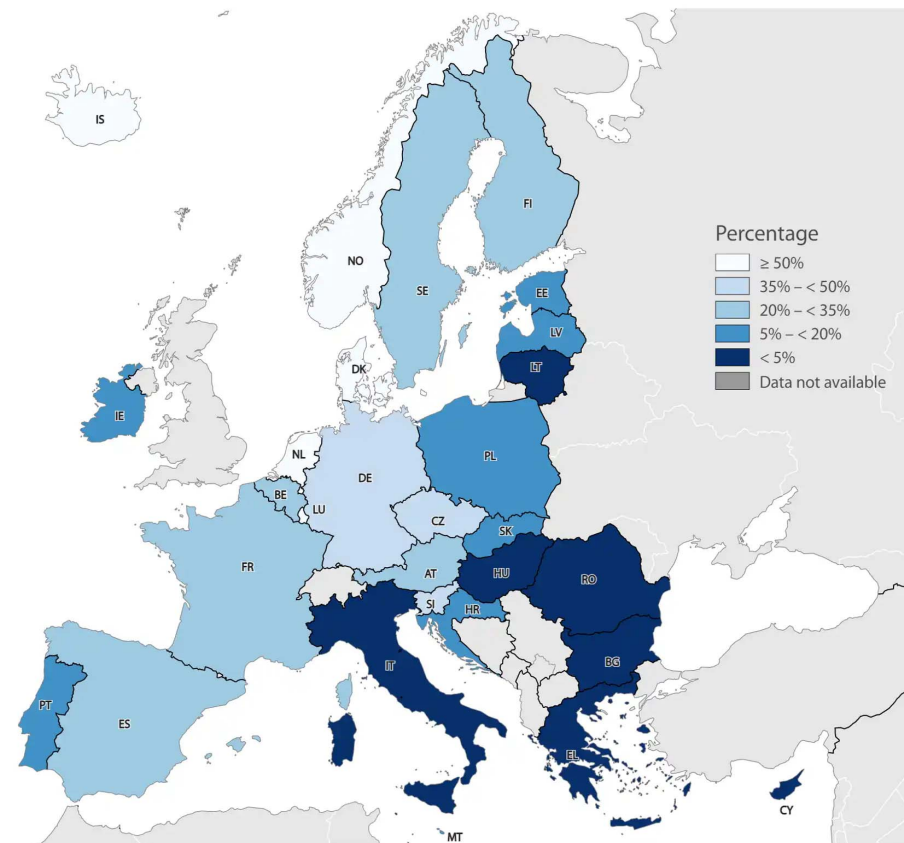


Source: Kotz et al. (2023).

Notes: Estimated with a global panel regression approach, using monthly prices and high-resolution climate data. Cumulative deviation of food inflation from baseline after 12 months due to extreme June/July/August temperatures are shown. LHS: The chart is based on combining elasticities of a 1°C increase in temperatures with 2022 realised summer temperatures. RHS: The chart is based on combining elasticities of a 1°C increase in temperatures with results from 21 global climate models. Projected temperatures of a 2022-like summer (i.e., in the upper tail of the temperature distribution) in future climates are retrieved from climate model results under different emission scenarios. Impacts could be reduced through ambitious adaptation to warmer climates

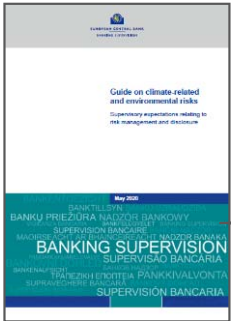
# Insurance protection gap could widen due to climate change

- On average only **1/4 of climate-related catastrophe losses are insured** in Europe.
- More frequent and intense events may lead to higher insurance premiums.
- Higher losses due to climate change put **pressure on the macroeconomy and financial stability.**
- **EIOPA** and **ECB** are looking options for policy responses
- [Link to paper](#)



# Climate change leads to financial risks that banks need to manage

**2020**  
Publication  
supervisory  
expectations



## Risk management

- 1. Business environment
- 2. Business strategy
- 3. Management body
- 4. Risk appetite framework
- 5. Organizational structure
- 6. Internal reporting
- 7. Risk management framework
- 8. Credit risk management
- 9. Operational risk management
- 10. Market risk management
- 11. Stress testing
- 12. Liquidity risk management

## Disclosures

- 13. Disclosures

Horizontal  
supervisory  
exercises

Targeted  
supervisory  
exercises

Thematic Review on C&E risk

Dedicated on-sites

Targeted review on CRE

Climate Risk Stress Test

Gap analysis on C&E risk disclosures

**End 2024**  
deadline for banks to  
meet all supervisory  
expectations



## Going forward

We will **continue** to assess the economic impact and financial risks, **specifically**:

- Further **integrate climate change impact into climate scenarios** and the analytical framework used for **macroeconomic projections**
- Aim to **improve** the availability of **data** to support physical risk analysis
- Explore the **impact of adaptation**
- **Working with our peers** throughout the **NGFS\*** and international fora

\* The [NGFS](#) is a global network of 138 central banks and supervisors and 21 observers and recently launched a Task force "Adaptation" chaired by the Central bank of Rwanda and the Australian Prudential Regulation Authority.