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EUROSYSTEM

# IX Meeting on Financial Stability

## Climate change and the financial system

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**University of Applied Sciences of the Deutsche Bundesbank**

# Agenda

# 1| Introduction

# WORLD ECONOMIC FORUM: The Global Risks Report 2019 (14th edition)

## Categories

- ◆ Economic
- ◆ Environmental
- ◆ Geopolitical
- ◆ Societal
- ◆ Technological

Source: WEF (2019): Global Risks Report 2019

# 1| Introduction

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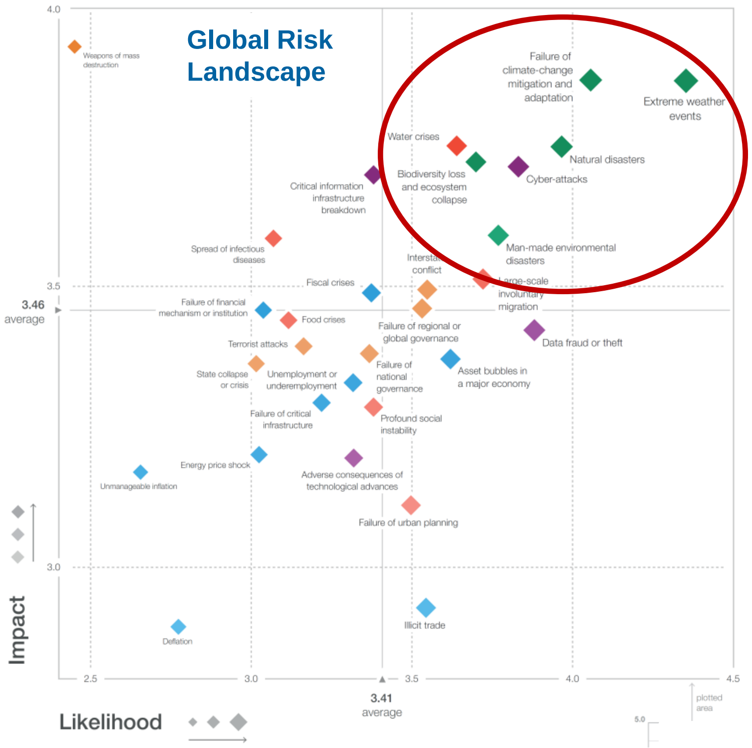

**Global Risk Landscape**

Source: WEF (2019): Global Risks Report 2019

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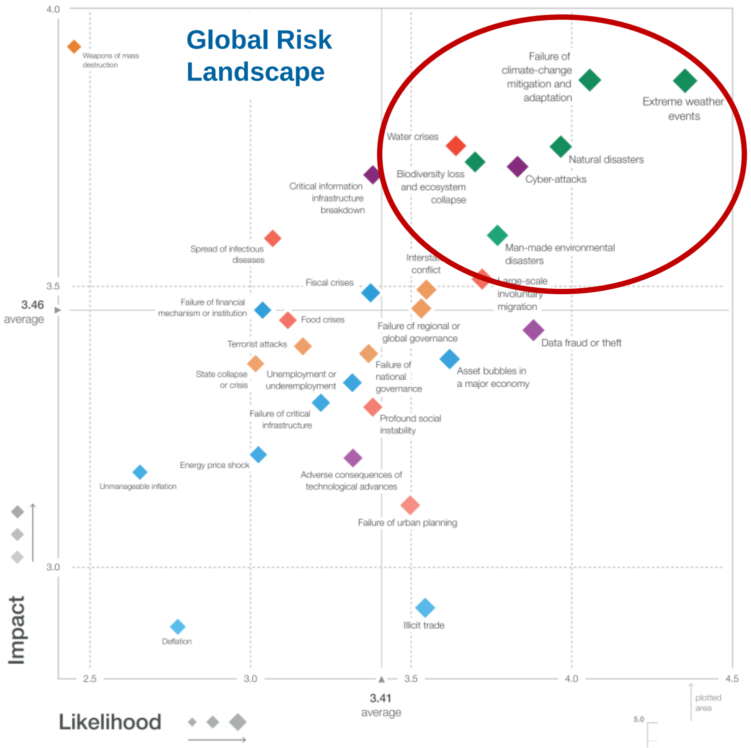
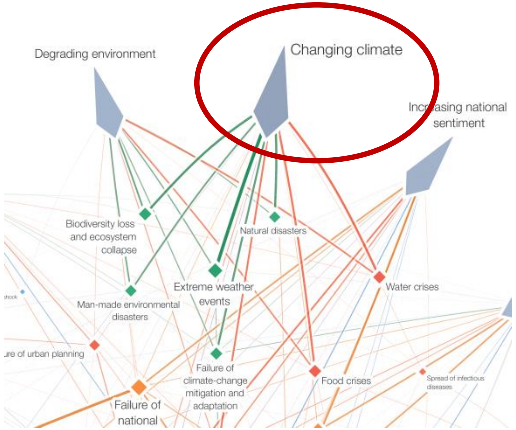
**Global Risk Landscape**



**Risks-Trends Interconnections Map**



Source: WEF (2019): Global Risks Report 2019

# 1| Introduction

## Distinguishing between environment-related and climate risks

### Environment-related risks

Refers to risks (credit, market, operational and legal risks, etc.) posed by the exposure of financial firms and/or the financial sector to activities that may potentially cause or be affected by environmental degradation.

**Examples:**

- Air pollution
- Water pollution and scarcity of fresh water
- Land contamination
- Reduced biodiversity and deforestation

### Climate risks

Focus

Refers to risks posed by the exposure of financial firms and/or the financial sector to physical or transition risks caused by or related to climate change.

**Examples:**

- Damage caused by extreme weather events
- Decline of asset value in carbon-intensive sectors

Source: NGFS (2019): A call for action: Climate change - as a source of financial risk; April 2019.

# 1| Introduction
## Network for Greening the Financial System

NGFS
Central Banks and Supervisors
Network for Greening the Financial System

- Network of Central Banks and Supervisors
- Established by **8 central banks** (including Deutsche Bundesbank) in 2017
- Grown to **36 members** and 6 observers, representing 5 contintents
- The NGFS is a coalition of the willing
- The NGFS issues recommendations

### Mission

- Sharing of experience and identification of best practices on the supervisory and macrofinancial dimensions of climate-related and environmental risks

Source: NGFS (2019): A call for action: Climate change - as a source of financial risk; April 2019.

# 1| Introduction

## Climate change may result in physical and transition risks

### Physical risks

Physical impacts include the economic costs and financial losses resulting from the increasing severity and frequency of

- **extreme climate change-related weather events** (such as heat waves, landslides, floods, wildfires and storms) as well as
- **longer term progressive shifts** of the climate (such as changes in precipitation, extreme weather variability, ocean acidification, and rising sea levels and average temperatures).

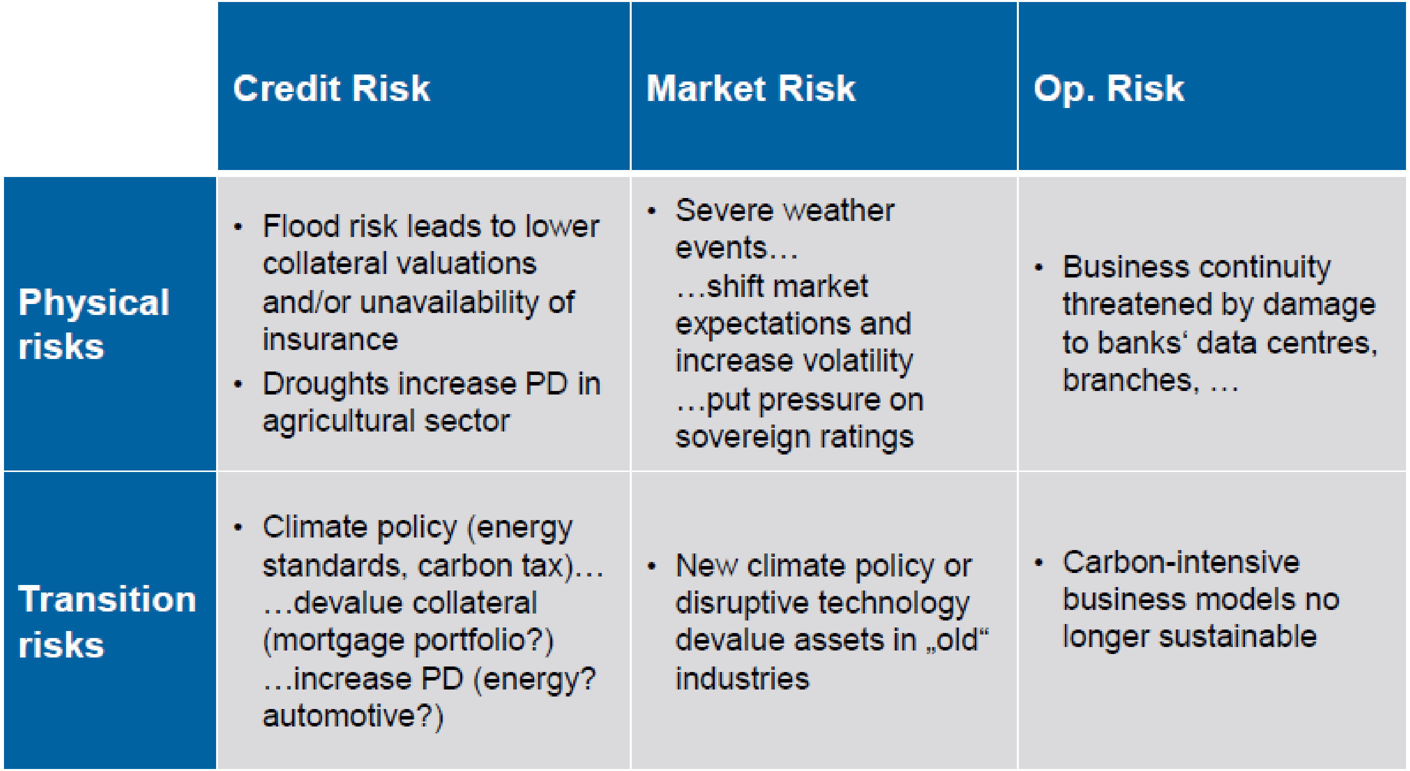
### Transition risks

- Transition impacts relate to the process of adjustment towards a low-carbon economy.
- Emissions must eventually reach “net zero” to prevent further climate change.
- The process of reducing emissions is likely to have significant impact on all sectors of the economy affecting financial assets values.
- While urgent action is desirable, an abrupt transition could also have an impact on financial stability and the economy more broadly.

Source: NGFS (2019): A call for action: Climate change - as a source of financial risk; April 2019.

# 1| Introduction

# Physical and transition risks drive established risk categories



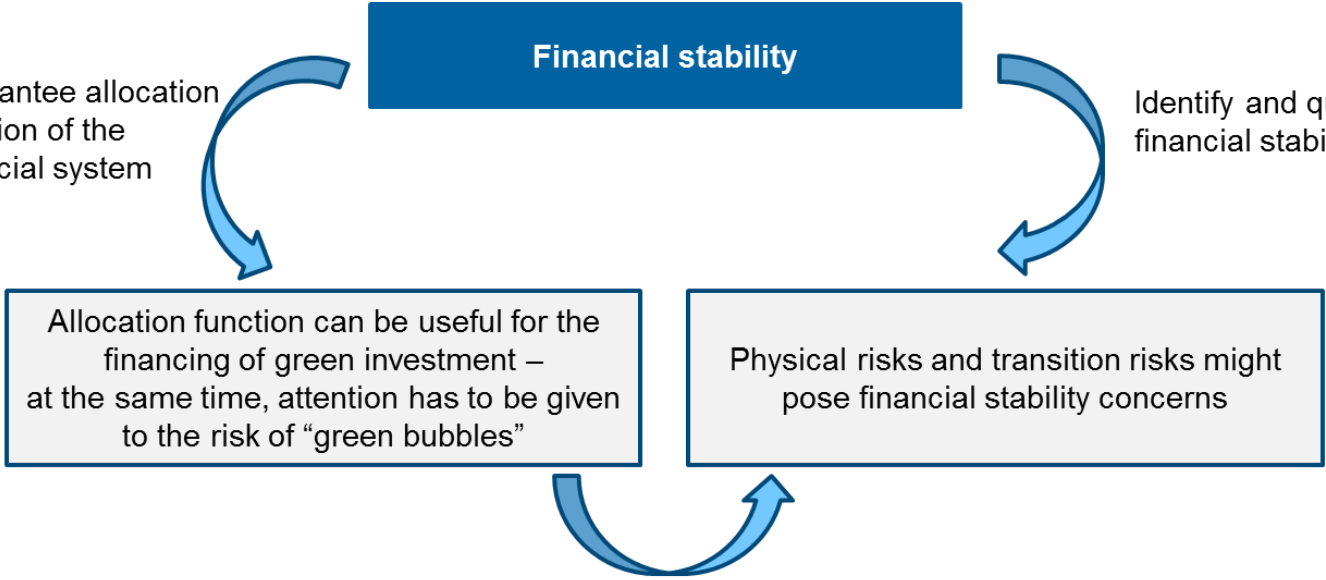
| | **Credit Risk** | **Market Risk** | **Op. Risk** |
|---|---|---|---|
| **Physical risks** | • Flood risk leads to lower collateral valuations and/or unavailability of insurance<br>• Droughts increase PD in agricultural sector | • Severe weather events… …shift market expectations and increase volatility …put pressure on sovereign ratings | • Business continuity threatened by damage to banks' data centres, branches, … |
| **Transition risks** | • Climate policy (energy standards, carbon tax)… …devalue collateral (mortgage portfolio?) …increase PD (energy? automotive?) | • New climate policy or disruptive technology devalue assets in „old" industries | • Carbon-intensive business models no longer sustainable |

Source: Knörr, Kokert (2019): Introduction in international and EU initiatives with a focus on banking regulation and supervision.

# Agenda

# 2| From climate risk to financial stability risks

## Relevance for Financial Stability



**Financial stability**

Guarantee allocation function of the financial system

Identify and quantify financial stability risks

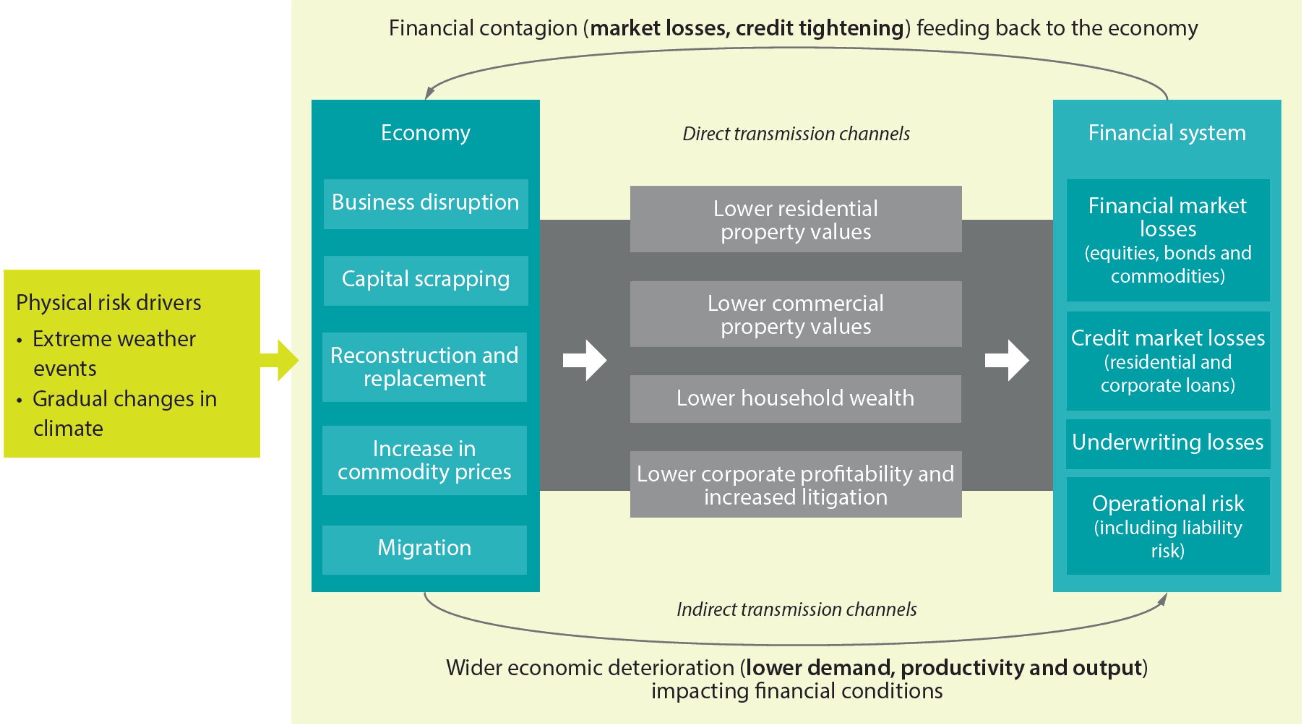
Allocation function can be useful for the financing of green investment – at the same time, attention has to be given to the risk of “green bubbles”

Physical risks and transition risks might pose financial stability concerns

Greener investment can contribute to a reduction in climate-related risks

Source: Walther (2019): A global perspective on sustainable finance.

# 2| From climate risk to financial stability risks
## Transmission channels related to physical risk



Financial contagion (**market losses, credit tightening**) feeding back to the economy

Physical risk drivers
- Extreme weather events
- Gradual changes in climate

Economy
- Business disruption
- Capital scrapping
- Reconstruction and replacement
- Increase in commodity prices
- Migration

*Direct transmission channels*
- Lower residential property values
- Lower commercial property values
- Lower household wealth
- Lower corporate profitability and increased litigation

Financial system
- Financial market losses (equities, bonds and commodities)
- Credit market losses (residential and corporate loans)
- Underwriting losses
- Operational risk (including liability risk)

*Indirect transmission channels*

Wider economic deterioration (**lower demand, productivity and output**) impacting financial conditions

**Physical events translate into economic losses, e.g.:**

- Business disruption at suppliers caused by floodings
- Reconstruction costs for (uninsured/underinsured) damages from storms
- Declining human work performance due to heat
- Crop failures due to water stress

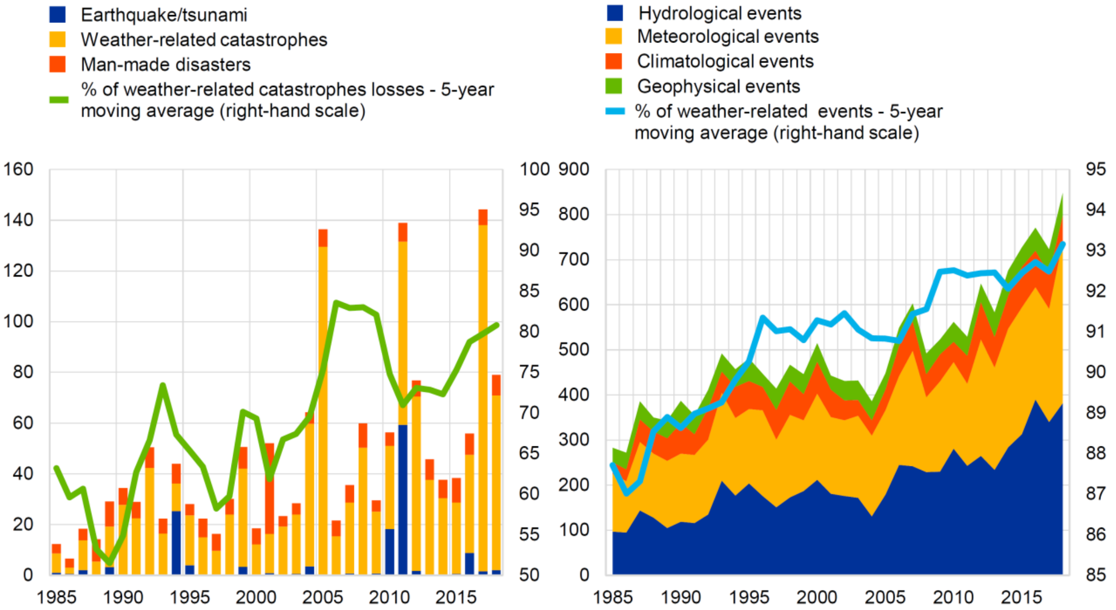
Source: NGFS (2019): A call for action: Climate change - as a source of financial risk; April 2019.

# 2| From climate risk to financial stability risks

## Physical risk: weather-related insured losses and the number of natural loss events are increasing

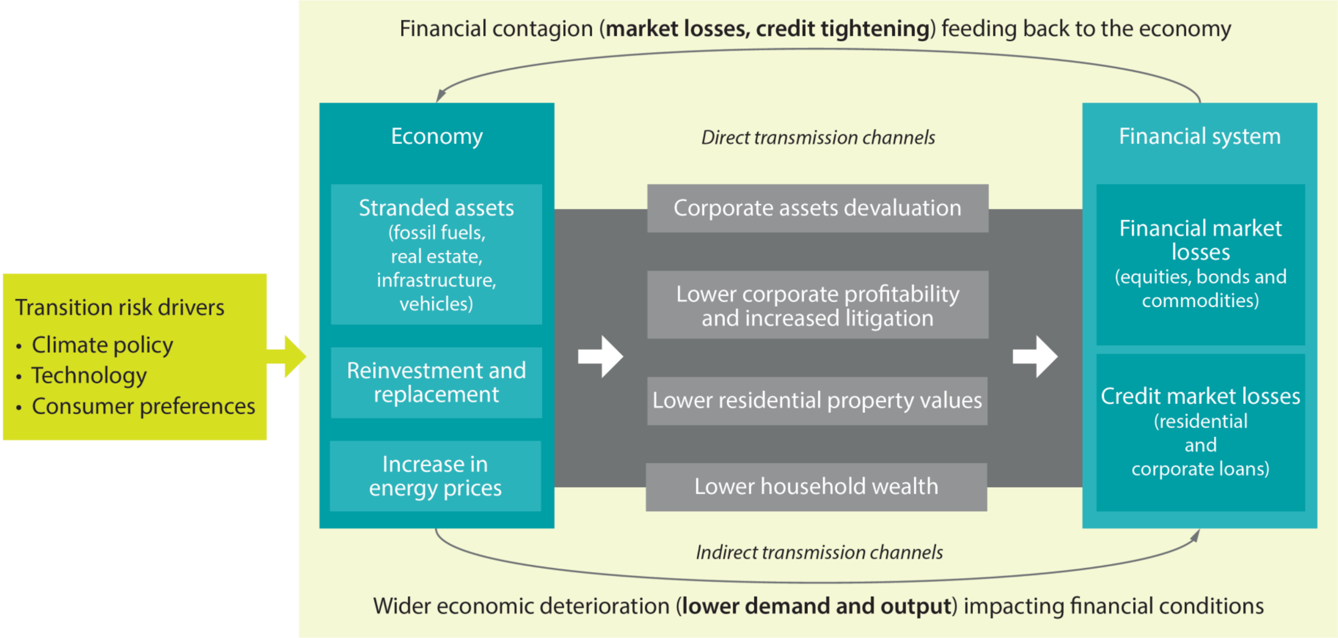
**Global insured catastrophe losses (left panel) and number of relevant natural loss events worldwide (right panel)**

(1985-2018; left panel: left-hand scale: USD billions; right-hand scale: percentages; right panel: left-hand scale: number of events; right-hand scale: percentages)



Source: ECB (2019): Financial Stability Review, May 2019

# 2| From climate risk to financial stability risks
## Transmission channels related to transition risk



Financial contagion (**market losses, credit tightening**) feeding back to the economy

Transition risk drivers
- Climate policy
- Technology
- Consumer preferences

Economy

Stranded assets (fossil fuels, real estate, infrastructure, vehicles)

Reinvestment and replacement

Increase in energy prices

*Direct transmission channels*

Corporate assets devaluation

Lower corporate profitability and increased litigation

Lower residential property values

Lower household wealth

Financial system

Financial market losses (equities, bonds and commodities)

Credit market losses (residential and corporate loans)

*Indirect transmission channels*

Wider economic deterioration (**lower demand and output**) impacting financial conditions

**Transition events translate into economic losses, e.g.:**

- Coal-fired power plants may be forced to shut down before amortisation
- Costs for adjusting production facilities, e.g. from combustion engines to electric cars
- Increasing (fossil fuel) energy prices reduce profitability of energy-intensive sectors
- Real estate value declines if not complying with latest energy efficiency standards

Source: NGFS (2019): A call for action: Climate change - as a source of financial risk; April 2019.

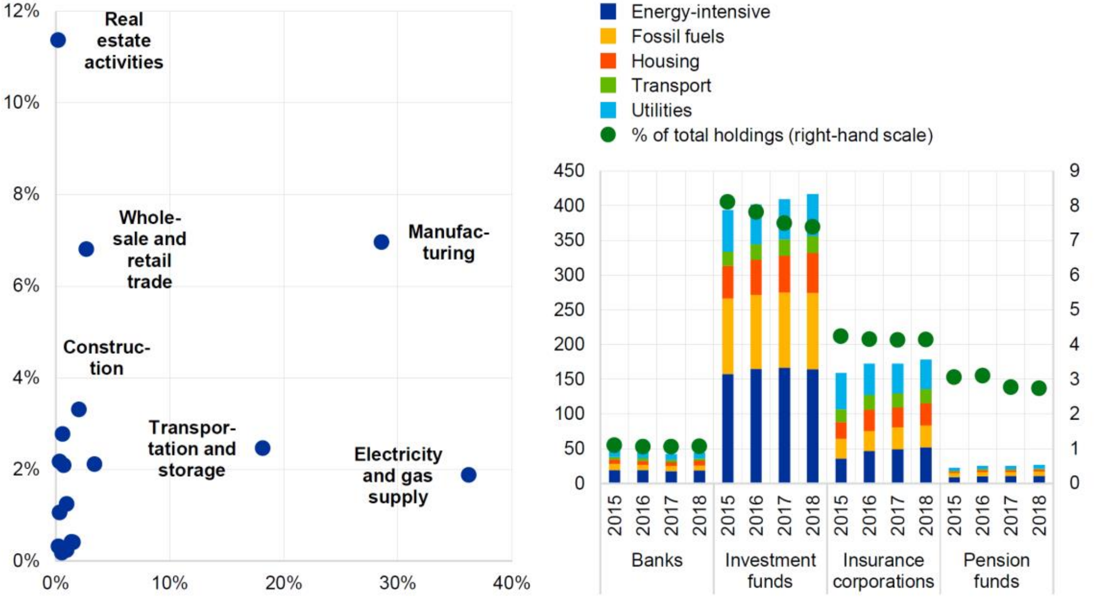
# Agenda

# 3| Selected empirical analyzes of European supervisory authorities

## Sectoral exposure statistics can provide a first comprehensive approximation of transition risk

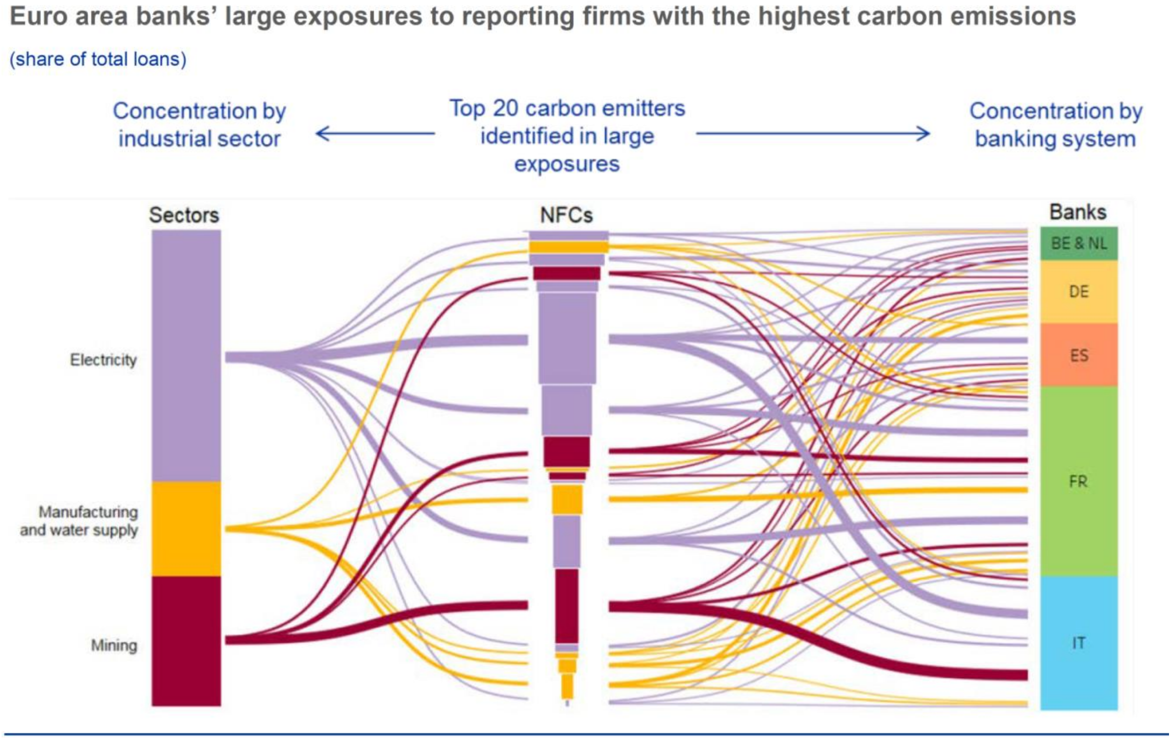
**Euro area banks' exposures and sectoral contributions to carbon emissions (left panel); evolution of investment exposures to climate-sensitive sectors (by issuer sector) (right panel)**

(left panel: percentages; x-axis: sectoral contributions to total carbon emissions; y-axis: bank exposures (as a share of total exposures); right panel: Dec. 2015-Dec. 2018; left-hand scale: € billions; right-hand scale: percentage of total holdings)



Source: ECB (2019): Financial Stability Review, May 2019

# 3| Selected empirical analyzes of European supervisory authorities
## Large exposures to reporting firms with the highest emissions

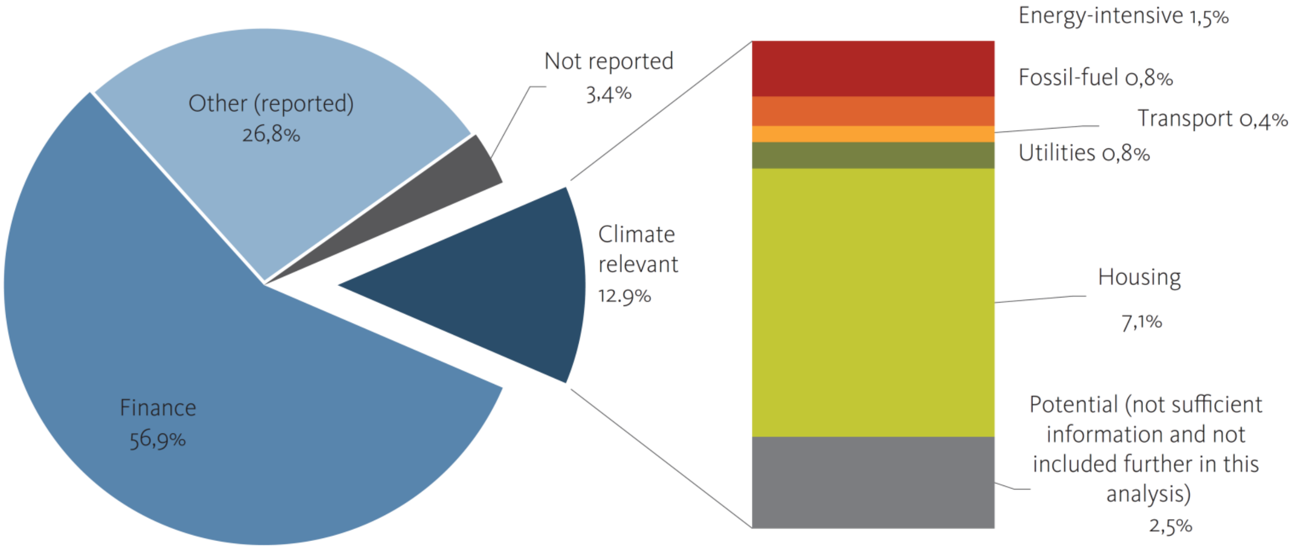


Euro area banks' large exposures to reporting firms with the highest carbon emissions

(share of total loans)

Source: ECB (2019): Financial Stability Review, May 2019

# 3| Selected empirical analyzes of European supervisory authorities
## EIOPA: Climate related asset exposures of the European insurance sector



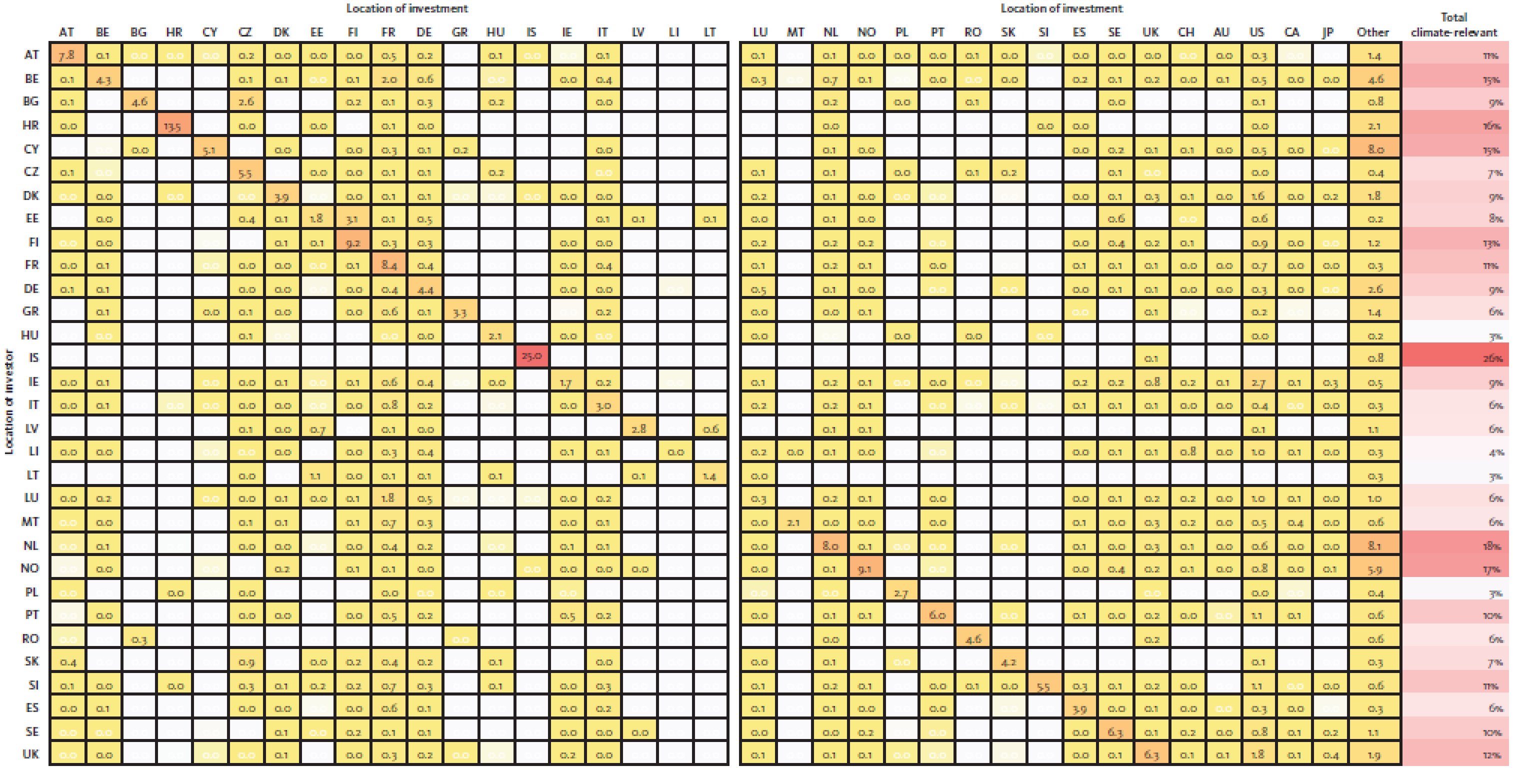
**Glossary**

| | |
|---|---|
| **EIOPA** | European Insurance and Occupational Pensions Authority |

Source: EIOPA (2019): Financial Stability Report, December 2018.

# 3| Selected empirical analyzes of European supervisory authorities

## EIOPA: Holders of climate relevant exposures and location of investment



| Location of investor | AT | BE | BG | HR | CY | CZ | DK | EE | FI | FR | DE | GR | HU | IS | IE | IT | LV | LI | LT | LU | MT | NL | NO | PL | PT | RO | SK | SI | ES | SE | UK | CH | AU | US | CA | JP | Other | Total climate-relevant |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | Location of investment |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Location of investment |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| AT | 7.8 | 0.1 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.5 | 0.2 |  | 0.1 | 0.0 | 0.0 | 0.1 |  |  |  | 0.1 |  | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 |  | 1.4 | 11% |
| BE | 0.1 | 4.3 |  |  |  | 0.1 | 0.1 | 0.0 | 0.1 | 2.0 | 0.6 |  | 0.0 |  | 0.0 | 0.4 |  |  |  | 0.3 | 0.0 | 0.7 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.2 | 0.1 | 0.2 | 0.0 | 0.1 | 0.5 | 0.0 | 0.0 | 4.6 | 15% |
| BG | 0.1 |  | 4.6 |  |  | 2.6 |  |  | 0.2 | 0.1 | 0.3 |  | 0.2 |  |  | 0.0 |  |  |  |  |  | 0.2 |  | 0.0 |  | 0.1 |  |  |  | 0.0 |  |  |  | 0.1 |  |  | 0.8 | 9% |
| HR | 0.0 |  |  | 13.5 |  | 0.0 |  | 0.0 |  | 0.1 | 0.0 |  |  |  |  |  |  |  |  |  |  | 0.0 |  |  |  |  |  | 0.0 | 0.0 |  |  |  |  | 0.0 |  |  | 2.1 | 16% |
| CY |  | 0.0 | 0.0 |  | 5.1 |  | 0.0 |  | 0.0 | 0.3 | 0.1 | 0.2 |  |  |  | 0.0 |  |  |  |  |  | 0.1 | 0.0 |  |  |  |  |  | 0.0 | 0.2 | 0.1 | 0.1 | 0.0 | 0.5 | 0.0 | 0.0 | 8.0 | 15% |
| CZ | 0.1 | 0.0 |  |  |  | 5.5 |  | 0.0 | 0.0 | 0.1 | 0.1 |  | 0.2 |  |  | 0.0 |  |  |  | 0.1 |  | 0.1 |  | 0.0 |  | 0.1 | 0.2 |  |  | 0.1 | 0.0 |  |  | 0.0 |  |  | 0.4 | 7% |
| DK | 0.0 | 0.0 |  | 0.0 |  | 0.0 | 3.9 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |  |  | 0.2 |  | 0.1 | 0.0 | 0.0 | 0.0 |  |  |  | 0.0 | 0.1 | 0.3 | 0.1 | 0.0 | 1.6 | 0.0 | 0.2 | 1.8 | 9% |
| EE |  | 0.0 |  |  |  | 0.4 | 0.1 | 1.8 | 3.1 | 0.1 | 0.5 |  |  |  |  | 0.1 | 0.1 |  | 0.1 | 0.0 |  | 0.1 | 0.0 |  |  |  |  |  |  | 0.6 |  | 0.0 |  | 0.6 |  |  | 0.2 | 8% |
| FI | 0.0 | 0.0 |  |  | 0.0 |  | 0.1 | 0.1 | 9.2 | 0.3 | 0.3 |  |  |  | 0.0 | 0.0 |  |  |  | 0.2 |  | 0.2 | 0.2 |  | 0.0 |  |  |  | 0.0 | 0.4 | 0.2 | 0.1 |  | 0.9 | 0.0 | 0.0 | 1.2 | 13% |
| FR | 0.0 | 0.1 |  |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 8.4 | 0.4 |  |  |  | 0.0 | 0.4 |  |  |  | 0.1 |  | 0.2 | 0.1 |  | 0.0 |  |  |  | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 | 0.3 | 11% |
| DE | 0.1 | 0.1 |  |  |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 4.4 |  |  |  | 0.0 | 0.0 |  | 0.0 |  | 0.5 |  | 0.1 | 0.0 |  | 0.0 |  | 0.0 |  | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 2.6 | 9% |
| GR |  | 0.1 |  |  | 0.0 | 0.1 | 0.0 |  | 0.0 | 0.6 | 0.1 | 3.3 |  |  | 0.0 | 0.2 |  |  |  | 0.0 |  | 0.0 | 0.1 |  |  |  |  |  | 0.0 |  | 0.1 | 0.0 |  | 0.2 | 0.0 |  | 1.4 | 6% |
| HU |  | 0.0 |  |  |  | 0.1 | 0.0 |  |  | 0.0 | 0.0 |  | 2.1 |  | 0.0 | 0.0 |  |  |  | 0.0 |  | 0.0 |  | 0.0 |  | 0.0 |  | 0.0 |  |  |  |  |  | 0.0 |  |  | 0.2 | 3% |
| IS |  |  |  |  |  |  |  |  |  |  |  |  |  | 25.0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0.1 |  |  |  |  |  | 0.8 | 26% |
| IE | 0.0 | 0.1 |  |  | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.6 | 0.4 | 0.0 | 0.0 |  | 1.7 | 0.2 |  | 0.0 |  | 0.1 |  | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.2 | 0.2 | 0.8 | 0.2 | 0.1 | 2.7 | 0.1 | 0.3 | 0.5 | 9% |
| IT | 0.0 | 0.1 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 | 0.2 |  | 0.0 |  | 0.0 | 3.0 |  |  |  | 0.2 |  | 0.2 | 0.1 |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.3 | 6% |
| LV |  |  |  |  |  | 0.1 | 0.0 | 0.7 |  | 0.1 | 0.0 |  |  |  |  |  | 2.8 |  | 0.6 |  |  | 0.1 | 0.1 |  |  |  |  |  |  |  |  |  |  | 0.1 |  |  | 1.1 | 6% |
| LI | 0.0 | 0.0 |  |  | 0.0 | 0.0 | 0.0 |  | 0.0 | 0.3 | 0.4 |  |  |  | 0.1 | 0.1 |  | 0.0 |  | 0.2 | 0.0 | 0.1 | 0.0 |  | 0.0 |  |  |  | 0.0 | 0.1 | 0.1 | 0.8 | 0.0 | 1.0 | 0.1 | 0.0 | 0.3 | 4% |
| LT |  |  |  |  |  | 0.0 |  | 1.1 | 0.0 | 0.1 | 0.1 |  | 0.1 |  |  |  | 0.1 |  | 1.4 | 0.0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0.3 | 3% |
| LU | 0.0 | 0.2 |  |  | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 1.8 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 |  |  |  | 0.3 |  | 0.2 | 0.1 |  | 0.0 |  |  |  | 0.0 | 0.1 | 0.2 | 0.2 | 0.0 | 1.0 | 0.1 | 0.0 | 1.0 | 6% |
| MT | 0.0 | 0.0 |  |  |  | 0.1 | 0.1 |  | 0.1 | 0.7 | 0.3 |  |  |  | 0.0 | 0.1 |  |  |  | 0.0 | 2.1 | 0.0 | 0.0 |  | 0.0 |  |  |  | 0.1 | 0.0 | 0.3 | 0.2 | 0.0 | 0.5 | 0.4 | 0.0 | 0.6 | 6% |
| NL | 0.0 | 0.1 |  |  |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.2 |  | 0.0 |  | 0.1 | 0.1 |  |  |  | 0.0 |  | 8.0 | 0.1 | 0.0 | 0.0 |  | 0.0 |  | 0.1 | 0.0 | 0.3 | 0.1 | 0.0 | 0.6 | 0.0 | 0.0 | 8.1 | 18% |
| NO | 0.0 | 0.0 |  |  | 0.0 |  | 0.2 |  | 0.1 | 0.1 | 0.0 |  |  | 0.0 | 0.0 | 0.0 | 0.0 |  |  | 0.0 |  | 0.1 | 9.1 |  | 0.0 |  |  |  | 0.0 | 0.4 | 0.2 | 0.1 | 0.0 | 0.8 | 0.0 | 0.1 | 5.9 | 17% |
| PL | 0.0 |  |  | 0.0 |  | 0.0 |  |  |  | 0.0 | 0.0 |  | 0.0 |  | 0.0 |  |  |  |  | 0.0 |  | 0.0 |  | 2.7 |  |  |  |  |  |  | 0.0 |  |  | 0.0 | 0.0 |  | 0.4 | 3% |
| PT | 0.0 | 0.0 |  |  |  | 0.0 | 0.0 |  | 0.0 | 0.5 | 0.2 |  |  |  | 0.5 | 0.2 |  |  |  | 0.0 |  | 0.1 | 0.1 |  | 6.0 |  | 0.0 |  | 0.1 | 0.0 | 0.2 | 0.0 | 0.0 | 1.1 | 0.1 |  | 0.6 | 10% |
| RO | 0.0 |  | 0.3 |  |  |  |  |  |  |  |  | 0.0 |  |  |  |  |  |  |  |  |  | 0.0 |  |  |  | 4.6 |  |  |  |  | 0.2 |  |  |  |  |  | 0.6 | 6% |
| SK | 0.4 |  |  |  |  | 0.9 |  | 0.0 | 0.2 | 0.4 | 0.2 |  | 0.1 |  |  | 0.0 |  |  |  | 0.0 |  | 0.1 |  | 0.0 |  |  | 4.2 |  |  |  |  |  |  | 0.1 |  |  | 0.3 | 7% |
| SI | 0.1 | 0.0 |  | 0.0 |  | 0.3 | 0.1 | 0.2 | 0.2 | 0.7 | 0.3 |  | 0.1 |  | 0.0 | 0.3 |  |  |  | 0.1 |  | 0.2 | 0.1 |  | 0.0 | 0.1 | 0.0 | 5.5 | 0.3 | 0.1 | 0.2 | 0.0 |  | 1.1 | 0.0 | 0.0 | 0.6 | 11% |
| ES | 0.0 | 0.1 |  |  |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.1 |  |  |  | 0.0 | 0.2 |  |  |  | 0.1 |  | 0.1 | 0.0 |  | 0.0 |  | 0.0 |  | 3.9 | 0.0 | 0.1 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.3 | 6% |
| SE | 0.0 | 0.0 |  |  |  |  | 0.1 | 0.0 | 0.2 | 0.1 | 0.1 |  |  |  | 0.0 | 0.0 | 0.0 |  |  | 0.0 |  | 0.0 | 0.2 |  | 0.0 |  |  |  | 0.0 | 6.3 | 0.1 | 0.2 | 0.0 | 0.8 | 0.1 | 0.2 | 1.1 | 10% |
| UK | 0.0 | 0.0 |  |  | 0.0 | 0.0 | 0.1 |  | 0.0 | 0.3 | 0.2 | 0.0 | 0.0 |  | 0.2 | 0.0 |  |  |  | 0.1 |  | 0.1 | 0.1 | 0.0 | 0.0 |  | 0.0 |  | 0.0 | 0.1 | 6.3 | 0.1 | 0.1 | 1.8 | 0.1 | 0.4 | 1.9 | 12% |

Source: EIOPA (2019): Financial Stability Report, December 2018.

# Agenda

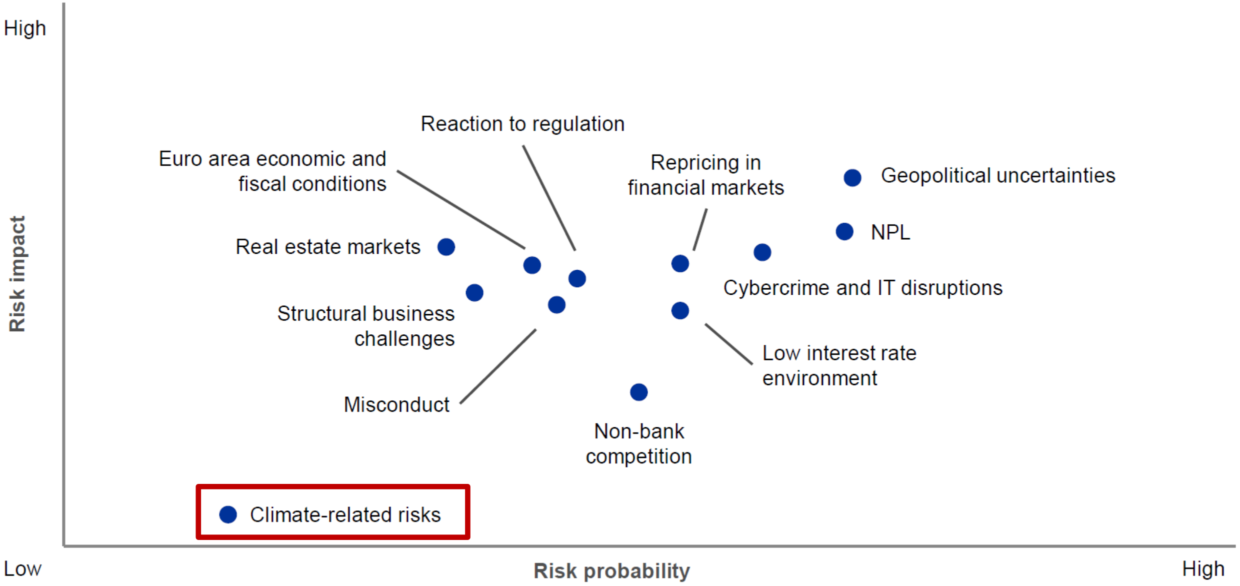
# 4| Outlook
## NGFS First comprehensive report 2019: Recommendations

- N°1: Integrating climate-related risks into financial stability monitoring and micro-supervision.
- N°2: Integrating sustainability factors into own-portfolio management.
- N°3: Bridging the data gaps.
- N°4: Building awareness and intellectual capacity and encouraging technical assistance and knowledge sharing.
- N°5: Achieving robust and internationally consistent climate and environmentrelated disclosure.
- N°6: Supporting the development of a taxonomy of economic activities.

Source: NGFS (2019): A call for action: Climate change - as a source of financial risk; April 2019.

# 4| Outlook

# Banking supervision: first consideration in the SSM Risk Map for 2019



Sources: ECB and national supervisory authorities.
Notes: The probability and impact of risk drivers are based on the outcome of a qualitative assessment. The assessment identifies the key developments that might materialise and adversely affect the euro area banking system in the short to medium term (two to three years).

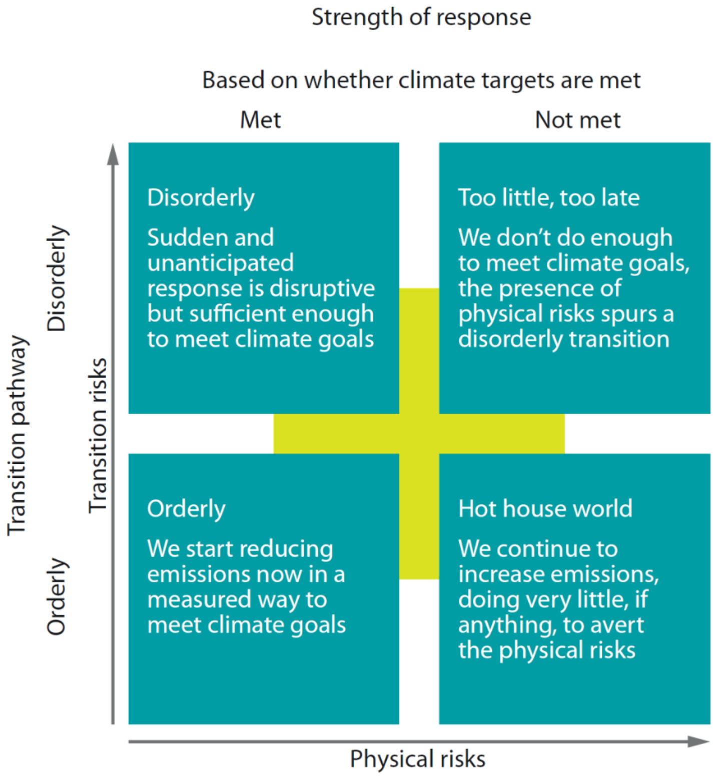
**Glossary**

| | |
|---|---|
| **SSM** | Single Supervisory Mechanism within the Euro Area (19 countries) |

Source: ECB (2019): ECB Annual Report on supervisory activities, 2018.

# 4| Outlook

## Designing a scenario analysis framework for central banks and supervisors



Strength of response

Based on whether climate targets are met

Met

Not met

Transition pathway

Disorderly

Orderly

Transition risks

**Disorderly**

Sudden and unanticipated response is disruptive but sufficient enough to meet climate goals

**Too little, too late**

We don't do enough to meet climate goals, the presence of physical risks spurs a disorderly transition

**Orderly**

We start reducing emissions now in a measured way to meet climate goals

**Hot house world**

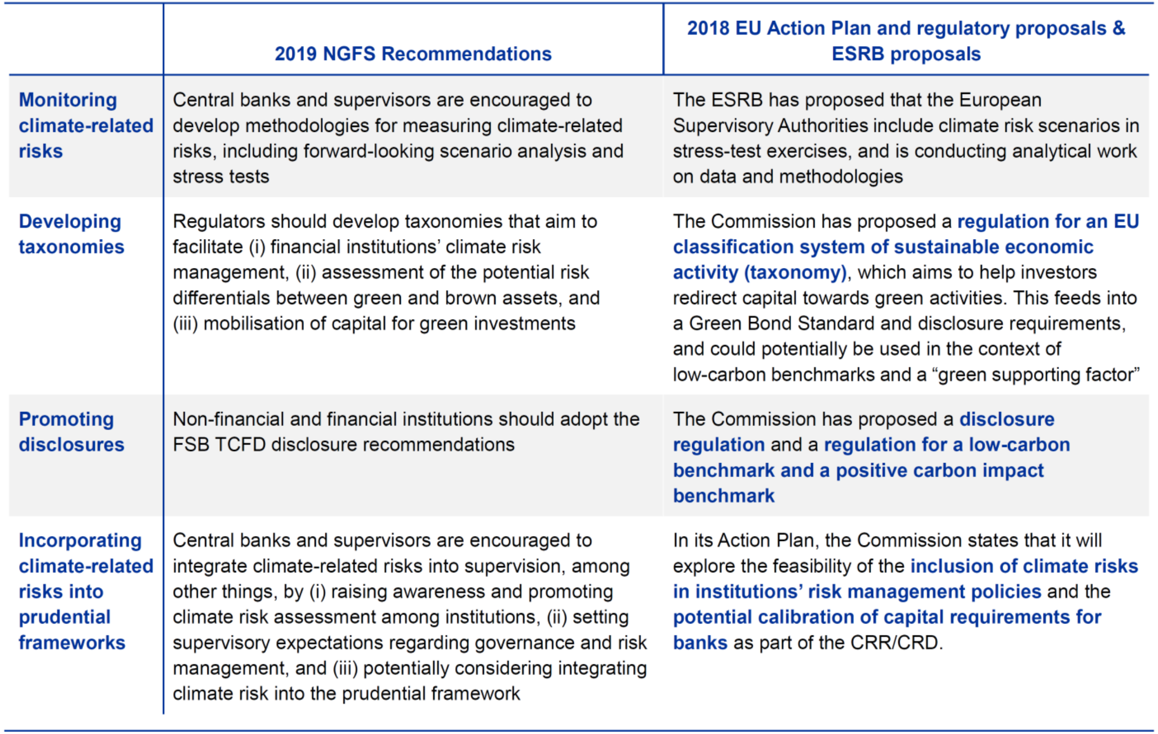
We continue to increase emissions, doing very little, if anything, to avert the physical risks

Physical risks

Source: NGFS (2019): A call for action: Climate change - as a source of financial risk; April 2019.

# 4| Outlook

## Recommendations by the NGFS and European initiatives with a focus on financial stability



| | 2019 NGFS Recommendations | 2018 EU Action Plan and regulatory proposals & ESRB proposals |
|---|---|---|
| **Monitoring climate-related risks** | Central banks and supervisors are encouraged to develop methodologies for measuring climate-related risks, including forward-looking scenario analysis and stress tests | The ESRB has proposed that the European Supervisory Authorities include climate risk scenarios in stress-test exercises, and is conducting analytical work on data and methodologies |
| **Developing taxonomies** | Regulators should develop taxonomies that aim to facilitate (i) financial institutions' climate risk management, (ii) assessment of the potential risk differentials between green and brown assets, and (iii) mobilisation of capital for green investments | The Commission has proposed a **regulation for an EU classification system of sustainable economic activity (taxonomy)**, which aims to help investors redirect capital towards green activities. This feeds into a Green Bond Standard and disclosure requirements, and could potentially be used in the context of low-carbon benchmarks and a "green supporting factor" |
| **Promoting disclosures** | Non-financial and financial institutions should adopt the FSB TCFD disclosure recommendations | The Commission has proposed a **disclosure regulation** and a **regulation for a low-carbon benchmark and a positive carbon impact benchmark** |
| **Incorporating climate-related risks into prudential frameworks** | Central banks and supervisors are encouraged to integrate climate-related risks into supervision, among other things, by (i) raising awareness and promoting climate risk assessment among institutions, (ii) setting supervisory expectations regarding governance and risk management, and (iii) potentially considering integrating climate risk into the prudential framework | In its Action Plan, the Commission states that it will explore the feasibility of the **inclusion of climate risks in institutions' risk management policies** and the **potential calibration of capital requirements for banks** as part of the CRR/CRD. |

Source: ECB (2019): Financial Stability Review, May 2019

## 4| Outlook

# Bundesbank activities on green finance and climate-related financial risks

- Membership in NGFS and leading WS 3: “Scaling up green finance”
- Building awareness: e.g. by hosting conferences or informal meetings with financial sector
- Managing reserves increasingly under ESG principles (Environment – Social – Governance)
- Aiming for CO2 neutrality in all activities of the bank
- Internal platform for mutual exchange of information
- Economic and financial analyses on the implications for monetary policy and financial stability

# Thank you very much for your attention!

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# References

**NGFS**

https://www.banque-france.fr/en/financial-stability/international-role/network-greening-financial-system

NGFS (2019): A call for action: Climate change - as a source of financial risk; April 2019.

**Euro Area**

ECB (2019): Financial Stability Review, May 2019

ECB (2019): ECB Annual Report on supervisory activities, 2018

EIOPA (2019): Financial Stability Report, December 2018

**World**

http://www3.weforum.org/docs/WEF_Global_Risks_Report_2019.pdf

Disclaimer: The presentation represents the speaker’s personal opinion and does not necessarily reflect the views of the Deutsche Bundesbank.