RESHAPING EU STATE AID POLICY AMID GREEN TRANSFORMATION AND GEOPOLITICAL TENSIONS

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Abstract: State aid policy represents a cornerstone of the European Union's (EU) free and competitive internal market. While its traditional aim was to prevent unlawful competition and the unfair advantage of large companies, recent years—marked by successive crises beginning with the pandemic and followed by the disruptions caused by the war in Ukraine—have brought major transformations to this policy. The most significant shift is the emergence of state aid as a key instrument for mitigating the economic shocks experienced by Member States, allowing national authorities to provide targeted support across all economic sectors. Special legal derogations, such as the Temporary Framework and the Temporary Crisis Framework, have facilitated this change, enabling substantial volumes of aid to be granted across the EU.
Against this backdrop, our research pursues two objectives: first, to highlight the major regulatory transformations in state aid policy in response to recent economic and geopolitical challenges; and second, to assess—through a comparative analysis of aid granted by different Member States—whether the policy still upholds its central goals of fostering a competitive and green economy while preserving free competition within the EU internal market. Methodologically, we adopt a mixed approach, combining an in-depth literature review and a qualitative analysis of the most recent legal frameworks with a statistical examination of relevant state aid measures implemented during the post-pandemic period, using the latest available State Aid Scoreboard data. Our main finding underscores that, while facilitating economic recovery, state aid policy has also supported green development by promoting sustainable and clean growth across the EU.

Keywords: State Aid, European Union, economic recovery, sustainable development, free competition, pandemic crisis, pandemic crisis, Ukraine war

JEL Classification: *H23, H25, O38, Q57, Q58*

1 Introduction

State aid, as defined by Article 107 of the Treaty on the Functioning of the European Union (EU, 2012), refers to any selective advantage granted by national public authorities to undertakings, which may distort competition and affect trade within the internal market. While general measures such as broad tax policies or employment legislation fall outside this definition, targeted interventions—such as grants, tax relief, or preferential access to public resources—must be assessed under State aid rules. Though generally prohibited, State aid may be exceptionally justified when it serves legitimate policy objectives, such as economic development, innovation, or environmental protection. These exemptions are strictly regulated and form the basis of the EU's control framework.

According with EU's legislation, Member States must notify the European Commission before implementing new aid measures, unless exemptions apply (e.g. De minimis aid[1], Block Exemptions[2], or pre-approved schemes). The Commission conducts a preliminary review within 20 working days to determine whether a measure involves aid and if it is compatible with EU rules. In cases of serious doubt, an in-depth investigation is launched. The Commission also monitors compliance through transparency tools like the State aid Scoreboard and has powers to recover incompatible aid. Recent procedural reforms, including the introduction of sector inquiries and enhanced complaint mechanisms, aim to ensure greater accountability and reduce market asymmetries caused by unlawful aid.

The COVID-19 pandemic acted as a significant "black swan" event, triggering substantial derogations in State aid policy to support the most affected sectors. This unprecedented crisis was soon followed by the imbalances caused by the Ukraine war, further disrupting economies across the EU. These two major, unforeseen events have reshaped State aid policy, leading to the adoption of the Temporary Framework (European Commission, 2020) and the Temporary Crisis and Transition Framework (TCTF) (European Commission, 2022). While these measures proved vital in restarting economic growth and bolstering resilience in Member States' economies, this research argues that, amidst these sweeping changes, the core focus of State aid policy remained constant: safeguarding free competition and promoting sustainable development across the EU.

2 Literature review

In recent years, State aid policy has become a central topic in the literature, with numerous studies focusing on the reforms of this policy within the European Union and the various legal exemptions that grant Member States specific derogations (Knook, 2023; Werner &Verouden, 2025; Santa Maria, 2025). A significant body of academic literature has been dedicated to analysing the State Aid Modernisation (SAM) reform (López, 2023; Poulou, Polemis&Oikonomou, 2023; Andhov, Biondi &Rubini, 2023), launched by the European Commission in 2012.

Lopez (2023) analyses the goals of the 2012 State Aid Modernisation (SAM) reform through recent CJEU case law, showing a principled judicial approach to defining aid, assessing compatibility, and interpreting notification exceptions. Despite positive outcomes, some rulings may undermine the first two SAM objectives while reinforcing the third, underscoring that core features of the Treaty's State aid framework remain unchanged.

Poulou and others (2023) empirically assess State aid's impact on economic growth across 27 EU countries (2007–2019), finding a positive effect and supporting the need for a pan-European industrial policy. They offer policy recommendations on the SAM reform's effectiveness and its post-pandemic relevance. Andhov, Biondi, and Rubini (2023) argue that the single market remains central to EU integration, proving resilient through multiple crises—from recessions to Brexit and the Ukraine war. Their analysis highlights incremental reforms that enhance the single market's ecological, social, and industrial sustainability, while balancing social goals with competitiveness under the Treaty's vision of a "highly competitive social market economy". Some studies show that the SAM reforms marked a shift in State aid governance, which has been further shaped by the Ukraine war (Drăgoi, 2024). The Russian Federation's 2022 invasion triggered economic disruption across the EU, especially due to sanctions. In this context, the mentioned study shows that the State aid became a key tool to mitigate these effects, with a focus on how Romania used these instruments to cushion the economic fallout.

Researchers have explored in detail how SAM reform marked a turning point in EU State aid policy, shifting the focus toward more effective, transparent, and strategically aligned interventions. Studies have examined how SAM streamlined procedures, expanded the scope of the General Block Exemption Regulation (GBER), and introduced a more principle-based approach to enforcement (Merola&Cogoni, 2024). Scholars have

[1]***De minimis aid*** refers to State aid that is considered too small to distort competition or trade within the EU. Under EU rules, aid of this type is exempt from prior notification to the European Commission if it does not exceed €200,000 per undertaking over a three-year period. The aim is to reduce the administrative burden for small amounts of aid that are unlikely to have a significant impact on the market.

[2]***Block Exemptions*** refer to specific categories of State aid that are deemed compatible with the EU internal market without the need for prior notification to the European Commission. These exemptions apply to aid measures that fall within defined criteria, such as support for small businesses, research and development, or environmental protection. The goal is to streamline the process for aid that has clear, positive economic or social impacts, reducing the administrative burden for both Member States and the Commission.

also emphasized the reform's role in prioritizing aid measures with the greatest potential impact on the internal market, enhancing legal certainty for Member States, and aligning aid policy with broader EU goals such as competitiveness, innovation, and sustainable development. These exemptions have played a pivotal role in addressing the diverse challenges faced by Member States, allowing for more flexible approaches to economic support during crises.

While a substantial body of research has examined the policy's contribution to the EU's green transition (Hildebrandt, 2022; Gràcia, Lunneryd & Papaefthymiou, 2023; Verschuur & Sbrolli, 2021; Piechucka, Saurí-Romero & Smulders, 2023), particularly its alignment with the European Green Deal objectives (Gupta, 2023), there has been insufficient focus on the systemic changes to State aid policy during the pandemic and the post-pandemic period.

The "black swan" crises and their impact on State aid policy — particularly the pandemic and the war in Ukraine — have been analysed more often separately than in conjunction in recent literature. Łopatka, &Fedorowicz (2021) points out that the COVID-19 pandemic led the Polish government to impose restrictions on business activity to limit citizens' mobility and contain the virus. In response to the resulting economic disruptions, the government implemented the "Anti-Crisis Shield" to support employment, business continuity, and liquidity. Kubera (2021) states that the COVID-19 outbreak struck the global economy—including the EU—suddenly and severely, pushing many previously stable businesses toward liquidity crises. To safeguard economic continuity, public authorities introduced support measures that raised significant questions under EU State aid rules. The mentioned study examines the EU's revised State aid response to the pandemic, analysing which public instruments qualify as aid, the types of measures used by Member States, and the principles guiding their approval by the European Commission, based on legal texts, literature, and selected COVID-19-related cases. A series of research are presenting the impact of the Ukraine war on State Aid policy (Drăgoi, 2024; Bomprezzi et al., 2025; Glanville & Pattison, 2024; Pellicciari, 2023; Kolliopoulos, 2025). It is worth mentioning that some of these studies are even critical regarding the State aid success in an era of crisis. Kolliopoulos (2025) states that State aid control has been a supranational policy area since the inception of the European Economic Community, with the European Commission playing a central role in safeguarding the internal market—especially during the major crises of the past fifteen years. Yet, in the absence of a permanent EU-level fiscal capacity, state aid remains the primary tool for Member States to support their national economies. This is particularly evident in the banking sector, where the Commission has shown leniency toward government interventions, in contrast to the more supranational approach of the European Banking Union. This tension creates challenges for the EU's rescue and resolution framework and the integrity of the banking market. As a result, while the Commission retains a formal centralized role, Member States effectively shape domestic aid strategies—leading to a form of "shallow supranationalism."

Our in-depth review of the existing literature reveals that although significant attention has been paid to the immediate impacts of some game-shifting events (the pandemic and the Russian – Ukrainian war), few studies have investigated the comparative allocation of State aid across different Member States in recent years, particularly in the context of special derogations related to the pandemic and the Ukraine war. This gap is especially pronounced when it comes to exploring how green objectives were prioritized during the approval of such derogations, despite the fact that both the pandemic and the Ukraine war have dramatically reshaped the economic and political landscape of the EU. In this regard, our research aims to address this gap by providing a comparative analysis of State aid allocation, with a particular focus on the integration of green objectives into aid measures approved during these crises. However, our analysis is currently constrained by the lack of published data for 2024, which limits the scope of our findings. To overcome this limitation, we propose to continue our research once the necessary data becomes available, allowing for a more comprehensive understanding of the evolving role of State aid in fostering both economic recovery and sustainable development.

3 Methodology

This study relies on a comparative quantitative and qualitative analysis of State aid expenditure data as reported in the *2024 edition of the EU State Aid Scoreboard*. The Scoreboard provides detailed annual data submitted by Member States under Article 6(1) of Commission Regulation (EC) 794/2004, covering the period from 2000 to 2023. Only finalized and verified aid measures are included, with cases under examination or not qualifying as State aid (e.g. general measures, de minimis aid, or certain railway and crisis-related financial sector interventions) being excluded.

The analysis is structured around three categories of interest:

1. *Pandemic-related State aid* under the COVID-19 Temporary Framework (which expired in most respects on 30 June 2022, with exceptions for investment and solvency support until 31 December 2023),
2. *Crisis aid in response to the war in Ukraine* under the Temporary Crisis and Transition Framework (TCTF), which includes a limited prolongation until 31 December 2024 for the agriculture, fisheries and aquaculture sectors,
3. *Green transition aid*, with special focus on measures aimed at energy efficiency, renewables, and clean tech, under sections of the TCTF that remain active until 31 December 2025.

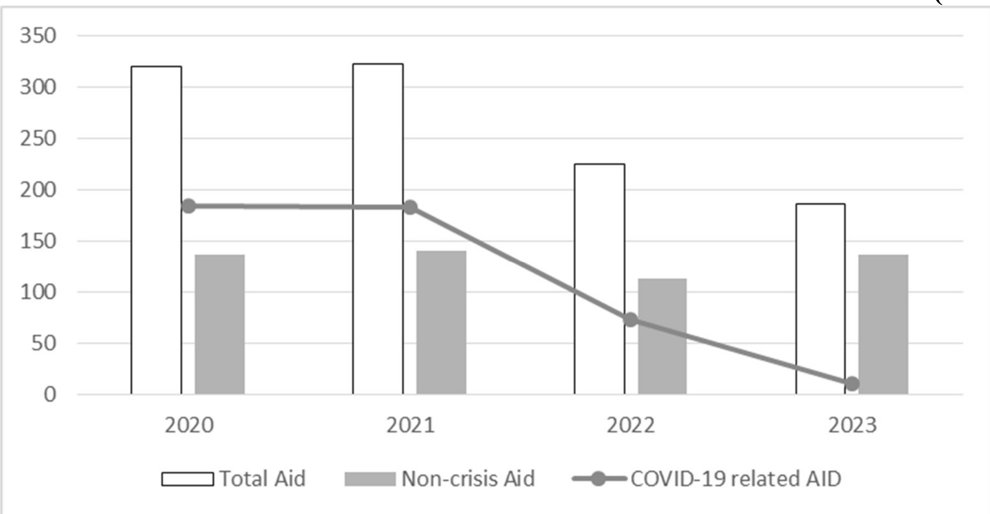
Expenditures are considered both in nominal terms and as aid elements[3] (the actual economic advantage conferred to recipients), following Scoreboard methodology. Special attention is given to the comparative structure of **i**nstruments—such as grants, loans, guarantees, and tax exemptions—across the EU[4].
The study also includes a focused case study on Romania, evaluating its use of State aid instruments under the three categories in comparison to the EU average, with particular emphasis on policy priorities and economic resilience.

By combining Scoreboard data with a contextual review of EU legal frameworks and recent reforms, this methodology enables an assessment of the evolving role of State aid policy in managing economic shocks and driving structural transitions.

4 The State aids granted in EU to boost economic recovery during the post-pandemic era

Based on the legal framework (The Temporary State aid Framework and The Temporary Crisis and Transition Framework) one may see a robust surge of the pandemic related State Aid at EU's level, both in 2020 and in 2021, followed by a sharp decline of such aids in 2022 and in 2023(Figure 1).

Figure 1: Evolution of crisis and non-crisis State Aid in EU between 2020 and 2023 (EUR billion)



Source: Author based on State Aid Scoreboard data (https://competition-policy.ec.europa.eu/state-aid/scoreboard/scoreboard-state-aid-data_en).

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[3]One must note that Member States report State aid expenditure based on the aid element, which reflects the economic advantage given to beneficiaries. If actual expenditure data is unavailable by the reporting deadline (June 30), Member States may provide estimates or commitment information. The aid element is calculated differently depending on the instrument: for grants, it typically matches the budgetary expenditure, while for guarantees, the benefit comes from the risk carried by the State, potentially without any payment being made. State aid is granted when the guarantee is issued, not when payments are made.

[4] State aid represents a cost to public authorities and a benefit to recipients, with the aid element depending on the form of aid provided. Common instruments include grants and tax exemptions, which are fully transferred to recipients and may be granted through the budget or tax/social security systems. Equity participation constitutes aid when a private investor, under normal market conditions, would not have made the investment.

As illustrated in Graph 1, the total volume of state aid granted across the European Union exhibited a clear deceleration between 2020 and 2023, declining from a peak of EUR 323.28 billion in 2021 to a significantly lower EUR 186.78 billion in 2023. This downward trajectory reflects a broader shift in the fiscal stance of Member States following the height of the COVID-19 pandemic. During the crisis, the expansion of state aid was imperative to stabilize national economies and facilitate a coordinated EU-wide recovery. The subsequent reduction in aid levels suggests that these policy instruments were effective in achieving their primary objectives, thereby allowing national governments to scale back exceptional support measures financed exclusively from their own budgets.

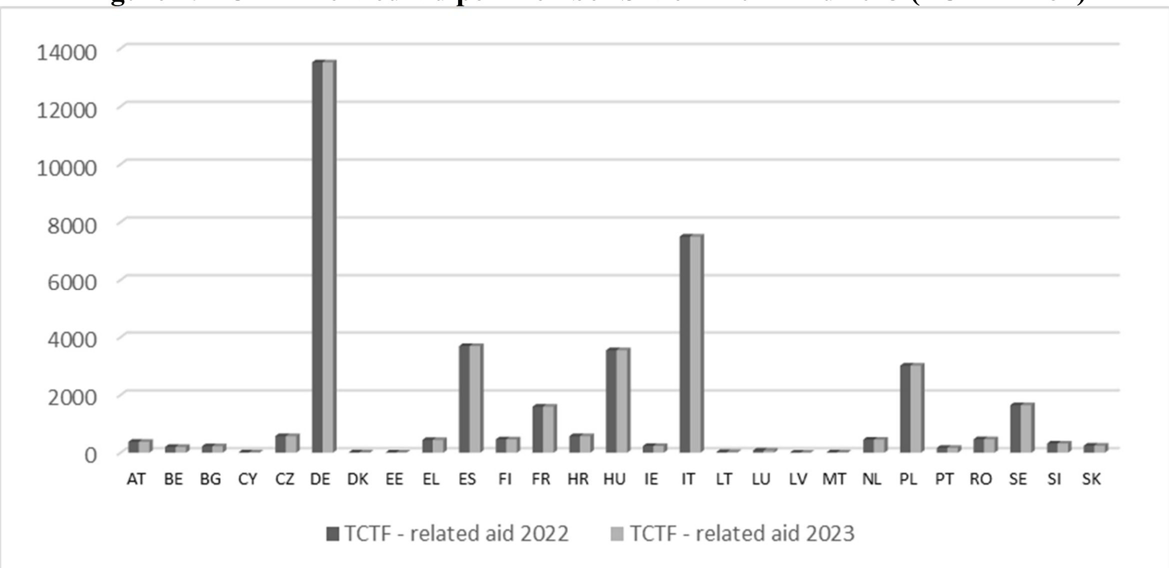
It is important to underscore that, unlike other forms of financial support—such as EU-funded subsidies—state aid is fully financed from national budgets, making it both a potent and fiscally constrained policy tool. Consequently, the withdrawal of such measures in the post-pandemic context aligns with the principle of proportionality, whereby public interventions are phased out once the exceptional conditions that justified them subside.

From 2022 onward, a different form of state aid began to emerge in response to the economic repercussions of the Russian invasion of Ukraine. Specifically, war-related aid rose to EUR 42.83 billion (equivalent to 0.27% of EU GDP) in 2022 and marginally decreased to EUR 39.43 billion (0.25% of EU GDP) in 2023. This evolution demonstrates the adaptability and responsiveness of the EU state aid policy framework, which has proven capable of accommodating emerging external shocks without reverting to a generalized interventionist paradigm.

Both the Temporary Framework for State Aid in the context of the COVID-19 pandemic and the subsequent framework addressing the Ukrainian crisis were strictly time-bound and applied under exceptional derogation clauses. Crucially, access to such aid was contingent upon clear and demonstrable evidence that the beneficiaries were directly impacted by the specific crisis in question. This approach has ensured the targeted application of state aid while preserving the integrity of the internal market.

As previously mentioned, the Member States have been affected by the crisis triggered by the war in Ukraine. Consequently, substantial amounts of aid were granted to mitigate the negative economic impacts of this geopolitical shock across EU countries. As illustrated in Figure 2, Germany and Italy were the countries that allocated the largest amounts of aid related to the war in Ukraine, both in 2022 and 2023.

Figure 2: TCTF – related aid per Member State in 2022 and 2023 (EUR million)



Source: Author based on State Aid Scoreboard data (https://competition-policy.ec.europa.eu/state-aid/scoreboard/scoreboard-state-aid-data_en).

Note: TCTF-related aid refers to **public financial support** that EU Member States have granted to companies under a **temporary and flexible legal framework** established by the European Commission. It targets **crisis relief** and **economic resilience**, while also supporting the **EU's long-term goals for clean energy and industrial transformation.**

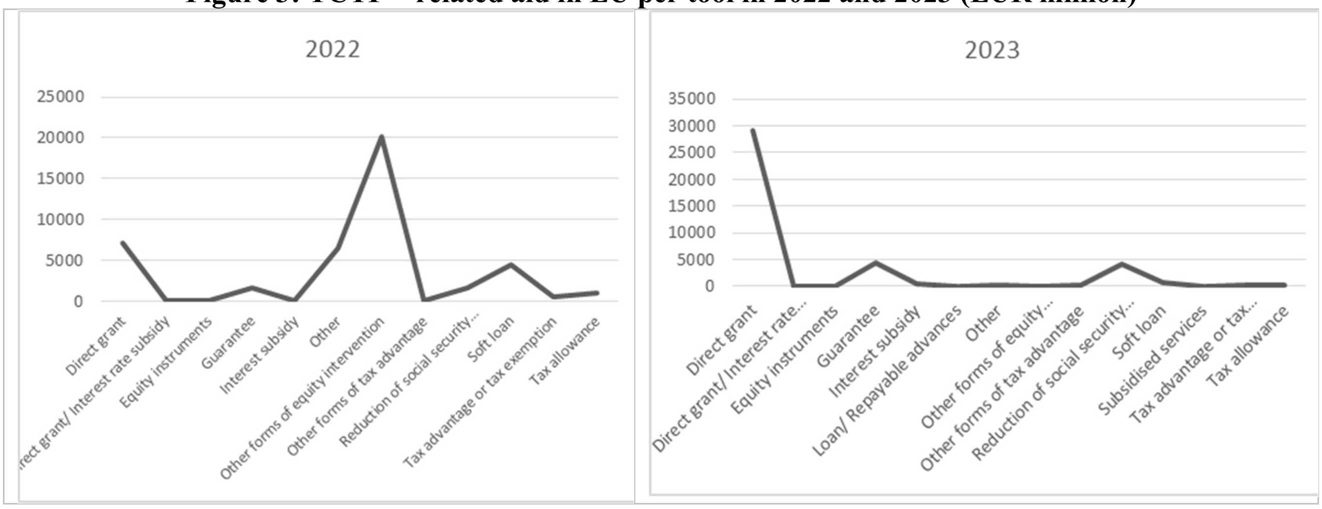
Amidst the multifaceted economic repercussions of Russian Federation's aggression in Ukraine, the EU has strategically deployed the Temporary Crisis and Transition Framework (TCTF) to empower Member States to implement a diverse array of aid measures designed to both mitigate immediate economic shocks and catalyse the transition to a net-zero economy. Under this framework, initially introduced as the Temporary Crisis Framework on 23 March 2022, Member States were authorized to provide limited support to companies adversely affected by the crisis—support that directly addressed liquidity shortages, high energy prices, and supply chain disruptions. In response to feedback from Member States, subsequent amendments, such as those adopted on 20 November 2023, adjusted aid ceilings and extended the duration of critical support measures (for instance, until 30 June 2024), ensuring that companies received adequate relief during periods of heightened energy demand in the winter months. In parallel, the Commission further refined the framework on 2 May 2024 by specifically extending the provisions under Section 2.1 for sectors like primary agricultural production, fisheries, and aquaculture until 31 December 2024, thereby acknowledging the unique challenges faced by these industries in the current geopolitical climate. Beyond these immediate relief mechanisms, the TCTF encompasses a suite of measures under Sections 2.5 to 2.8 that are aimed at accelerating the EU's green transition; these provisions are designed to stimulate investments in renewable energy, energy storage, and decarbonisation of industrial processes, thereby aligning crisis management with long-term strategic objectives such as the roll-out of renewable technologies, the manufacturing of strategic equipment like batteries and solar panels, and the overall pursuit of a sustainable energy future. By integrating both crisis alleviation and forward-looking environmental initiatives, these aid measures collectively fortify the EU's resilience against geopolitical shocks while simultaneously paving the way for a robust, green, and competitive economic landscape.

5 The focus on green development: How the State Aid shaped the sustainable growth in the Member States

As mentioned before, Temporary Crisis and Transition Framework (TCTF) aimed to: cushion the economic impact of the war; to support sectors affected by high energy prices and supply chain disruptions, to ensure liquidity and prevent bankruptcies and to compensate for direct damages caused by the war. The tools for granting such aids allowed limited amounts of aid to companies hit by the crisis, were directed to offset high energy prices, permitted liquidity support through guarantees and subsidised loans and allowed support for renewable energy, storage, and decarbonisation.

According to the latest statistics, the most commonly used tools for TCTF-related aid at EU level were direct grants and other equity interventions in 2022, while in 2023, direct grants combined with interest rate subsidies became the preferred forms of support (Figure 3).

Figure 3: TCTF – related aid in EU per tool in 2022 and 2023 (EUR million)



Source: Author based on State Aid Scoreboard data (https://competition-policy.ec.europa.eu/state-aid/scoreboard/scoreboard-state-aid-data_en).

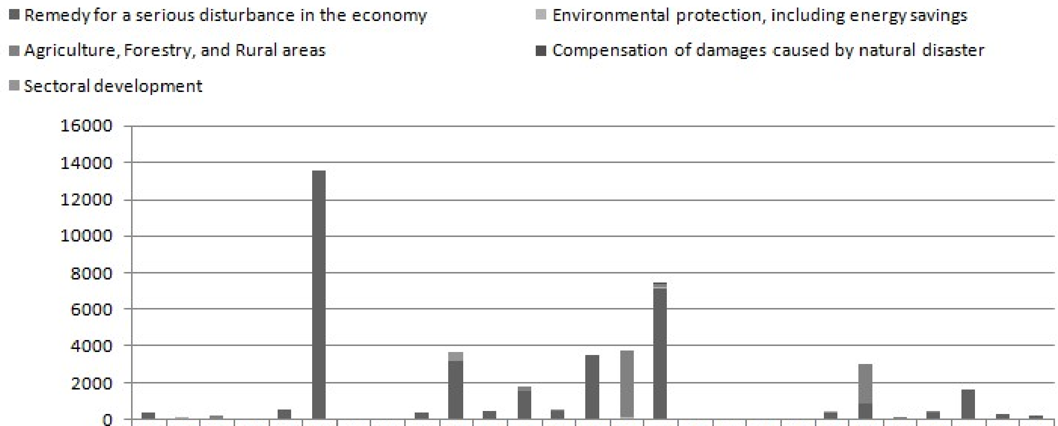
The aid measures implemented under the Temporary Crisis and Transition Framework (TCTF) have not only provided an essential buffer against the economic consequences of Russia's aggression in Ukraine, but have also played a critical role in accelerating the EU's green transition by targeting investments with long-term strategic value; specifically, under point (85) of the TCTF, Member States have been empowered to establish support schemes aimed at fostering the development and production of technologies essential for achieving climate neutrality, including batteries, solar panels, wind turbines, heat pumps, electrolysers, and equipment for carbon capture usage and storage (CCUS), as well as the key components and critical raw materials necessary for their manufacture or recovery, thus ensuring the EU's technological and industrial self-sufficiency in vital green sectors, while simultaneously strengthening supply chains and reducing external dependencies that are particularly risky in times of geopolitical instability; in order to safeguard the strategic purpose of these investments and prevent distortive effects within the internal market, strict conditions were attached to the aid, such as mandatory commitments from beneficiaries to maintain the investment in the target region for a minimum of five years (or three for SMEs), prohibitions against relocation of production within the Union in the two years preceding and following the aid, and exclusions for undertakings in financial difficulty, while Member States were also encouraged to embed environmental, social protection, and employment-related requirements into their schemes in a non-discriminatory manner; altogether, these aid instruments have served a dual purpose—on one hand, enhancing the EU's economic and industrial resilience in the face of acute geopolitical tensions, and on the other, reinforcing the foundations of the continent's sustainable transformation by mobilising public resources to strategically guide private investment toward green and future-proof technologies.

Under the latest Scoreboard published in 2024, all Member States primarily supported undertakings through non-repayable instruments in 2023. Direct grants and combined direct grants/interest rate subsidies accounted for over 90% of aid in Austria and over 50% in 19 other Member States, including Romania, Germany, and France. Italy (30%), Malta (37%), and Denmark (40%) allocated the smallest shares to these tools. Instead, Denmark and Italy relied heavily on tax advantages, representing 58% and 48% of their total aid, followed by Sweden (37%) and France (34%). Credit-based instruments like loan guarantees were most used in Croatia (27%), with notable shares also in Italy (13%), Romania (7%), and Cyprus (6%). In Malta, Slovakia, Lithuania, Czech Republic, and Germany, over a quarter of total aid was classified under 'other' instruments.

In 2023, approximately 91% of total expenditure related to crisis objectives under the TCTF or inspired by its principles—amounting to EUR 35.79 billion—was directed toward remedying serious disturbances in the economy, while the remaining 9% (EUR 3.67 billion) supported other objectives, including EUR 2.94 billion for agriculture, forestry, and rural areas, EUR 2.43 million for fisheries and aquaculture, EUR 470.45 million for sectoral development, EUR 248.30 million for environmental protection and energy savings, and EUR 9.42 million for compensation of damages caused by natural disasters.

Moreover, the latest available date are showing that in 2023, environmental protection was the main State aid objective in twelve Member States, including Denmark, Germany, and Romania, and the second most used in nine others (Figure 4); it represented 30% of total EU aid. Addressing serious economic disturbances was the top objective in nine Member States such as Hungary and Italy, and ranked second in countries like Germany and Romania, accounting for 25% of EU-wide aid. Research and innovation ranked second in Belgium and the Netherlands and exceeded 10% of aid in 7 other Member States, contributing 9% at EU level. Regional development was the main focus in Portugal and ranked second in Latvia, Croatia, and Italy, representing 8% of total expenditure.

Figure 4: State aid expenditure under the TCTF or based on its principles by Member State in 2023 by policy objective (EUR million)



	AT	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK
Sectoral development	0	0	0	0	0	0	0	0	0	470.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Compensation of damages caused by natural disaster	0	0	0	0	0	0	1.623	0	0	0	0	0	0	0	0	0.8	0	0	0	0	0	0	0	0	0	0	0
Agriculture, Forestry, and Rural areas	0	0	223.1	0	0	0	0	0	0	0	0	246.2	31.16	0	3551.	272.5	0	0	0	0	0	2100.	116.7	83.82	0	0	0
Environmental protection, including energy savings	0	98	0	0	0	0	0	0	0	0	0	0	0	0	147.2	3.085	0	0	0	0	7	0	0	0	0	0	0
Remedy for a serious disturbance in the economy	378.2	105.1	0.870	14.43	576.0	13526	12.91	8.674	442.7	3225.	462.6	1521.	542.3	3551.	55.94	7225.	22.3	76.61	1.35	15.51	447.9	917.1	54.31	383.9	1648.	321.3	246.2

Source: Author based on State Aid Scoreboard data (https://competition-policy.ec.europa.eu/state-aid/scoreboard/scoreboard-state-aid-data_en).

Between March 2022 and the end of 2023, EU Member States granted a total of EUR 164.08 billion in TCTF-related aid, with Germany, Italy, and Spain providing the largest nominal amounts, while Hungary, Italy, and Poland allocated the highest shares relative to their GDP; overall, such aid accounted for 0.50% of the EU27 GDP in 2023.

During the same time framework, only 21% of the nearly EUR 762.40 billion in approved TCTF aid was actually spent, with most Member States using less than half of their budgets; only Spain, Latvia, Cyprus, Italy, and Sweden spent more than 50% of the approved amounts.

6 Conclusion

Our first finding shows that environmental protection became the main objective of State aid in 2023, highlighting the EU's growing focus on accelerating the green transition across many Member States. The next finding reveals that tackling economic disturbances linked to the war in Ukraine remained a central goal, with substantial aid directed at ensuring resilience through liquidity, compensation, and price mitigation. A further finding confirms that TCTF enabled Member States to respond flexibly to both urgent economic shocks and long-term decarbonisation goals.

An additional finding highlights that since the majority of Member States have spent less than half of their approved TCTF budgets, there remains significant room for further support under the existing framework, enabling governments to mobilise unused resources to address ongoing economic and green transition challenges. *Our last finding indicates that the aid tools used under the TCTF successfully balanced crisis response with strategic investment, helping to stabilise affected sectors while fostering the shift to a net-zero economy.*

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