



# **MANAGING INFLATION BY SUPERCHARGING A CLEAN ENERGY TRANSITION**

**What the ECB should do**

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## What the ECB should do

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# FOREWORD

By Laurence Scialom,  
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Faced with the resurgence of inflation, the temptation is great to look back to the last inflationary period, which is still in the memories of the oldest of us, and consequently to propose old recipes that are not suited to the current macroeconomic and ecological situation. This intellectual laziness can be a great danger! This is one of the underlying messages of this Reclaim Finance report. By a pernicious paradox, a misdiagnosis of the causes of inflation and the use of traditional tools to fight it based on this erroneous diagnosis, would ultimately strengthen its structural causes of climate origin while hindering investments in the ecological transition.

Far from being disconnected from the views of some central bankers, this Reclaim Finance message is based on an analysis of the three types of climate-related inflation («Climateflation», «Fossilflation» and «Greenflation») pointed out by ECB Executive Board member Isabel Schnabel. Indeed, current inflation is not a monetary phenomenon. It is deeply rooted in our dependence on fossil fuels and in the impacts of climate change on economic and financial activities (agricultural production, disruption of value chains, lower productivity etc.). These causes are structural and cumulative.

Unlike the central bankers, Reclaim Finance is not trapped in the straitjacket of the current central banking doctrine. This permits it to go right to the logical consequences of the diagnosis of the roots of inflation. In doing so, it rightly argues for a pro-active and resolute action of the ECB in favor of an exit from fossil fuels and the financing of investments in renewable energies. Given the structural and climatic causes of inflation, the coherence of the Reclaim Finance proposals lies in the fact that they would respect both the primary mandate of the ECB, which is to preserve the value of the currency, and its secondary mandate of supporting the policies of the Union, in particular the energy transition policy.

As an academic researcher working on these issues from an economic history perspective, I must point out that such proposals are not an aberration from the perspective of the long history of central banking. On the contrary,

they are consistent with the great plasticity that central banking regimes have demonstrated over the centuries. This ability of central banks to adapt quickly should enable us to conceive and implement financial responses to the climate emergency. Contrary to what the myth of central bank independence has led us to believe, central banks are not depoliticized agencies disconnected from socio-economic and ecological realities, which manage money in a purely technical manner. They are deeply and definitively entrenched in our societies and their social, economic and,— today more than ever— environmental realities. Central banks are powerful levers for financing transformations and shifts in economic systems. Economic and financial history forcefully illustrates this.

On the one hand, carbon-based capital must be depreciated and destroyed before it has been amortized, just as bombs destroy capital before amortization and, on the other hand, decarbonized infrastructure and capital must be reinvested and rebuilt. The analogy with post-war reconstruction processes is striking with one important difference: we choose which capital to depreciate and which capital to rebuild. In the wartime example, governments often take the lead over central banks in offering reconstruction financing conditions that are less subject to market pressures and that correspond to democratically defined priorities. In the final analysis, this is just what this Reclaim Finance report rightly advocates and it is precisely for this reason that I have enthusiastically accepted to write this preface.

My personal convictions as a citizen who is very aware of climate and environmental issues are that we must move towards a low-carbon economy as soon as possible. My expertise and my research work support me in the idea that the path advocated by Reclaim Finance is not only economically relevant but also practically feasible, as it simply revives, in renewed forms, central bank practices that have already been implemented throughout history in the wake of serious crises and wars. Today, we are experiencing the mother of all wars for the preservation of a livable planet for the human species and not only for the richest among us.

# ABSTRACT

The energy price surge that started in 2021 is taking place as the world emerges with difficulty from a global pandemic and faces the impacts of extreme weather conditions due to climate change. The economically vulnerable suffer the most from both the physical impact of climate change and higher energy prices. While the European Central Bank (ECB) struggles to get a lid on inflation, and the European Union (EU) member states struggle to cut their fossil fuel dependency in the wake of the Russian aggression on Ukraine, this report makes the case for an ambitious ECB approach to climate change in response to the current crises and the mounting threat of climate-related inflations. **The report analyses the three types of climate-related inflations identified by ECB board member Isabel Schnabel in March 2022. It shows that managing climate-related inflations is necessary to fulfilling the ECB's price stability mandate and requires proactive support for a clean energy transition. Considering this conclusion, the report provides three main recommendations for the ECB to contribute to the EU transition.**

Key findings:

## 1. Fossil fuels and climate change could aggravate inflation and make it increasingly difficult to manage:

- Climate change impacts inflation (climateflation) through its wide-ranging physical consequences, such as harvest disruptions that can drive food prices up. This impact triggers supply shocks and price volatility. It will amplify with every additional increment of global warming.
- Our dependency on fossil fuels (fossilflation) is the main cause of global warming and can significantly contribute to inflation. The current, historically high, inflation levels are mainly due to fossil fuel prices. Rising fossil fuel prices directly

increase household energy bills, but also make other commodities and services more expensive.

- Poorer households suffer the most from both climate and fossil fuel-driven inflations. Fossil-generated inflation can significantly amplify poverty and inequality.

## 2. An orderly clean energy transition would help reduce energy bills and manage inflation:

- Clean energy is sustainable, competitive and secure. Replacing fossil fuels by renewable energy sources could significantly lower energy bills and reduce energy price volatility, while contributing to energy security. There is no reason to believe that a clean energy transition

would trigger inflation (greenflation).

- If a clean energy transition could cause short-term energy price increases – notably due to difficulties involving supply critical materials – this impact would be very limited compared to current fossil-related disruptions. Furthermore, this transition effect could be mitigated in an “orderly” transition. In fact, early and decisive climate action brings the best macroeconomic outcomes and helps manage inflation. A delayed or failed transition, however, would result in far greater and more volatile inflation and energy prices.

## 3. To fulfil its number one mission of managing inflation, the ECB must proactively support an EU clean energy transition:

- The ECB's primary mandate is to ensure “price stability”, which is currently defined by the central bank as keeping inflation around 2%. If the ECB must also contribute to EU objectives (“secondary mandate”), and notably its climate goals, it can only do so in a way that is compatible with the price stability mandate.
- As we have shown in this report, climate-related inflations (climateflation and fossilflation) could block the ECB from reaching its price stability objective, and the only way to manage climate-related inflations is to transition to clean energy.
- Therefore, the ECB must proactively contribute to a clean energy transition. Supporting an EU clean energy transition would fulfil the ECB's secondary mandate

and help avoid some of the negative side effects of current monetary policy that depresses economic activity and increases public debt burden.

## 4. The ECB can supercharge an EU clean energy transition:

- For the ECB, cutting all indirect support to polluters – notably by excluding companies that develop new fossil fuel supply projects or that do not have coal exit plans from asset purchases and collateral framework – is a prerequisite to supporting an EU clean energy transition.
- The ECB could unlock massive green funding by launching a green lending facility for building renovation. The ECB already provided a preferential rate on some of its refinancing operations on the conditions that banks reached a certain volume of lending amid the Covid-19 crisis, and it could use a similar process to channel interest-free or lower rate loans to building renovation. Such new loans would help fight energy poverty and lower energy consumption.
- If a political agreement were to be reached, the ECB could coordinate with the European Investment Bank (EIB) and/or European Commission (EC) to help finance EU clean energy programmes by supporting debt emission through asset purchases. This coordination could significantly contribute to bridging the EU clean energy funding gap.

# EXECUTIVE SUMMARY

This summer's heat waves, fires and droughts have once again painfully reminded us of the climate emergency. The Intergovernmental Panel on Climate Change (IPCC) could not be clearer: human-induced climate change is ravaging nature and hurting billions of people, with vulnerable communities and ecosystems being hit the hardest.<sup>1</sup> The actions taken now to mitigate climate change will determine the living conditions of humanity in the next decades and centuries. If we are to limit global warming to 1.5°C, greenhouse gas (GHG) emissions should peak by 2025 at the latest and be halved by 2030.<sup>2</sup> We must swiftly move away from fossil fuels and stop exploiting much of the developed coal, oil and gas reserves.<sup>3</sup>

Apart from enduring the physical effects of climate change, people all over the world are facing another side of our fossil fuel addiction: rising energy prices. As we emerge with difficulty out of a global pandemic that deeply affected socio-economic wellbeing<sup>4</sup> and keeps on killing,<sup>5</sup> we must also face major energy supply disruptions intensified by the Russian aggression on Ukraine. Here, again, poorer countries, communities and households suffer the most.

Some have used the energy price surge and urgent need to wean off Russian gas to push for new fossil fuel production and infrastructure.<sup>6</sup> However, such projects would not respond to short-term energy needs but instead lock in emissions for decades. On the contrary, transitioning to renewable alternatives and increasing energy efficiency would significantly contribute to the limitation of global warming and help manage fossil fuel-caused inflation and volatility.

In this context, the European Central Bank (ECB) has an important role to play. The ECB is responsible for managing inflation. It is also tasked with supporting general EU policy goals – including climate change mitigation – and now acknowledges that climate change is relevant to monetary policy and financial stability. However, the ECB's current monetary policy has a limited effect on current inflation and significant adverse impacts that can clash with EU political objectives and environmental imperatives.

Taking stock of the climate emergency and inflationary crisis, this report explores the role the ECB should take in the European energy transition. It reveals why failure to support the clean energy shift could breach the central bank's mandate and provides avenues for the ECB to meaningfully contribute to EU transition efforts.

## Mitigating climate-related inflations requires proactive actions supporting a clean energy transition

Price stability is the main objective ("primary mandate") of the ECB. Without a major modification of its mandate, any climate-related action carried out by the central bank must be in line with this objective.

Looking at the relationship between climate change and inflation, ECB board member Isabel Schnabel identified three types of

climate-related inflations that are highly relevant to price stability:

1. "Climateflation": Schnabel notes that climateflation is linked to "the costs of climate change itself".<sup>7</sup> Concretely, the physical impact of climate change disturbs economic and financial activity, thus influencing inflation.
2. "Fossilflation": for Schnabel, "[f]ossilflation reflects the legacy cost of the dependency on fossil energy sources, which has not been reduced forcefully enough over the past decades."<sup>8</sup> Indeed, fossil fuels still accounted for 85% of energy use in the euro area in 2019.<sup>9</sup> This massive reliance



must be drastically reduced to reach the EU goals of cutting GHG emissions by at least 55% by 2030 and reaching zero net emissions by 2050. As of today, the lack of sufficient policy action to reduce the EU's fossil fuel dependency means that energy prices and inflation remain tied to fossil fuel prices, and are therefore exposed to supply disruptions.


3. "Greenflation": for Schnabel, this is the idea that the green transition itself could generate inflation. It notably relies on the assumption that the transition will create an "imbalance between rising demand and constrained supply" of critical commodities, thus driving prices up.<sup>10</sup> It also stems from the belief that the higher environmental taxes required to transition will push up prices in an economy that is yet to decarbonise.

Three key takeaways can be extracted from our discussion of these climate-related inflations.

### 1. Supporting climate mitigation is the solution to "climateflation":

Through its impact on the environment, climate change has far-reaching consequences that will grow with every additional increment of warming.<sup>11</sup> While badly hurting health and living standards worldwide,<sup>12</sup> it can directly lower productivity and growth,<sup>13</sup> and reduce the supply of, and increase competition for, key commodities.<sup>14</sup> It will amplify natural disasters and pandemics, and especially affect food supply. All these phenomena will be accentuated by deep biodiversity and ecosystems losses<sup>15</sup> caused by an unsustainable economic and financial system.

Climate change affects the conduct and transmission of monetary policy. It constrains the space for intervention and triggers more frequent shocks leading to greater volatility and output prices.<sup>16</sup> As central banks and regulators now widely recognise,<sup>17</sup> climate change will also have a large impact on financial stability and economic development.<sup>18</sup>



**“The recent measurable increase in euro area inflation, and the upward pressure on prices that can be expected to prevail over the near term, is a strong reminder of the urgency with which we need to accelerate the green transition.”**

*Isabel Schnabel,  
ECB Board Member, 2022*

In other words, climate change can generate inflation<sup>19</sup> – notably, by exacerbating the supply-side drivers of inflation – while making it more difficult to manage for central banks. The global and endogenous nature<sup>20</sup> of climateflation makes it especially important and challenging to address. Additionally, much like climate-related financial risks,<sup>21</sup> climateflation remains difficult to anticipate, as it is directly determined by physical consequences of climate change that are subject to uncertainty. In this context, the only way for the ECB to manage climateflation is to fight climate change itself.<sup>22</sup> Considering the role of fossil fuel consumption in climate change, supporting an EU clean energy transition would make an important contribution to this objective.

**2. Breaking the “fossilflation” circle requires contributing to the clean energy and efficiency shift:**

Fossil fuel dependency is at the heart of current European high inflation. Driven by fossil fuel prices, energy prices are reaching record levels, pushing euro area inflation to unseen levels in Eurozone history.<sup>23</sup> Inflation is likely to remain high for some time, and to stay above the ECB’s 2% target over the medium term.<sup>24</sup> Energy prices are structurally significant prices that can have a large impact on inflation – both directly and through other commodities and services, including food – and can be difficult to predict.

Fossilflation severely impacts low-income communities that have already deeply suffered from the Covid-19 crisis.<sup>25</sup> They spend a higher share of revenues on housing, food and transport,<sup>26</sup> live in the least energy efficient houses<sup>27</sup> and have limited access to credit.<sup>28</sup> In addition, poorer EU countries are also more energy intensive, leaving low-income households in these countries most exposed to energy price changes.<sup>29</sup>

The ECB’s current tools are inadequate to address fossilflation. Using these tools, the ECB either, lets inflation skyrocket when

fossil fuel supply constraints emerge, leaving vulnerable households and communities exposed to worsening living conditions, or, depresses the economy through rate rises, thus having dramatic social consequences and making relatively capital-intensive renewables more difficult to finance.<sup>30</sup> To ensure price stability and avoid these “trade-offs”, the ECB should contribute to EU policies aiming at reducing fossil fuel dependency and energy consumption. It should start with policies that also yield significant benefits for low-income communities, such as providing affordable energy efficiency building renovations. Like climateflation, fossilflation warrants proactive action to support an EU clean energy transition.

**3. “Greenflation” is largely a myth and potential transition-related inflation can be prevented in a planned transition supported by the ECB:**

Greenflation fears are largely unfounded. On the one hand, clean energy has been becoming increasingly cheap and now outcompetes alternatives.<sup>31</sup> It will likely become even more economically attractive as massive deployment brings down costs.<sup>32</sup> Overall, a clean energy transition would lower energy prices, bring less volatility to inflation and yield significant benefits for households.

On the other hand, carbon taxes have historically had a low impact on inflation, and studies show this would continue to be the case with new carbon price increases.<sup>33</sup> Furthermore, using the revenues of any additional carbon tax to mitigate its impact – especially on low-income households – could limit its other socio-economic effects.

A sharp rise in the demand for several of the materials and minerals necessary for a clean energy transition could potentially add to inflation in the short term, but, in a planned transition, this transition effect is mitigated.<sup>34</sup> Indeed, a planned transition takes advantage of the solutions that exist to supply the necessary materials (limit the

demand, recycle them, improve the supply chain).<sup>35</sup> Additionally, a planned transition allows policymakers to better spread the potential impact of environmental taxes and to provide the best macroeconomic outcomes. On the contrary, a delayed transition, or a failure to transition, results in much higher inflation and a degraded economic outlook.

Overstated greenflation fears should not drive the ECB to stall a clean energy transition that is essential to manage climateflation and fossilflation. Furthermore, an ECB that supports EU energy policies – therefore facilitating an early, planned and progressive transition – also limits the extent of short-term inflation that might arise during a transition period.

To be managed, all types of climate-related inflations require one thing; to contribute to an EU clean energy transition. For the ECB, keeping control of climate-related inflations requires supporting EU efforts to lower energy demand through energy efficiency and the roll-out of massive renewable energy capacity to address fossil fuel dependency.

## Supporting an EU clean energy transition is fully in the ECB's mandates

The ECB cannot ignore climate-related inflations because it will not simply go away. Contrary to what some anticipated at the beginning of the energy price crisis, fossilflation is becoming a structural element and will not quickly disappear.<sup>36</sup> Climateflation is already having impacts on prices, and its most drastic consequences will materialise in the coming years and are already relevant for the ECB's price stability mandate, which is not bound to a specific time horizon.<sup>37</sup> The transition to clean energy and energy efficiency are the solutions to climate-related inflations and would swiftly contribute to lower energy bills and reduce energy poverty.<sup>38</sup> If the green energy shift might generate short-term inflation, this transition effect could be mitigated by a planned and more progressive transition that the ECB can support.<sup>39</sup>

Building on this assessment, we identify three main reasons for the ECB to proactively support an EU clean energy transition.

- **Taming climate-related inflations – and therefore championing an EU energy transition – is vital to achieve the ECB's primary mandate of price stability:** Proactively contributing to a clean energy transition helps reduce and manage fossilflation, thus providing a direct contribution to price stability. Furthermore, supporting a clean energy transition contributes to mitigating climate change itself, and to a planned and orderly EU transition. It thus helps the ECB deal with price volatility and provides an indirect contribution to price stability. In short, supporting the transition is essential for the ECB to establish the enabling conditions to reach its primary mandate.
- **Proactively contributing to the EU energy transition enables the ECB to bypass classic monetary policy trade-offs:** Historically, central banks have been exposed to the effect of fossil fuel prices without having the means to significantly influence them.<sup>40</sup> They have relied on indiscriminate rate rises to reduce inflationary trends, often at the expense of socio-economic objectives.<sup>41</sup> Targeted support for the green energy transition would allow the ECB to avoid "trade-offs" that may also derail green investments.<sup>42</sup> In this context, proactively supporting a clean energy transition could improve the efficiency of monetary policy.
- **Supporting EU clean energy policies would fulfil the ECB's long disregarded secondary mandate:** The ECB is required by EU Treaties to support the general economic policies in the Union ("secondary mandate"). Mitigating climate change and supporting the energy transition stands out in this regard due to the macroeconomic effects, the magnitude of the challenge they represent, and the clear international and European goals that have been set<sup>43</sup> and reinforced following the Russian aggression on Ukraine.<sup>44</sup> ECB's support to an EU clean energy transition would therefore also satisfy the central bank's long disregarded secondary mandate.

To summarise, if the ECB is to fulfil its mandate, it must use its monetary policy toolkit to contribute to EU clean energy policies.

## Three key ECB tools to boost a clean energy transition

The EU defined clear priorities for its energy transition. It devised policy tools to reach them – notably in the EU Green Deal, the "Fit for 55" and the REPowerEU. Considering these priorities and policies, the ECB should implement three measures that would tackle climate-related inflations by supporting an EU clean energy transition:

### 1. Shifting asset purchases and collaterals to exclude fossil fuel developers

To support the EU transition, the ECB must first cut off its support to highly polluting companies. Indeed, despite having published its first climate roadmap in July 2021,<sup>45</sup> the ECB continues to support major polluters<sup>46</sup> by buying their assets through its quantitative easing programmes and accepting them as collaterals. The ECB must align its practices with EU climate goals, starting by excluding companies that develop new fossil fuel supply projects – coal mines, oil or gas wells – or coal power plants and companies without Paris-aligned coal exit plans from its asset purchases and collateral framework.

### 2. Dual rates, with a green lending facility to support building renovation

The ECB should adopt a «dual rate» policy, which sets different price signals to different stakeholders<sup>47</sup> depending on their contribution to a clean energy transition. Lower rates can be provided to finance renewable energy development and energy efficiency, while higher rates can be used to respond to global inflation. The ECB should especially launch a green lending facility to provide a discount rate to banks for low-rate loans dedicated to energy efficiency renovation.<sup>48</sup>

### 3. ECB coordination with the European Investment Bank (EIB) and/or European

## Commission (EC) to jump-start a just energy transition

Coordination between the ECB, the EIB and the EC can help the EU bridge its clean energy and energy efficiency funding gap, and limit state debt. The EIB could be instructed to issue "climate" or "just transition" bonds that would be purchased by the ECB through its programmes, and finance green loans.<sup>49</sup> The ECB already buys a significant amount of EIB bonds<sup>50</sup> and would just be required to increase its purchases proportionately. Similarly, the ECB could buy an increased amount of debt jointly issued by EU countries to fund their transition. These new funds could be directed to existing EU programmes, like the Just Transition Mechanism<sup>51</sup> and the Social Climate Fund.<sup>52</sup>

These three measures are compatible with a context of monetary policy tightening. Indeed, the context has no impact on the decarbonisation of the collateral framework, and the use of a green lending facility can easily be coupled with rate rises for other facilities. When it comes to asset purchases, the ECB's choice to end net asset purchases in response to inflation does not mean that all purchases will stop. In fact, the ECB will continue to reinvest the payments from maturing securities and could resume net purchases in the future to counter new shocks.<sup>53</sup> Furthermore, the ECB's monetary policy doctrine, which consists of starting to scale down asset purchases before raising rates, is only customary. The ECB could well decide to continue specific asset purchases aimed at unleashing clean energy funding, even as it raises interest rates.

By pursuing the three options highlighted, the ECB would set out a virtuous circle of clean energy and energy efficiency investment, contribute to lower energy bills and pave the way for more limited and stable inflation. The ECB would establish itself as an effective and innovative central bank, while becoming a support for EU policies and citizens and a pillar for stability in uncertain times.

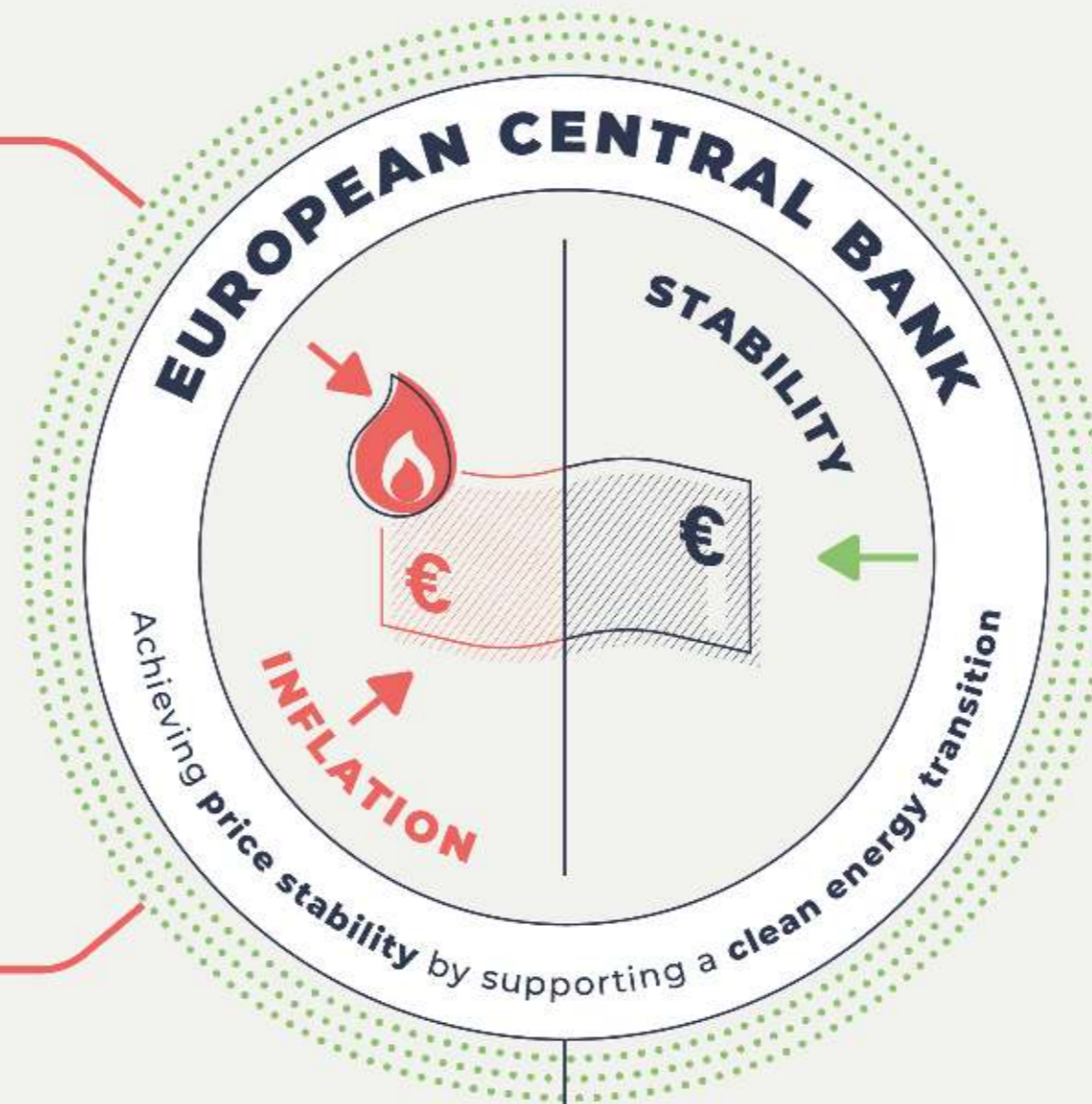
## CLIMATE CHANGE

Climate change impacts inflation through its wide-ranging physical consequences. More frequent and intense extreme weather events and temperatures can drive food prices up and **disturb or cut supply chains**. These effects especially trigger **price shocks and volatility**. They **grow with every additional increment of global warming** and will reach critical levels if we fail to limit it to 1.5°C.



## FOSSIL FUELS

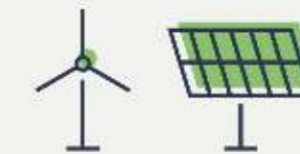
Our dependency on fossil fuels is the **main cause of global warming**. It also exposes us to fossil fuel supply disruptions, thus contributing to inflation and price volatility. Indeed, the **current historical EU inflation levels** are due to fossil fuel prices. Concretely, rising fossil fuel prices increase households' energy bills and make other commodities and services more expensive. With agricultural production massively relying on fossil fuels (fertilizers, transport, heating...), this is especially true for food.



## Why the ECB should manage inflation by supercharging a clean energy transition

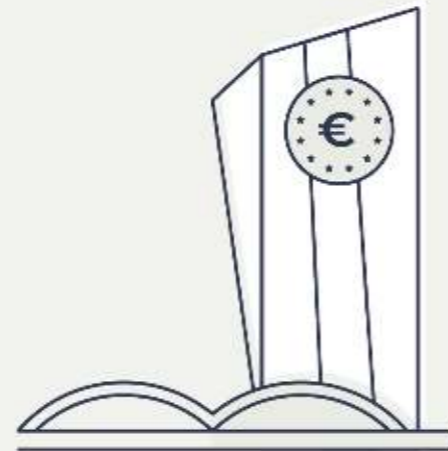
### CLEAN ENERGY TRANSITION

Clean energy is sustainable, competitive, and secure. Replacing fossil fuels by renewable energy could **lower energy bills and reduce energy price volatility**, while providing an **essential contribution to climate change mitigation**. If difficulties to supply critical materials could increase clean energy prices in the short term, this effect would be considerably lower than the current fossil fuel-caused disruptions and largely mitigated by implementing **an orderly transition**. In a word, supporting the clean energy transition helps manage all types of climate-related inflations.



Following EU Treaties, the central bank of the Eurosystem must first and foremost ensure **“price stability”**, that's to say keep inflation around 2%. However, climate-related inflation could block the ECB from reaching this objective. Therefore, the ECB must **proactively support the clean energy transition necessary to manage climate-related inflations**. Contributing to the clean energy transition would also fulfil the **ECB's duty to support EU policies** and help the ECB to avoid some negative effects of traditional monetary policy.

To stop impairing the clean energy transition, the ECB must start by cutting all the support it still provides to polluting companies – such as fossil fuel developers. But the central bank should go much further to actually support the EU transition. It should **launch a green lending facility to support building renovation** in the EU and/or coordinate with the European Investment Bank (EIB) and European Commission (EC) to unleash massive funding for clean energy programs.





# INTRODUCTION

The energy price crisis is driving EU inflation to historical heights. Fossil fuel dependency runs the show, determining whether Europeans will be able to pay their bills and putting European unity to the test. As the bloc's inflation caretaker, the European Central Bank (ECB) is at the forefront of this new crisis.

After years of significantly below-target inflation, and amid a global pandemic, the central bank is struggling to adapt to a new context largely dependent on external shocks. The bank has a duty to control inflation, but also cannot afford to choke the EU's "recovery", nor significantly exacerbate member states' debt servicing costs through higher rates.<sup>54</sup> However, the bank's usual toolbox contains mostly blunt instruments, ill-fitted to the current situation. Indeed, none of these address the root causes of current inflation and the new inflationary context tied to climate change.

In responding to the crisis, the EU and its central bank must confront an alarming reality: the climate crisis is worsening, and the EU is yet to prove itself up to the challenge. The EU must dedicate much more of its resources to accelerate the energy transition – from 2021 to 2030, the EU Commission estimated that €3.15 trillion of additional funding is needed to implement the Green Deal,<sup>55</sup> while the Institutional Investor Group on Climate Change (IIGCC) estimated that reaching European carbon neutrality by 2050 requires US\$4.73 trillion more investment than historical investment levels.<sup>56</sup> The war in Ukraine made this need even more pressing, as, among others, the EU,<sup>57</sup> the United States<sup>58</sup> and the G7 acknowledged.<sup>59</sup>

To fulfil a mandate that prioritises "price stability", the ECB must be able to keep inflation in check. At the same time, the central bank should not forget its obligation to contribute to EU general policies or its capacity to help the bloc bridge the climate funding gap and reach its environmental goals.

In this report, we examine how climate-related inflations affect price stability and how the ECB should respond in order to fulfil its mandate. We start by analysing the three types of climate-related inflations – "climateflation", "fossilflation" and "greenflation" (see the executive summary for definitions) – identified by the ECB Board Member Isabel Schnabel,<sup>60</sup> and show that mitigating these requires the ECB to proactively support an EU clean energy transition. Building on that conclusion, we underline how such a proactive action wholly conforms to the ECB's mandate and can contribute to an efficient monetary policy. We conclude by proposing three main options for the ECB to maintain price stability by contributing to EU climate and energy goals.

Our analysis arises in a context of increased human and socio-economic vulnerability. The energy crisis follows more than two years of the Covid-19 pandemic, which hit the poorest hardest and led to increases in public debt, risking the revival of austerity.<sup>61</sup> At the same time, the effects of climate change are manifesting more and more harshly – for example, with dramatic heatwaves and wildfires. By highlighting why and how the ECB must contribute to an EU clean energy transition, our work provides a way for EU member states to fund their transition and protect low-income households, while supporting national investment and climate action worldwide.



***Crises are often associated with deep-seated changes in both the mandates and functions of central banks – this is a well-established regularity in contemporary economic history.***



***Jürgen Stark  
Former ECB Executive Board  
member, 2011***

# 1 WHY FACING CLIMATE-RELATED INFLATIONS REQUIRES SUPPORTING A CLEAN ENERGY TRANSITION

*The three types of climate-related inflations – “climateflation”, “fossilflation” and “greenflation” (see the executive summary for definitions) – identified by Isabel Schnabel in March 2022 are highly relevant to the ECB’s mission. As the central bank mandate prioritises, first and foremost, achieving price stability, understanding climate-related inflations will largely influence how the ECB tackles the climate emergency.*

*In this section, we explore these climate-related inflations. We analyse their impact on overall inflation and the functioning of monetary policy, uncovering evidence that a clean energy transition is the one solution to mitigate them all.*

# 1. CLIMATEFLATION: WHEN GLOBAL WARMING HEATS UP PRICES

## a. The climate crisis has an “obvious” impact on price stability

The impacts of climate change are already deeply affecting communities and economies around the world. The Earth’s average temperature is 1.1°C warmer than pre-industrial levels, with the last seven years being the warmest ever recorded.<sup>64</sup> About 40% of the world population (3.3 to 3.6 billion people) already live in areas highly vulnerable to climate change.<sup>65</sup> Temperatures and sea levels are rising, polar ice is melting at an accelerated pace, and oceans are becoming much more acidic.<sup>66</sup> Climate change strikes the poorest and most vulnerable the hardest.<sup>67</sup>

According to the IPCC, even a global warming contained at 1.5°C will cause unavoidable increases in climate hazards and presents risks to ecosystems and humans well beyond what is already seen today.<sup>68</sup> After 2040, the IPCC notes that – for 127 key risks – “mid- and long-term impacts are up to multiple times higher than currently observed”, and their magnitudes strongly depend on near-term mitigation

**Given that climate change impacts all areas of human activity, it is “pretty obvious, climate change will have – has already – an impact on price stability”, said ECB President Christine Lagarde.<sup>79</sup> Furthermore, the institutions that are impacted by climateflation are also part of its causes through their own impact on climate change. If, so far, economic and financial studies mainly focused on identifying the impact of climate change on economic activity and growth,<sup>80</sup> looking at the potential transmission channels of climate change on inflation enables us to better grasp the depth of its impact on price stability. Climate change can have an influence on inflation expectations and trigger demand shocks, as it mainly affects inflation through supply shocks.<sup>81</sup>**

and adaptation actions.<sup>69</sup> Every increment of additional global warming increases the risks,<sup>70</sup> the frequency and intensity of extreme climate weather events,<sup>71</sup> and the depletion of biodiversity and ecosystems. Concretely, higher global warming notably means difficult access to water and food,<sup>72</sup> exposure to very high temperatures, facing more extreme events more frequently, and new health hazards.<sup>73</sup> It increases overall mortality,<sup>74</sup> negatively impacts human rights<sup>75</sup> and stimulates conflicts.<sup>76</sup> Furthermore, “[m]ultiple climate hazards will occur simultaneously, and multiple climatic and non-climatic risks will interact, resulting in compounding overall risk”.<sup>77</sup>

In this context, climateflation is the product of the physical consequences of climate change; its magnitude is directly determined by the phenomena listed above. Much like climate-related risks,<sup>78</sup> climateflation is endogenous – how climate change directly impacts inflation is influenced by the behaviour of economic and financial players, including central banks themselves. The lack of action to mitigate climate change triggers more intense effects and, therefore, consequences on the level and volatility of inflation.

## Economic estimates of the impact of climate change: missing the picture

Economic estimates of the damages of climate change should be taken on cautiously,<sup>82</sup> as they greatly underestimate the potential impact of climate change and ignore many of its dimensions.<sup>83</sup> These estimates overwhelmingly rely on models (IAMs) that structurally under-evaluate climate impacts by providing least-cost and welfare maximising pathways.<sup>84</sup> As a World Bank study underlines, IAMs do not capture the sudden and severe risks from physical shocks, such as hurricanes and flooding.<sup>85</sup> Instead, they only partially integrate the chronic impacts of climate change, and totally ignore indirect impacts, while compounding effects and other more uncertain impacts.<sup>86</sup> They disregard volatility, tail risks and tipping points.<sup>87</sup>

In fact, given the wide-ranging impacts of climate change and the radical uncertainty<sup>88</sup> surrounding some of these impacts, it appears impossible to fully integrate physical risks into IAMs. As regulators themselves noted during a panel discussion organised by the Federal Reserve Bank of Chicago, the ECB and the Bundesbank, the nature of climate change means “that regulators and market participants had no helpful historical data for modelling and assessing future risks.”<sup>89</sup> Therefore, financial institutions must go beyond their traditional modelling and risk management tools to consider the economic impacts of climate change. They must rely on climate science directly and adopt a precautionary approach to the related risks<sup>90</sup> – hence focusing on mitigating the root causes of these risks; namely, climate change.

Interestingly, despite their many shortcomings, current economic models already show that the cost of climate inaction is greater than the cost of action.<sup>91</sup> The higher the global warming temperature gets, the lower GDP becomes.<sup>92</sup> In areas most exposed, climate change could have crippling consequences on the economy and systemic impacts on growth.<sup>93</sup>

## b. Climate change is already impacting prices and inflation

While the magnitude of the physical changes underpinned by climate change makes the fact that it has an impact on price stability “pretty obvious” – as Christine Lagarde said – a large body of evidence shows climate change already has an impact on inflation. Indeed, the changes caused by climate change trigger supply shocks that make inflation more difficult to manage and can drive prices up.

Firstly, climate change impacts inflation through the amplification and multiplication of extreme climatic events. By impacting the lives of many people and disturbing production, distribution cycles and infrastructure, extreme weather events have a direct impact on local prices and depress economic activity.<sup>94</sup> They have a large and persistent impact on inflation in emerging and developing economies, while major events also significantly impact prices in high-income countries.<sup>95</sup> Depending on the type of event, the geographical area and season, natural hazards can either increase or

depress prices,<sup>96</sup> thus causing significant price volatility. For example, in 2011, floods in Thailand disrupted the electronics and automobile parts supply chains and led US carmakers to halt production.<sup>97</sup>

The increased cost and frequency of extreme weather events could also bring prices up by increasing insurance costs. According to the insurer Swiss Re, natural disasters today cost more than eight times to insurers than in the 1980s.<sup>98</sup> This increase in climate-related losses could drive insurance premiums up<sup>99</sup> and weigh heavily on uninsured companies and states, thus contributing to higher production costs and taxes.

Secondly, much like extreme weather events, temperature changes have played a non-negligible role in driving price developments over recent decades.<sup>100</sup> Temperature changes affect the price of all goods and commodities by negatively impacting the labour supply and productivity.<sup>101</sup> Studies found that a global warming of 3°C could reduce global total labour by 18 percentage points in the low-exposure sectors and by 24.8 percentage points in the high-exposure sectors.<sup>102</sup>

Furthermore, studies show that hotter summers have especially impacted inflation in the short term and can, on the contrary, generate negative inflation dynamics in the medium term due to longer-lasting pressure on demand generated following the short-term supply constraints.<sup>103</sup> Here again, climate change makes inflation more difficult to predict and manage. This instability will rise as climate change increases global temperatures and makes heatwaves more frequent and intense.<sup>104</sup>

The impacts of both extreme weather events and temperature changes on EU inflation may be amplified by the "globalisation" of inflation. Indeed, a significant share of EU inflation is correlated to global inflation.<sup>105</sup> Therefore, climate-related events and changes that happen well beyond the EU can influence EU inflation. This effect is especially worrying when it comes to foods prices, that have been shown to be significantly impacted by extreme weather events and temperature changes and are an import component of inflation.<sup>106</sup>



- The impact of climate change on food prices is essential to consider when managing EU inflation. A recent study argued exogenous shifts in international food commodity prices can explain almost 30% of euro area inflation volatility over the medium term.<sup>107</sup> Furthermore, disruptions in food supply and prices have been mitigated in the past by an open trading system that has allowed food shortages in some places to be offset by production elsewhere.<sup>108</sup> However, the generalisation of supply disruptions due to climate change could grip such mechanisms.<sup>109</sup>
- Climatic factors are decisive in the yearly fluctuations in crop yield and long-term production trends, with the current trend in temperature notably being responsible for a reduction in the long-run growth rate of wheat yield.<sup>110</sup> As early as 2007, a study showed that season temperatures and precipitation explained 30% or more of year-to-year variations in global average yields for the world's six most widely grown crops.<sup>111</sup> Globally, studies indicate climate change already lowered

agricultural productivity by 21% since 1961<sup>112</sup> and could lower maize production by 27% in the future.<sup>113</sup>

- Similarly, research shows that extreme weather events could affect countries that are not directly exposed through global agricultural production shortfalls and price surges.<sup>114</sup> Increases in global agricultural commodity prices caused by harvest or weather disruptions in other regions of the world significantly curtail economic activity, especially in advanced economies.<sup>115</sup>

Finally, while extreme weather events and temperature changes are sure to occur, climate change could also have a large impact on inflation by causing massive and unexpected supply and demand shocks like the Covid-19 pandemic. Indeed, climate change accelerates the spread and transmission of viruses.<sup>116</sup> Worryingly, a study in Nature estimates that climate change could drive the cross-species transmission of 4,000 viruses by 2070.<sup>117</sup> Some of these viruses are likely to impact human activity, and thus to significantly disturb economic activity and price dynamics.

**To summarise, climate change is already having a large impact on human activity and, therefore, economic activity and prices worldwide. This impact can manifest through local and regional and international shocks. Every additional increment of warming will significantly increase the magnitude and frequency of these shocks and, thus, the volatility of inflation.<sup>118</sup> Untamed global warming would fundamentally upset our human systems and production conditions of essential goods and commodities, driving climateflation to unprecedented levels. The global and endogenous dimension of climateflation makes it especially necessary to adopt a precautionary approach that prioritises climate change mitigation as an inflation management tool.**

## Behind climateflation, the “natureflation” looming?

At least four<sup>119</sup> – and even five, according to a study published in April 2022<sup>120</sup> – of the nine planetary boundaries that regulate the stability and resilience of the Earth’s systems have been exceeded. The climate crisis is only one side of this problem, but it aggravates the biodiversity and ecosystem crises.<sup>121</sup>

Globally, biodiversity loss represents an “existential risk”<sup>122</sup> for humanity. Economic activities are dependent on ecosystem services<sup>123</sup> that often cannot be replaced,<sup>124</sup> and high-income countries have been the main consumers of these resources.<sup>125</sup> Various studies have shown the massive reliance of our economic system on ecosystem services:

- The Banque de France estimated that 42% of the value of securities held by French financial institutions is issued by companies that are deemed highly or very highly dependent on at least one ecosystem service.<sup>126</sup>
- The Bank Negara Malaysia and the World Bank found that 54% of the Malaysian commercial loan portfolios analysed are exposed to sectors that are highly dependent on ecosystem services, and 87% are related to sectors that strongly and negatively impact these services.<sup>127</sup>
- Globally, the Swiss Re Institute estimated that 55% of GDP depends on high functioning biodiversity and ecosystems services,<sup>128</sup> while the World Economic Forum estimated that US\$44 trillion of economic output – more than 50% of global annual GDP – is moderately or highly reliant on natural capital.<sup>129</sup>

This notably drove the Network For Greening the Financial System (NGFS) to acknowledge that nature-related risks could have significant macroeconomic implications and are relevant to financial stability.<sup>130</sup> Researchers further underlined that nature-related risks exhibit the same “green swan”<sup>131</sup> characteristic as climate-related risks,<sup>132</sup> noting that they are also “systemic, endogenous and subject to ‘radical uncertainty’”.<sup>133</sup>

Concretely, these estimates suggest the depletion of nature and biodiversity could make producing certain goods and services difficult, if not impossible. The wide variety of services that the Earth now provides to companies and states “for free” will become rarer and costlier, thus driving prices up. For example, biodiversity is essential to providing resilient food production, notably in the context of climate change.<sup>134</sup> Here, again, fending off this new inflationary risk requires precautionary action to protect biodiversity and ecosystems.<sup>135</sup> Building on Isabel Schnabel’s analogy, we can say that climateflation is closely linked to natureflation, and that the only way to address it is to proactively mitigate climate change and stimulate sustainable development.



# 2. FOSSILFLATION: WHEN FOSSIL FUELS ADD FINANCIAL DESPAIR TO ENVIRONMENTAL DESTRUCTION

## a. The 2021-2022 energy price crisis: fossil fuels driving inflation to record heights

When it comes to inflation dynamics, 2021 and 2022 mark a turning point. Breaking with the 2013-2020 low-inflation period, where inflation remained under the ECB's 2% target,<sup>136</sup> inflation jumped in 2021, thus shacking the foundations of a decade-running monetary policy that was designed to fight low inflation and further relaxed to respond to the Covid-19 pandemic. EU Harmonised Index of Consumer Prices (HICP) – the calculation of inflation for a basket of goods that includes food and energy – reached 5.0% in December 2021, at the time the highest level since the euro was introduced in 1999.<sup>137</sup> The annual rate of HICP continued to rise further in 2022, reaching 8.6% in June.<sup>138</sup> Six EU countries registered double-digit inflation in May 2022 (including 20.1% in Estonia and 10.5% in Greece).<sup>139</sup>

The role of energy prices in this radical change cannot be disputed. Energy contributed to on average 0.3 percentage points to inflation since 1999<sup>140</sup> and did not trigger higher inflation from 2013 to 2020.<sup>141</sup> However, between April 2021 and May 2022, energy contributed on average more than 50% to the Harmonised Index of Consumer Prices

(HICP) headline inflation.<sup>142</sup> From September 2021 to March 2022, “[t]he year-on-year rates of change in energy prices [...] have all been the highest observed since the creation of Monetary Union”.<sup>143</sup> In March 2022, energy prices were 45% higher than a year before.<sup>144</sup>

If – as explained above - energy prices have a direct impact on inflation, their large influence is also explained by their effect on the prices of other commodities. As the ECB noted, fossil fuel prices impact economic activity through both the consumption channel and the intermediate goods channel.<sup>145</sup> In fact, energy prices are “systemically significant prices”,<sup>146</sup> with a wide-ranging impact on overall inflation and on the economy.<sup>147</sup>

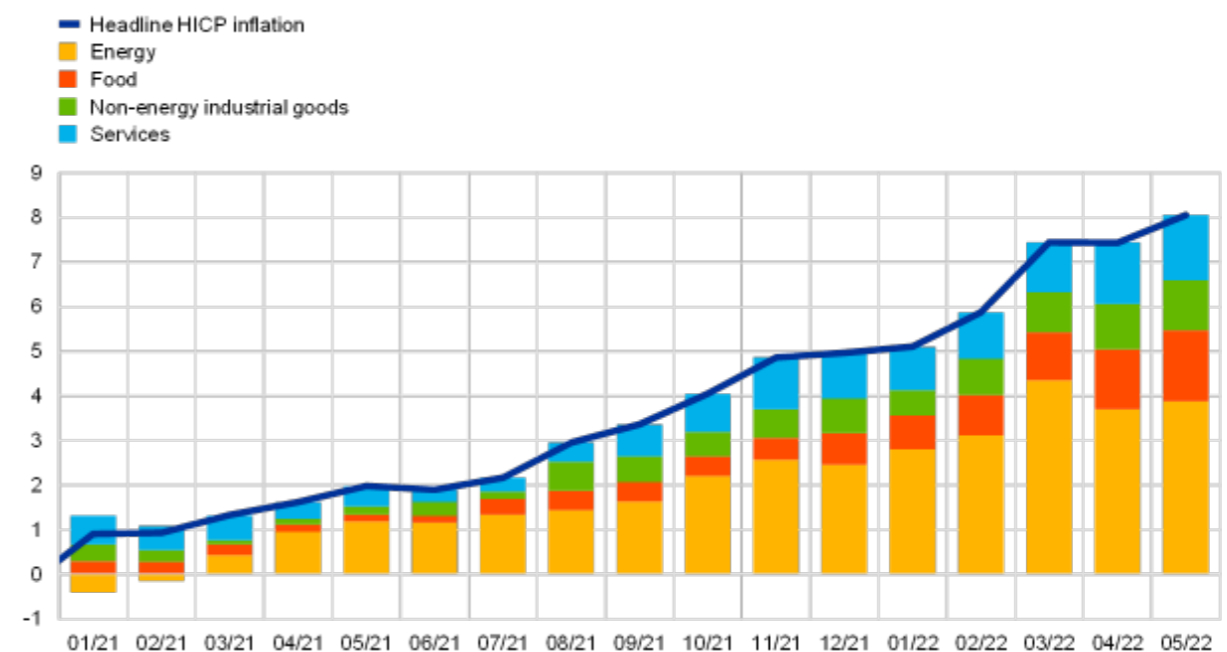
In a world largely fed by industrial agriculture that relies on fertilisers made from fossil fuels,<sup>148</sup> heated greenhouses, long storage, and long-distance transport,<sup>149</sup> energy prices can be tied to higher food prices in particular.<sup>150</sup> Direct and non-direct energy costs can account for 40% to 50% of total variable costs of cropping in advanced economies.<sup>151</sup> Fertiliser prices are especially sensitive to fossil fuel prices; natural gas often accounts for 70% to 80% of the production costs for ammonia and urea, and led to fertiliser prices more than tripling from mid-2020 to June 2022.<sup>152</sup> Additionally, massive fertiliser use and other factors have already significantly degraded soils,<sup>153</sup> potentially leading to lower yields or requiring higher fertiliser consumption to

maintain yields, a cycle that further contributes to increased food prices.

Beyond food prices, fossil fuels can also increase the price of many products and services,<sup>154</sup> notably those that require the transformation of fossil fuels and/or are highly energy intensive.<sup>155</sup> Indeed, rising energy

prices increased production costs by almost 50% in some EU energy intensive industries between April 2021 to April 2022.<sup>156</sup> The ECB notes that core inflation – HICP excluding energy and food prices – increased to 3.8% in May 2022 with “higher input costs as a result of the surge in energy prices remain[ing] a prominent driver”.<sup>157</sup>

**Headline inflation and its main components  
(in annual percentage changes and percentage point contributions)**



Source: ECB, 2022

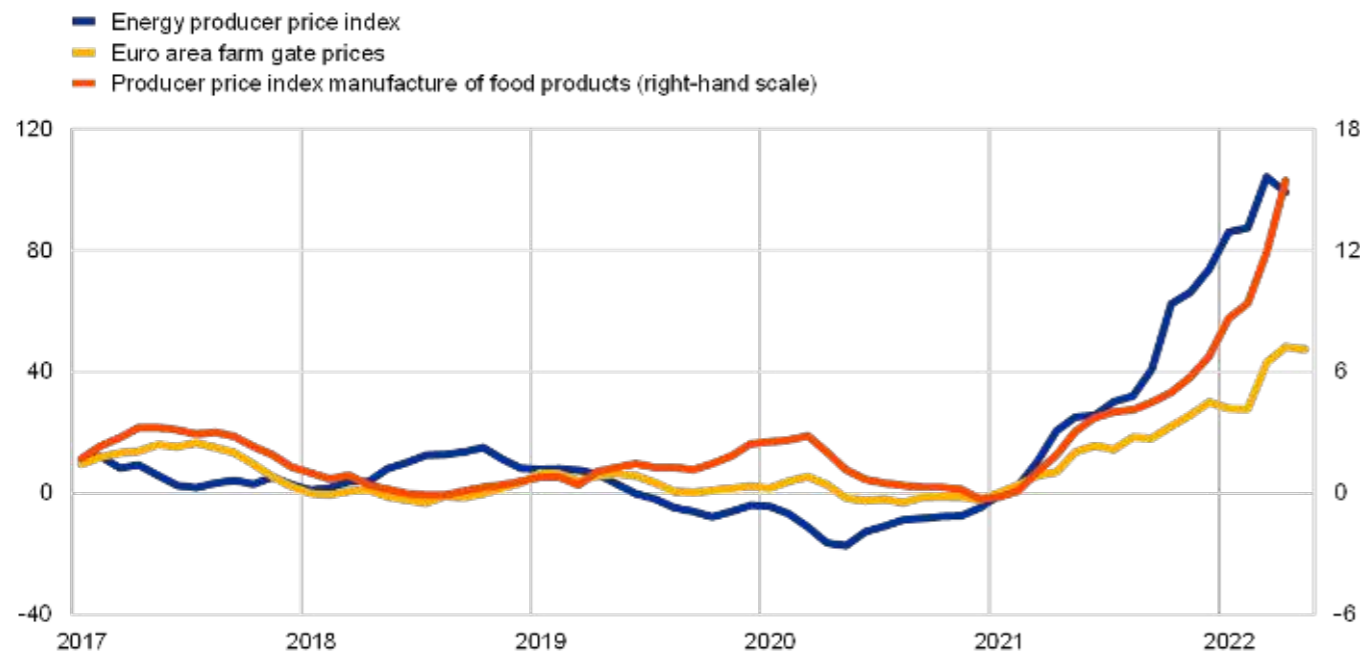
The European energy price surge mainly originates from a range of issues affecting the natural gas sector,<sup>158</sup> including lower inventories, lower exports from Russia, longer times to supply LNG to replace missing piped gas, and lower nuclear and hydropower output.<sup>159</sup> Gazprom notably kept European storages low during summer and autumn 2021, and reduced deliveries in the winter of 2021-2022 despite record prices and ample available pipeline capacity.<sup>160</sup> If analyses vary widely on the issue,<sup>161</sup> the impact of natural gas price increases may have been aggravated by a flaw in the design of the EU electricity markets,<sup>162</sup> where electricity prices are set based on the price of the last increment necessary to meet the demand often provided by costly fossil gas.<sup>163</sup> Beyond gas, coal contributed to the global energy price surge, with China driving

world consumption up and major exporters facing disruptions,<sup>164</sup> but had a lower impact on a relatively less coal-dependent EU.

While fossil fuels caused the energy price crisis – and thus high EU inflation - renewable energy helped manage inflation and lower energy bills. Indeed, wind and solar energy contributed to meet a large proportion of EU electricity demand at the end of 2021,<sup>165</sup> thus helping to avoid an estimated gas bill of €33 billion across the EU from July to September 2021.<sup>166</sup> In France, renewables could allow the state to save as much as €14 billion in 2021 and 2022.<sup>167</sup>

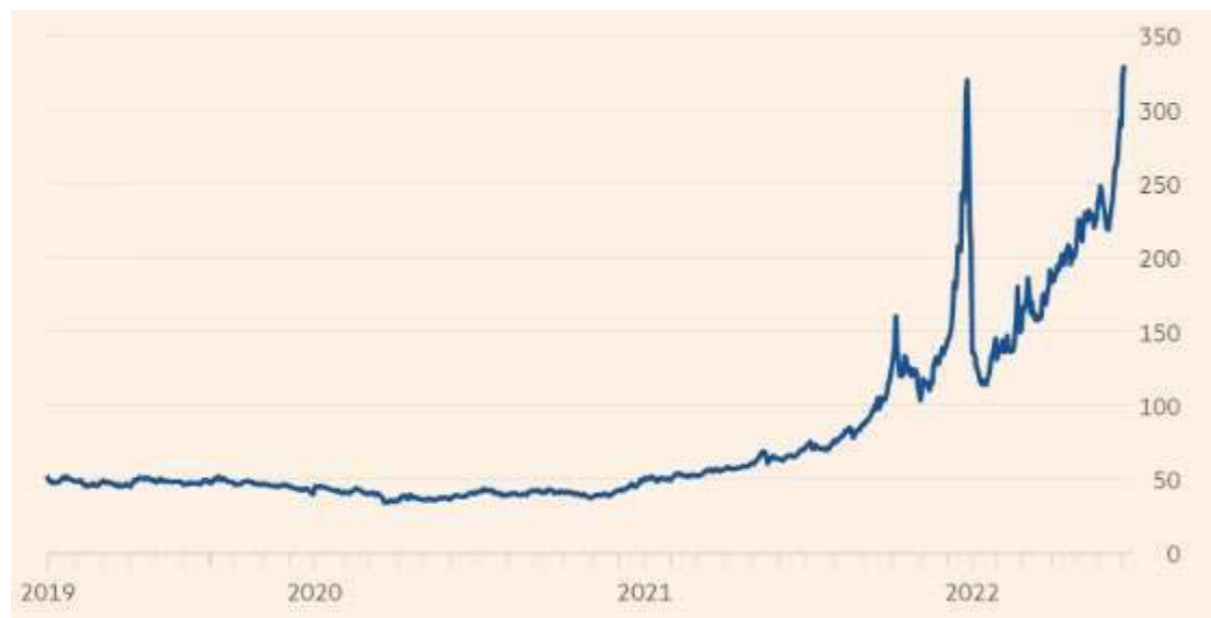
As Isabel Schnabel underlines, “fossilflation, and its broader repercussions on other input and output prices, is likely to remain

### Energy and food input cost pressure (annual percentage change)



Source: ECB, 2022

### Power prices in Germany (€/MW)



Source: The Financial Times, 2022

an important contributor to headline and underlying inflation in the foreseeable future.<sup>168</sup> The ECB and the Banque de France indicated that inflation was likely to stay high for a long time because energy prices are expected to stay high as well.<sup>169</sup> They warned that a further tightening of the energy supply, for example, in the event of a drop in Russian gas imports, could add to inflation in the

short to medium term. In June 2022, the ECB projected inflation to reach 6.8% in 2022, to remain at 3.5% in 2023, and also above its 2% target in 2024 and potentially even after 2025.<sup>170</sup> Similarly, OECD projections for 2022 and 2023 showcased very high-to-high inflation in EU countries, with energy and food prices driving inflation and major risks and uncertainties remaining.<sup>171</sup>

**To summarise, energy prices have been the main cause of high inflation for more than a year. Europeans saw their electricity, gas and fuel bills skyrocket. But they also faced the indirect effects of higher energy prices when going grocery shopping and paying for many services. Inflation reached record heights in 2022 and is likely to remain high - and well above the ECB's 2% target - for years. The ECB notably failed to forecast the evolution of inflation due to energy prices from March 2021 to March 2022,<sup>172</sup> revealing its difficulties facing constraints resulting from that volatile component. Additional fossil fuel supply disruption could significantly impact inflation and put further pressure on households. Taking stock of current events, the ECB must fight fossilflation at the source. It must proactively contribute to the clean energy transition to sever the link between fossil fuel supply and inflation. Not doing so would mean remaining vulnerable to supply disruptions and potentially losing control on inflation. It would also leave low-income households and communities at the mercy of higher prices.**

### b. The fossilflation nightmare of low-income communities

Inflation in general has been described by the Banque de France as a "regressive tax because poorer households tend to hold a higher proportion of their wealth in cash or deposits and carry out more transactions using cash than richer households".<sup>173</sup> The bank underlines that "[t]he biggest losers from unexpected inflation are individuals without real assets (poorer and younger households) and those who rely on nominal income (workers who cannot renegotiate their nominal wage or who do not benefit from an automatic indexation of their wage to inflation)."<sup>174</sup> Indeed, episodes of hyperinflation have historically been catastrophic for poorer workers and inflation is cited as a major concern for the poor.<sup>175</sup>

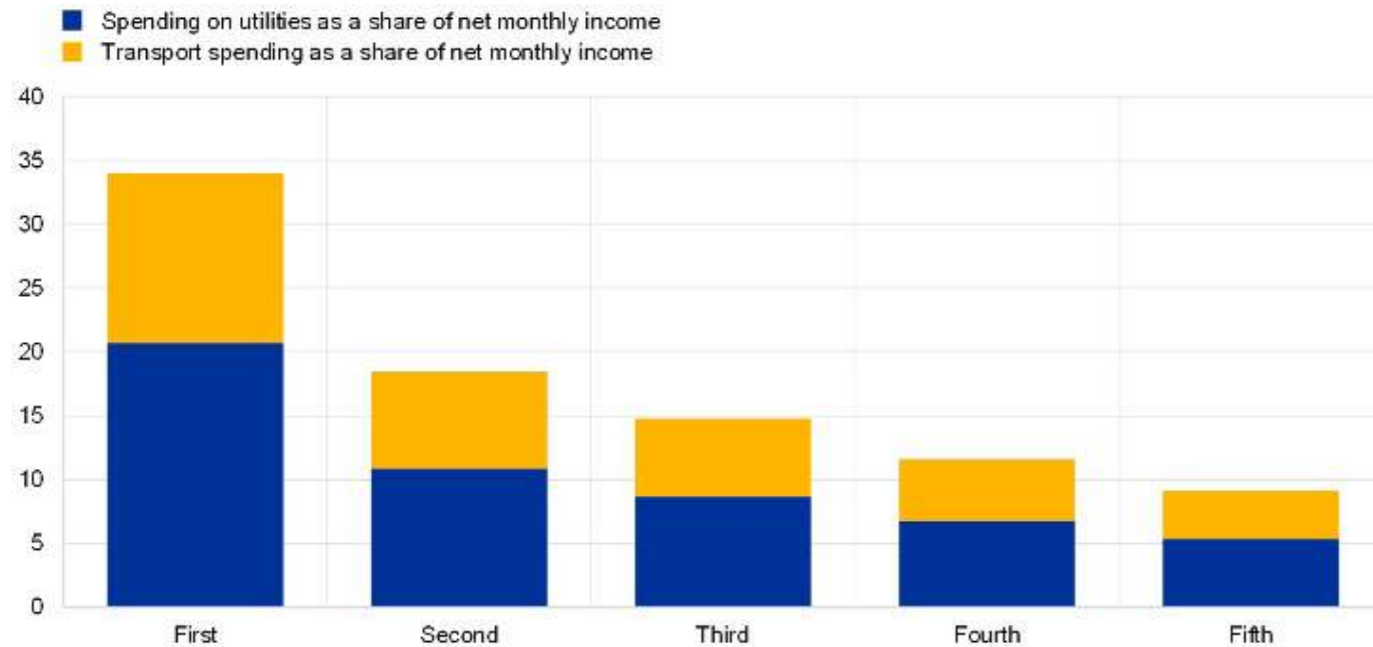
While they are structurally vulnerable to inflation in general, low-income communities are also especially impacted by high energy prices.<sup>176</sup> Household exposure to fluctuating energy prices declines as income rises.<sup>177</sup> The share of monthly income of EU households devoted to utilities and transport services

ranges from almost 35% for the lowest quintile of income to less than 10% for the top quintile.<sup>178</sup> Therefore, low-income households face "almost four times the impact that is experienced by households in the top quintile of the income distribution".<sup>179</sup>

Furthermore, when spending on energy rises, EU households tend to reduce their purchases of essential goods and services.<sup>180</sup> However, for low-income households - "[w]here basic needs are met primarily through low-cost items" - there is very limited scope to compress spending. They compensate by significantly drawing on their savings.<sup>181</sup> The ECB noted that, in this situation, "the reduction in savings is inversely correlated with the family's income and about five or six times greater for households in the lowest quintile of the income distribution relative to those in the top quintile".<sup>182</sup> Indeed, households in the top quintile only marginally reduce their purchases of essential goods and/or lower savings.<sup>183</sup>

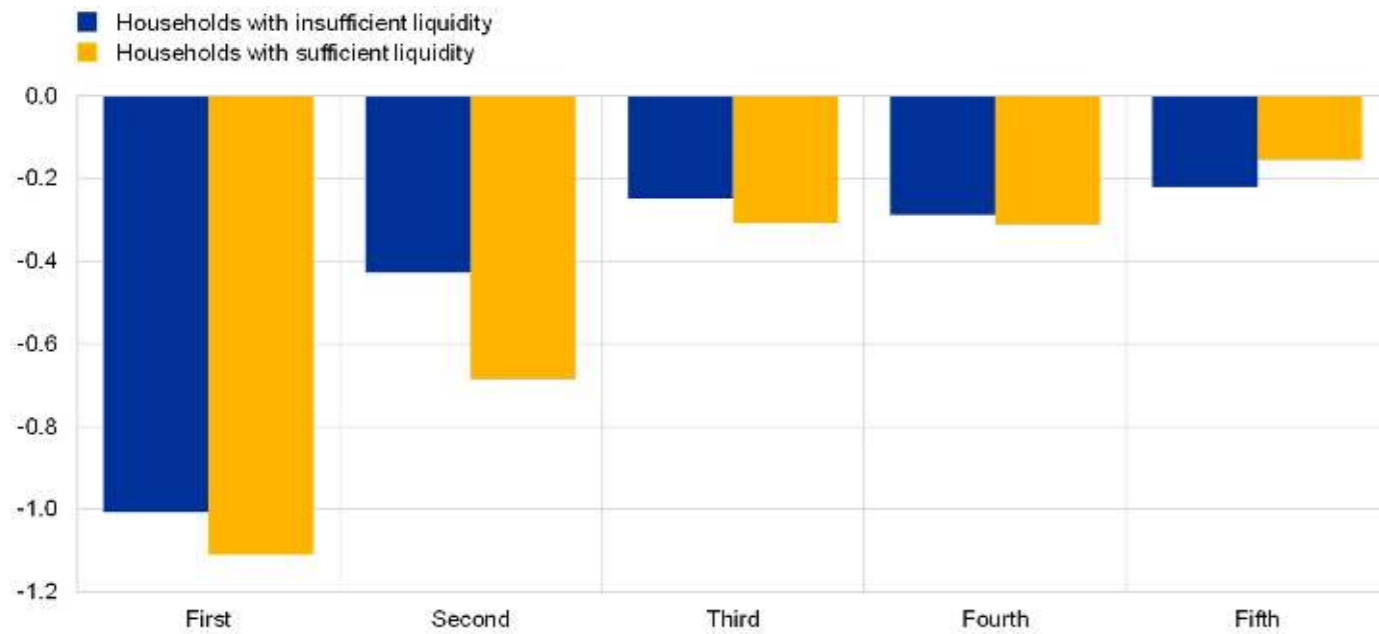
The above-mentioned trends are especially worrying as a large share of EU households is already struggling to fill its energy needs: 7.4%

### The exposure of households to energy price shocks per income quintile (in percentage of net monthly income)



Source: ECB, 2022

### Changes in savings in response to a rise in energy spending per income quintile (in percentage point of income)



Source: ECB, 2022

of households were unable to keep their home warm and 6.6% had arrears on utility bills in 2018.<sup>184</sup> In 2020, 10.5% of French inhabitants spent more than 8% of their revenues on their house energy bills, and one in five suffered from cold during at least 24 hours in the winter.<sup>185</sup>

Energy prices and inefficient homes are two of the three key causes of EU energy poverty, and the poorest EU households are the ones living in the energy-leakiest houses.<sup>186</sup> Households in EU countries that are relatively poorer or colder spend a larger share of their income on energy, and are therefore hit harder by energy prices than households in other member states.<sup>187</sup> Central and Eastern European countries belong to both categories, and therefore their lower income populations are especially vulnerable.

In the EU more globally, energy-driven inflation increases inflation inequality,<sup>188</sup> and, as such, inequality in general.

Furthermore, the energy price crisis in 2021 occurred in a context where many households were already facing additional financial distress globally<sup>189</sup> – in the EU this was due to the Covid-19 pandemic. In 2020, there were 96.5 million people at risk of poverty or social exclusion in the EU, representing 21.9% of the population.<sup>190</sup> As soon as May 2020, 58% of EU households experienced financial difficulties due to the pandemic,<sup>191</sup> notably due to higher energy bills and lower employment.<sup>192</sup> Low-income workers in EU countries were at a much higher risk of losing their jobs because of the pandemic<sup>193</sup> and registered significant income losses.<sup>194</sup>

**Low-income communities and households are the most affected by inflation. Energy price-driven inflation impacts communities and households even more, as energy represents a larger share of their budgets and they tend to live in poorly insulated homes. In short, fossilflation is a disaster for low-income communities. Public institutions - including the ECB - must help the poorest households to overcome fossilflation by proactively supporting the EU energy transition and the renovation of houses. Following this path would both deliver significant social benefits and reduce the impact of fossil fuels on inflation by reducing households' exposure to varying energy prices.**



## The deadly trap: gas infrastructure is not a solution to the gas crisis

In light of the Russian aggression on Ukraine, the EU mobilised to swiftly reduce its dependency on Russian gas. As the lobbying of the gas industry has been historically effective in Europe,<sup>195</sup> this new context finally resulted in a wave of gas import projects.<sup>196</sup> As of the end of February 2022, the construction of planned EU gas projects could increase gas import capacity by 24.9% for an estimated cost of €26.4 billion.<sup>197</sup> Furthermore, announced in May 2022, the European Commission's REPowerEU plan contains several new LNG and pipeline projects for €10 billion investments.<sup>198</sup>

This surge in proposed gas infrastructure projects is unnecessary and irrelevant to ensure EU energy security.<sup>199</sup> According to Global Energy Monitor, existing EU gas infrastructure is sufficient to fill the gas demand projected by the IEA, EU Commission and ENTSOG, even if Russian pipelines are turned off.<sup>200</sup> The large gas demand reduction potential of the "Fit for 55" package and REPowerEU suggests the impact of the substitution of Russian gas is likely to disappear after 2025.<sup>201</sup> Indeed, the REPowerEU alone aims at reducing gas demand by 310 bcm by 2030,<sup>202</sup> well beyond the 155-195 bcm per annum sourced by the EU from Russian gas. Furthermore, new LNG terminals take years to be built<sup>203</sup> (3-5 years after reaching a final investment decision for US liquefaction terminals).<sup>204</sup> Even if all EU terminals were built in record time, it is unlikely that the gas supply would follow: prospects for new non-US LNG imports are limited<sup>205</sup> and sizably increasing US imports to the EU would take several years.<sup>206</sup> Additional gas supply would also come at a prohibitive cost and could lead the EU to spend much more than previously anticipated on energy.<sup>207</sup>

Apart from being unnecessary for EU energy security, new gas infrastructure projects are incompatible with EU climate goals. Fossil gas production and consumption must be swiftly and drastically reduced to limit global warming to 1.5°C.<sup>208</sup> LNG significantly increases the carbon footprint of fossil gas,<sup>209</sup> increasing lifecycle emissions by up to 21%.<sup>210</sup> In countries with low levels of renewable energy deployment, LNG import can delay the adoption of low-emission technologies.<sup>211</sup> Additionally, most European LNG imports and new gas imports come from US shale gas.<sup>212</sup> Energy intensity and methane leaks make US LNG's carbon footprint at best moderately smaller – and often higher – than that of other fossil fuels.<sup>213</sup>

Like building up LNG capacity, ramping up fossil fuel production to provide alternatives to Russian imports is both ineffective and a breach of climate commitments. New fossil fuel supply infrastructures would take years to start producing, would lock-in carbon emissions for decades and would create massive amounts of stranded assets.<sup>214</sup> For example, in the UK, new North Sea projects that are given a development licence take an average of 28 years to start producing oil and gas,<sup>215</sup> and developing a somewhat significant shale gas industry would take a decade.<sup>216</sup> Moreover, wholesale fossil fuel prices are set on the global market, thus developing local production will not directly translate into lower energy bills.



# 3. GREENFLATION MYTH: WHEN A PLANNED ENERGY TRANSITION LOWERS PRICES AND INCREASES STABILITY

## a. Green energy is competitive and secure

As of today, greenflation is yet to materialise. The scale of the clean energy transition remains limited and has neither caused higher inflation, nor created volatility. While using the word “greenflation”, Isabel Schnabel herself acknowledges that it “has had much less of an impact on final consumer prices than fossilflation.”<sup>217</sup> In the same fashion, Mark Carney, co-chair of the Glasgow Financial Alliance for Net Zero (GFANZ), noted that the “net zero transition” is “likely to be less inflationary than keeping with current insufficient climate policies.”<sup>218</sup> In fact, the greenflation narrative is not grounded in historical evidence. It rather originates from the beliefs that renewable energy would become more expensive, while new taxes simultaneously make high-carbon energy production costlier.<sup>219</sup> However, none of these beliefs stand up to careful examination.

Firstly, it is now consensus that “[c]lean energy is sustainable, competitive, and secure.”<sup>220</sup> Solar and wind are already the cheapest form of new electricity generation in 90% of the world.<sup>221</sup> The past decade has seen a sustained improvement of renewable energy competitiveness. Even accounting for the cost increase of the end of 2021 and beginning of 2022, the costs of solar power and wind have fallen by around 86% and 46%, respectively,

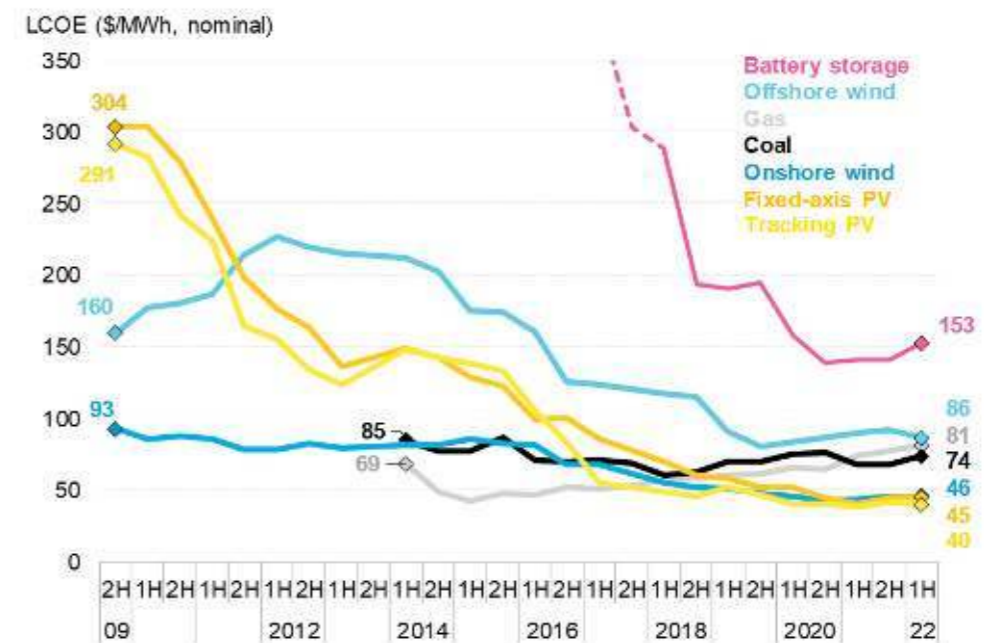
since 2010.<sup>222</sup> This trend has been supported by a significant experience curve, where costs fall by around 30% and 16%, respectively, for every doubling in deployment.<sup>223</sup> It has also benefitted from the improved efficiency of renewable technologies, including for battery storage.<sup>224</sup> These factors suggest cost reduction could continue in the coming years as renewable energy is further deployed and new investments are made.<sup>225</sup> For example, academics at Oxford University have modelled likely future prices of solar at around US\$10 per MWh by 2050.<sup>226</sup>

Additionally, when considering the cost of storage, transmission and grid services, several studies suggest that renewable energy provides cheaper energy than fossil-based alternatives and will continue to do so in the future.<sup>227</sup> Large cost reductions enabled wind and solar to remain highly competitive despite potentially requiring some flexibility and capacity adjustment, for example, through the addition of battery storage.<sup>228</sup> Concretely, wind and solar with battery storage already provides the most competitive way to phase out coal in the EU. In fact, EU ETS reached €90 per tCO<sub>2</sub> in December 2021,<sup>229</sup> and previously traded around €70 per tCO<sub>2</sub> – well above the €15 per tCO<sub>2</sub> that TransitionZero estimates will make the replacement of coal with solar or wind plus battery storage competitive. In comparison, a cost-competitive coal to gas switch would require EU ETS prices to rise to €191 per tCO<sub>2</sub>.<sup>230</sup>

If renewable energy costs slightly rose in 2021 globally according to BloombergNEF, the global cost of utility scale solar panels and wind remains low (US\$45 per MWh and US\$46 per MWh, respectively).<sup>231</sup> In fact, the price gap between renewable and fossil fuel

power generation continues to widen – at the global level, new-build onshore wind and solar projects are 40% cheaper than new coal- and gas-fired power (US\$74 per MWh and US\$81 per MWh, respectively), according to BloombergNEF.<sup>232</sup> Overall, “[r]

Global Levelized cost of electricity (LCOE), 2009-2022



Source: BloombergNEF, 2022

renewables remain the cheapest source of new bulk power in countries comprising two-thirds of the world population and nine-tenths of electricity generation” and in all the EU countries studied.<sup>233</sup> The IEA underlined in its World Energy Investment 2022 that renewables “remain the most cost-efficient option for new power generation in many countries, even before accounting for the exceptionally high prices seen in 2022 for coal and gas.”<sup>234</sup> Similarly, for the capacity installed in 2021, the International Renewable Energy Agency (IRENA) noted that solar panels starkly outcompeted fossil gas in Europe and that two-thirds of renewable capacity in the G20 had a lower cost than the cheapest fossil-fuel option.<sup>235</sup>

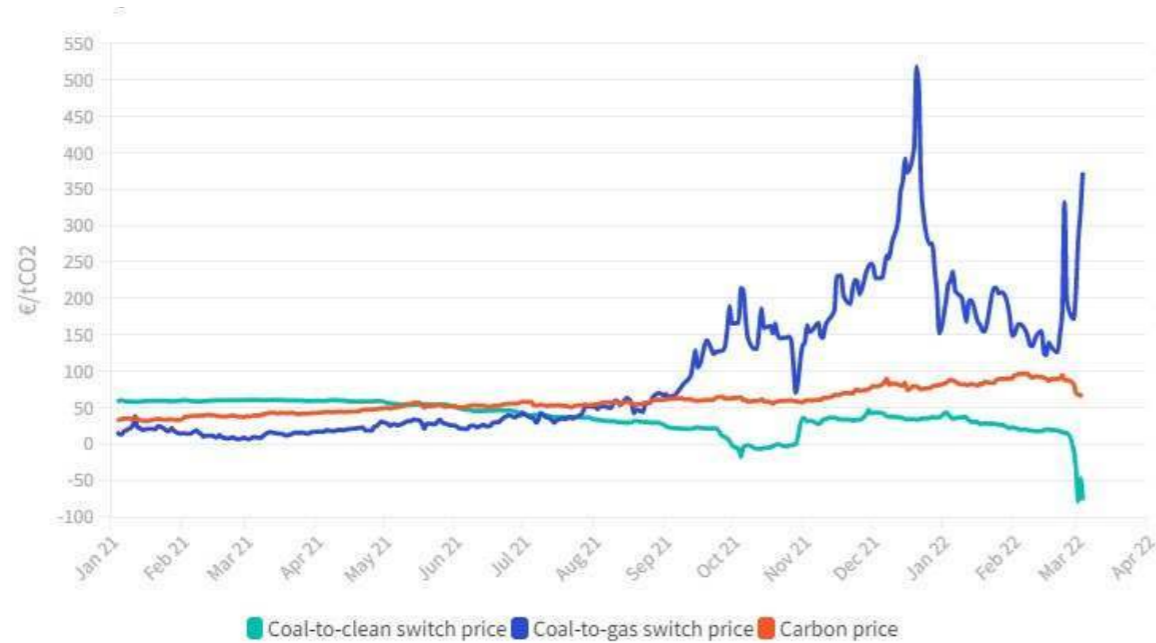
Furthermore, the very recent renewables cost rise is due to increases in the cost of materials, freight, fuel and labour caused by conjunctural factors. It is not the sign of a reversal of the

structural cost reduction trend associated with renewable energy development. As BloombergNEF analyst Amar Vasdev noted: “These cost hikes mark a rough patch for renewables, but not an inflection point. We see a return to long-term technology cost decline trajectories as demand continues to be strong, supply chain pressures ease and production capacity, particularly in China, comes back online.”<sup>236</sup>

Renewable energy development contributes to protect consumers. The French energy agency estimated that renewable energy development has already enabled inhabitants to save €40 billion on energy bills between 2000 and 2019 and would save €6.4 billion if current development plans are realised from 2020 to 2028.<sup>237</sup>

Beyond its positive impact on energy price levels, a key contribution of renewable energy

## EU coal-to-clean and coal-to-gas fuel switching prices versus prevailing EU carbon prices

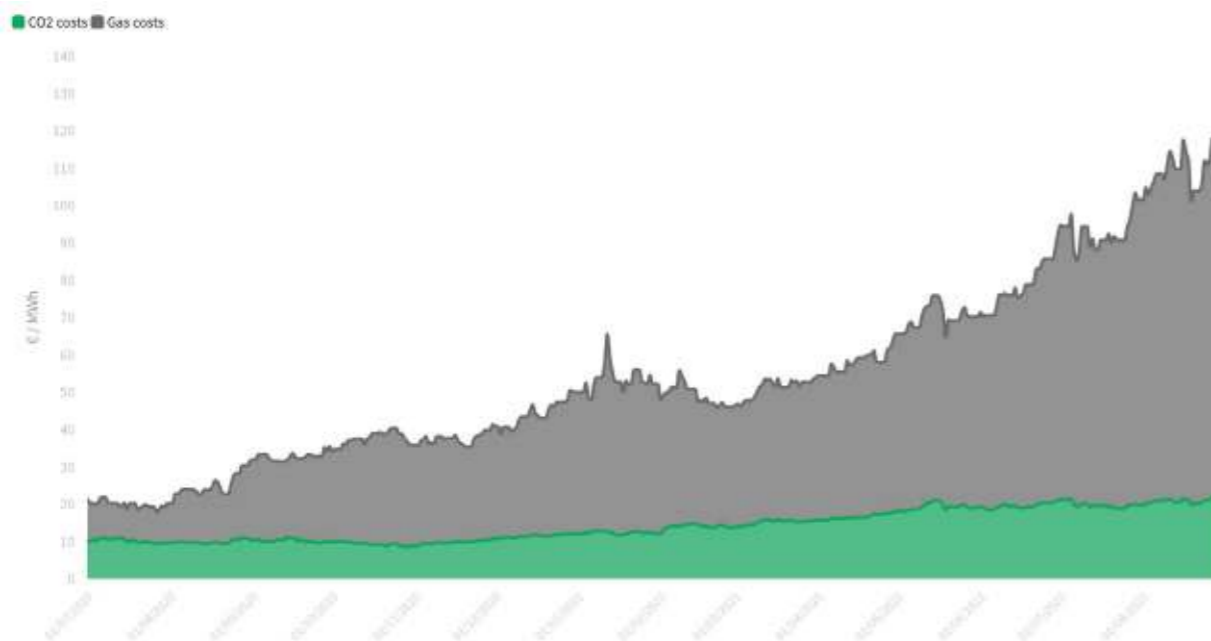


Source: TransitionZero, 2022

to inflation management comes from the fact that it enables energy users to stop depending on a constant inflow of fuel.<sup>238</sup> A gas-fired power plant requires a continuous supply of fossil gas, while a solar farm requires virtually no material after being built. While fossil fuel price changes affect all fossil-fired power plants, price changes in the materials

necessary to renewable energy do not affect plants that are already operational. The effect on consumers of any rise in the prices of critical materials for renewables is much less direct than a rise in fossil fuel prices.<sup>239</sup> This explains why the IEA pledges to “accelerate clean energy transitions as a lasting solution to prevent energy price spikes”.<sup>240</sup>

## Impact of fossil gas costs and carbon costs on EU electricity prices



Source: Ember, 2022

Secondly, carbon prices are not significant inflation drivers.<sup>241</sup> In the past, the introduction of carbon prices and their increases have not contributed to higher inflation.<sup>242</sup> Looking at the current inflation trend, carbon prices played a minor role in energy price increases.<sup>243</sup> In September 2021, the EU Commission’s vice-president Frans Timmermans underlined that only about a fifth of the energy price increase could be linked to CO<sub>2</sub> prices.<sup>244</sup> In January 2022, just before the start of Russia’s war on Ukraine brought gas prices even higher, the IEA estimated that the sharp spike in natural gas prices was nearly eight times bigger than the effect of the increase in carbon prices.<sup>245</sup> Indeed, EU carbon prices would have had to increase by an astounding €400 per tCO<sub>2</sub> to bring gas prices above the €100 per MWh it reached in winter 2021/2022 because of fossil gas prices.<sup>246</sup>

Furthermore, if such a massive and whimsical carbon price increase were to take place, it would have a much lower impact than the direct rise of fossil fuel prices.<sup>247</sup> For example,

**Overall, renewable energy will provide low-cost, clean and domestic electricity, thus lowering GHG emissions and energy bills, and improving energy security. It helps shield power prices from supply shocks, thus significantly contributing to the management of volatility. A renewables-based power system is much less exposed to supply shocks and will deliver major environmental, economic and social benefits. If more stringent climate policies are adopted – as required to reach the goals of the Paris Agreement – carbon prices will not have a major effect on inflation or limit the benefits of a clean energy transition.**

## b. An orderly transition: the solution to potential short-term price increases

As explained, there is no evidence to justify the greenflation argument. On the contrary, a clean energy transition could contribute to inflation management and help protect households from higher energy prices. But, in some scenarios, the period where countries and companies transition from a fossil fuel-based system to a renewable-based system could lead to short-term inflation.<sup>252</sup> This is notably the case if the supply of critical materials necessary to build renewable energy and ensure grid stability is not

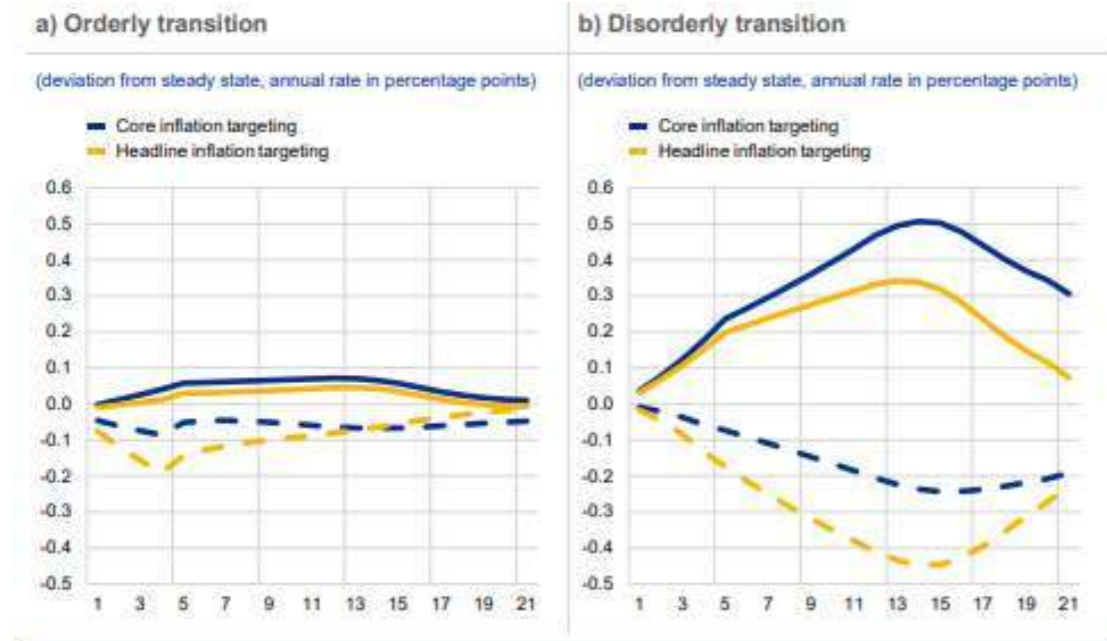
modelling from the UNEP FI and National Institute of Economic and Social Research (NIESR) indicates OECD CO<sub>2</sub> prices at an average US\$550 per tonne would increase inflation by less than 1 percentage point in the euro area compared to current policies while an increase of the global oil price of US\$100 per barrel would add 5 percentage points to EU inflation in the first year.<sup>248</sup> According to the Bank for International Settlements (BIS), a more realistic carbon price increase of US\$10 per ton of CO<sub>2</sub> would only increase headline inflation by 0.08 percentage points and have no impact on core inflation – excluding food and energy.<sup>249</sup>

Indeed, as ECB board member Isabel Schnabel stressed, carbon pricing is fundamentally different from an increase in fossil fuel prices.<sup>250</sup> It impacts households and companies only if they are unable to find “greener” replacements and provides additional public revenues that can be used to mitigate any effect on those that need it the most (for example through the EU Social Climate Fund).<sup>251</sup>

sufficient to fulfil massive demand.<sup>253</sup> Such ill-managed transition scenarios could see the cost of energy increase in the short term, until renewable energy is sufficiently deployed and/or the supply of critical materials has been unlocked. As ECB board member Philip Lane underlines, “The net impact of the carbon transition on inflation dynamics will depend on the exact transition path that emerges and the time horizon considered”.<sup>254</sup> Here, we should talk of “transitionflation”, not “greenflation”.

NGFS net-zero scenarios give key insight on this potential transitionflation effect. In an “orderly transition”, where actions are taken rapidly to align with climate goals and limit

## Impact of “orderly” and “disorderly” transition on inflation



Source: ECB, 2021

Note: According to the NGFS, the “orderly” transition reflects a trajectory where “climate policies are introduced early and become gradually more stringent”. Both physical and transition risks are relatively subdued. On the contrary, the “disorderly” transition implies “policies being delayed or divergent across countries and sectors”.

global warming to 1.5°C, inflation increases very marginally in the short term before quickly fading as the greater cost competitiveness of clean energy takes hold.<sup>255</sup> However, in a “disorderly transition”, where action is delayed and more abrupt, inflation significantly rises and remains higher in the 2030s.<sup>256</sup> The increase in energy prices is delayed, but sudden. Energy prices rise by 13.5% per year and push headline inflation above the ECB’s 2% target for a prolonged period.<sup>257</sup>

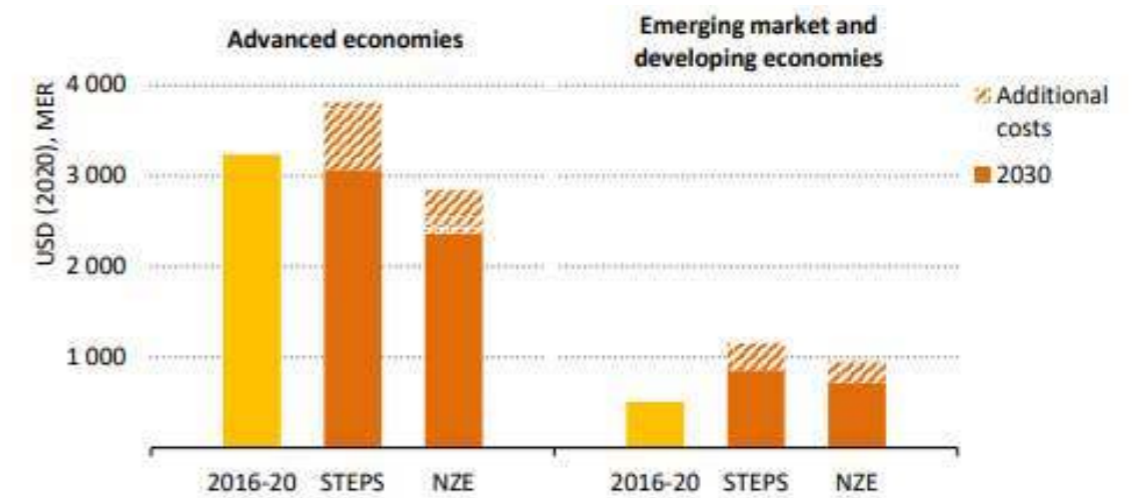
NGFS projections reflect three dynamics. 1) In the short term, the clean energy shift requires massive investment and a sizeable increase in the supply of critical materials that could potentially contribute to inflation. 2) In the longer term, the transition lowers prices and their volatility, facilitating inflation management. 3) An “orderly” transition – immediate, more progressive and planned – minimises the potential short-term inflationary impacts. To say it differently, a planned transition that prioritises a gradual shift to a decarbonised world and limits global warming to 1.5°C contains “transitionflation” and provides the best human and macroeconomic outcomes.<sup>258</sup> While, conversely, as Banque de France governor François Villeroy de Galhau

puts it, “the more the transition is delayed and disorderly, the greater the risks of green inflation”.<sup>259</sup>

This analysis is supported by key international figures from the finance and energy world. Indeed, Mark Carney acknowledged, “If climate policy actions are anticipated, they can be more modest, bringing forward investment, smoothing the transition and lowering the inflationary impacts”.<sup>260</sup> The IEA head Fatih Birol underlined that “well managed clean energy transitions can help reduce energy market volatility and its impacts on businesses and consumers”.<sup>261</sup> For example, the IEA noted that its “Net Zero by 2050” scenario (NZE) would allow households worldwide to pay lower bills in 2030 and significantly limit the impact of commodity price shocks on energy bills compared to staying with current policies.<sup>262</sup>

Importantly, an “orderly” transition could help mitigate the supply side challenges for critical minerals and materials that brought renewable energy prices up in 2021 to 2022.<sup>263</sup> There is no shortage of critical material and mineral reserves.<sup>264</sup> An orderly transition would enable the EU to unlock

## Impact of a commodity price shock on average household energy bills in advanced economies and in emerging market and developing economies in 2030 by IEA scenario



Source: IEA, 2022

Note: The STEPS is an IEA scenario “which reflects current policy settings based on a sector-by-sector assessment of the specific policies that are in place, as well as those that have been announced by governments around the world”. The NZE is the IEA “normative” scenario which sets a “pathway for the global energy sector to achieve net zero CO2 emissions by 2050” and align with the goals of the Paris Agreement.

these critical materials and mineral reserves and manage potential demand.<sup>265</sup> Recycling is the most important strategy to reduce production needs and, therefore, potential supply constraints.<sup>266</sup> It could provide up to 75% of clean energy metal requirements for the EU transition according to the industry.<sup>267</sup> Furthermore, industrial production capacities can be developed locally to provide the

necessary components to scale up renewable energy production while mitigating supply chain risks.<sup>268</sup> Improving energy efficiency<sup>269</sup> and taking advantage of the complementarity of wind and solar power generation<sup>270</sup> will also be key to reduce or stabilise energy consumption and production, and therefore the volume of critical minerals needed.

**To summarise, the potential inflation arising from a mismatch between clean energy materials supply and demand can be mitigated by delivering an orderly transition. The solutions exist to limit the risk of supply bottlenecks during a clean energy boom, including limiting energy and materials demand, rolling out recycling solutions and developing new supply chains. Contributing to an orderly transition means supporting the timely roll-out of EU clean energy policies. The benefits for price stability, economic activity and households would be significant.**

# 2.

## THE CLEAN ENERGY TRANSITION IN THE ECB'S MANDATE

*In order to be well managed, all types of climate-related inflations require one common thing; the contribution to an EU clean energy transition. For the ECB, maintaining price stability requires supporting EU efforts to lower energy demand through increasing energy efficiency and rolling out massive renewable energy capacity.*

*Following this assessment, this section examines in more detail how this imperative fits within the ECB's mandate as defined by the Treaty on the Functioning of the European Union (TFEU). It also examines how proactively supporting a clean energy transition can improve the efficiency of monetary policy by addressing traditional monetary policy "trade-offs".*

# 1. PROACTIVELY SUPPORTING A CLEAN ENERGY TRANSITION IN THE ECB'S PRICE STABILITY MANDATE

After nine years of trying to bring its inflation up to its 2% target,<sup>271</sup> the ECB now witnesses inflation at four times this level and will likely continue to see inflation well above its targets for years.

While ECB board member Philip Lane once suggested Europeans may have to “get used” to higher inflation and that a large share of current inflation would “fade away”,<sup>272</sup> this position ignored both the real impact of the current inflation on Europeans and the structural weaknesses revealed by the crisis. Taking stock of the context, and linking it to the upcoming energy transition, the ECB board member Isabel Schnabel underlined that in the future “the contribution of energy and electricity prices to consumer price inflation could be above – rather than below – its historical norm”.<sup>273</sup> The ECB cannot “look through” something that is structural, striking Europeans hard and likely to impair its capacity to reach its primary mandate of price stability. Indeed, the latter should be the most preoccupying fact for an ECB that takes pride in fiercely protecting this mandate enshrined in EU Treaties. As Schnabel acknowledges: “Monetary policy, for its part, cannot afford to look through energy price increases if they pose a risk to medium-term price stability”,<sup>274</sup> and “[t]here’s a more persistent or more structural component to these energy price shocks”.<sup>275</sup>

Our discussion of the types of climate-related inflations identified by Isabel Schnabel has shown that climateflation and fossilflation have an impact on price stability. The fact that the most drastic impacts of climateflation will materialise in the longer term does not make it

less relevant to price stability as this mandate is not bound to a specific time horizon.<sup>276</sup> Furthermore, one of the historical justifications for central banks’ independence is the idea that political authorities are “time inconsistent” and struggle to look beyond the short term. Independent central banks are therefore here to consider longer term impacts and evolutions, it is central to their reason for being.<sup>277</sup> A clean energy transition mitigates both climateflation and fossilflation by importantly contributing to climate change mitigation and reducing Europe’s dependency on fossil fuels. Supporting a clean energy transition is therefore a major way for the ECB to consider these inflations and protect price stability in a warming and changing world.

Greenflation fears that could lead central bankers to reject proposals for supporting a clean energy transition are unjustified. If some transitionflation can appear in the short term, this inflation would remain far below current fossilflation and can largely be tamed through a planned transition. As a 2021 study from the ECB acknowledged, “the transition to a “greener” economy is unlikely to be smooth and without economic costs”, and these changes “cannot be ignored by monetary policy”, thus offering “ground to argue that central banks should engage in “proactively” integrating climate change considerations in their policies.”<sup>278</sup> Here again, mitigating the impact of transitionflation requires supporting an orderly clean energy transition. For the ECB, this means supporting major EU green plans and policies.

The endogenous, global and volatile dimension of climate-related inflations make them impossible to manage if their drivers – namely



GHG emissions and fossil fuel consumption – are not considered. ECB climate inaction could contribute to intensify climateflation, fossilflation and transitionflation.

Supporting an EU clean energy transition would clearly contribute to the ECB's primary mandate. Following EU Treaties, the ECB may pursue the price stability objective directly and indirectly – “fostering the preconditions that

are necessary for fulfilling this objective.”<sup>279</sup> Proactively contributing to a clean energy transition provides a direct contribution to price stability, with its effect on fossilflation. It also provides an indirect contribution to price stability, through reducing the potential extent of climateflation and transitionflation. In short, supporting a clean energy transition would establish the enabling conditions required to continue to meet the ECB's primary mandate.

**To summarise, if the ECB is to maintain price stability in the coming years, it has no choice but to become an active supporter of an EU clean energy transition. It is necessary to integrate the longer-term impact of climate change into monetary policy. Without decisive action to achieve transition objectives, the ECB could struggle to meet its price stability objectives as fossil fuel disruptions continue and climate-related shocks multiply.**

## The Russian war on Ukraine and gas crisis make the EU energy transition even more pressing

The war on Ukraine confronted EU and Western states in their dependency on Russian fossil fuels.<sup>280</sup> EU countries still bought about €57 billion of Russian fossil fuels from the beginning of the war to June 3, 2022.<sup>281</sup> However, EU member states can swiftly reduce this dependence and simultaneously advance international climate goals. As Rystad Energy pointed out, European countries may “face stronger incentives than ever to accelerate their transition to green energy sources, as these sources have gained the added advantage of being an investment in energy security.”<sup>282</sup>

From NGOs<sup>283</sup> to the International Energy Agency<sup>284</sup> and EU member states, all agreed on the imperative necessity to massively scale up renewable energy production and lower fossil fuel demand (through energy efficiency, heat pumps and habit changes). In June 2022, nineteen EU governments had increased their decarbonisation and renewable energy targets in response to the crisis.<sup>285</sup> Denmark, Germany, Greece and Finland adopted ambitious objectives to drastically reduce gas consumption and/or reach a carbon neutral power system by 2035.<sup>286</sup>

European ambitions are realistic. Several countries succeeded in sharply and swiftly reducing energy demand through energy efficiency<sup>287</sup> and/or massively ramping up their renewable energy capacity<sup>288</sup> in the past. From 2019 to 2021, the Netherlands and Spain respectively reduced electricity generation from gas by 22% (17 TWh) and 17% (15 TWh).<sup>289</sup>

## 2. AVOIDING TRADE-OFFS AND WORKING FOR EU OBJECTIVES

Historically, central banks have been exposed to the effect of fossil fuel prices without having the means to significantly influence them. They were only able to “look through” prices or rely on traditional monetary tools. However, rising interest rates or shutting down asset purchases have a limited and indirect impact on fossilflation<sup>290</sup> – through demand destruction (higher interest rates depress economic activity, thus eventually lowering demand and prices) – but a large negative impact on employment, tax and social security revenues and public debt cost.<sup>291</sup> In the EU, the ECB Governing Council members have been divided over rising interest rates because some feared the impact the decision would have on growth.<sup>292</sup>

Furthermore, a tightening monetary policy can also limit the ability to invest in the green

transition and penalise relatively capital-intensive<sup>293</sup> renewable energy.<sup>294</sup> Indeed, a rise in capital cost can significantly increase the cost of electricity produced from new renewable sources.<sup>295</sup> Thus, indiscriminate monetary policy tightening can have a negative collateral effect on green energy development – and therefore on managing climate-related inflations.<sup>296</sup>

To avoid the above-mentioned “trade-offs” of monetary policy, a targeted monetary policy response must be pursued:

- New tools can be mobilised to tackle fossil-driven inflation more directly, and not only through demand destruction, by supporting the energy transition.
- Using sustainability criteria can enable the ECB to preserve favourable financing conditions and ample liquidity for

**“ It would be deeply problematic if raising interest rates, to fight short term price developments, would harm investments that comply with the Green Taxonomy. ”**

*Jens van 't Klooster,  
University of Amsterdam, 2022*



“

**[A rate rise would] have the consequence of further depressing growth in the euro zone [...]. Moreover, such a rate rise would reinforce the already existing concerns about the sustainability of (public and private) debt.**

”

Carl Grekou and al,  
CEPII/IRIS/IFP-School, 2022

green energy and efficiency, even when tightening monetary policy for the overall – still high-carbon – economy. This would let the ECB control inflation in the short term and preserve price stability in the longer term.

Furthermore, while achieving price stability, the ECB is required by EU Treaties to support the general economic policies of the Union (“secondary mandate”). In this regard, limiting climate change stands out among other EU policies and objectives due to its macroeconomic effects, the magnitude of the challenge climate change represents, and the clear international and European goals that have been set to address it.<sup>297</sup> The development of renewable energy and energy efficiency have especially been highlighted as priorities in the EU Green Deal,<sup>298</sup> “Fit for

55” package,<sup>299</sup> and put at the centre of the REPowerEU plan, the EU’s recent response to the gas crisis.<sup>300</sup> When analysing current and future inflation, the governor of the Banque de France highlighted the importance of achieving a European environmental and energy transition and acknowledged that the ECB had a role to play in this great undertaking.<sup>301</sup>

Additionally, contributing to EU climate policies would help respect the EU Treaties’ “consistency clause”<sup>302</sup> that requires consistency in EU policies across institutions. It would also help the ECB avoid reinforcing market failures caused by climate change, in line with its obligation to “act in accordance with the principle of an open market economy with free competition, favouring an efficient allocation of resources”.<sup>303</sup>

**In short, if the ECB is to fulfil its primary and secondary mandates and ensure the effectiveness of its monetary policy, it must contribute to EU clean energy and energy efficiency policies. The ECB already accepted that it had a role to play in the energy transition when it published its first climate roadmap<sup>304</sup> and pledged to “contribute, within its mandate, to goals of the Paris Agreement”<sup>305</sup> during COP26. However, this recognition mostly resulted in measures to consider climate-related risks and improve transparency. Concretely, the ECB is yet to cut its support to major polluters and adopt any measure that would contribute to the EU transition.<sup>306</sup>**



# 3.

## HOW THE ECB CAN CONTRIBUTE TO SOLVE THE ENERGY AND CLIMATE CRISIS

*In the previous chapters, we showed that the ECB must proactively contribute to an EU clean energy transition to fulfil its mandate. But how can the ECB support a clean energy transition? Looking for options that improve coherence with EU policies and coordination with EU authorities, in line with the ECB's secondary mandate,<sup>307</sup> we put forward three essential measures that the ECB should adopt:*

- 1. Shifting asset purchases and the collateral framework to exclude fossil fuel developers.*
- 2. Dual rates, with a green lending facility to support building renovation and green energy.*
- 3. An ECB-EIB coordination to support a just European energy transition.*

*The EU must mobilise all financial levers to support the transition,<sup>308</sup> and the ECB can greatly help. For example, the Sustainable Finance Lab estimated that ambitious action to green central bank policies can substantially accelerate the transition, triggering 5% to 12% of the needed emission reductions.<sup>309</sup>*

# 1. CLEANING UP ITS ACT: ALIGNING ECB OPERATIONS WITH EU CLIMATE GOALS

The key commitments to limit global warming to 1.5°C and reach carbon neutrality should be embedded in ECB operations. As evidenced by the IPCC<sup>310</sup> and IEA,<sup>311</sup> new fossil fuel supply projects and coal power plants are incompatible with keeping global warming below 1.5°C or even 2°C.<sup>312</sup> Furthermore, coal power must be swiftly phased out to have a chance to respect the Paris Agreement. Therefore, any support provided by the ECB to fossil fuel supply or coal plant projects and the companies developing them, or to companies involved in the coal sector that do not have adopted a plan to exit coal – by 2030 in the EU and OECD and 2040 worldwide at the latest – by closing existing assets contributes to the climate crisis and is incompatible with EU climate goals.

However, several studies revealed that ECB operations support highly emitting companies, including fossil fuel developers and coal companies. The bank's corporate asset purchases and collateral framework are both skewed toward high-carbon activities.<sup>313</sup> In 2020, the most carbon intensive sectors accounted for 58.9% of the ECB's corporate asset purchases<sup>314</sup> and 59% of the corporate bonds accepted as collateral.<sup>315</sup> Reclaim Finance notably identified 38 fossil fuel companies in the ECB's corporate bond holdings in May 2020,<sup>316</sup> including companies that are yet to set a credible coal exit plan – like Électricité de France (EDF), Fortum or Energie Baden Württemberg (EnBW).<sup>317</sup>

Despite strong mobilisation from civil society and EU citizens<sup>318</sup> and the announcement of its first climate roadmap, the ECB kept on buying bonds from companies that are developing fossil fuel projects throughout the Covid-19 crisis. From April 2020 to September 2021, the number of bonds from the five European oil and gas majors – Shell, TotalEnergies, OMV, Repsol and Eni – held by the ECB rose by 16.2%.<sup>319</sup> These companies are all developing new fossil fuel supply projects and are planning to significantly increase their production in the coming years.<sup>320</sup> In parallel, the ECB still accepted fossil fuel bonds as collateral.

The ECB's continued support to companies that are developing new oil and gas wells, coal mines or plants is all the more intolerable that fossil fuel exclusions could easily be implemented as part of the ECB's climate roadmap and do not require a significant change in its monetary policy stance. To stop contributing to the climate crisis, the ECB must immediately exclude companies

that are still developing fossil fuels<sup>321</sup> from its asset purchases and collateral framework. Beyond fossil fuel developers, the ECB should ensure that the planned "decarbonization" of its corporate asset purchases (scheduled to begin in October 2022) entails the exclusion of companies that are clearly at odds with European climate goals and should apply the same logic to its collateral framework.<sup>322</sup>

This urgent need is not undermined by recent monetary policy decisions taken by the ECB. Indeed, if the ECB decided to end net asset purchases,<sup>323</sup> it does not mean that the central bank will cease buying assets. The ECB will continue to reinvest the payments from maturing securities – about €30 billion a year – and could resume net purchases in the future to counter shocks.<sup>324</sup> Implementing clear environmental criteria on asset purchases remains relevant in the current context. Similarly, the monetary tightening context does not impact the relevance of the proposed measures on the collateral framework.

**As the ECB's asset purchases and collateral rules support companies that are at odds with EU climate goals, decarbonising asset purchases and collaterals is a prerequisite for the ECB to support a clean energy transition. A group of prominent ECB officials notably suggested that the ECB use the EU's "Paris-aligned benchmark" to decarbonise its asset purchases. However, this proposal has not been included in the ECB's July 2022 climate agenda update, nor proposed for the bank's collateral framework. Even if it were taken up by the central bank, it would remain insufficient to cut all support to fossil fuel developers or to companies without a Paris-aligned coal exit plan.<sup>325</sup> The ECB must cut all ties with companies that develop new oil and gas wells and coal mines or plants or that did not adopt a coal exit plan.**



# 2. JUMP-STARTING EU ENERGY EFFICIENCY: DUAL RATES AND GREEN LENDING FACILITY TO SUPPORT BUILDING RENOVATION

To address fossilflation and avoid monetary policy “trade-offs”, the ECB could turn to credit guidance policies.<sup>326</sup> Indeed, nothing forces the ECB to have a uniform rate policy. Instead, the ECB could adopt a “dual rate” policy, which sets different price signals to different stakeholders.<sup>327</sup> On the one hand, lower rates can be provided to finance activities that would contribute to an EU clean energy transition. On the other hand, higher rates can be used to respond to inflation – as the ECB started to do in June 2022 and plans to continue to do in 2022.<sup>328</sup>

When responding to the Covid-19 pandemic, the ECB established a negative TLTRO rate for banks that reached a certain total lending threshold.<sup>329</sup> Building on this experience, the ECB could offer a preferential «green interest rate» to banks that would be proportional to their portfolio of loans for housing renovation<sup>330</sup> or renewable energy. In fact, it would not be the first time a central bank has used rates to contribute to green activities: the People’s Bank of China provides cheaper loans to banks that lend to companies engaging in carbon emission reduction,<sup>331</sup> and the Bank of Japan implements a refinancing facility conditioned to climate disclosure and to support for the

Japanese transition.<sup>332</sup> Taking stock of these examples, Christine Lagarde suggested in June 2022 that the ECB should consider green lending facilities.<sup>333</sup>

Positive Money Europe and a coalition of NGOs notably propose to launch a “Renovation-TLTROs’ pilot programme” to provide a discount rate to banks for loans dedicated to energy efficiency renovation projects.<sup>334</sup> This discount rate could mainstream access to virtually costless renovation loans, enabling households to finance deep renovation projects and states to redirect public support to help the poorest households.<sup>335</sup> It could contribute to major energy efficiency gains in the building sector, which is the sector with the largest short-term potential for energy demand reduction.<sup>336</sup> This proposal would be fully coherent with EU policies and closely follow the priorities set by political leaders and citizens:

- Building renovation and energy efficiency have been defined as a priorities of EU policy in the Clean energy for all Europeans<sup>337</sup> package and in the Commission’s Recommendation on energy poverty.<sup>338</sup> The European Commission estimates that

220 million buildings need to be renovated by 2050. Decarbonising buildings requires an additional €224 billion per year compared to 2011 to 2020, with €214 billion coming from loans.<sup>339</sup>

- EU polls show that 89% of EU citizens think the EU must ensure access to affordable energy,<sup>340</sup> in particular to reduce the number of people unable to pay their energy bills.

- Energy efficiency renovation would quickly help lower EU consumption of fossil fuels – in line with the REPowerEU plan<sup>341</sup> – as more than three-quarters of heating in Europe remains based on the use of fossil fuels and non-renewable electricity.<sup>342</sup> Deep renovation requires important funding but can drastically reduce energy consumption.

**To summarise, even a limited green lending facility geared toward building renovation could make a significant contribution to EU goals, help the EU wean itself off fossil fuel heating, and bridge the funding gap necessary to renovate European buildings.<sup>344</sup> It would also contribute to the prevention of climate-related inflations and help protect the most vulnerable.**

## Why supporting energy efficiency improvements matter

While short-term habit changes could significantly reduce energy bills for households,<sup>345</sup> some energy spending, like space heating, needs more than behavioural changes to be avoided. Reducing this requires significant investment that many households cannot finance without help.<sup>346</sup> However, most Europeans use their own savings to finance energy efficiency renovation and government grants remain very rare.<sup>347</sup> Using high-interest commercial loans can have significant negative financial impacts and, in 2017, 6.1% of EU households faced difficulty or impossibility to access credit.<sup>348</sup>

To unlock the EU’s enormous potential for energy savings in buildings, additional measures are necessary to help households overcome these funding difficulties and to avoid an increase in the financial debt of the most vulnerable.

Creating these measures would be a game changer for an EU clean energy transition:

- In some EU countries, heating dwellings consumes almost twice as much energy per square metre than in other countries with similar climates.<sup>349</sup> Home efficiency has not improved in the past five years in several countries, while others have lowered their energy consumption per square metre by up to 4% per year.<sup>350</sup>
- The Building Performance Institute Europe (BPIE) indicated: “Insulating attics and roofs can save up to 14% of residential heating energy [...] Checking heating systems and upgrading low-cost heating controls will save approximately 10% of heating energy”.<sup>351</sup>
- In France, it has been estimated that renovating the worst performing housing could generate €1,100 of annual savings on energy bills.<sup>352</sup>

# 3. SUPERCHARGING A EU ENERGY TRANSITION: AN ECB EIB/EC COORDINATION FOR A JUST TRANSITION

Responding to journalists, Christine Lagarde underlined that the ECB had shown its ability to build new tools “in short order” when it responded to the Covid-19 pandemic.<sup>353</sup> In parallel, the ECB board member Philip Lane underlined that the pandemic also showed “the value of common European funding” and that the EU should develop such instruments to tackle climate financing issues and carbon shocks.<sup>354</sup>

To address the climate emergency, the ECB could build a new tool to contribute to this European funding. The ECB could notably work in coordination with the European Investment Bank (EIB) and/or the European Commission (EC) to provide funding for European clean transition instruments and policies:

- The EIB is the EU’s multilateral bank and a major provider of climate finance.<sup>355</sup> It could be instructed to emit “climate” or “just transition” bonds that would be purchased by the ECB through its asset purchases.<sup>356</sup> The ECB already buys a significant amount of EIB bonds<sup>357</sup> and would just be required to increase its purchases proportionately to increased EIB bond emissions.
- The EC is increasingly pushing for joint EU funding to address massive recovery and environmental needs. In March 2022, it made preliminary plans to jointly issue bonds to meet energy transition needs.<sup>358</sup> With its asset purchases, the ECB could buy significant amounts of such new bonds emitted as supranational debt.

The new EIB or/and EC funds could finance several purposes, including creating a fossil

fuel “bad bank” to progressively phase out fossil fuels.<sup>359</sup> However, to stay strictly within the boundaries of current EU policies, the unlocked funds could best be directed to green loans and existing EU funds and programmes, like the Just Transition Mechanism,<sup>360</sup> the Social Climate Fund<sup>361</sup> or the Recovery and Resilience Facility.<sup>362</sup>

At the ECB level, the obstacles to increasing the ECB’s purchases of EIB or EC bonds can easily be overcome. Today, these bonds are bought through the ECB’s Public Sector Purchase Programme (PSPP) along with the debt of other European public authorities. They are counted in a “supranational” category that should be equivalent to 10% of PSPP.<sup>363</sup> Furthermore, the ECB is not supposed to hold more than 50% of the debt emitted by a “supranational” issuer like the EIB.<sup>364</sup> However, the 10% and 50% thresholds are not based on EU Treaties and legislation. They can be modified by a simple decision of the Governing Council. Such changes have already happened in the past: previously supranational bonds could account for up to 12% of PSPP before 2016 and the ECB could only hold 33% of the debt of supranational authorities.

In a monetary policy-tightening context, this proposal would normally collide with the reduction of asset purchases. It is the custom of the ECB to adjust its asset purchases before modifying interest rates, therefore cutting off its net purchases when inflation is high. However, the ECB could well decide to continue part of its asset purchases despite

raising rates. If it strictly aims at contributing to a clean energy transition, such a move would remain coherent with price stability and testify to a flexible monetary policy.

EIB, EC and ECB coordination requires a political agreement. But political leaders would have many incentives to support it:

- Filling the EU green funding gap: the EU Commission estimated the Green Deal’s funding gap would be €350 billion per year from 2021 to 2030.<sup>365</sup> The REPowerEU plan requires an additional €210 billion by 2027 and €300 billion by 2030.<sup>366</sup>
- Fending off austerity: while member states already stacked up debt in response to the Covid-19 crisis,<sup>367</sup> ECB support would help the EU reach its transition funding needs without opening the door to a new austerity period that would badly hurt its population.<sup>368</sup> This new tool will be even more useful in today’s tighter monetary

policy context, where the ECB scales down asset purchases that largely contributed to lower rates for sovereign debt amid the Covid-19 pandemic.<sup>369</sup> The positive impact it would have on EU public debt enhances the support it would provide to low-income communities both directly, by supporting energy efficiency projects and just transition measures, and indirectly, by limiting global warming and contributing to lower energy prices.

ECB purchase of EC-emitted bonds could more easily be used to provide grants through European programmes compared to EIB bonds that would mostly fund loans. In the field of energy efficiency, the purchase of EC bonds would be especially complementary to the proposed green lending facility by allowing the poorest households to benefit from public grants for renovation projects instead of loans.

**Considering the proposal from a Dutch-Spanish alliance to review the sacrosanct EU debt rule,<sup>370</sup> creating an ECB EIB/EC coordination to fund the energy transition is a politically viable and reasonable option that would provide a strong response to the challenges faced by both the EU and its central bank. It would provide a strong tool to prevent climate-related inflations by supercharging an EU clean energy transition, and pave the way for less volatile energy prices and lower bills for EU households.**

**“ There is still time to recognise that climate change is macro critical, that climate policy has become the third pillar of macro policy, and that through credible policy coordination we can catalyse enormous private investment that creates jobs, accelerates growth, smooths inflation, and promotes energy security. ”**

**Mark Carney ,  
Former Bank of England governor, 2022**

# CONCLUSION

For the ECB, contributing to a clean energy transition would protect price stability while contributing to key EU environmental, economic and geopolitical policies. Failure to act would endanger the ability of the ECB to fulfil its price stability mandate and could lead to historical financial turmoil. While we will all suffer from climate inaction, low-income households and communities are already enduring the largest consequences and will pay the highest price for its future impacts. In the words of Mark Carney: “Caught in the climate version of Paul Krugman’s Timidity Trap, we are dithering towards climate disaster—a drift that, if allowed to continue, will at best set up a future climate Minsky moment, with policies that cause abrupt and wrenching economic adjustments, strand trillions of dollars in assets, and impair financial, price and potentially geopolitical stability.”<sup>371</sup>

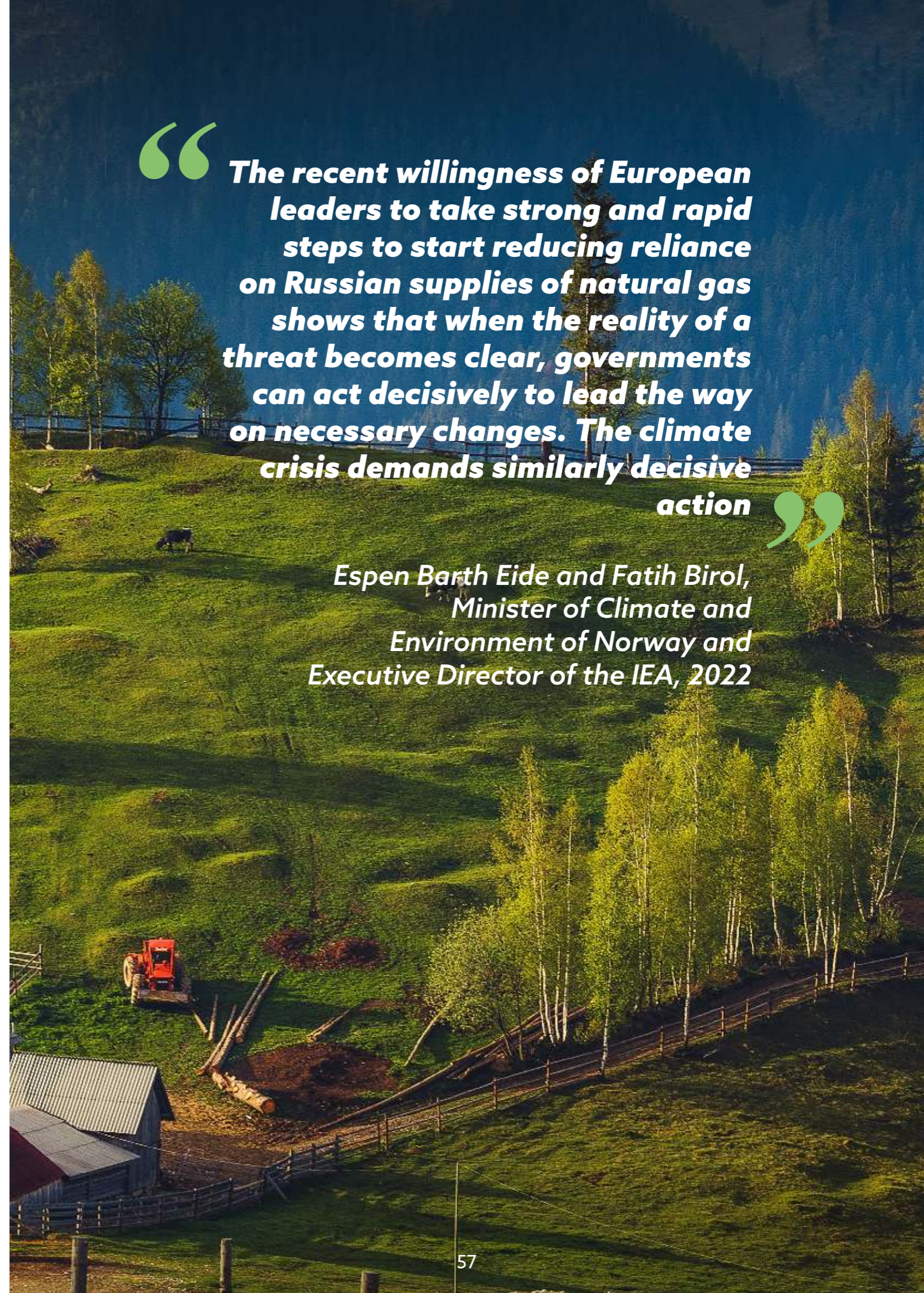
By supporting a clean energy transition, the ECB would only follow the priorities and policies decided by EU political leaders and respond to the worries of Europeans.<sup>372</sup> ECB support could benefit existing EU programmes and be designed using European norms and priorities. The ECB would not become a policymaker, it would simply closely follow its primary and secondary mandates enshrined in EU Treaties.

The ECB is an independent institution with broad discretion to decide how to reach its objectives. It can do a lot on its own to contribute to an EU clean energy transition, notably by setting up a green lending facility. Furthermore, if the proposed ECB EIB/EC coordination requires political approval, EU leaders would have many reasons to support it. Indeed, there are a lot of winners to an ECB that proactively contributes to an EU clean energy transition – the ECB would enhance its ability to respond to external shocks and address a fast-changing context, EU member states would benefit from increased transition funding, and

EU citizens would pay lower energy bills and be less exposed to the negative consequences of climate change. However, there are only two potential losers; authoritarian fossil fuel producers that would lose geopolitical clout, and fossil fuel companies that would increasingly need to transition.

As the executive director of the IEA and Norway’s minister of climate and environment stressed, EU leaders must act as decisively as they did to confront the Russian aggression on Ukraine to tackle the climate crisis.<sup>373</sup> Here, what is true for governments is also true for the ECB. The central bank cannot keep on supporting companies at odds with the climate and energy goals of the Union, nor continue to ignore the EU’s urgent need for clean transition funding. The ECB must regain flexibility<sup>374</sup> and allow itself to use all the necessary tools to take on the climate challenge.

Of course, climate change is a global phenomenon. Similarly, the current inflation trend is not Euro-specific<sup>375</sup> – 71 million people are suffering from poverty because of soaring food and energy prices in the weeks following Russia’s invasion of Ukraine.<sup>376</sup> Central banks worldwide do not have the same mandates, but most prioritise price stability, and some have either an explicit sustainability mandate or a broader mission to contribute to national policies.<sup>377</sup> In this context, the case for proactive central bank support to a clean energy transition, as made in this report for the ECB, could be made for other central banks across the globe. A global mobilisation of central banks would greatly contribute to the great efforts needed to overcome the climate crisis. They would also help address some of the key global economic challenges identified by the World Bank.<sup>378</sup> If central banks won’t be able to solve the climate crisis on their own, they must take their part and actively participate in building a greener, safer and more stable world.



“ **The recent willingness of European leaders to take strong and rapid steps to start reducing reliance on Russian supplies of natural gas shows that when the reality of a threat becomes clear, governments can act decisively to lead the way on necessary changes. The climate crisis demands similarly decisive action** ”

*Espen Barth Eide and Fatih Birol,  
Minister of Climate and  
Environment of Norway and  
Executive Director of the IEA, 2022*

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# **MANAGING INFLATION BY SUPERCHARGING A CLEAN ENERGY TRANSITION What the ECB should do**

Reclaim Finance is an NGO affiliated with Friends of the Earth France. It was founded in 2020 and is 100% dedicated to issues linking finance with social and climate justice. In the context of the climate emergency and biodiversity losses, one of Reclaim Finance's priorities is to accelerate the decarbonization of financial flows. Reclaim Finance exposes the climate impacts of some financial actors, denounces the most harmful practices and puts its expertise at the service of public authorities and financial stakeholders who desire to bend existing practices to ecological imperatives.

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