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What is monetary policy and why is it relevant for the renewables energy industry?

Our ask: Recognise that ECB rate decisions are not neutral for the energy sector - they structurally favour fossil fuels over renewables and slow the green transition.

KEY POINTS TO RAISE:

- The renewable energy sector is uniquely exposed to interest rates due to its capital intensity (financing costs = ~1/3 of levelised cost of solar/wind, vs. a much smaller share for fossil fuels)
- Fossil fuel companies are significantly less affected by rate hikes than clean energy companies
- Higher rates also constrain government fiscal space for green subsidies and investment
- The ECB's secondary mandate already provides legal grounds to support the green transition

WHAT TO PUSH FOR:

- Greater policymaker awareness of the asymmetric impact of rate decisions on clean vs. fossil energy
- Engagement with ECB accountability processes (e.g. European Parliament hearings)
- ECB to explicitly factor in green transition impacts when setting rates

Introduction

The European Central Bank (ECB) defines monetary policy as the decisions taken by central banks to influence the cost and availability of money in an economy¹. Monetary policy can be utilised to target several policy objectives relating to the functioning of an economy. Primarily, these objectives comprise maintaining price stability (meaning that inflation² is low and stable) and economic stability (reducing extended periods of economic overheating or stagnation/depression)³.

Monetary policy is an often overlooked yet critical component of the tools available to support the green transition. Historically, monetary policy has helped to preserve the status quo, favouring carbon-intensive activities. The implementation of contractionary monetary policy and the resulting interest rate increases can also be very detrimental to the green transition, including the renewable energy industry. This is because such initiatives have up-front capital costs, and are more dependent on debt financing relative to legacy brown sectors. Thus, interest rate increases disproportionately harm the renewable energy industry relative to fossil fuels. However, monetary policy can and should be more supportive of the green transition, through the implementation of green monetary policy. Such policies aim to direct cheaper financing towards green initiatives in support of the green transition. Therefore, an understanding of monetary policy, its governance and implementation in practice, can be a very useful tool for stakeholders in the renewable energy industry.

This policy brief was prepared with the objective of providing stakeholders within the renewable energy industry with a broad overview of monetary policy, and related topics. It introduces monetary policy and its

¹ <https://www.ecb.europa.eu/ecb-and-you/explainers/tell-me/html/what-is-monetary-policy.en.html>

² Changes in the prices of good and services

³ <https://www.imf.org/en/about/factsheets/sheets/2023/monetary-policy-and-central-banking>

implementation in practice, and the interlinkages of monetary policy and climate change. Furthermore, it motivates the relevance of monetary policy to the renewable energy industry, and introduces green monetary policy. The policy brief also includes an annex which provides an overview of other monetary policy related considerations, including information on who is responsible for implementing monetary policy, the role of central banks, an overview of the euro area and the Eurosystem, their history and their governance, and the ECB's 2% inflation target. The practical elements of monetary policy are primarily discussed in the context of the euro area, however it is relevant to a broader audience.

1. What is monetary policy and how is it implemented in practice?

In a free market economy, price levels are influenced by relative changes in supply and demand (amongst other influences⁴). Broadly, monetary policy involves the use of various instruments aimed at adjusting the cost of money, which is primarily inferred via interest rate levels. Interest rates determine the availability and cost of borrowing for households and firms. By influencing financing conditions, monetary policy can further influence economic activity, and in turn affect inflation. Economic theory holds that in the short run, monetary policy primarily impacts economic activity via changes to aggregate demand (total spending on goods and services in an economy during a given period)⁵. This is because in the short run, supply levels are in the most part rigid, with the impact of monetary policy on supply only visible in the medium to longer term.

As interest rates increase, borrowing becomes more expensive for households and firms, reducing aggregate demand as a result of lower consumption and investment. Lower aggregate demand leads to a reduction in economic activity and lower inflationary pressures. Monetary policy aimed at reducing aggregate demand and/or inflationary pressures is referred to as **contractionary monetary policy**.

Conversely, lower interest rates may result in higher aggregate demand, as a result of higher consumption and investment. Higher aggregate demand leads to an increase in economic activity and may lead to higher inflationary pressures. Monetary policy aimed at increasing aggregate demand and/or inflationary pressures is referred to as **expansionary monetary policy**.

A monetary policy authority, typically a central bank, is the institution responsible for managing a nation's or monetary union's⁶ (such as the euro area's) monetary policy. The monetary policy authority in the euro area is the ECB. Its primary objective is to maintain price stability in the euro area, by aiming for 2% inflation over the medium term.

The ECB primarily implements monetary policy by adjusting its policy rates⁷. The Governing Council of the ECB sets three rates:

- **Deposit facility:** The rate on the deposit facility, which banks may use to make overnight deposits with the Eurosystem at a pre-set interest rate.

⁴ These influences can include changes in input costs (such as labour, raw material, land etc.), the level of competition in the market, consumer preferences, government intervention (Policies like taxes, subsidies, minimum wage laws, etc.), changes in macroeconomic conditions (such as the cost of borrowing/capital, expectations of future economic activity, etc.), amongst others.

⁵ Aggregate demand (AD) is calculated using the same formula as Gross Domestic Product (GDP): $AD = \text{Consumption (C)} + \text{Investment (I)} + \text{Government Spending (G)} + \text{Exports (E)} - \text{Imports (I)}$

⁶ A monetary union (or currency union) is a, usually formalised, agreement where two or more economies share a common currency or peg their currencies together, managed by a single monetary policy and central bank.

⁷ <https://www.ecb.europa.eu/mopo/decisions/html/index.en.html>

- **Main refinancing operations:** The interest rate on the main refinancing operations. In these operations banks can borrow funds from the ECB against broad collateral on a weekly basis at a pre-determined interest rate. This rate is set above the deposit facility rate.
- **Marginal lending facility:** The rate on the marginal lending facility, which offers overnight credit to banks against broad collateral at a pre-set interest rate. The rate is set above the main refinancing operations rate.

Since the outbreak of the global financial crisis, the ECB has expanded its set of policy instruments. This has allowed it to influence financing conditions faced by people and companies in difficult times when the malfunctioning of the financial system damaged the transmission mechanism of monetary policy. During these periods, short-term interest rates approached their “effective lower bound”, i.e. the level below which lowering them would no longer increase the level of economic activity. To ensure price stability amid these challenges, the ECB has adopted its toolbox to incorporate new tools, including:

- offering banks as many central bank loans as they need, against collateral, at a fixed interest rate;
- setting negative interest rates, which encourage banks to lend at low rates so that people and businesses can borrow cheaply;
- offering long-term loans to banks, including loans at very favourable rates, conditional on the amount of lending banks provide to people and businesses (targeted longer-term refinancing operations – TLTROs);
- purchasing private and public financial assets;
- providing “forward guidance”, where the ECB outlines its intentions for future monetary policy.

These decisions affect the economy in general and also price levels. They are transmitted by affecting various factors, such as banks and money-market interest rates, expectations, asset prices, savings and investment decisions, the supply of credit (including bank loans), and aggregate demand and prices⁸.

2. What are the interlinkages between monetary policy and climate change?

It is important to note that there are extensive interlinkages between monetary policy and climate change, which are summarised briefly below. The topic is discussed in more extensive detail in the policy brief in this series focused on green monetary policy.

Monetary policy can have and has had an impact on climate change. Historically monetary policy has historically favored maintaining the status quo of high polluting activities, through the principle of “market neutrality”. Under this principle, the ECB purchases corporate bonds and accepts financial assets as collateral in proportion to their distribution in the market. Since carbon-heavy sectors issue a large share of corporate bonds, this principle ends up disproportionately favoring polluting industries, exacerbating environmental damage.

Furthermore, the implementation of monetary policy also impacts the green transition through other mechanisms. On the one hand, expansionary monetary policy can result in an increase in economic activity, some of which might result in environmental degradation, primarily as a result of higher use of natural resources and fossil fuel energy. In fact, critics of indiscriminate economic growth have increased substantially, as can be seen in the increasing popularity of the degrowth movement⁹.

⁸ <https://www.ecb.europa.eu/mopo/intro/transmission/html/index.en.html>

⁹ <https://degrowth.info/degrowth>

On the other hand, contractionary monetary policy can have a detrimental impact on efforts to implement the green transition. More expensive credit can result in lower available resources for research and development related to cleaner technologies, while reducing the financial feasibility of investments in renewable energy. Furthermore, contractionary monetary policy can limit the capacity of national governments to contribute to the green transition by directing funding towards green investments, including the renewable energy industry.

The challenge described above can be addressed by the implementation of green monetary policy, which utilises monetary policy as a lever to direct resources towards green activities, and away from more environmentally harmful activities. Green monetary policy is briefly discussed in section 5 of this policy brief, and in the policy brief in this series dedicated to [green monetary policy](#).

It is also interesting to highlight that climate change can impact monetary policy, reinforcing the arguments of why addressing climate change is a key objective for monetary policy authorities. Climate change poses extensive risks to monetary policy authorities' ability to achieve price stability and financial stability, and also their ability to fulfill their role as financial regulators. Primarily, climate change can lead to extensive increases in price instability as a result of increases in prices such as food, and from shocks from fossil fuel prices. This can undermine the ability of central banks to maintain price stability, while also increasing systematic risk, threatening financial stability.

3. Why is monetary policy relevant to the renewable energy industry?

As outlined previously, monetary policy involves the use of various instruments aimed at adjusting the cost of money, which is primarily inferred via interest rate levels. Interest rates determine the availability and cost of borrowing for economic actors, including households, firms and governments. By influencing financing conditions, monetary policy can further influence economic activity, and in turn affect inflation. Monetary policy can also influence exchange rate movements. These dynamics impact the general economic conditions in which the renewable energy industry operates, impacting various factors such as input costs and demand for goods produced by the industry.

Higher cost of borrowing can also constrain governments' abilities to support green initiatives such as the renewable energy industry, for example limiting the ability of governments to provide subsidies to consumers or directly to suppliers. Higher cost of borrowing, and its contractionary impact, can also impact political support for public support of green initiatives.

Another critical impact of monetary policy on the renewable energy industry (and other green initiatives) is channelled through balance sheet dynamics (i.e. the financing of such initiatives). Higher interest rates lead to a higher cost of debt, and overall cost of capital, for both existing and prospective initiatives. It is important to note that the renewable energy industry is a highly capital intensive industry. This means that operators within the industry have high upfront capital costs. Furthermore, operators in the renewable energy industry are typically more leveraged than operators within the brown sector (which typically includes investments with a higher existing maturity). Martin et al. (2024) shows that the fossil-fuel industry is impacted to a significantly lower degree by high interest rates than the clean energy sector. An increase in interest rates thus has a higher relative impact on the financial performance of actors within the renewable energy industry. This ultimately reduces their profitability and their ability to attract financing. Higher cost of capital also decreases the financial feasibility of new projects. Interest rate increases, resulting in higher cost of debt (and thus capital), may also be detrimental to the

development of new technologies, and the transformation of new technologies into commercially viable products (Martin et al., 2024). This is because projects related to these nascent technologies are capital intensive and require heavy capital investments.

4. What is green monetary policy?

A key lever in the green transition is the allocation of financial resources in the economy, which is one of the main channels that determines which economic activities take place. The discussion on the role of finance in the green transition typically focuses on how public and private finance can assist in mobilising resources to combat the climate crisis. An often overlooked aspect of this debate is the role monetary policy can (and should) play in the green transition. Green monetary policy refers to monetary policy which integrates environmental and climate-related considerations into the core operations of central banks, assisting with the green transition. Green monetary policies assist in diverting resources towards green initiatives and away from more environmentally damaging activities. A broad overview of how green monetary policy can be implemented in practice can be found in the policy brief in this series focusing on [green monetary policy](#).

5. Concluding remarks

Monetary policy is an important element of economic decision making. By influencing financing conditions, it can shape the trajectory of economic activity, including which activities are financed and influencing the conditions which allow for support of the green transition.

This policy brief provides stakeholders within the renewable energy industry an overview of monetary policy and its implementation in practice in the euro area. It also discusses the interlinkages between monetary policy and climate change and the green transition, and its relevance to the renewable energy industry. The policy brief concludes by introducing the topic of green monetary policy, which can be a critical tool in supporting the green transition and the renewable energy industry. The [second policy brief](#) in this series features an extensive overview of green monetary monetary policy and how it can support the renewable energy industry.

The annex of this policy brief provides interested readers an extensive overview of key monetary policy related considerations, including information on who is responsible for implementing monetary policy, the role of central banks, an overview of the euro area and the Eurosystem, their history and their governance, and the ECB's 2% inflation target.

Annex

1. Who is responsible for implementing monetary policy?

A monetary policy authority, typically a central bank, is the institution responsible for managing a nation's or monetary union's¹⁰ (such as the euro area's) monetary policy. The monetary policy authority in the euro area is the ECB.

The objectives (and their relative prioritisation), of monetary policy authorities tasked with executing monetary policies, can vary in different contexts, depending on the specific mandate of the concerned central bank. For example, the monetary policy authority for the United States, the Federal Reserve (Fed), operates under a dual mandate, balancing the promotion of maximum economic employment and stable prices. On the other hand, the ECB has a hierarchical mandate prioritising price stability above all other objectives. While both seek to curb inflation, the Fed balances this with economic growth and labour market health, whereas the ECB is treaty-bound to ensure inflation stability across the euro area before considering other objectives.

2. What is a central bank?

Given the prominent role of central banks in implementing monetary policy, this section of the policy brief provides a broader overview of the various functions of central banks.

As mentioned previously, a central bank is a public institution that manages the currency of a country or group of countries and influences the money supply – i.e. the amount of money in circulation in the economic region it is responsible for¹¹. The main objective of most central banks is maintaining price stability, however as outlined previously, some central banks are also mandated by law to act in support of full employment¹².

One of the main monetary policy tools of any central bank is influencing interest rates – the “cost of money”. The word influences is deliberate. A central bank is not a commercial bank, individuals and businesses can't open an account with a central bank and borrow directly from it. Therefore central banks do not have the power to directly determine the interest rates faced by individuals or businesses.

However, central banks “act as banks” for commercial banks, paying commercial banks interest on their deposits and charging commercial banks interest on their borrowings. This is the main lever through which central banks influence interest rates faced by households and businesses.

Central banks also fulfill other important functions outside of maintaining price and economic stability. Commercial banks often provide long-term loans, while accepting short-term deposits, which results in a maturity mismatch, which can lead to liquidity problems¹³. In extreme cases, central banks are required to step in and assist commercial banks facing liquidity problems, acting as a ‘lender of last resort’. This preserves the stability of the financial system, while also protecting the real economy from spillover effects. Many central banks also contribute to the stability of the financial system by supervising the banking sector, ensuring individual operators are not exposed to extensive risk.

¹⁰ A monetary union (or currency union) is a, usually formalised, agreement where two or more economies share a common currency or peg their currencies together, managed by a single monetary policy and central bank.

¹¹ <https://www.ecb.europa.eu/ecb-and-you/explainers/tell-me/html/what-is-a-central-bank.ja.html>

¹² Full employment is an economic situation which does not necessarily refer to 100% employment of the labour force, but rather a situation in which all available labour resources are used efficiently without generating high inflation. This level of employment is often referred to as the Non-Accelerating Inflation Rate of Unemployment (NAIRU).

¹³ A situation where an entity can't meet its short term liabilities.

Other central bank functions include controlling the issuance of physical currency, and ensuring the smooth functioning of payment systems and of traded financial instruments. Central banks are also responsible for implementing exchange rate policy and managing foreign reserves. Furthermore, they typically leverage their expertise to inform stakeholders, including the public, about economic developments.

3. *An overview of the euro area and the Eurosystem, their history and their governance*

The euro area¹⁴ came into being on the 1st of January 1999, the date in which the euro was launched. For the first three years after its official launch, the euro was an 'invisible' currency, only used for accounting purposes and electronic payments. Euro coins and banknotes were launched on the 1st of January 2002 in 12 EU countries, which was the biggest cash changeover in history¹⁵. At its launch, the euro area comprised 11 EU Member States, with several countries joining later. Greece joined the euro area in 2001, Slovenia in 2007, Cyprus and Malta in 2008, Slovakia in 2009, Estonia in 2011, Latvia in 2014, Lithuania in 2015, Croatia in 2023 and Bulgaria in 2026¹⁶.

The Eurosystem is the monetary authority of the euro area¹⁷, comprising the ECB and the National Central Banks (NCBs) of those countries that have adopted the euro. Responsibility for monetary policy was transferred from the NCBs of 11 EU Member States to the ECB on the 1st of January 1999 (the same day as the official launch of the euro and the euro area).

The legal basis for the implementation of a single monetary policy in the euro area is the Treaty on the Functioning of the European Union (the Treaty)¹⁸ and the Statute of the European System of Central Banks and of the European Central Bank (the Statute)¹⁹. The Statute established both the ECB and the European System of Central Banks (ESCB)²⁰ as of the 1st of June 1998. The ECB was therefore established as the core of the Eurosystem and the ESCB, and has its own legal personality under public international law. The ECB is located in Frankfurt am Main, Germany and employs more than 5,000 employees.

The ECB is governed under the principle of central bank independence. This is based on the position that political independence is important for central banks in meeting their objectives of maintaining price stability²¹. In essence, it is argued that if governments had direct control over central banks, politicians have the ability to change interest rates in their favour to create short-term economic booms or use central bank money to finance popular policy measures. This could potentially have negative consequences on the economy in the long term, by undermining the credibility of central banks, limiting their ability to implement effective monetary policy in the future²².

The ECB's independence is outlined in the institutional framework for the single monetary policy (in the Treaty and in the Statute). As a result, the ECB and the NCBs, and any member of their decision-making bodies, are prohibited from taking instructions from EU institutions or bodies, from any government of an EU Member State or from any other body. EU institutions and bodies and the governments of the

¹⁴ The euro area currently consists of the 21 Member States of the European Union that have adopted the euro as their currency.

¹⁵ https://european-union.europa.eu/institutions-law-budget/euro/history-and-purpose_en

¹⁶ <https://www.ecb.europa.eu/ecb/orga/escb/html/index.en.html>

¹⁷ https://economy-finance.ec.europa.eu/euro/what-euro-area_en

¹⁸ <https://eur-lex.europa.eu/EN/legal-content/summary/treaty-on-the-functioning-of-the-european-union.html>

¹⁹ <https://www.ecb.europa.eu/pub/pdf/other/ecbinstitutionalprovisions2011en.pdf>

²⁰ The ESCB comprises the ECB and the NCBs of all EU Member States whether they have adopted the euro or not. The Eurosystem and the ESCB will co-exist as long as there are EU Member States outside the euro area.

²¹ <https://www.ecb.europa.eu/ecb/our-values/independence/html/index.en.html>

²² https://www.ecb.europa.eu/ecb-and-you/explainers/tell-me-more/html/ecb_independent.ja.html

the Member States must respect this principle and not seek to influence the members of the decision-making bodies of the ECB (Article 130 of the Treaty).

In line with this, the ECB's financial arrangements are kept separate from those of the EU. The ECB has its own budget, with its capital subscribed and paid up by the euro area NCBs²³. Furthermore, the Eurosystem is prohibited from directly granting loans to EU bodies or national public sector entities.

To further ensure political independence, the Eurosystem is also functionally independent. This means that the ECB has at its disposal all instruments and competencies necessary for the conduct of an efficient monetary policy and is authorised to decide autonomously how and when to use them.

Considerations related to central bank independence also extend to the leadership body of the ECB (referred to as the Governing Council) and NCBs. The Governing Council is the main decision-making body of the ECB. It consists of the six members of the Executive Board, plus the governors of the NCBs of the euro area countries. The Statute mandates long terms of office for the members of the Governing Council, with its members having security of tenure.

The Governing Council meets twice a month. It assesses economic and monetary developments and takes its monetary policy decisions every six weeks. The monetary policy decisions are explained in detail at a press conference held after this meeting. The president of the ECB (the role has been fulfilled by Christine Lagarde since November 2019²⁴), assisted by the vice-president, chairs the press conference. At the other meetings, the Council discusses mainly issues related to other tasks and responsibilities of the ECB and the Eurosystem.

4. *What is the ECB's 2% inflation target?*

The Treaty gives the ECB a very clear and limited mandate to maintain price stability in the euro area. The Treaty does not however give a precise definition of what is meant by price stability. The ECB's Governing Council, after concluding its strategy review in July 2021, considers that price stability is best maintained by aiming for 2% inflation over the medium term²⁵. The 2% inflation target is assessed on the basis of inflation developments in the euro area economy, with the Harmonised Index of Consumer Prices (HICP)²⁶ utilised as the measure for inflation in the euro area.

²³ Further information on the ownership of the ECB can be found through the following [link](#)

²⁴ <https://www.ecb.europa.eu/ecb/decisions/html/cvlagarde.en.html>

²⁵ <https://www.ecb.europa.eu/mopo/strategy/pricestab/html/index.en.html>

²⁶ Further details on the HICP can be found through the following [link](#)