Policy brief - October 2025

Leveraging central bank communication to foster sustainable finance

This policy brief has been written by
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Summary

- An estimated US$4.5 trillion in annual investment is needed to meet the Paris Agreement targets and reduce the possibility of a significant drop in global GDP caused by unmitigated climate change.
- Central banks can play a crucial role in addressing this challenge by incorporating climate-related considerations into their frameworks, including strategic communication. Subject to legal requirements, central banks may also assume a catalytic role in promoting sustainable development.
- Cross-country evidence suggests that more active messaging from central banks about climate change considerations is positively associated with green bond issuance at the firm level. Green bonds and similar instruments can help channel funding to renewable energy, clean transport and other environmental projects.
- Overall, analysis of central bank speeches suggests that these communications can serve as a soft tool to bridge the financing gap for a low-carbon economy. By clearly communicating climate-related risks and policies, central banks could reduce uncertainty around their actions, foster confidence among investors and firms, and align market behaviour with long-term sustainability goals, ultimately supporting their objectives such as price and financial stability.

Recommendations – central banks could:

- Integrate discussion of climate risks and policies into their regular communications wherever relevant, such as monetary policy statements, speeches and reports, to guide market behaviour and foster confidence in sustainable finance.
- Collaborate with international organisations to standardise taxonomies and verification mechanisms, ensuring credibility and addressing greenwashing.
- Regularly report on progress made on climate-related initiatives to strengthen credibility, address concerns about mandate overreach, and strengthen stakeholder trust.

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Green bonds, the low-carbon transition and central bank communication

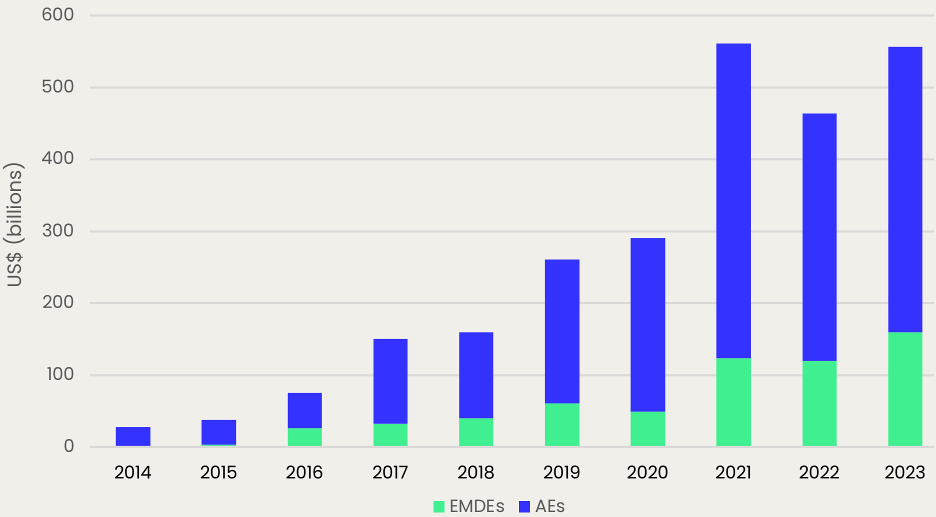
Climate change poses urgent physical and transition risks to economies and financial systems. Natural disasters disrupt production and infrastructure, while shifts towards a low-carbon economy create costs and uncertainty. These risks threaten economic stability and could reduce global GDP by 15% by 2050 under current policies (Network for Greening the Financial System [NGFS], 2024).

To mitigate these risks and align with the Paris Agreement's goal of limiting global warming to below 2°C, an estimated US$4.5 trillion in annual investments is required (International Energy Agency [IEA], 2023). This financing must support mitigation efforts, such as reducing greenhouse gas emissions, and adaptation measures, including enhancing resilience to climate impacts. Achieving this green transition will require mobilising resources from both the public and private sectors.

Green bonds have emerged as a key financial instrument in this effort. The market has experienced rapid growth over the last decade, surpassing US$2.5 trillion in cumulative issuance by 2023, reflecting increasing investor demand for instruments that align financial flows with sustainability goals (see Figure 1). These fixed-income securities are specifically designed to fund environmentally beneficial projects, contributing to the transition towards a low-carbon, climate-resilient economy.

Photo: Jeffrey Hemsworth, Unsplash

Figure 1. Green bond issuance in emerging and advanced economies, 2014–2023



Note: EMDEs = emerging market and developing economies. AEs = advanced economies.
Source: Climate Bonds Initiative

A credible green bond market relies on clear standards and transparency. The ICMA Green Bond Principles (GBP) and the Climate Bonds Initiative (CBI) certification are the main frameworks. The GBP set guidelines on use of proceeds, project evaluation and impact reporting to ensure green bonds finance verifiable and impactful projects for mitigation and adaptation purposes.[1] CBI adds third-party verification, providing an additional layer of assurance for investors. Regulatory initiatives such as the EU Green Bond Standard build on these to combat greenwashing and enhance market credibility by aligning investments with the EU Taxonomy.[2]

This policy brief explores the role of communication by central banks as they facilitate the operation of green bond markets. It analyses whether the integration of climate considerations into central banks' communication strategies has had an effect on market behaviour.

The role of central banks in supporting sustainable finance

Addressing climate change requires the involvement of a diverse range of stakeholders, with governments setting policy frameworks to meet commitments like the Paris Agreement targets. Yet climate change also challenges central banks' traditional mandates (NGFS, 2019). On price stability, more frequent and severe climate events disrupt supply chains, raise energy and food prices, and generate inflationary pressures and greater price volatility that complicate monetary policy. Transition policies introduce additional uncertainty and volatility. On financial stability, physical risks can erode collateral and disrupt financial flows, while transition risks (such as stranded assets) may undermine the solvency of financial institutions and restrict credit supply.

To address climate-related challenges within their mandates, central banks are adapting their frameworks to integrate climate considerations. Approaches vary across countries: more than half of central banks have either an explicit sustainability mandate or an implicit one, supporting government priorities that include sustainability goals (Dikau and Volz, 2021).[3]

To achieve these objectives, central bank actions could generally fall into four areas:[4]

1. **Data and analysis:** Building models to assess climate risks for inflation, growth and policy transmission.
2. **Financial stability and supervision:** Conducting climate stress tests and requiring banks to manage related risks.
3. **Monetary policy:** Adjusting collateral frameworks and increasing disclosure requirements to incentivise the use of green assets, progressively decarbonising their bond portfolios and integrating sustainability criteria into monetary policy instruments.
4. **Internal practices:** Reducing institutional carbon footprints and aligning investments with sustainability goals.

These actions underscore central banks' expanding role in tackling climate risks and driving sustainable finance for the green transition.

"More than half of central banks have either an explicit sustainability mandate or an implicit one, supporting government priorities that include sustainability goals."

[1] The eligible Green Project categories under the Green Bond Principles include:
(i) renewable energy;
(ii) energy efficiency;
(iii) pollution prevention and control;
(iv) environmentally sustainable management of living natural resources and land use;
(v) terrestrial and aquatic biodiversity conservation;
(vi) clean transport;
(vii) sustainable water and wastewater management;
(viii) climate change adaptation;
(ix) circular economy projects; and
(x) green buildings. For further details, see ICMA (2021: 4–5).

[2] For further information on green bonds see Muñoz and Smoleńska (2023).

[3] An example of an explicit mandate is the environmental sustainability-related mandate of the Hungarian central bank (MNB) (see Act CXXXIX of 2013 and the Green Monetary Policy Toolkit Strategy).

[4] For a detailed discussion of instruments central banks can deploy to foster climate policies and resilience, see Dikau et al. (2020).

Communication as a strategic tool

Within this expanded toolbox (or set of actions), communication has emerged as an additional channel, gradually integrating climate considerations in line with their growing importance for central bank strategies. The literature has extensively explored how central bank communication influences macroeconomic dynamics and economic behaviour.[5] Recently, a growing body of research has studied climate-related communication by central banks speeches (see e.g. Arseneau et al., 2022; Campiglio et al., 2025 and Dietsch et al., 2022). By clearly acknowledging the risks of climate change for the economy and signalling their commitments and policies, central banks can shape market expectations and reduce uncertainty, effectively influencing financial and corporate decisions.[6]

Central bank speeches are a flexible and timely mechanism to reach broad audiences, shape expectations and improve understanding of economic policies (Blinder et al., 2008). When addressing climate risks, such communication can boost investor confidence and lower the perceived risk of sustainable investments by reinforcing predictable policy environments. Central banks might contribute to this by signalling their commitment or support for climate-related policies (Campiglio et al., 2025). This approach can enhance market certainty, channel capital towards the energy transition and reduce information asymmetries, supporting central banks in managing climate-related systemic risks while meeting their stability mandates.

Photo: Miguel Henriques, Unsplash

Analysis: central bank communication and green bond issuance

We carried out an empirical examination of how climate-focused messaging from central banks embedded in speeches influences corporate financial decisions, particularly green bond issuance (drawing on Conesa Martinez, 2025). To capture the extent and nature of climate-related communication, we developed a Central Bank Climate Communication Index (CBCCI) using Natural Language Processing techniques applied to central bank speeches from the Bank of International Settlements (BIS) repository for more than 100 countries between 1997 and 2023.[7] The CBCCI leverages a climate-specific dictionary based on Arseneau et al. (2022) to systematically track trends across time and countries. Two indices complement this analysis. The intensive index measures the proportion of climate-related phrases within each speech, reflecting the depth of discourse, while the extensive index tracks the proportion of speeches that mention a climate-related term from the dictionary, capturing the frequency of communication.

Figure 2 highlights key trends in climate-related communication. Panel A illustrates how such communication has increased over recent years, peaking in 2021, with both indices showing upward trends until that point. While the intensive index reflects relatively low levels of climate-related content within individual speeches, the extensive index shows that up to approximately 45% of speeches in certain periods mention climate-related topics, underscoring the growing importance of these issues for central banks.

[5] Many of the studies focus on how central bank communication, particularly around monetary policy decisions, influences monetary policy transmission and financial market behaviour (e.g. Blinder et al., 2008; Gürkaynak et al., 2005; Gorodnichenko et al., 2023).

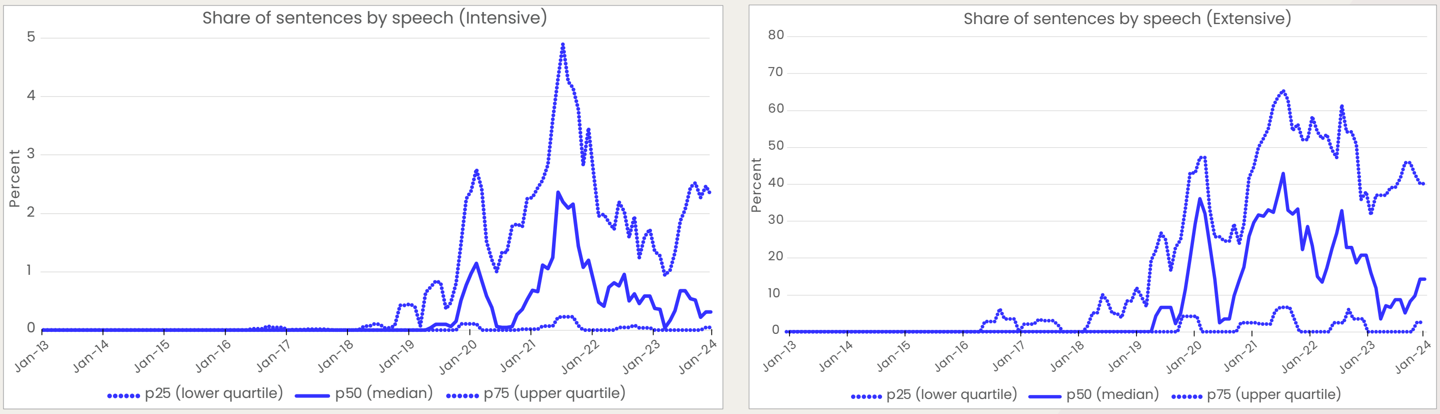
[6] Campiglio et al. (2025) find that central bank communication with a stronger focus on climate-related topics affects market expectations and valuations, with greener firms experiencing higher returns when climate-related issues are more prominently emphasised in central bank speeches.

[7] The BIS maintains a database of central bank speeches in English, compiled from official central bank websites, available at www.bis.org/cbspeeches/

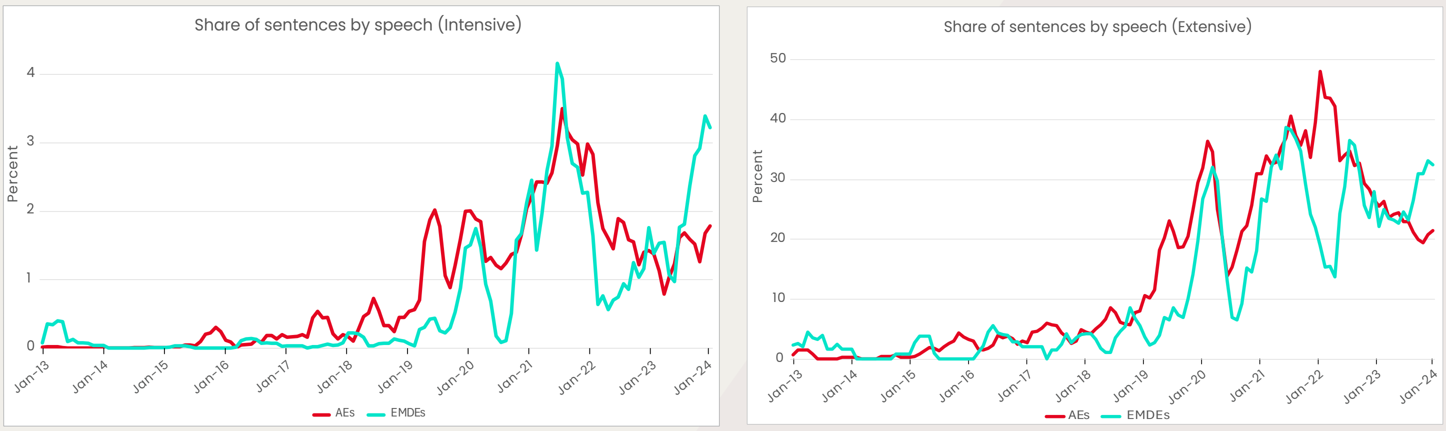
Additionally, there is considerable variation in communication practices across countries. Panel B of Figure 2 reveals that while advanced and emerging economies have exhibited similar climate communication patterns historically, divergence has emerged in the most recent period analysed. This divergence likely reflects differing priorities: in advanced economies, central banks might have to move their focus towards controlling inflation in services and addressing the consequences of emerging challenges, such as geopolitical tensions and artificial intelligence, potentially shifting attention away from climate issues. In contrast, in emerging economies, the strong influence of food prices and the heightened vulnerability of inflation to climate change has maintained the relevance of climate-related communication, with central banks, often operating under broader mandates, continuing to play an active role in sustainability and green policies.

Figure 2. Key trends in climate-related communication from the Central Bank Climate Communication Index: intensive (depth of discourse) and extensive (frequency of communication)

Panel A



Panel B



Note: In Panel A, the solid line shows the median, while dashed lines indicate the 25th and 75th percentiles across countries.

The intensive index measures the proportion of climate-related phrases within each speech and the extensive index tracks the proportion of speeches that mention a climate-related term from the dictionary. CBCCI indices are smoothed using a four-month moving average. The sample includes 102 countries at monthly frequency from 2013 to 2020. AEs = advanced economies; EMDEs = emerging market and developing economies.

Source: BIS Repository and author's elaboration

The results of a further exploration of the relationship between the CBCCI and green bond issuance at the firm level[8] suggest that firms are more likely to issue a higher proportion of green bonds when central bank climate-related communication increases. This communication could shape market expectations and reduce uncertainty, thereby influencing financial decisions.

The effect is particularly pronounced for certain types of firms:[9]

- **Commercial banks**, which are directly supervised by central banks and thus more attuned to their communication, reflecting the special institutional relationship at the core of the macrofinancial regime. Green bond issuance allows these banks to align with regulatory expectations, improve their reputational standing and potentially access capital at lower costs. Evidence from Morse and Sastry (2024) supports this view, showing that financial institutions actively adjust their portfolios in anticipation of climate-related regulatory shifts. As key financial intermediaries in the economy, these commercial banks can utilise the proceeds from green bonds to finance a broad spectrum of sustainable initiatives, such as renewable energy installations, energy efficiency improvements, and clean transport projects, for households and firms. Notably, commercial banks also play a critical role in providing finance to small and medium-sized enterprises, which represent a substantial share of economic activity, thereby promoting both environmental sustainability and economic growth.
- **Firms that closely monitor central bank communication** also demonstrate greater responsiveness, adjusting their strategies in anticipation of favourable conditions for sustainable investments. This suggests that clear and consistent climate messaging from central banks can influence market expectations and encourage proactive corporate behavior.
- **Firms with higher exposure to climate change** exhibit stronger responses to climate-related communication, leveraging predictable policy environments to secure financing for adaptation and mitigation projects.

Implications and recommendations

The findings suggest that climate-related central bank communication could serve as a soft tool to support green finance by signalling confidence, guiding investment towards low-carbon projects, and potentially shaping corporate strategies in line with sustainability goals, while supporting central bank objectives.

To enhance the impact of this tool and address potential concerns, central banks could:

1. Integrate climate-related risks and policies into regular communication channels, such as monetary policy statements, reports, speeches and research publications, to emphasise their relevance to financial and price stability.

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[8] This analysis uses local projection methods following Jordà (2005) to estimate the dynamic effect of central bank climate communication indices (CBCCI) on the share of green bonds for a panel of issuer firms, using quarterly data from 2000 to 2023. The sample is restricted to 30 countries because of incomplete data for certain covariates.

[9] The 'commercial bank' category is based on the SIC classification. Attentiveness to central bank communication is constructed following the approach in Albrizio et al. (2023), and climate change exposure is measured using the classification in Sautner et al. (2023).

2. Collaborate with other central banks, regulators and international organisations to share best practice and lessons learned and develop shared taxonomies and metrics. Addressing greenwashing through robust verification mechanisms could further enhance credibility and trust.
3. Provide regular updates on climate-related central bank initiatives through established communication frameworks. Transparency reinforces credibility, addresses concerns about overstepping mandates and strengthens stakeholder trust.

Conclusion and next steps

The findings in this policy brief highlight the importance of integrating climate considerations into central bank communication to align financial systems with global sustainability goals. By adopting this approach, central banks can serve as catalysts for collective action, promoting sustainable finance as a means to adapt to and mitigate climate-related challenges. At the same time, such efforts help central banks fulfil their core mandates of price and financial stability by addressing systemic risks and fostering economic resilience.

Looking ahead, future research could delve deeper into the role of climate-related forward guidance in central bank communication, that is, how signals about future central bank policies influence market anticipation and sustainable finance. Another avenue would be to assess the broader effects of central bank climate communication on other market outcomes, such as credit allocation. These efforts could help provide policymakers with actionable insights to further refine and strengthen the role of communication in driving the green transition.

“Future research could delve deeper into the role of climate-related forward guidance in central bank communication.”

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Author's declaration
The author declares no conflict of interest in the writing of this brief. The views in this brief are those of the author and are independent of the Bank of Spain, the Eurosystem and CETEx's funding institutions. All errors and omissions remain the author's own.

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