Climate, nature and monetary policy*

di Christine Lagarde

It is a pleasure to open this conference on climate, nature and monetary policy – the first of its kind at the ECB and one that would have been hard to imagine even a decade ago.

Not because climate risk was unrecognised at the time. The scientific community had long been clear about its seriousness, and the Paris Agreement set a common direction of travel for governments, which carry the primary responsibility for tackling climate change.

Rather, the attention given to what climate change meant for central banks – in research and in policy – was still in its infancy. And where it did exist, it focused primarily on the consequences for financial stability, with landmark interventions as early as 2015.[1]

The implications for monetary policy came into focus more slowly. For instance, it was only in 2018 that an ECB Executive Board member devoted a speech to the topic – and even then, the case made was largely hypothetical, reflecting, in part, the lack of substantive research at the time.[2]

The consequences of nature risks for monetary policy took longer still to enter the policy conversation.

Measured against those early days, the distance covered by researchers and monetary policymakers has been substantial – as this conference's rich agenda shows.

However, the journey of the past decade has also been bittersweet. Global efforts to tackle the climate and nature crises have not progressed nearly as well as many would have hoped.

But this shortfall does not mean our efforts have been in vain. If anything, it sharpens the case for deeper analysis from the research and central banking communities – to better understand the risks that lie ahead, and to distinguish the signals of science from the noise of politics.

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A decade of progress

If we look back on recent years, a virtuous circle has emerged between advances in knowledge and the institutional architecture that some central banks have built around it.

Deeper understanding has made the case for, and led to the establishment of, that architecture. And that architecture has in turn created fertile ground for new knowledge to grow. This has enabled researchers and monetary policymakers, collectively, to become better at what they do.

Take our advances in knowledge first. Our grasp of how climate change shapes the macroeconomic environment in which monetary policy operates has now grown considerably – though it remains far from complete.

Extreme weather events offer a good illustration of this. We now have a greater appreciation that they can hit different parts of the economy differently – and the net impact on medium-term inflation is not always clear in advance.

A weather event that disrupts agricultural production can put upward pressure on food prices. Last summer's heatwave, for example, is estimated to have added up to 0.7 percentage points to unprocessed food prices in the euro area after one year.[3]

But such events can also weigh on output, and probably more persistently so than was once thought. ECB research has found that four years after a drought or flood, regional output remains depressed by around 3 percentage points on average.[4]

And if extreme weather shocks were to hit entire economies, the resulting weakness in activity and incomes could dampen demand – potentially putting downward pressure on headline inflation.

As governments pursue the green transition, central banks have also been able to examine how decarbonisation shapes the macroeconomic environment – including its implications for inflation.

One example of this is the rollout of ETS2, which extends carbon pricing across the EU to buildings and road transport for the first time. The ECB already factors ETS2 into its macroeconomic projections, estimating that it will add around 0.2 percentage points to headline inflation in the euro area in 2028.

This growing body of knowledge has, in turn, provided the foundation for new networks, frameworks and measures.

Some of these networks have blossomed. For example, the Network for Greening the Financial System (NGFS) launched in 2017 with just eight members. It now comprises over 150 central banks and supervisory authorities across 95 countries.[5]

The NGFS itself has become an engine of collective learning. Its climate scenarios, now in their fifth iteration and each more sophisticated than the last, are testament to what pooling minds across so many institutions can produce.

The same story has played out within individual institutions – including the ECB, where the progression has been from recognition to integration.

Our 2021 strategy review was grounded in extensive analysis of how climate change interacts with our price stability mandate.[6]

The outcome of that review was the Eurosystem's commitment to incorporating climate change considerations systematically into our monetary policy and central banking.[7] Last year's strategy assessment extended that commitment to nature.[8]

The roadmap established by the 2021 review was ambitious in scope, spanning stress-testing exercises, risk assessment, corporate bond holdings and the collateral framework. And thanks to the dedicated work of ECB staff across the institution, coordinated by our Climate Change Centre, that roadmap has been substantially delivered upon.

Building on that foundation, our recent climate and nature strategy illustrates how institutional efforts are in turn advancing knowledge and strengthening the symbiotic relationship between researchers and policymakers.

Work on nature-related risks is a case in point. Last month, a collaboration between the ECB, the London School of Economics and the University of Oxford revealed how an extreme episode of water scarcity could put as much as 24% of euro area output at risk.[9]

Cutting through the noise

Findings like these underline the scale of the climate and nature risks we face.

And yet the broader response, from governments and societies as a whole, has fallen short of what the moment demands.

The past decade has thrown up a troubling paradox: every new data point tells us to accelerate the green transition – and yet it is losing pace.

It has been the warmest decade on record. The rate of sea level rise has doubled since satellite measurements began.[10] And scientists now consider it likely that, within the

next five years, the world will breach the 1.5°C limit set out in the Paris Agreement – far sooner than projections suggested in 2015.

But sharper awareness has not been matched by sharper resolve. The green transition has, if anything, lost momentum.

Last year global carbon emissions from fossil fuels hit a record high.[11] And although governments once showed a united resolve in Paris, we now see backtracking in certain jurisdictions.

Part of the reason is that climate change – a phenomenon that strikes regardless of political disposition – has itself become a partisan issue. In recent years, we have even seen debates in Europe about whether the green transition has made the continent more vulnerable in today's geopolitically volatile world by increasing energy bills.

But the status quo is clearly unsustainable. Europe imports roughly 60% of its energy – almost all of it fossil fuels – and today's surging energy prices are a reminder of the cost of that dependency.

Alternative sources of energy offer the clearest path to minimising the trade-offs between Europe's energy policy goals of security, sustainability and affordability.[12]

Indeed, ECB analysis of the current energy shock shows that countries where a higher share of electricity is generated from non-fossil fuel sources, such as Spain and Portugal, have been more insulated from the rise in gas prices.[13]

But how we approach the transition matters too – and getting it right means identifying the most economically efficient pathways, so as to maximise the opportunities for growth and decarbonisation to advance together.

It is precisely in moments like these – when the climate debate grows louder and becomes less clear-eyed – that rigorous work on climate and nature risks by the research and central banking communities matters most.

The world needs the kind of impartial, fact-based analysis that these communities provide – to cut through the noise and help policymakers and citizens alike understand the signals and what is at stake.

That is why a conference such as this one is so welcome. The rich range of topics on the agenda, which a decade ago would have been hard to fill, is itself a measure of how far we have come.

Climate and nature risks are, by their very nature, deeply uncertain – and, in the face of such uncertainty, chance favours the prepared mind, as Louis Pasteur once observed.[14] The research and central banking communities embody that preparation. And there is still much to do.

Thank you.

1. Carney, M. (2015), "Breaking the tragedy of the horizon - climate change and financial stability", speech at Lloyd's of London, 29 September.
2. Cœuré, B. (2018), "Monetary policy and climate change", speech at a conference on "Scaling up Green Finance: The Role of Central Banks", organised by the Network for Greening the Financial System, the Deutsche Bundesbank and the Council on Economic Policies, Berlin, 8 November.
3. Bates, C., Kuik, F., Wieland, E. and Zekaite, Z. (2025), "Inside the food basket: what is behind recent food inflation?", *Economic Bulletin*, ECB, Issue 8.
4. Usman, S., Guzmán, F. and Parker, M. (2025), "Going NUTS: The regional impact of extreme climate events over the medium term", *European Economic Review*, Vol 178, September.
5. See the membership page on the Network for Greening the Financial System's website.
6. For an overview of ECB research regarding the economic consequences of climate change and the green transition, see Lane, P. R. (2026), "Climate change and monetary policy", speech at the ECB climate conference, 5 May.
7. ECB (2021), "An overview of the ECB's monetary policy strategy – 2021"; see also Eurosystem work stream on climate change (2021), "Climate change and monetary policy in the euro area", *Occasional Paper Series*, No 271, ECB, September.
8. ECB (2025), "An overview of the ECB's monetary policy strategy – 2025".
9. Specifically, a drought event with a one-in-a-hundred-year risk of occurring. See Ceglar, A. et al. (2025), "Nature at risk: Implications for the euro area economy and financial stability – Economic and financial risks stemming from degradation of ecosystem services", *Occasional Paper Series*, No 380, ECB.
10. World Meteorological Organization (2025), "WMO report documents spiralling weather and climate impacts", 19 March.
11. Deng, Z. et al. (2026), "Global carbon emissions and decarbonization in 2025", *Nature Reviews: Earth & Environment*, 14 April.
12. As I argued last October. See Lagarde, C. (2025), "Europe's road to renewables", speech at Norges Bank's Climate Conference in Oslo, Norway, 21 October.

13. See Chart 8 in Lane, P. R. (2026), "Climate change and monetary policy", speech at the ECB climate conference, 5 May.
14. Pasteur, L. (1939), "Discours prononcé à Douai, le 7 décembre 1854, à l'occasion de l'installation solennelle de la Faculté des lettres de Douai et de la Faculté des sciences de Lille", in *Œuvres de Pasteur, réunies par Pasteur Vallery-Radot, Tome VII: Mélanges scientifiques et littéraires*.