



EUROPEAN CENTRAL BANK


EUROSYSTEM

Climate scenarios for the short run

Climate Finance in a World of Fundamental Uncertainty

Disclaimer: This presentation should not be reported as representing the views of the European Central Bank (ECB). The views expressed are those of the authors and do not necessarily reflect those of the ECB.

18 January 2024

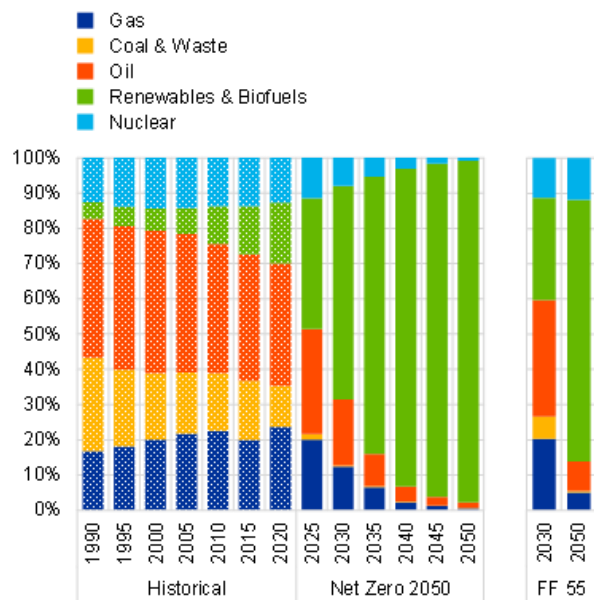


Livio Stracca
ECB Deputy Director General Financial Stability
Chair, NGFS Climate Scenarios

EU transition will require substantial (and uneven) energy adjustment

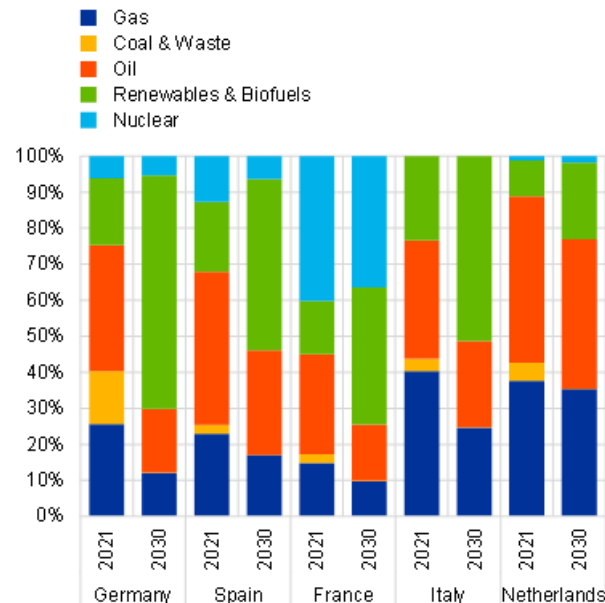
Historical and projected EU energy mix, and energy mix compatible with current renewable energy targets

% of energy mix



Historical and projected energy mix, 5 largest EU countries

% of energy mix



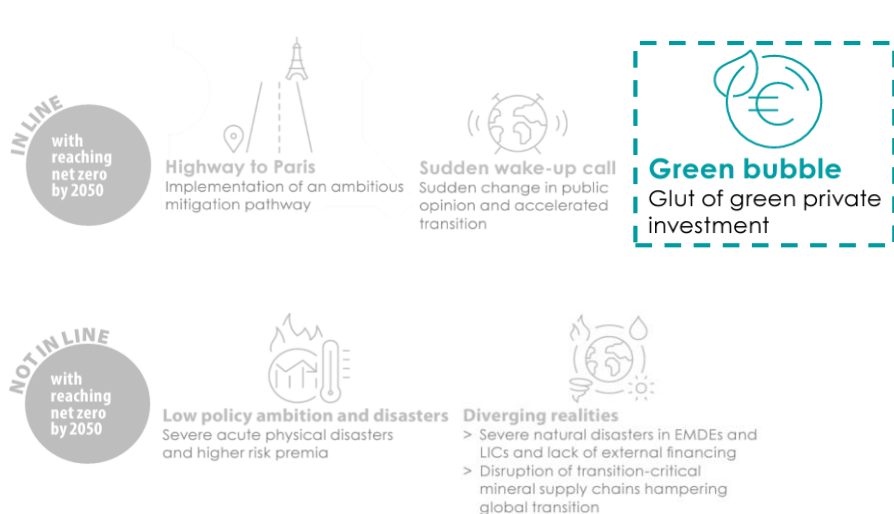
Sources: Eurostat Energy Balances, NGFS Climate Scenarios and JRC Energy Scenarios Interactive Tool.

Notes: Panel (a): Projections based on the "Net Zero 2050" scenario from the NGFS. The energy mix compatible with the EU "fit for 55" package (FF 55) is calculated based on the latest projections elaborated by the European Commission and, in particular, on the EU Reference Scenario 2020. Panel (b): Country-level projections based on the "Net Zero 2050" scenario from the NGFS.

2 The “Green Bubble” short-term scenario

Five scenario narratives:

Combine different levels of **climate mitigation stringency** and **physical risk*** with relevant short-run business cycle shocks.



*Note that there is no trade-off between transition and physical risk in the short-run.

THE GREEN BUBBLE SCENARIO

→ **Boom in green private investment supported by public subsidies and other fiscal measures**

• **Macroeconomic risks at first stemming from ...**

- High inflation
- High credit growth
- Increasing fiscal imbalance

• **... and then from the potential burst of the bubble**

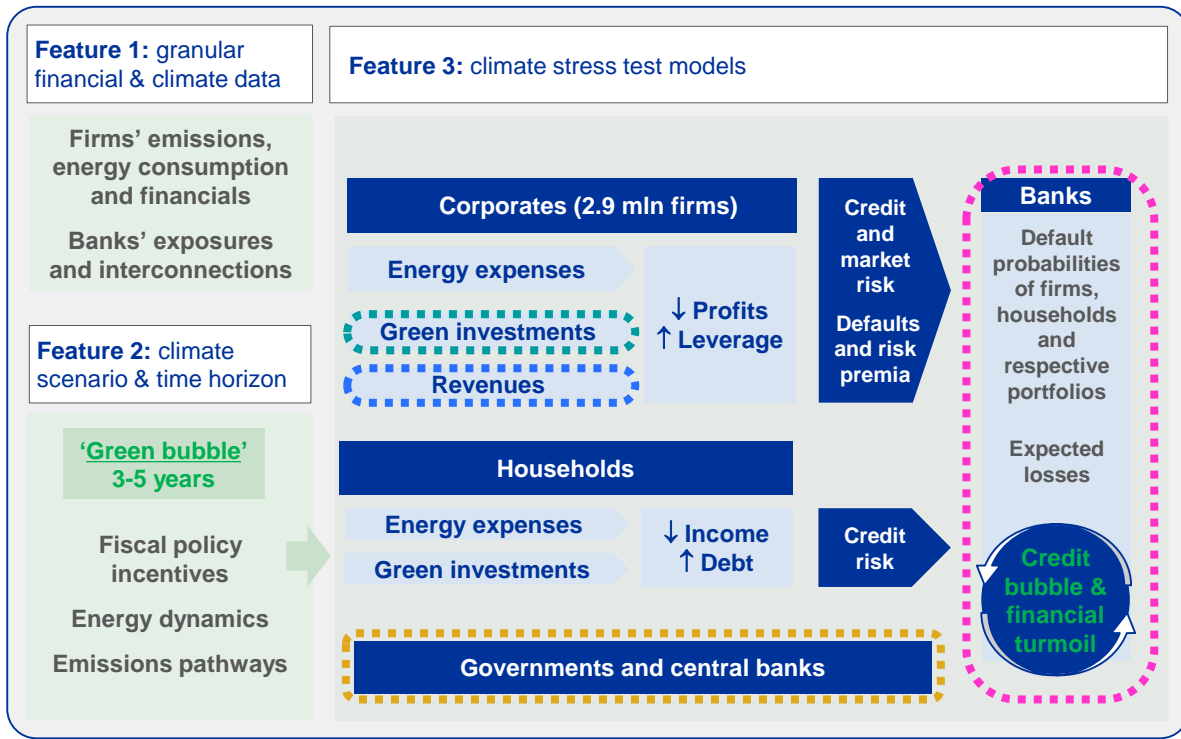
- Private sector defaults
- Increased risk aversion and premia
- Transmission to financial sector & real economy

➔ **Accelerated transition** in line with Paris agreements with **macroeconomic imbalance**

➔ **Financial stability** and macro-economic risks

3 The “Green Bubble” scenario in a climate stress test

The three features of climate stress testing:



Challenges in translating Green Bubble into a climate stress test:

- Modelling green private investment and its allocation
- Accounting for transition-driven revenues dynamics
- Network effects & financial contagion
- Integrating government sector and central banks' role

Source: ECB, adaptation of the modelling framework described in the [The Road to Paris: stress testing the transition towards a net-zero economy](#), ECB Occasional Paper Series, September 2023.

- Green transition may (need not) be inflationary
 - Del Negro et al (2023) – depends on the share of sticky prices in the “dirty” and “green” sectors
- May create a policy trade-off
- Positive question: how likely is it?
 - Tracking the green transition in real time
- Normative question: should central banks “cooperate” with climate policies?
 - Not under current mandates, but they may support in other ways