Using NGFS scenarios for climate scenario analysis

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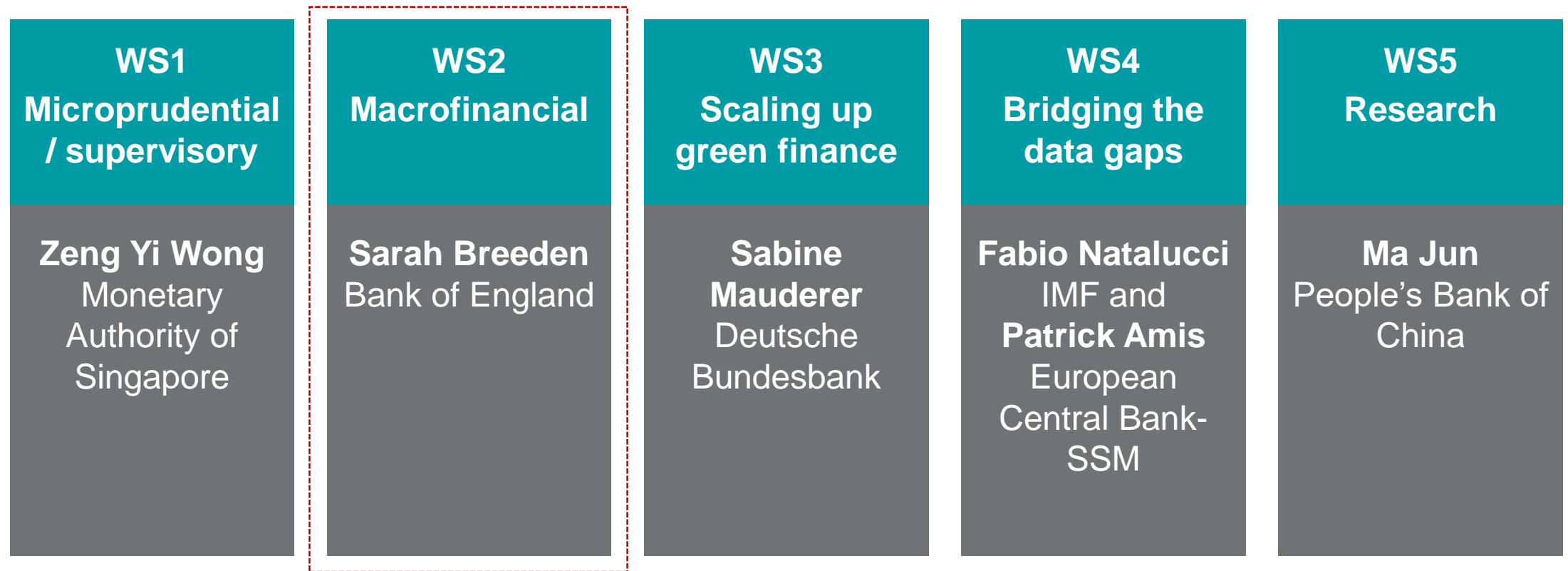
Chair's team, NGFS WS2

About the NGFS

- **84 members and 13 observers** over 5 continents

- **A coalition of the willing**

- **NGFS Chair**: F. Elderson
  (De Nederlandsche Bank)
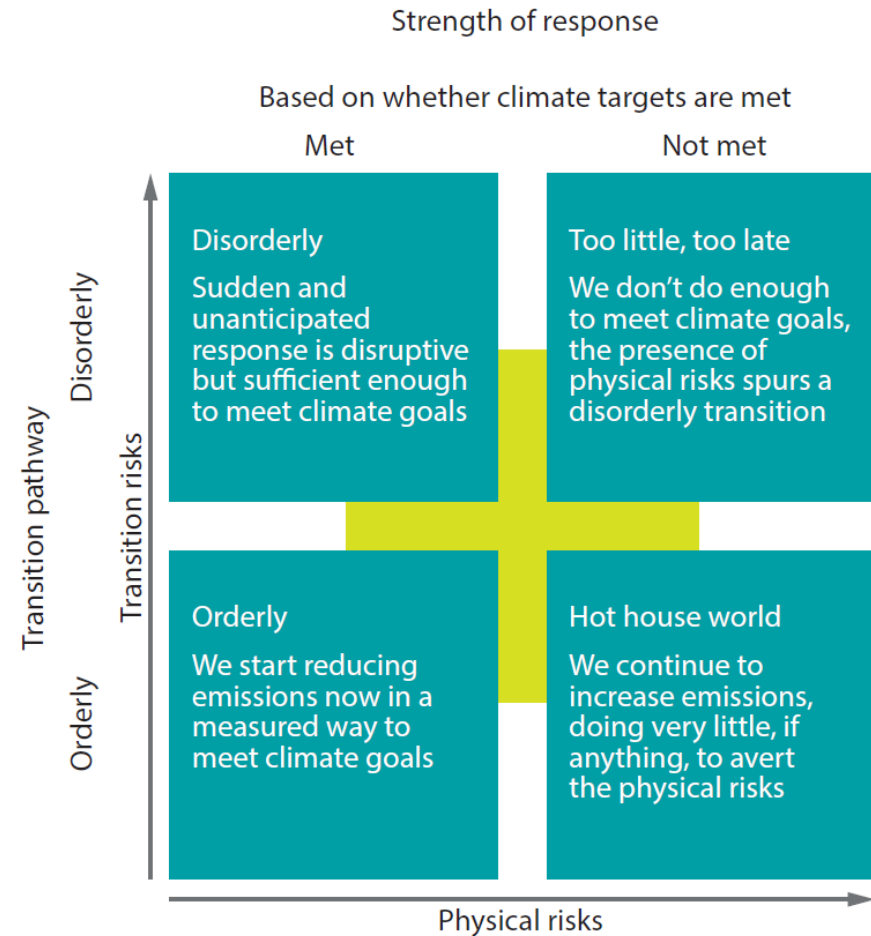- **NGFS Secretariat**: M. Després
  (Banque de France)

Structure of the NGFS

WS1 Microprudential / supervisory	WS2 Macrofinancial	WS3 Scaling up green finance	WS4 Bridging the data gaps	WS5 Research
Zeng Yi Wong Monetary Authority of Singapore	**Sarah Breeden** Bank of England	**Sabine Mauderer** Deutsche Bundesbank	**Fabio Natalucci** IMF and **Patrick Amis** European Central Bank-SSM	**Ma Jun** People's Bank of China

NGFS scenario framework (April 2019)

The NGFS scenario framework structures climate scenarios along two axes:

- Climate outcome
  - E.g. level of warming: 1.5°C, <2°C, >3°C

- Transition pathway
  - Timing, type and strength of policy interventions
  - Innovation in technologies
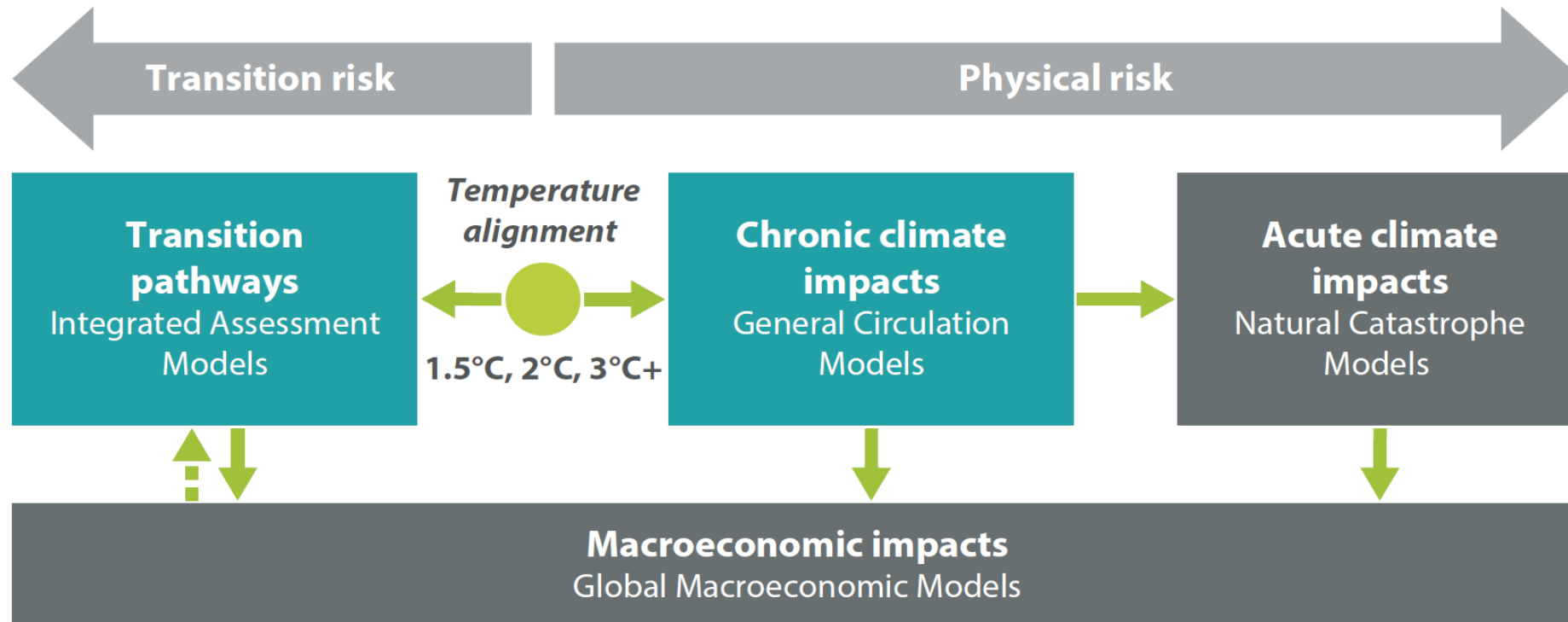 - Changes in consumer and investor preferences

Strength of response

Based on whether climate targets are met

	Met	Not met

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

Transition pathway / Transition risks — Disorderly / Orderly

Physical risks

Source: First NGFS Comprehensive Report
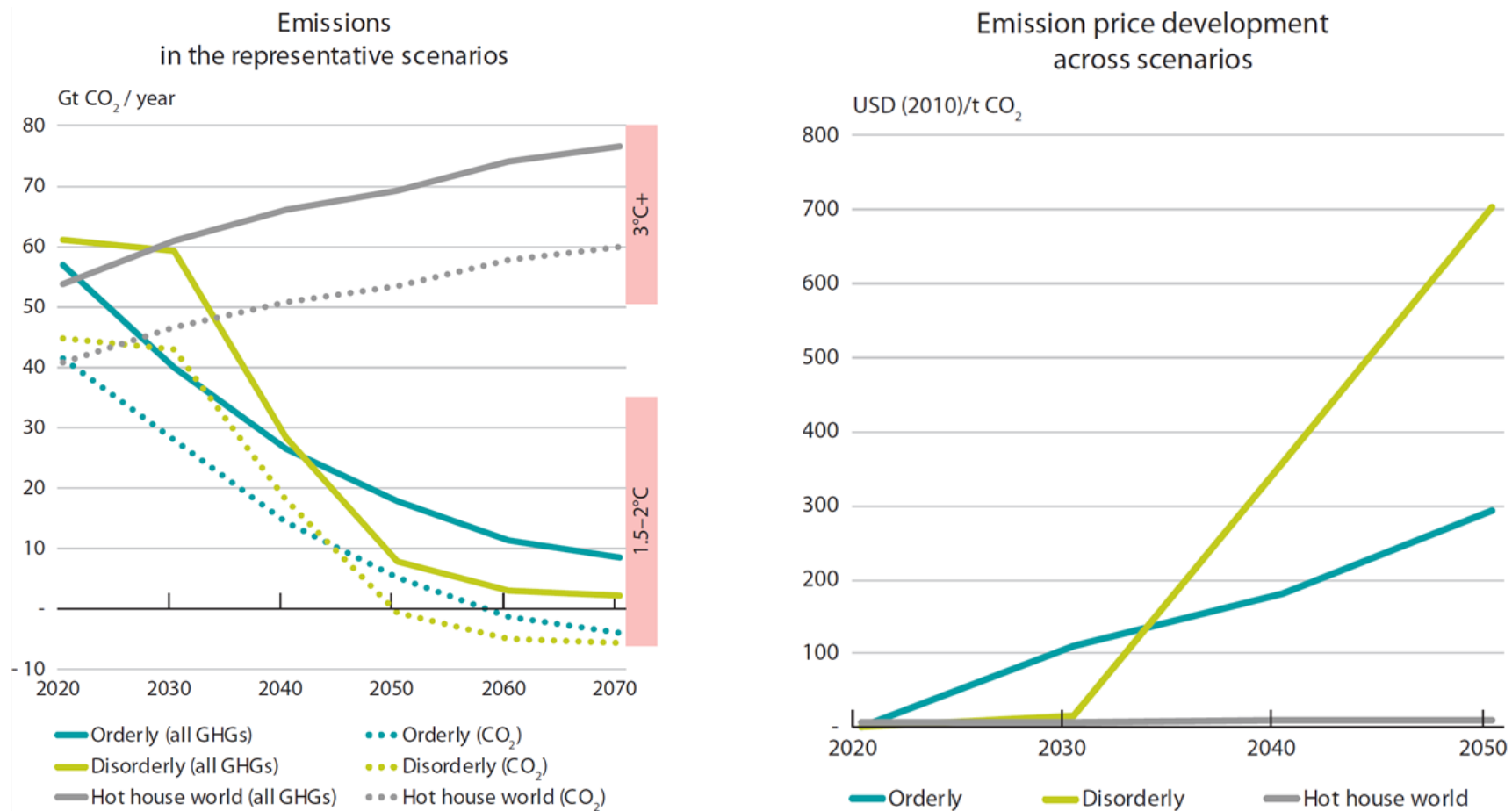
From framework to scenarios

In June 2020 we published a first set of scenarios in line with our framework and in partnership with academic research institutions

NGFS suite of models approach

Source: NGFS climate scenarios for central banks and supervisors
Link: https://www.ngfs.net/en/publications/ngfs-climate-scenarios

The representative scenarios in two charts

Emissions in the representative scenarios (Gt CO₂ / year), 2020–2070, showing Orderly (all GHGs), Orderly (CO₂), Disorderly (all GHGs), Disorderly (CO₂), Hot house world (all GHGs), and Hot house world (CO₂), with 3°C+ and 1.5–2°C bands. Emission price development across scenarios (USD (2010)/t CO₂), 2020–2050, for Orderly, Disorderly, and Hot house world.

Source: NGFS scenario portal

Wider use of the NGFS scenarios & next steps

- The NGFS scenarios can provide a common reference framework for any climate scenario analysis and any forward looking disclosures

- The NGFS will continue to work with a consortium of academic partners to refine and expand the scope of the scenarios and share best practice

- To that end, we welcome engagement from everyone, not just central banks and supervisors

Proposed enhancements
Adding macroeconomic variables
Enhancing geographical resolution
Increasing sectoral granularity
Expanding the set of physical risks
Improving the NGFS scenario database and portal