GREENING THE EUROSYSTEM COLLATERAL FRAMEWORK

CONTEXT

To implement monetary policy, central banks conduct open market operations mainly through credit operations to provide liquidity to banks.[1] In these operations, banks borrowing must pledge assets in exchange for central bank liquidity as guarantees, or "**collaterals**", that the central bank would seize if they were unable to pay back.[2]

In the Eurozone, the Eurosystem Collateral Framework (ESCF) sets the criteria for eligibility and risk control measures for collaterals. **Eligibility** defines which assets can be pledged as collaterals and excludes those that are deemed too risky, in order to keep the risk of such operations low for central banks. **Risk control measures** further mitigate the risks attached to each eligible asset by applying a discount, or "*haircut*", on their value depending on how risky the asset is deemed to be. The safest assets have no/low discount, their market value is almost their collateral value. Riskier assets have a high discount, their value as collateral is lower than their market value. Setting high haircuts and prudent eligibility criteria protects the European Central Bank (ECB), but it implies an increase in banks' need for assets that can be collateralized at the ECB.

The ESCF is central to the ECB's monetary policy implementation because it determines how banks get access to central bank money.[3] As it stands, the ESCF does not consider climate change when setting eligibility and haircuts. However, in July 2022, the ECB announced that it would be reviewing its collateral framework to integrate climate considerations.[4] The key measures advertised were:

1. In 2022, the ECB will include climate risks in haircuts.

[1] Ulrich Bindseil & Alessio Fotia, Introduction to Central Banking, 2021, p.47-48.
[2] European Union, Protocol (No 4) on the statute of the European System of Central Banks and of the European Central Bank.
[3] Dafermos, Y., Gabor, D., Nikolaidi, M., Pawloff, A., van Lerven, F., Greening the Eurosystem collateral framework: How to decarbonise the ECB's monetary policy, March 2021.
[4] European Central Bank press release, ECB takes further steps to incorporate climate change into its monetary policy operations, 4 July 2022.

2. By the end of 2024, the ECB will limit the share of assets issued by entities with "a high carbon footprint" that can be pledged as collateral.[5]

This note explains how these measures should be implemented and what additional steps must be taken to green the ECB collateral framework. In particular, the ECB should:

- **Update its risk-focused approach for a precautionary one, to effectively tackle the persistent carbon bias and limit the buildup of unaccounted-for climate risks.**
- **Adjust its haircuts based on climate considerations, notably to favor assets issued by companies supporting the green transition, such as renewable energy companies.**
- **Exclude from its list of eligible assets those issued by companies engaged in environmentally harmful activities, starting with the development of new fossil fuel projects.**

UNDERSTANDING THE CARBON BIAS

Today, the ESCF favors assets emitted by high-carbon companies.[6] This **"carbon bias"** impacts two interlinked mechanisms:

- ***Eligibility:*** Assets from carbon-intensive issuers represent a disproportionately high share of eligible assets compared to the contribution of these companies to the EU economy.[7] These assets notably include those issued by fossil fuel companies. As a company, issuing assets that can be pledged as collateral is non-trivial because being eligible for the ESCF can be linked to easier access to financing.[8] Currently, climate risks are not adequately reflected in the risk criteria on which eligibility is based. Indeed, External Credit Assessment Institutions that verify a large proportion of collateral eligibility[9] struggle to integrate climate considerations in their ratings.[10] [11] This explains how fossil fuel companies end up on the list of eligible assets despite their potential high exposure to climate-related risks and their major contribution to the climate crisis.

- ***Low haircuts:*** Assets from high-carbon companies also tend to benefit from lower haircuts. Low haircuts signal to financial markets that these assets are low risk, and hence they become more attractive to banks compared to assets from other,

[5] The ECB also announced that as of 2026 it will ensure that the assets accepted as collateral come from Corporate Sustainability compliant companies.
[6] Dafermos, Y., Gabor, D., Nikolaidi, M., van Lerven, F., Greening collateral frameworks, August 2022.
[7] Dafermos, Y., Gabor, D., Nikolaidi, M., van Lerven, F., Greening collateral frameworks, August 2022.
[8] Banque de France, The Interest of Being Eligible, October 2017.
[9] In 2021, around 70% of collateral eligibility was verified thanks to ECAIs.
[10] NGFS, Credit Ratings and Climate Change – Challenges for Central Bank Operations, May 2022.
[11] Institute for Energy Economics and Financial Analysis, Can Credit Rating Assessment and Sustainability Coexist?, March 2023.

potentially less polluting, companies.[12] A 2021 study highlighted that the average haircut for companies from carbon-intensive sectors was lower than the average haircut of non-carbon-intensive companies and that fossil fuel companies especially benefited from low haircuts.[13]

These two mechanisms contribute to assets issued by fossil fuel companies being continuously viewed by banks as useful regardless of their environmental impact and their financial risks. This in turn creates favorable financing conditions for fossil fuel companies.[14] Beyond fossil fuel companies, the same dynamics benefit carbon-intensive companies in general and thus are at odds with EU climate goals and the ECB's call to speed up the transition.

The Eurosystem Collateral Framework suffers from a carbon bias which has contributed to making fossil fuel companies' and other carbon-intensive assets attractive for banks. This bias must be addressed by looking both at collateral eligibility and valuations, something the ECB started to recognize in its July 2022 announcements without taking concrete measures to address it.

ADOPTING A 'PRECAUTIONARY' APPROACH

The measures announced in July 2022 focus on climate-related risks rather than on climate impact.[15] It is worth noting that even such a narrow financial risk approach should drive the ECB to adopt strong criteria on fossil fuels:

- Because they are the main source of global emissions, fossil fuels are the main driver of **physical risks** and the most exposed to **transition risks**. Without a drastic change in their business model, fossil fuel companies are exposed to rapidly losing their value ("asset stranding").[16] Preliminary **stress tests** conducted by central banks and supervisors have shown that risks are concentrated in the mining and fossil fuel sectors.[17] [18] While looking to build bank resilience against climate-related risks, the ECB identified and highlighted good practices to tackle the exposure of fossil fuel

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[12] Dafermos, Y., Gabor, D., Nikolaidi, M., Pawloff, A., van Lerven, F., Greening the Eurosystem collateral framework: How to decarbonise the ECB's monetary policy, March 2021.
[13] Dafermos, Y., Gabor, D., Nikolaidi, M., Pawloff, A., van Lerven, F., Greening the Eurosystem collateral framework: How to decarbonise the ECB's monetary policy, March 2021, p.4.
[14] Dafermos, Y., Gabor, D., Nikolaidi, M., Pawloff, A., van Lerven, F., Greening the Eurosystem collateral framework: How to decarbonise the ECB's monetary policy, March 2021.
[15] European Central Bank press release, ECB takes further steps to incorporate climate change into its monetary policy operations, 4 July 2022.
[16] United Nations Environment Programme, Climate Risks in the Oil and Gas Sector, April 2023.
[17] European Central Bank Occasional Paper Series, The Road to Paris: stress testing the transition towards a net-zero economy, September 2023.
[18] Thomas Allen et al, Climate-related Scenarios for Financial Stability Assessment: an Application to France, July 2020.

assets.[19] Conversely, the ECB clearly stated that EU banks were lagging in this regard, leading to higher capital requirements in a few cases.[20]

➢ International bodies and global alliances are increasingly focusing on the need to adopt **climate transition plans**.[21] These plans are also increasingly being considered in financial regulation and prudential supervision.[22] The United Nations High-Level Expert Group evidenced that reducing fossil fuel dependency and ending any support for fossil fuel development is an important part of such plans.[23] The multiplication of transition plans and their scrutiny will likely have significant consequences on fossil fuel companies that do not truly transition. However, as of now, all major fossil fuel companies are still heavily investing in new capacities at odds with this transition.[24]

➢ The growing risk of **climate litigation** is especially acute for fossil fuel companies.[25] As time passes by and these litigations become more frequent and effective, the transition risks exposure of the sector is amplifying.

Nevertheless, the risk-focused approach faces serious limitations. Indeed, it is likely to significantly underestimate the impact of climate change since accurately estimating climate-related risks is impossible:[26] [27]

➢ ***Radical uncertainty:*** The impact of climate change is riddled with 'radical uncertainty', the probabilities of different outcomes are impossible to calculate.[28]

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[19] European Central Bank, Good practices for climate-related and environmental risk management: Observations from the 2022 thematic review, November 2022.
[20] European Central Bank press release, ECB sets deadline for banks to deal with climate risks, 2 November 2022.
[21] A transition plan is "a detailed multiyear account of target and actions to plan how a given firm will ensure that its business model and strategy are aligned and compatible with a specific environmental objective", from Dikau et al, Net zero transition plans: A supervisory playbook for prudential authorities, November 2022, p.6.
[22] Network for Greening the Financial System, Stocktake on Financial Institutions' Transition Plans and their Relevance to Micro-prudential Authorities, May 2023.
[23] United Nations' High-Level expert group on the net zero emissions commitments of non-state entities, Integrity matters: Net zero commitments by businesses, financial institutions, cities and regions, November 2022, p.21-24.
[24] Reclaim Finance, Assessment of Oil and Gas Companies' climate strategy, accessed online 18 October 2023.
[25] Frank Elderson, Keynote speech at the ECB Legal Conference, 'Come hell or high water': addressing the risks of climate and environment-related litigation for the banking sector, 4 September 2023.
[26] Reclaim Finance, Positive Money, ReCommon, New Economics Foundation, Public Citizen, Banktrack, Climate Safe Lending Network, Greenpeace, The Green Swan Toolkit: Four Priorities to ensure financial stability in the age of climate change, May 2021.
[27] Dafermos, Y., Gabor, D., Nikolaidi, M., Gogolewski, J., Vargas, M., Broken promises: the ECB's widening Paris gap, July 2023.
[28] Chenet, H., Ryan-Collins J., van Lerven, F., Finance, Climate change and radical uncertainty: toward a precautionary approach to financial policy, May 2021.

- ***Unknown effects:*** The full extent of the repercussions of climate change remains unknown, in great part because of tipping points and feedback loops.[29] Even if we know that the impacts of climate change will be significant, being able to predict which effect will appear and when is extremely challenging.

- ***Climate policies:*** Financial risks are hard to quantify due to the uncertainty around the implementation of climate policies which by default makes it difficult to select the correct climate scenarios when conducting stress tests.

- ***Endogeneity:*** Risks are not exogenous to bank actions, meaning that whatever decision the central bank takes regarding the ESCF will have an impact on the bond market and companies issuing bonds.[30] This endogeneity is not something the ECB usually considers when looking into climate risks.

Consequently, attempts to quantify these risks are inaccurate and usually favor avoiding short-term market disruption at the expense of longer-term, potentially catastrophic, and irreversible climate risks.[31] A 'precautionary' approach that considers climate impact is therefore required to factor in longer-term risk and to avoid the buildup of currently unaccounted-for climate risks in the financial system.

In line with rethinking the approach, Greenpeace developed a 'Paris decarbonization benchmark' which proposes adjustments to the ESCF across and within sectors based on climate footprint.[32] The approach promotes climate neutrality above the exposure of the ECB balance sheet to climate risks. It does so by focusing on climate performance and activities of those issuing collaterals.

Moving forward, the ECB must exclude assets issued by fossil fuel developers from its list of collaterals. While this exclusion would already be justified on climate risk considerations, the ECB must also consider the impact of collateral issuers on the environment. To do so, it must replace its risk-focus approach with a precautionary one, such as the 'Paris decarbonization benchmark' advocated by Greenpeace. Adopting a

[29] Feedback loop in the case of climate change is defined by the Bank for International Settlements in the following terms "An interaction in which a perturbation in one climate quantity causes a change in a second and the change in the second quantity ultimately leads to an additional change in the first. A negative feedback loop is one in which the initial perturbation is weakened by the changes it causes; a positive feedback loop is one in which the initial perturbation is enhanced. The initial perturbation can either be externally forced or arise as part of internal variability", April 2021, p. iv.

[30] Dafermos, Y., Gabor, D., Nikolaidi, M., van Lerven, F., Vargas, M., The ECB Paris gap: Substantive but treatable, September 2022.

[31] Reclaim Finance, Positive Money, ReCommon, New Economics Foundation, Public Citizen, Banktrack, Climate Safe Lending Network, Greenpeace, The Green Swan Toolkit: Four Priorities to ensure financial stability in the age of climate change, May 2021.

[32] Dafermos, Y., Gabor, D., Nikolaidi, M., van Lerven, F., Vargas, M., The ECB Paris gap: Substantive but treatable, September 2022.

precautionary approach would imply revising the eligibility criteria of assets and the valuation of eligible assets (i.e., haircuts).

ADJUSTING HAIRCUTS: DEVALUING CLIMATE HARM

Despite the July 2022 announcement that it would consider the climate when valuing eligible collaterals, the ECB returned the valuation of haircuts to the pre-pandemic level without any adjustment in December 2022.[33] Focusing solely on risks, the ECB considered that its framework was "sufficiently protective" from a balance sheet perspective.[34]

This decision disregards the competitive advantage of having low haircuts for fossil fuel companies and perpetuates the carbon bias. In July 2023, some fossil fuel assets benefitted from particularly low haircuts (see Table 1). For example, some TotalEnergies and Eni assets were viewed as safe enough to secure a haircut as low as 1%. This contrasts with their contribution to climate change and intention to continue developing fossil fuel projects.[35]

Table 1: Haircut ranges for top oil and gas companies (on 19 July 2023)[36]

Asset issuer	Haircut range
TotalEnergies	1% to 21%
Eni	1% to 26.1%
Repsol	11.5% to 26.5%
BP	7.5% to 21%
Equinor	2% to 23.6%
Shell	7.5% to 33.6%

The ECB cannot rely on ESG credit ratings when it comes to integrating climate considerations as they are not linked to lower emissions and give weight to other factors that can counterbalance poor climate performances.[37] Instead, the ECB should follow the Paris decarbonization benchmark which would directly link haircut levels to the climate footprint of companies.[38] To offer an accurate depiction of the issuer's climate impact, the ECB should consider (1) the company's climate metrics (i.e., greenhouse gas emissions), and (2) whether

[33] European Central Bank press release, ECB reviews its risk control framework for credit operations, 20 December 2022.
[34] Dafermos, Y., Gabor, D., Nikolaidi, M., Gogolewski, J., Vargas, M., Broken promises: the ECB's widening Paris gap, July 2023.
[35] Reclaim Finance, Assessment of oil and gas companies' climate strategy, accessed 19 September 2023.
[36] The table of eligible assets and associated haircuts is downloadable from the ECB website. When writing this note, the webpage had last been updated on 19/07/2023.
[37] Positive Money Europe, How to stop the wild green gold rush: credible ESG ratings, February 2023.
[38] Dafermos, Y., Gabor, D., Nikolaidi, M., van Lerven, F., Vargas, M., The ECB Paris gap: Substantive but treatable, September 2022.

the company engages in carbon-intensive activities. Adopting this Paris decarbonization benchmark is possible without impairing the transmission mechanism of monetary policy.[39]

The ECB must correct its December 2022 decision not to integrate climate considerations in the valuation of assets eligible as collaterals. This integration should ensure that assets issued by harmful companies do not benefit from low haircuts. Haircuts should be adjusted to consider the greenhouse gas emissions of the issuer as well as its plans to reduce them and transition its activities.

RESTRICTING ELIGIBILITY: EXCLUDING FOSSIL FUEL COMPANIES

As previously mentioned, the ECB intends to start limiting the share of assets issued by entities with "a high carbon footprint" that can be pledged as collateral by the end of 2024. However, there has been no clarification regarding how such a limit will be implemented, or what a 'high carbon footprint' entity will mean. Paired with the backtracking on haircut adjustments in 2022, this lack of information casts doubts on whether such a limit will be imposed and, if so, whether it will effectively tackle the ESCF's carbon bias.[40]

In addition, limiting shares does not amount to excluding high-polluting issuers. As shown in Table 2, fossil fuel developers issue several eligible assets, at least some of which would still most likely be allowed under a limit regime (rather than exclusion). Ultimately, the impact of the limit will depend on the definition of a high carbon footprint and whether it will be stringent enough to exclude some issuers in practice.

Table 2: Number of eligible assets issued by top oil and gas companies (on 19 July 2023)[41]

Asset issuer	Eligible assets
TotalEnergies	21
Eni	39
Repsol	25
BP	20
Equinor	13
Shell	17

The relatively narrow exclusion of companies that develop new fossil fuel projects – and potentially other types of activities at odds with climate goals such as those tied to

[39] Dafermos, Y., Gabor, D., Nikolaidi, M., van Lerven, F., Vargas, M., The ECB Paris gap: Substantive but treatable, September 2022.
[40] Dafermos, Y., Gabor, D., Nikolaidi, M., Gogolewski, J., Vargas, M., Broken promises: the ECB's widening Paris gap, July 2023.
[41] The table of eligible assets and associated haircuts is downloadable from the ECB website. When writing this note, the webpage had last been updated on 19/07/2023.

deforestation[42] – supplemented by broader limitations on collateral volumes would not adversely affect the transmission of monetary policy and should be adopted by the ECB.[43] [44]

With the 2024 deadline fast approaching, the ECB needs to clarify what its intentions are regarding the limits it will implement on so-called 'high carbon' footprint issuers. This is an opportunity to showcase the climate ambition of the central bank and stop perpetuating the carbon bias in its collateral framework. The ECB should exclude assets from companies that develop new fossil fuel projects supplemented by broader limitations on collateral volumes.

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[42] See for example how WWF categorizes harmful activities in its Central Banking and Financial Supervision Roadmap, November 2022.

[43] The ECB clearly stated in its July 2022 announcement that "all measures will ensure that ample collateral remains available, allowing monetary policy to continue to be implemented effectively". European Central Bank press release, ECB takes further steps to incorporate climate change into its monetary policy operations, 4 July 2022.

[44] Dafermos, Y., Gabor, D., Nikolaidi, M., Pawloff, A., van Lerven, F., Greening the Eurosystem collateral framework: How to decarbonise the ECB's monetary policy, March 2021.