



# **FROM IDEA(S) TO ACTION: THE WHY, HOW AND WHAT (NOW) OF GREEN CENTRAL BANKING**



## SUMMARY

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The past few years have seen climate change concerns take centre stage in EU politics, culminating in the 2020 Green Deal. Although fiscal policy is at the heart of this discussion, the debate now extends to central banking and monetary policy. While the European Central Bank (ECB) is among the leaders in the field, these concerns resonate beyond Europe. International issue-specific networks of central banks and financial supervisors have driven the debate over the past decade and promote a shared research agenda.

Current concerns are over both the impact of climate change on the economy and vice versa. Despite this, local policy initiatives are highly diverse. Green central banking today mostly involves prudential policies reflecting financial stability concerns while promotional measures in monetary policy are the subject of more extensive debate. How far green central banking and promotional measures in particular are taken up locally depends on the respective legal frameworks and their interpretation – which is conditioned by the wider political context.

The ECB has focused on understanding climate change risks through data construction, collection and new approaches to modelling. It stresses that this research is fundamental to both its financial and price stability mandates and it is working to understand how climate change may alter its ability to steer the economy through established mechanisms such as interest rates. Promotional policies such as green targeted lending have been proposed but have hardly been adopted.

Debate has intensified in the context of post-Covid inflation. The Russian invasion of Ukraine has served as a stark reminder of geopolitically sensitive international dependencies on fossil fuel supplies and it has led to renewed calls to accelerate the energy transition. Yet stakeholders are split on the policy implications for green central banking. While some view the recent bout of inflation as evidence that the ECB has strayed from its price stability mandate, others see it as a signal to broaden its scope to deliver on its mandate.



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## INTRODUCTION

Central banks have been ‘on the rise’, particularly in the wake of the 2008 financial crisis. Described by some as the ‘only game in town’, they have taken on an ever more dominant role in macroeconomic governance. The European Central Bank (ECB) is a stark example of this trend given the Eurozone’s unique architecture that lacks an equally powerful fiscal capacity. While the momentum of the green surge in the 2019 European Parliament (EP) elections and the unveiling of the 2020 European Green Deal has faded somewhat, recent farmer protests and geopolitical instability, have kept green central banking on the ECB’s agenda.

A recent speech by current ECB President Christine Lagarde on how central climate concerns are to the ECB’s work, as well as on the action taken, shows how far we have come since the initial diagnosis of the problem and the call to action proposed by Mark Carney roughly a decade ago. In 2015, the then the Bank of England Governor, famously coined the ‘tragedy of the horizon.’ Referencing the influential tragedy of the commons, he succinctly pointed out how inadequate existing governance arrangements were for addressing climate change. Whereas in the tragedy of the commons, actors are driven by personal gain to exhaust common resources to the detriment of all, the tragedy of the horizon highlights a similarly destructive dynamic caused by a misalignment of policy time horizons.

Climate change effects and climate change mitigation were both viewed as long-term and hence outside the (central banks’) medium-term policy horizon, defined as two to three years in the future. Carney stressed that the associated risks to financial stability nevertheless called for central banks to thoroughly consider the risks from climate change. Today, these so-called prudential (i.e. showing careful good judgement) considerations are part-and-parcel of green central banking and are being widely implemented. This consensus, however, does not extend to promotional measures which have evolved to become the new frontier of green central banking and constitute interventionist measures that are commonly viewed as part of the fiscal policy domain.

This CEPS Explainer gives an overview of green central banking’s evolution and its status quo, focusing on the ECB. It outlines why central banks have started to consider climate change, before diving into how the ECB has conceptualised its impact on central banking, what it has done thus far and what we may (or may not) expect to see from it in the near future.

## THE 'WHY' – THE EMERGENCE OF GREEN CENTRAL BANKING

The proliferation of green central banking is uneven and predominantly conditioned by two factors – the work of international, technocratic networks and local political contexts that shape how respective legal mandates are interpreted.

In 2017, the Network of Central Banks and Supervisors for Greening the Financial System (NGFS) was founded to build and promote a network of policy expertise that could circumvent and partially compensate for the incoming US president-elect Donald Trump, who was strongly opposed to the freshly-signed 2015 Paris Agreement that committed the world's nations to strive for a maximum global warming of 1.5 degrees Celsius.

Through initiatives such as the NGFS and the G20 Task Force on Climate-related Financial Disclosures, financial supervisors and central bankers promote dedicated research and try to align policy responses due to the possibility of spillover risks. How far the resulting outputs have been transposed into local contexts reflects the general political consensus on climate change matters rather than just legal differences.

While most central banks today are independent, they are not disembodied from society. Central bank independence is in fact a highly nuanced and complex concept that goes well beyond its de jure definition of financial, personal and political independence, and relies on the interplay of many different levers.

The ECB's mandate of price stability is, for example, not as narrow as sometimes perceived in the public eye as it enjoys both target and operational independence. This means that while it should strive for price stability, it's up to the ECB to determine the adequate level of inflation, and it's free to choose the policy instruments it considers necessary to achieve this. Central banks then have a certain degree of leeway but pay close attention to how their work is received. Research<sup>1</sup> points to reputational concerns to explain a variation in central banks' climate change action, with more action being taken in countries where there is a broader consensus on the need for climate change action across all policy areas.

Equally conscious of the adaptability of their mandates and reputational threats, central banks are actively trying to shape narratives. The ECB has, for example, decisively tied climate change action into its primary mandate of price stability to ward off criticism of political influence and institutional overreach. Collaboration with external actors often furthers this process, including coalition-building between pro-climate central bankers

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<sup>1</sup> Blondeel, M., Van Doorslaer, H. and Vermeiren, M. (2024), '[Walking a thin line: a reputational account of green central banking](#)', *Environmental Politics*, Vol. 33, No. 5, pp.917-945.; Jabko, N. and Kupzok, N. (2024), '[The Crossover between Climate Politics and Central Banking: How Green Central Banking Emerged in the US, the EU, and the UK](#)', *Politics & Society*, Vol. 52, No. 4, pp. 662-690.

and MEPs and support from academic economists following the introduction of macroprudential mandates in the wake of the 2007-2009 financial crisis.

Varied political contexts partly explain why, in spite of extensive international collaboration, policy evaluation processes, such as the green central banking scorecard (which evaluates all G20 central banks on their range of green policies and initiatives), still highlight significant differences in central banks' scope of action. While the Bank of England and the ECB, spurred on by the Banque de France and De Nederlandsche Bank in particular, feature high in the ranking, the US Federal Reserve is a laggard in sixteenth place. The ECB itself featured climate change prominently in its 2020/21 Strategy Review under the Climate and Nature Plan that led to the establishment of the Climate Change Centre.

## THE 'HOW' – THE IMPACT OF CLIMATE CHANGE ON CENTRAL BANKING

Not long after Carney's landmark speech, the urgency of the climate crisis grew in the public sphere, propelled forward by social movements such as Fridays for Future and Extinction Rebellion, and culminating perhaps in [the Greens surging in the 2019 EP elections](#). While this momentum seems to have fizzled out, the impact of climate change nevertheless appears closer to home, in the form of physical risks such as [natural disasters](#) and through the impact of policy innovations such as [carbon taxation](#). Geopolitical risks add to this urgency by exposing the fragility of international fossil fuel supply chains.

Carney's 2015 speech is emblematic of green central banking's initial focus on the [financial stability implications](#) of climate change. Important considerations here are, for example, insolvencies in the insurance sector due to a higher number of claims as well as the sudden devaluation of asset values (e.g. [stranded assets](#)). With the accelerating climate crisis, [policy debates have expanded](#) beyond these – by now widely acknowledged – financial stability concerns to include central banks' core mandate of price stability.

## THE IMPACT OF CLIMATE CHANGE (POLICY) ON INFLATION TRENDS

In a [2022 speech](#), the ECB's Executive Board Member Isabel Schnabel outlined the various ways in which transitioning to a more sustainable economy is accompanied by what she terms a 'new age of energy inflation', marked by the 'three distinct but interrelated shocks' of 'climateflation', 'fossilflation', and 'greenflation', which 'can be expected to lead to a prolonged period of upside pressure on inflation.'

The concept of [climateflation](#) overlaps with physical risks. Extreme weather events can result in sudden demand and supply reversals that impact price stability, such as through the destruction of productive capacity or product stock, or forced migration accompanied

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by wage effects. While Schnabel didn't mention this in her speech, physical risks can also be more slow-burning, such as the increase of average temperatures. Given how gradual these changes are, we can expect mitigation and/or adaptation strategies to emerge and see structural shifts in demand and supply that reduce sudden impacts on price stability.

Alas, with high uncertainty regarding the timeline and extent of these changes, their impact is hard to predict. Schnabel's fossilflation and greenflation both fall into the transition risk category. While fossilflation considers the inflationary impact of policy measures (such as carbon taxes) in an economic system that still heavily relies on fossil fuels, greenflation highlights changing demand patterns over the course of an economic transition that comes with the increased consumption of several key metals and minerals, equally resulting in price increases.

From a strictly legal perspective, the above reasoning squarely puts taking action on climate change within the ECB's primary mandate for price stability as set out in [Article 127 TFEU](#). On a more general level [the ECB, however, also references](#) its secondary objective of supporting the EU's general economic policies 'without prejudice to the objective of price stability' and 'a view to contributing to the achievement of the objectives of the Union' which are, for example, outlined in so-called 'horizontal' provisions that apply to all EU institutions. An example of this is Article 11 TFEU that calls for integrating environmental protection requirements into all the EU's policies and activities.

## THE IMPACT OF CLIMATE CHANGE ON CENTRAL BANKS' ABILITY TO INTERVENE IN THE ECONOMY

On top of debates over whether climate change action falls within their mandates, central banks are also discussing how far climate change impacts their operational effectiveness and capacity.

When it comes to operational effectiveness, we need to examine how climate change impacts the calibration and transmission of monetary policy. In other words, does climate change alter how quickly the economy reacts to changes in monetary policy and does it make it more difficult for central bankers to determine the right policy stance?

In coining the term '[green swan](#)' events, the Bank for International Settlements (BIS) has summarised the operational challenges central banks face under the spectre of climate change. Actively considering climate change in monetary policy results in additional complexity that is compounded by its non-linearity, unpredictability and the danger of irreversible tipping points. Shocks are not only feared to be of a green-swan type i.e. sudden and extensive but also geographically and socio-politically uneven.

Such a fragmented economic landscape makes it not only more difficult for central banks to adopt a unified, adequate monetary policy stance but also to predict its intended transmission through borrowing and lending dynamics that are slow moving and may fall short in the face of more frequent and unforeseeable climate shocks. This would leave central banks exposed to political attacks and a diminishing of their credibility.

Beyond day-to-day operational efficacy, central banks are more generally concerned with climate change's impact on their policy space i.e. their room for policy action using established policy instruments such as changes in the [deposit facility rate](#) (DFR). While the BIS highlights that green swan scenarios may force central banks to step in as 'climate rescuers of last resort', experts are looking to understand the more long-term effects of climate change on natural rates and hence the DFR as their main policy instrument.

In a nutshell, the [natural or neutral rate](#), widely known as  $r^*$ , is the interest rate level at which the economy operates at potential and inflation is at target.  $R^*$  thus influences a central bank's policy space as it raises or lowers rates relative to its  $R^*$  estimate to accommodate or restrict economic activity.

The neutral rate is driven by long-term trends and its evolution is the subject of a continuous and complex academic and policy debate. While this is thus not a consensus view, [many, if not all](#), economists consider  $r^*$  to have been falling since the 1990s as savings outstrip investments, due to factors such as low productivity growth and ageing populations, a phenomenon that Ben Bernanke termed the '[saving glut](#)'. The net effect –

if any – of climate change on  $r^*$  is similarly a [matter of debate](#) but can be broadly summarised as a disagreement over the relative prevalence of physical vis-à-vis transition risks and associated levels of uncertainty.

Broadly speaking, we may expect a negative net effect of climate change on  $r^*$  in a disorderly climate transition scenario. As physical risks escalate and unpredictability increases due to more and more natural disasters occurring, precautionary savings will outstrip investment. Vice versa, if there's an orderly transition marked by regulatory and policy intervention,  $r^*$  could rise as investment outstrips savings.

## THE 'WHAT' – GREEN CENTRAL BANKING IN ACTION

Most existing policies at the ECB and beyond reflect a prudential logic in seeking to facilitate market completion by quantifying climate risk. This is why the ECB supports research on both climate change's impact on the economy and the [reverse](#), in line with the idea of [double materiality](#) introduced by the European Commission in 2019.

Specifically, one of the focal points within international networks is the construction and collection of comparable and insightful data that can be used to manage a market's transition towards sustainability through tools such as scenario-building, stress testing and (taxonomy-based<sup>2</sup>) risk disclosure more broadly. In line with this, central banks have engaged in different types of [climate risk stress tests](#) (bottom-up vs. top-down as well as institution-focused vs. economy-wide) that assess not only banks' exposure to climate risks but also their progress on conceptualising these within their operational frameworks. A similar initiative is the ECB's research on [experimental indicators on sustainable finance](#).

While these measures are intended to ensure financial markets run smoothly in a decentralised manner, they also support central banks directly by helping to calibrate their policy stance. Central banks have [highlighted the need](#) for such new data and models that more accurately reflect the challenges of climate risk and offer answers on how best to calibrate policy so as to avoid an increase in output-price stability trade-offs.

One of the key concerns is that targeted headline inflation may become excessively volatile due to including energy prices, thus making it inappropriate to target through policy measures with a medium-term impact.

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<sup>2</sup> The [EU Taxonomy Regulation](#) entered into force on 12 July 2020 and consists of a classification framework to assess the environmental sustainability of investments. Unlike the bottom-up ESG indicators, this offers a unified – and thus comparable – assessment framework. The taxonomy has, nevertheless, been heavily criticised. How to define environmentally sustainable investments is controversial as seen by [NGOs' legal challenges](#) to the Commission's decision to include gas.

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The alternative is to shift to targeting core inflation. The [central shortfall of current models](#) that this data would need to be fed into is their finite, medium-term time horizon and insufficient representation of the energy sector. Attempts are being made to reconcile these models with climate economy models which can capture long-term feedback effects but are lacking in their ability to analyse economic relations.

Alongside these [data gathering and modelling efforts](#), the ECB started in October 2022 to tilt its reinvestments in corporate bond holdings towards issuers that have a better climate performance, [decreasing the weighted average](#) carbon intensity of its corporate bond purchases by over 65 %. This addresses previous [criticism](#) of the ECB's [market neutrality](#) principle for [balance sheet composition](#). It's nevertheless important to note that public sector securities constitute most asset purchases.

## CONCLUSIONS – OR, WHAT NOW?

Green central banking has become firmly established through international collaboration with the aim to facilitate a better understanding of climate change risks and potential policy action.

Nevertheless, some observers criticise the existing, predominantly prudential policies as insufficient and only going so far as to tweak a failing system. In their view, by working within existing price stability mandates and focusing on financial risk management, the current measures constitute a market-fixing and de-risking approach [that falls short](#) of the more substantial change required. Instead, these critics demand a greater focus on promotional interventions, most notably the [differentiation of interest rates](#) to lower financing costs for green sustainable investments.

Targeted longer-term refinancing operations (TLTROs) have [become part-and-parcel](#) of the ECB's toolkit in the wake of the 2008 financial crisis to encourage bank lending. The current proposal to introduce so-called green dual rates or green TLTROs to support the energy transition has been taken up by some central banks – such as the [Bank of Japan](#) – but remains controversial in the Eurozone.

Proponents of green TLTROs highlight the capital-intensity of green energy projects that expose these investments to [sharp cost changes](#) due to interest rate increases. Considering this, they judge central banks' indiscriminate use of their interest levers to manage inflation as counterproductive. It impedes, in their view, a transition away from

highly volatile fossil fuels and thus only fights the symptoms rather than the root causes of inflation.

Proposals such as establishing a [European Credit Council](#) to allay fears of the political exposure associated with these measures and outsource [difficult decisions on what counts as a green asset](#) are yet to gain traction. While [Christine Lagarde has considered Green TLTROs](#) and they were featured in the ECB's strategy review, they were not included in the measures adopted.

In the near term, the ECB and the Commission have aligned on primarily pursuing a [green capital markets union](#) to facilitate market-based transition funding. As the broader political debate evolves this may have an impact on central banks' increasingly frequent strategy reviews – with the ECB's next review expected in 2025.

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