

Scenarios in action

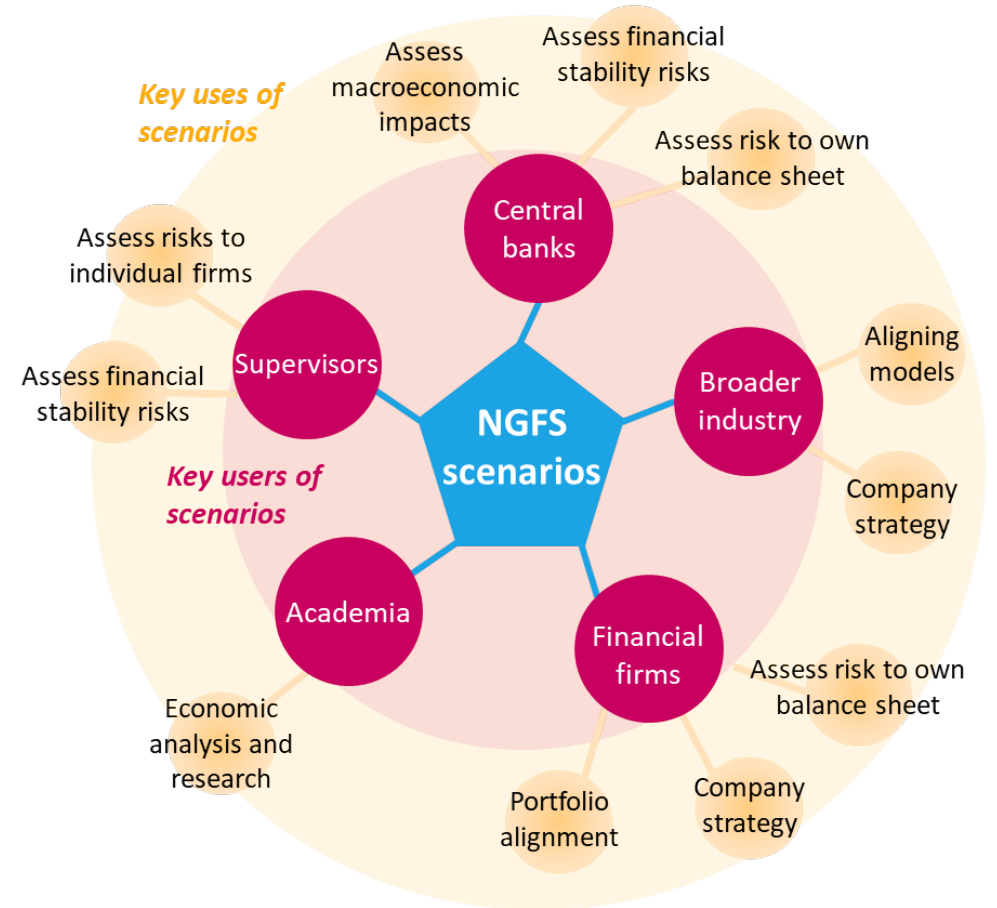
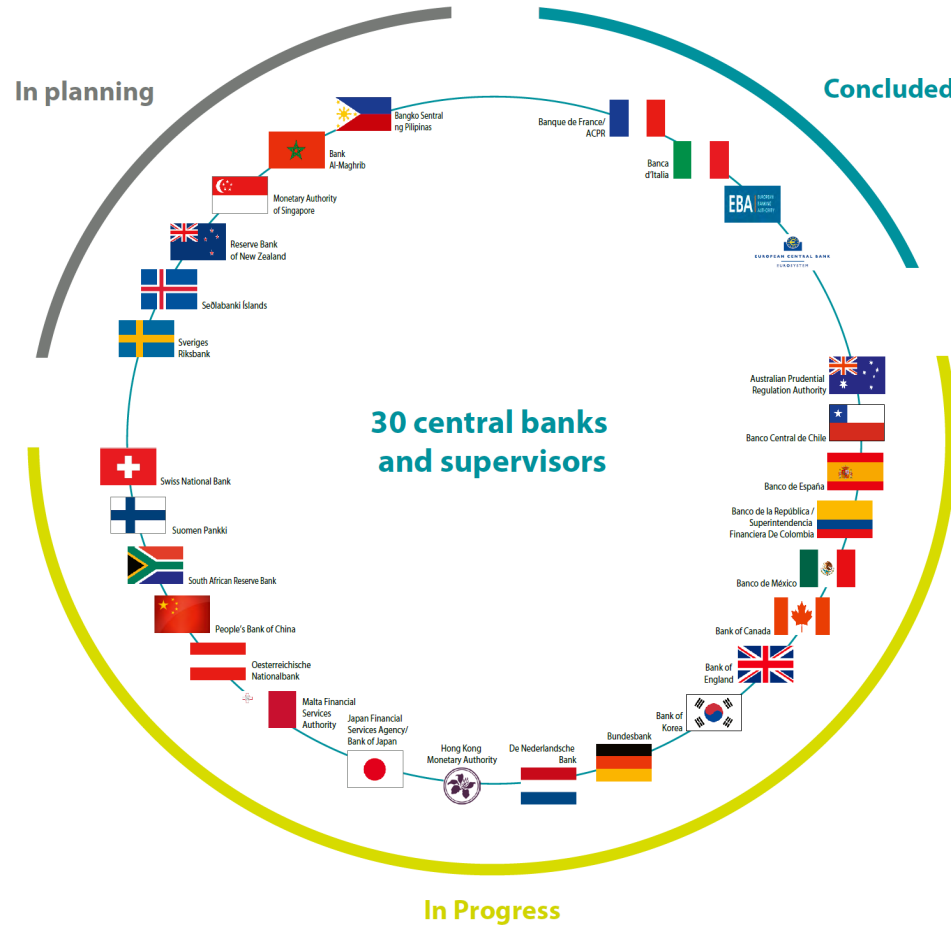
The NGFS' progress report and the Bank of England's experience with its UK exercise

Chris Faint

**Head of Climate at the Bank of England / NGFS
WS2 Chair's team**

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Climate scenario exercises by 30 NGFS members from six continents



Exercises serve a variety of objectives

- **Development of awareness and capabilities** around climate-related risks is often as important as **assessing the impact of climate risks**
- Exercises also aim to **improve methodologies and identify data gaps**
- As of yet, no survey respondents envisage **calibrating prudential policies** on the basis of these exercises

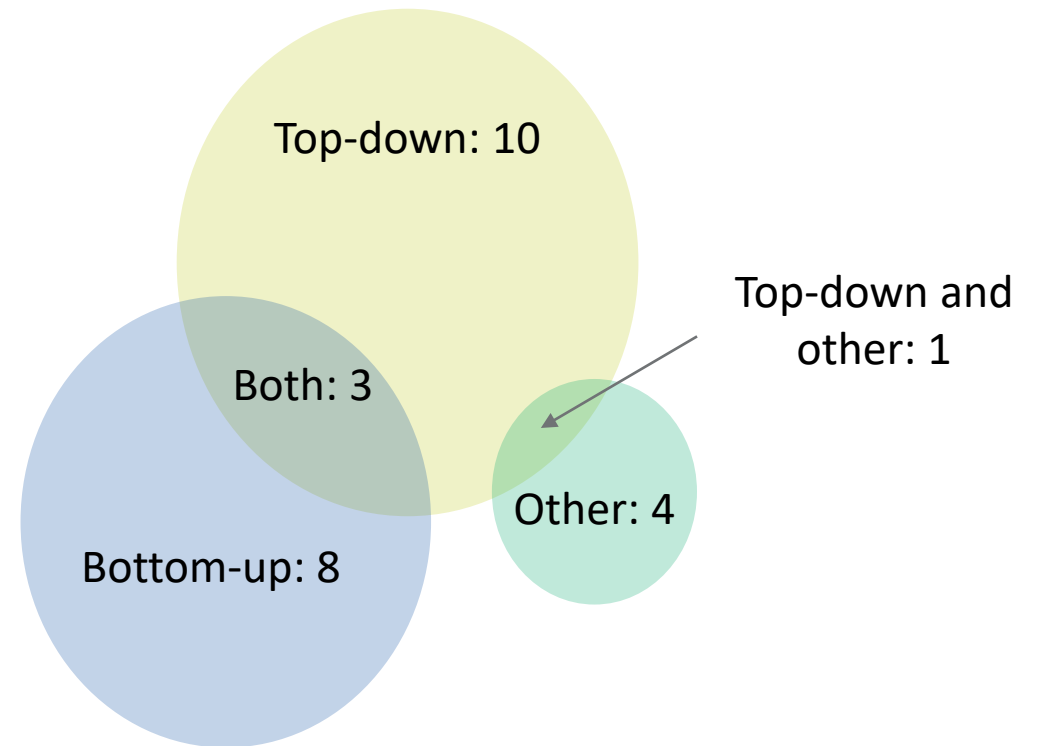
Assessing the impact of climate risk on the financial system and the economy

Developing capabilities

Macroprudential 23	Microprudential 18	Within organisation 19	Within financial sector 12
	Macroeconomic impact 10		
		Others 5	

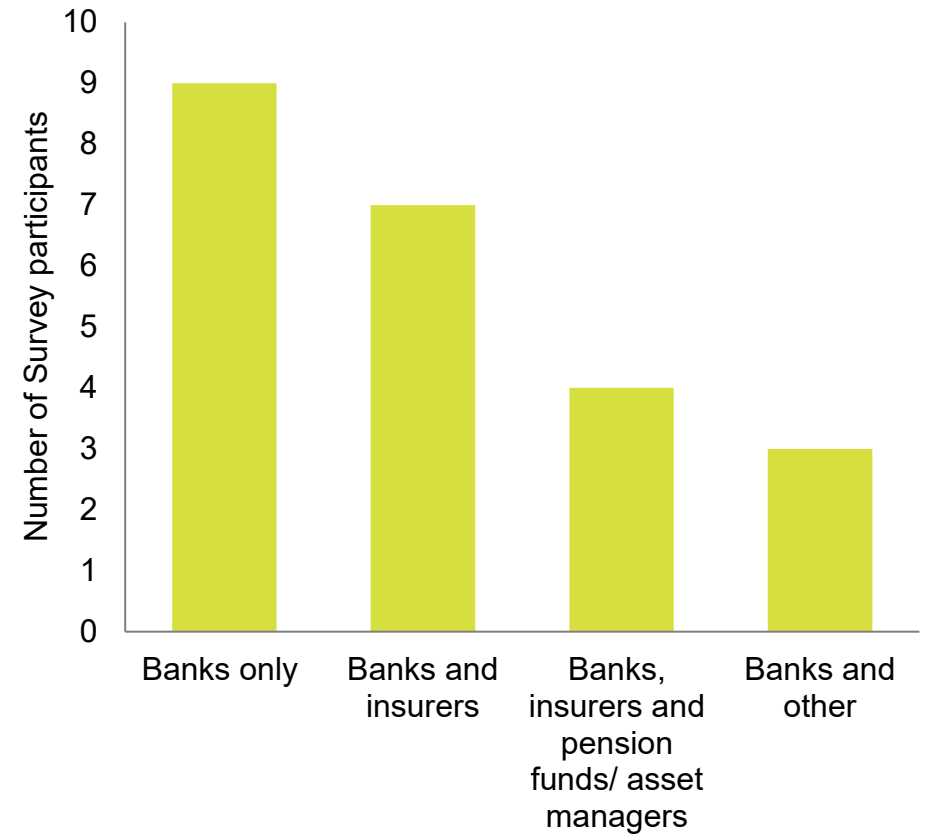
Top-down and bottom-up approaches

- Scenario analysis exercises can generally be grouped into **two approaches: bottom-up and top-down**
- There was an **even split** between top-down and bottom-up exercises, but within this there is a **significant variation** in approaches
- Some survey respondents adopted a **combination** of top-down and bottom-up approaches



Institution and exposures coverage

- **All surveyed exercises cover the banking sector**, and most exercises also covered some other financial institutions including insurers and pension funds
- In addition, **all surveyed exercises cover credit risk** for banks, and survey respondents also frequently noted that they cover market risk for insurers



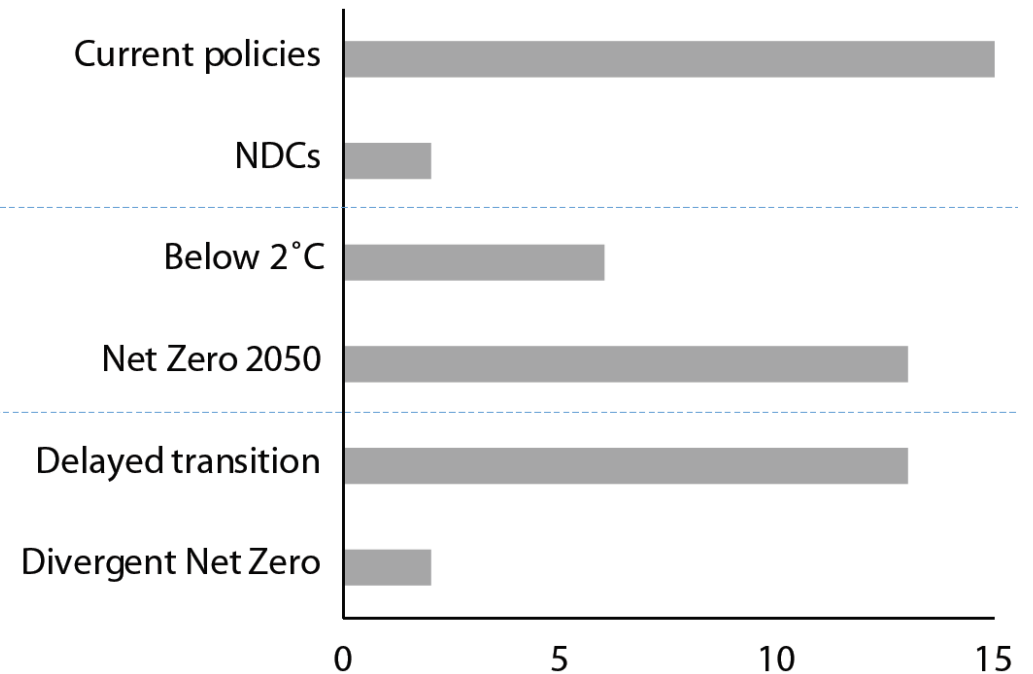
The NGFS scenarios are a foundational component

- The NGFS launched its **Phase II scenarios in June 2021**, to facilitate the uptake of climate scenario analysis by the financial community
- The NGFS scenarios are already being **used in 22 exercises**, and some members have adapted the scenarios to suit their specific needs

Hot house world

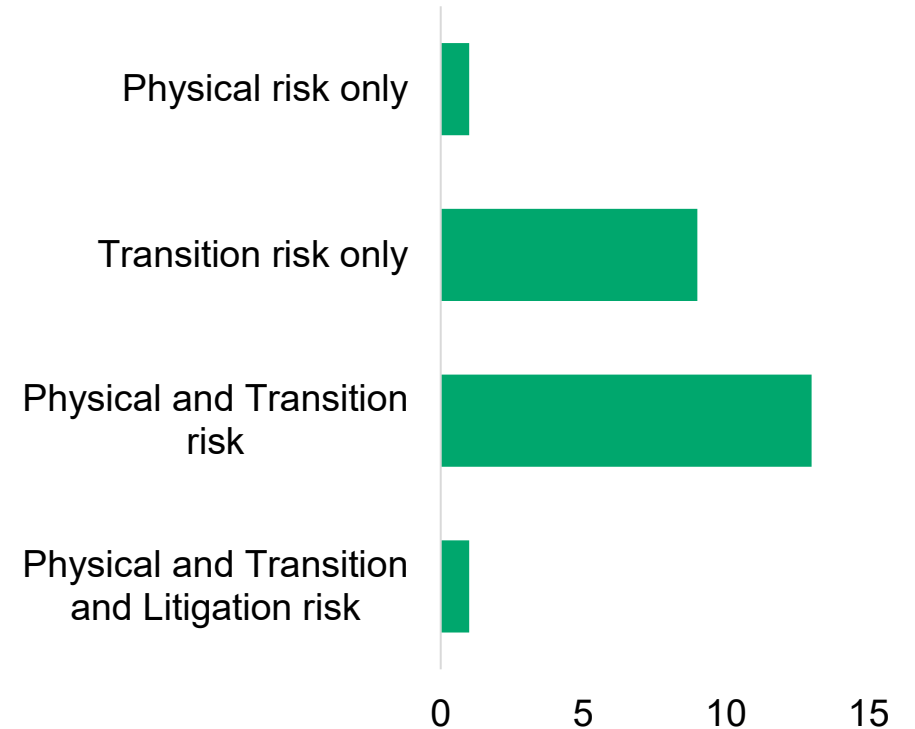
Orderly

Disorderly



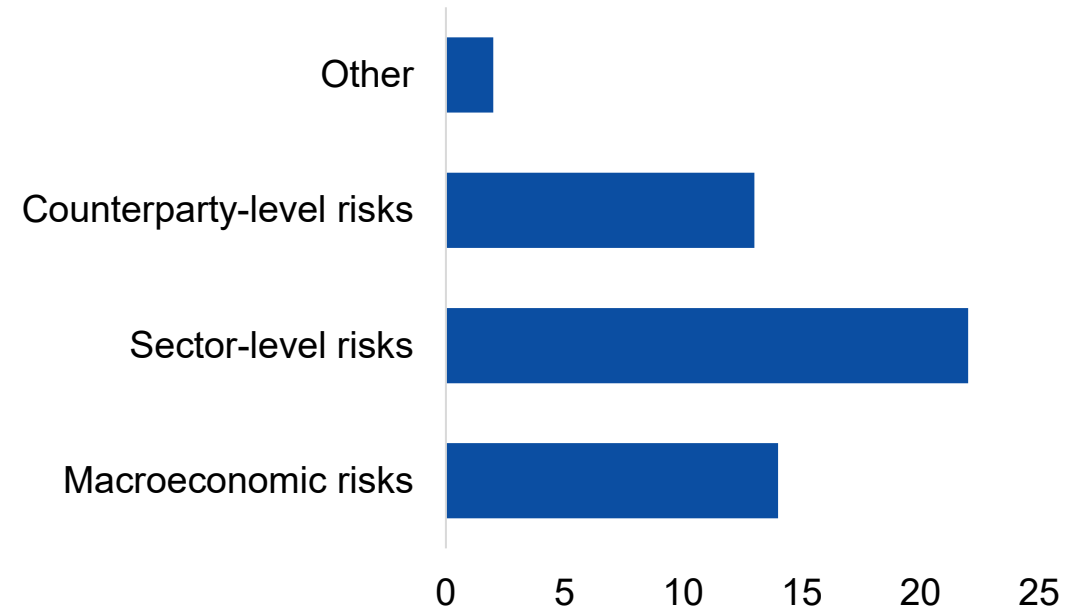
Type of climate risks

- **All but one respondent are capturing transition risk in their exercises**, with around half of respondents focusing on both physical and transition risk
- **Climate litigation risks** are explored by only one member



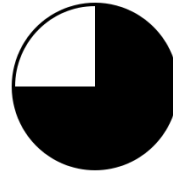
Geographic and sectoral granularity

- Three quarters of survey respondents considered **risks at a sectoral level**, and most of those considered risks at a macroeconomic level as well
- Slightly less than half of respondents **targeted their exercise on all regions** where domiciled financial institutions have material exposures

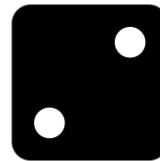


Time horizon and balance sheet assumptions

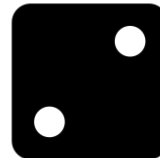
- The majority of survey respondents look at **30-year time horizons**
- Three respondents explored climate risks **up to 80 years** and four respondents adopted time horizons **shorter** than 30 years



Three quarters of survey respondents are using **static balance sheet assumptions**



Two survey respondents adopted a **fully dynamic balance sheet assumption**



Two survey respondents adopted a **hybrid balance sheet assumption**

Data gaps

- Lack of granular and sectoral counterparty-level **emissions data**
- Lack of consistent and comparable **data reporting standards** for counterparties and for financial institutions
- Incomplete **physical risk data**, e.g. missing hazards, countries or regions
- Lack of sufficiently **granular** macrofinancial parameters/ transmission pathways
- **Matching counterparties** to specific sectors from existing definitions



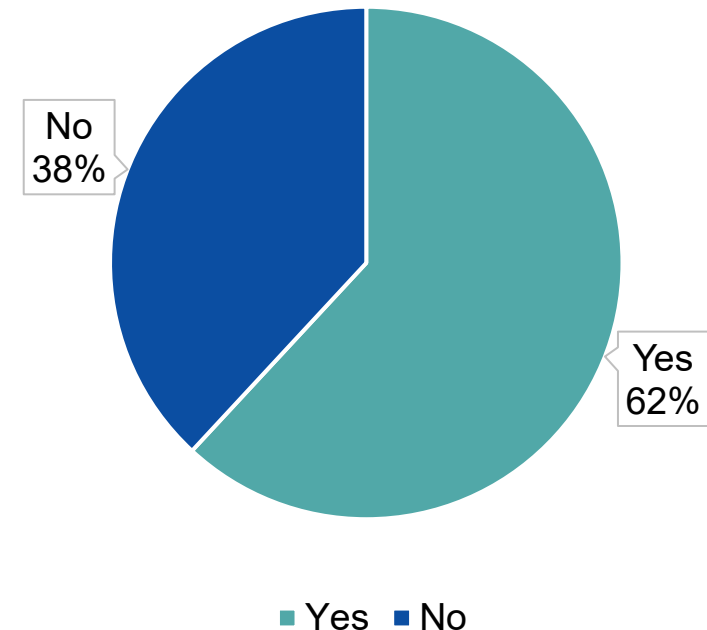
Four deep dives highlighting different approaches

1. Designing macroeconomic paths
2. Constructing sectoral pathways
3. Assumptions about the evolution of financial institutions' balance sheets
4. Conducting macroprudential analysis

Deep dive 1: designing macroeconomic paths

- NGFS scenarios use **macroeconomic model NiGEM**
- Some respondents have **adjusted the outputs** from NiGEM
- **Alternative macroeconomic models** are sometimes used, but still achieve consistency with scenarios

Will you use the downscaled national data provided by the NGFS scenarios?



Deep dive 2: constructing sectoral pathways

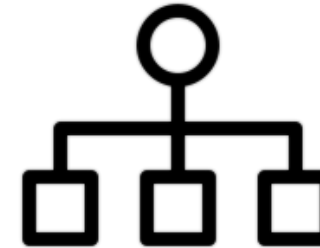
- IAMs used by the NGFS provide a **limited amount** of sector-level data
- **Complementary analytical approaches** to develop sectoral pathways for both physical and transition risk are:



Additional top-down models, e.g. CGE models



Firm-level information from counterparty analyses



Transition and physical vulnerability factors

Deep dive 3: balance sheet assumptions

Static

- Simpler to implement
- Pertain to current business models
- Do not underestimate financial impacts

Dynamic

- Add realism to results
- Shed light on institutions' responses to risks

Hybrid

- Static short term, dynamic long term
- Evolves in line with changes in sectoral composition of economy
- Could be captured qualitatively

Deep dive 4: conducting macroprudential analysis



It is **too early** to make macroprudential decisions...

... which is explained by **data and methodological gaps**



Institutions are currently carrying out exercises that aim at **developing methodologies and assessing various financial stability implications**, and those exercises could inform future macroprudential considerations