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Evaluating the standard of Green State Aid & Subsidies law in
the EU- Effectiveness, Challenges and Reform towards a
systematic shift for a greener European Union.

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ZUSAMMENFASSUNG-

Das Ziel dieser Studie ist es, die Grundprinzipien des EU-Beihilferechts zu verstehen, wobei der Schwerpunkt auf staatlichen Beihilfen für den Umweltschutz (sogenannte „grüne Beihilfen“) liegt und darauf, wie diese Rechtsrahmen und andere rechtliche Maßnahmen trotz Herausforderungen wie Unvereinbarkeitsproblemen auf nationaler Ebene, anhaltenden geopolitischen Krisen und wirtschaftlichen Schwierigkeiten systematisch in allen Mitgliedstaaten umgesetzt werden. Der Schwerpunkt liegt darauf, aufzudecken, wie wirksam und erfolgreich die aktuellen (und früheren) Rahmenbedingungen für staatliche Beihilfen beim Schutz der Umwelt waren, beispielsweise durch die Förderung grüner Übergänge mit höheren Investitionsbeihilfeschwellen und die Abschreckung von einer starken Abhängigkeit von umweltschädlichen Praktiken wie der Nutzung fossiler Brennstoffe. Ziel ist es, zu diskutieren, wie die EU ihre Klimaschutzversprechen und Nachhaltigkeitsziele durch diese umfassenden Mechanismen einhält.

Darüber hinaus wird in dieser Studie untersucht, inwiefern grüne Beihilfen als Schlupfloch genutzt werden können, um Rechtssysteme durch wettbewerbswidrige Maßnahmen zu umgehen, die ansonsten als illegal gelten würden, da sie das reibungslose Funktionieren der Binnenmarktpolitik und den fairen Wettbewerb beeinträchtigen. Diese Studie untersucht, wie die EU-Behörden sorgfältig zusammenarbeiten, um diese Komplikationen zu bewältigen, und welche Maßnahmen ergriffen werden, um nationale Regierungen und verwandte Behörden und Parteien für ihre Handlungen zur Rechenschaft zu ziehen, falls festgestellt wird, dass grüne Beihilfen wettbewerbswidrig oder als Schlupfloch genutzt werden, um wirtschaftliche oder politische Vorteile zu erzielen. Sie zielt auch darauf ab, den Status der Struktur der grünen staatlichen Beihilfen der EU im Vergleich zu anderen internationalen Rechtsrahmen zu relativieren.

Diese Studie strebt ein fundiertes Verständnis der Kernkonzepte und Umsetzungshindernisse an und gibt einen Einblick in die zu erwartende Zukunft der grünen Beihilfepolitik in der EU, die darauf abzielt, die bestehenden Unklarheiten durch Reformen und sektorspezifische Bewertungen zu beseitigen. Mit dieser Studie soll aufgezeigt werden, wie die EU ihre Rückschläge proaktiv überwinden und sich mit einem robusten Rahmen für grüne Beihilfen erholen kann, der dazu beiträgt, ihre Dynamik aufrechtzuerhalten oder zu beschleunigen, um das Klimaziel der EU für 2050 erfolgreich zu erreichen.

ABSTRACT-

The purpose of this study is to understand the fundamental principles of EU state aid law, focusing on environmental state aid (known as ‘green aid’) and how these regulatory frameworks & other legal policies are implemented systematically throughout its member states, despite challenges such as incompatibility issues on a national level, ongoing geopolitical crises and economical difficulties. Focus is given on uncovering how effective and successful current (and past) state aid frameworks have been, when it comes to safeguarding the environment, such as by promoting green transitions with higher investment aid thresholds and discouraging heavy reliance on environmentally detrimental practices such as the use of fossil fuel-based energy. It aims to discuss how the EU upholds its climate pledges & sustainability objectives through these comprehensive mechanisms.

Additionally, this research assesses how green aid may be used as a loophole in circumventing legal systems via anti-competitive actions that would otherwise be considered illegal, as it interferes with the smooth functioning of the internal markets fair competition policies. This study will explore how the EU authorities meticulously work together to manage these complications and what steps are taken to hold national governments and related authorities & parties, accountable for their actions in the event it is found that green aid is been utilized anti-competitively or as a loophole to enjoy economical or political benefits. It also aims to put into perspective, the status of the EU’s green state aid structure compared with other international legal frameworks.

This study strives to deliver a thoughtful understanding of the core concepts, implementation hurdles and will give a peak into what we can expect in the future regarding green aid policies in the EU which aim to rectify the existing ambiguities via reform and sector specific evaluations. Through this research, it will seek to demonstrate how the EU can proactively recuperate its setbacks and recover with a robust green aid framework which will help sustain or fast track its momentum, in order to successfully achieve the EU’s 2050 climate pledge.

INTRODUCTION-

In the words of Sir Winston Churchill:

There is a remedy which ... would in a few years make all Europe... free and... happy. It is to re-create the European family, or as much of it as we can, and to provide it with a structure under which it can dwell in peace, in safety and in freedom. We must build a kind of United States of Europe.¹

Thus, a coalition was called for, helping the then fragile Europe, to rise from the hostilities and aftermath of the Second World War. Growing back strong & resilient meant Europe needed a secure and powerful economy and this was to be achieved by creating a common European market-in other words a single market which allows member states to reap the benefits of integrating the four fundamental freedoms; the free movement of goods, people, services and capital.

These freedoms were introduced by the Treaty of Rome in 1957 which established the European Economic Community (EEC) which overtime evolved and these four freedoms are now set on stone under the Treaty on the Functioning of the European Union (TFEU) which came into force in late 2009. In addition to the four freedoms, it was vital for the success of this plan to uphold certain key concepts and rules. One such prominent rule was to maintain the functioning of the internal market by prohibiting anti-competitive or distortive behaviour which as a result would affect intra-community trade, the latter being the main goal of creating such a common European economic and social community. This community is now known as the European Union (EU), which currently consists of 27 member states with a collective population of approximately 450 million inhabitants² as of the beginning of 2025 and a gross domestic product value (GDP) of more than USD 19 trillion, which is expected to flourish according to the World Bank³.

Although usually overseen, environmental protection and the health of our climate is vital to sustain life. The burning of fossil fuels, starting from the days of the industrial revolution, to fulfilling the demands of the ever-growing population and to the rapid deforestation occurring in rainforests to this day, are some man-made activities which have resulted in almost

¹ Commission, 'Winston Churchill: calling for a United States of Europe' (no date) < https://european-union.europa.eu/system/files/2021-06/eu-pioneers-winston-churchill_en.pdf > accessed 2 June 2025 .

² Eurostat, 'Key indicators' (2025) < <https://ec.europa.eu/eurostat> > accessed 2 June 2025.

³ World Bank Group, 'GDP (current US\$) - European Union' < <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=EU> > accessed 2 June 2025.

irreversible damage to the environment. Numerous reports and research conducted by scientific organizations, NGOs and advocates such as the Centre for International Environmental Law⁴ and the World Wildlife Fund⁵, now suggest that if immediate action is not taken to address these environmental issues, the occurrence of widespread natural disasters, social unrest and economic and energy crises will continue to prevail at an alarming rate. The survival and future of humanity, pivot on the immediate action taken by nations combined efforts to restore the planet's health. To quote the current Secretary-General of the United Nations (UN), António Guterres in his opening speech at the COP27:

Greenhouse gas emissions keep growing. Global temperatures keep rising. And our planet is fast approaching tipping points that will make climate chaos irreversible. We are on a highway to climate hell with our foot still on the accelerator.⁶

Copernicus Climate Change Services, a climate impact watchdog programme instilled by the EU and managed by the European Commission (EC) which aims to educate & update the public on the EU's climate conditions, such as the distressing status of EU' glaciers, as depicted in the Figure below:

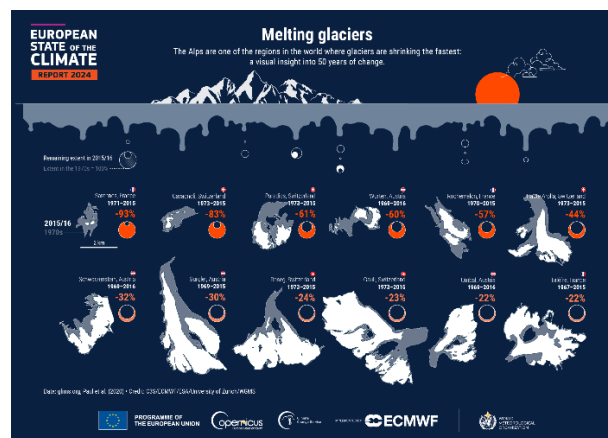


Figure 1- Copernicus, 'Shrinking glaciers' as of 2024.⁷

⁴ Center for International Environmental Law, 'New IPCC Report Confirms Increasing and Irreversible Damage from Climate Impacts & Intolerable Risks of Overshooting 1.5°C' (Press release, no date) < <https://www.ciel.org/news/new-ipcc-report-confirms-increasing-and-irreversible-damage-from-climate-impacts-intolerable-risks-of-overshooting-1-5c/>> accessed 2 June 2025.

⁵ World Wildlife Fund, 'The Amazon in crisis: Forest loss threatens the region and the planet' (8 November 2022) < <https://www.worldwildlife.org/stories/the-amazon-in-crisis-forest-loss-threatens-the-region-and-the-planet>> accessed 2 June 2025.

⁶ António Guterres, 'Secretary –General's remarks to High-Level opening of COP27' (UN, 7 November 2022) < <https://www.un.org/sg/en/content/sg/speeches/2022-11-07/secretary-generals-remarks-high-level-opening-of-cop27>> accessed 2 June 2025.

⁷ Copernicus Climate Change Service, 'European State of the Climate: Striking east-west contrast and widespread flooding in Europe's warmest year' (15 April 2025)< <https://climate.copernicus.eu/european-state-climate-striking-east-west-contrast-and-widespread-flooding-europes-warmest-year>> accessed 2 June 2025.

The EU recognizes this urgency and the gravity of the situation and aims to put climate goals into action for the best interest of the public. This awareness on environmental matters and sustainable development had been present in the EU from early on. Hence, the EU came up with a series of climate goals and objectives to tackle these ongoing issues.

This raises the question of where does state aid for the environment come into the picture? To put this into context, one must assess the term ‘green aid’. Environmental aid, also known as green aid, focuses on providing EU wide funds and governmental support on matters relating to the protection of the environment, which address present-day climate change issues such as pollution, waste management and encouraging investments in eco-friendly renewable energy production sectors, and green transitions and innovation. These goals can be achieved by allocating sufficient funds and better investment opportunities to reach the intentions of solving such environmental issues. The allocation of funds on a regional scale must be done via a government aid, and such ‘State aid’ is *prima facie* prohibited under EU law as it conflicts with the functioning of the internal market. Nonetheless, we shall examine later in this discussion, that some exceptional circumstances prevail, and state aid and subsidies granted for environmental concerns, may fall under such strictly approved special circumstances.

A clear example of what is and what is not considered compatible state aid was discussed in the famous 2018 case known as *Hinkley Point C*.⁸ Here, the construction of a nuclear plant in England was notified to the EC and the European Court of Justice (ECJ) and was faced with the following question:

The central legal question – whether the aid for the nuclear energy plant could be deemed to be compatible with the internal market pursuant to Article 107 (3) (c) TFEU – in the affirmative, albeit by referring to the general application of this provision, and without limiting its scope by relying on the Euratom Treaty (as the General Court had done).⁹

Although notable member states of the EU such as Austria & Germany strongly opposed this decision, the ECJ delivered a controversial judgment where it allowed nuclear energy focused

⁸ *Case C-594/18 P Austria v Commission* ECLI:EU:C:2020:742

⁹ Corinne Rüchardt, ‘Hinkley Point C: ECJ Confirms Commission’s Approval of Aid to Nuclear Energy Plant’ (Kluwer Competition Law Blog, 28 September 2020) < <https://legalblogs.wolterskluwer.com/competition-blog/hinkley-point-c-ecj-confirms-commissions-approval-of-aid-to-nuclear-energy-plant/?output=pdf> > accessed 2 June 2025.

State aid, hence issuing clearance for the UK to establish the nuclear plant. The ECJ took upon a broad interpretation of what is considered compatible green aid which extended its scope towards nuclear derived energy (although the ECJ refrained from defining nuclear energy) and priority was given to the discretion of the EC's decision-making role to approve state aid. This case illustrates two sides of the same coin; the fluidity of green aid and the willingness EU institutions to promote green energy systems by approving such government aid whilst simultaneously demonstrating the uncertainty of what constitutes as state aid (specifically green aid) in the EU as there is no single EU-wide definition and scope for it, which allows a wide interpretation.

While this broad interpretation may seem beneficial, it may give rise to national policies which are inherently bad for the climate but disguised as a move to promote climate neutrality. These loopholes will be discussed later on in this study. Therefore, it is crucial to keep in mind that the weight of the responsibility of the EU institutions, especially the EC is paramount to ensure that green aid is used proportionally, efficiently and transparently to promote climate friendly projects and actions in order to stay on course to achieving its climate pledges.

CHAPTER I- BACKGROUND OF STATE AID IN AN ENVIRONMENTAL CONTEXT AND ITS SCOPE & LIMITATIONS-

1.1 Primary law on State aid and the emergence of Secondary legal frameworks introduced by the European Commission to support green aid in the EU.

Article 107(1) of the Treaty on the Functioning of the European Union (TFEU) stands firm on the maintenance of the rules on the internal market by prohibiting any form of State aid offered by a member state such as by giving a selective advantage towards ‘certain undertakings or the production of certain goods’¹⁰, and therefore deems such aid as an instrument giving rise to distortion of the internal market. This is because providing preferential aid, affects intra-trade between EU member states as it may give some undertakings unfair advantage to market access. This disrupts the rules of the internal market, therefore State aid is generally prohibited except in certain circumstances. Moreover, certain ‘services of general economic interests’ do not constitute as state aid to begin with, as they do not distort competition within the internal market according to the pivotal decision made by the ECJ in the *Altmark* case.¹¹ In this instance, the ECJ established what is called the *Altmark criteria*, in which the fulfilment of four cumulative conditions could determine how certain ‘public service obligations’ do not constitute as state aid, hence does not require to partake in the notification and approval measures as typically required by EU state aid law.

As aforementioned, state aid is outright prohibited in the internal market due to its anti-competitive characteristics. However, this does not imply ‘all’ state aid is prohibited-justifications for the exercise of state aid is viable. Article 107(2) TFEU goes on to mention a category of state aid which is in fact compatible with the internal market, also followed by Article 107 (3). This allows the EC to utilize its power & discretion to make environmental state aid compatible under Article 107(3)(c) which mentions that ‘aid to facilitate the development of certain economic activities or of certain economic areas, where such aid does not adversely affect trading conditions to an extent contrary to the common interest’¹² is compatible with the internal market. It is vital to keep in mind that such discretion is used it the strictest conditions, maintaining a high threshold.

¹⁰ Consolidated Version of the Treaty on the Functioning of the European Union (2012) OJ C326/47, art 107(1).

¹¹ *Case C-280/00, Altmark Trans and Regierungspräsidium* ECLI:EU:C:2003:415

¹² Consolidated Version of the Treaty on the Functioning of the European Union (2012) OJ C 326/47, art 107(3).

The EC introduced a series of secondary legal provisions (binding & non-binding) which includes Regulations, Directives and Guidelines and certain supplementary strategic policies which allows for the administration & execution of environmental state aid in the EU. Of these, focus shall be given to the following secondary law & supplementary frameworks in this discussion:

- European Climate Law - Regulation (EU) 2021/1119
- The General Block Exemption Regulations of 2008, 2014 and 2023,
- The Climate, Energy & Environmental Aid Guidelines 2022 (CEEAG)
- The Temporary Crisis and Transition Framework 2023
- The Energy Efficiency Directive
- The European Green Deal- The Green Deal Industrial Plan.

The availability of various secondary legal frameworks demonstrates the eagerness of the EU to achieve climate objectives past any obstacles, by systematically using methods suitable with the functioning of the internal market. To discuss each in detail, one must investigate the status quo of EU green aid from its inception until thus far, and what were its climate action pledges and whether these goals have evolved or shifted focus over the years.

1.2 A historical background of the EU's climate objectives (early 90's-2020).

Initial signs of environmental concerns in the EU were seen in the mid 1990's, when the EC issued a strategy known as the Fifth European Community Environmental Programme: Towards Sustainability (5EAP), which referred to growing concerns on the 'deterioration in the environment'¹³ and lays out a strategy to achieving environmental objectives. Later, more soft law was issued in the form of community guidelines such as the Community guidelines on State aid for environmental protection in 2001.

A notable step was taken following EU's ratification of the Kyoto Protocol in 1997, which stood as 'the world's only legally binding instrument for cutting greenhouse gas emissions'¹⁴ for almost two decades until the establishment of the Paris Agreement in 2015. The EU collectively (at the time it was total of 15 member states, known as the *EU-15*), showed its eagerness to help achieve their climate ambitions, by going above and beyond in maintaining its commitments with a substantive goal to reduce greenhouse gas emissions by 8% under the

¹³ Commission, 'Fifth European Community Environmental Programme: Towards Sustainability' (no date), s 3

¹⁴ Commission, 'The Kyoto Protocol', < https://climate.ec.europa.eu/eu-action/international-action-climate-change/kyoto-protocol_en > accessed 3 June 2025.

first commitment period between 2008-2012 (Kyoto 1).¹⁵ This collective target was further deconstructed by the EC among each member state of the EU and made it a nationally legally binding goal, based on the ‘relative wealth’ of each member state’.¹⁶

This joint target was further increased to a staggering 20% collective reduction in greenhouse gas emissions by an optimistic EU, during the second commitment period under the Kyoto Protocol (2013-2020). The EU showed a groundbreaking over-achievement of its climate goals under this Protocol, namely a 11.7% reduction in emissions during the Kyoto 1 period and a staggering 31% in the Kyoto 2 period¹⁷.

Following that, a new bundle of environmental and climate goals was planned for the year 2020, under the EU Climate & Energy (CARE) Package- this is commonly known as the *20-20-20 targets*.¹⁸ This was issued as a legally binding framework as stated by the European Environmental Agency (EEA) to be a mechanism to do the following:

Set three key objectives for 2020: A 20% reduction in EU greenhouse gas emissions from 1990 levels; Raising the share of EU energy consumption produced from renewable resources to 20%; A 20% improvement in the EU's energy efficiency.¹⁹

The plan of action to achieve the 20-20-20 targets required assistance via several key pieces of legislation, namely the Renewable Energy Directive²⁰, EU Directive on Energy Efficiency²¹ and Decision on collective effort to reduce green house emissions²². The EEA reported in 2021 that the EU has successfully managed to achieve its 20-20-20 climate targets by confirming that ‘in 2020, EU-27 greenhouse gas emissions were 31 % lower than in 1990... This constitutes a substantial overachievement of the 20 % reduction target’.²³

¹⁵ *ibid*.

¹⁶ Commission Decision 2006/944/EC (14 December 2006) determining the respective emission levels allocated to the Community and each of its Member States under the Kyoto Protocol pursuant to Council Decision 2002/358/EC OJ L 358.

¹⁷ Commission, ‘The Kyoto Protocol’ (n 11).

¹⁸ European Environmental Agency, ‘The EU climate and energy (CARE) Package’ <<https://www.eea.europa.eu/policy-documents/the-eu-climate-and-energy-package>> accessed 3 June 2025

¹⁹ *ibid*

²⁰ Directive 2009/28/EC on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (23 April 2009) OJ L 140/16.

²¹ Directive 2012/27/EU on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC (25 October 2012) OJ L 315/1.

²² Commission Decision No 406/2009/EC (23 April 2009) on the effort of Member States to reduce their greenhouse gas emissions to meet the Community’s greenhouse gas emission reduction commitments up to 2020 OJ L 140/136.

²³ European Environmental Agency, ‘EU achieves 20-20-20 climate targets, 55 % emissions cut by 2030 reachable with more efforts and policies’ (26 October 2021) < <https://www.eea.europa.eu/highlights/eu-achieves-20-20-20>> accessed 3 June 2025.

1.2.1 Ongoing climate pledges and policies in action.

Another significant milestone was observed when the EU ratified the Paris Agreement in 2015, a paramount piece of legally binding legislation which came into force in November 2016 and conveys a valued strategy to control global warming. This international Treaty on climate change geared towards ‘the increase in the global average temperature to well below 2°C above pre-industrial levels’ and pursue efforts ‘to limit the temperature increase to 1.5°C above pre-industrial levels’.²⁴

According to this Treaty, in order for the Paris Agreement to operate successfully, participating countries must submit mandatory *nationally determined contributions (NDC's)* and optional *long-term low greenhouse gas emission development strategies (LT-LEDS)*. Additionally, all 196 participating States- of which all EU member states are included, must adhere to the *enhanced transparency framework (ETF)* system laid out by the Treaty, which allows a straightforward monitoring procedure on the progress of each country on their commitment. This examination is conducted by the Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC). The EU’s NDC’s and LT-LEDS were submitted to the Secretariat in 2020. Here, the EU demonstrated their willingness to push its target to reduce greenhouse gas emissions in ‘2030 by at least 55% compared to 1990 levels as a step towards reaching neutrality by 2050’.²⁵

One formula devised to achieve the targets of the Paris Agreement undertaken by the EU was the initiation of the European Green Deal (EGD) which sets out the framework for achieving climate targets and which is further supported via the Green Deal Industrial Plan.

The EU had proven its dedication and consistency to achieve its environmental protection and climate ambitions and ensuring its constituent states are given a legally binding framework under EU Climate Law. It has promised to undertake a systematic shift to becoming the world’s first climate neutral continent by ‘achieving net-zero greenhouse gas emissions by 2050’.²⁶ This can be achieved by boosting green technologies and innovation in

²⁴ United Nations, ‘The Paris Agreement’ < <https://www.un.org/en/climatechange/paris-agreement> > accessed 4 June 2025.

²⁵ European Council, ‘Paris Agreement on climate change’ <<https://www.consilium.europa.eu/en/policies/paris-agreement-climate/#:~:text=The%20Paris%20Agreement%20is%20an,warming%20and%20address%20its%20impacts.>> accessed 5 June 2025.

²⁶ Matthias Duwe & Claire Dupont, ‘The EU's Carbon-neutral Future: Achieving net zero by 2050’ < <https://www.ecologic.eu/19134> > accessed 7 June 2025.

sectors which would otherwise heavily rely on anti-protective climate practices. Some of these sectors include transport, buildings, energy production etc.

1.3 Foundations of Green aid: European Climate Law.

As aforementioned, to further solidify its commitments, the EU showed continuous efforts to achieve its climate goals by implementing binding legislation with the European Climate Law Regulation,²⁷ adopted in the year 2021. This Regulation sets out a framework which paves the way for the EU to commit to the climate objectives under the Paris Agreement, as depicted in Article 1 which explains the subject matter and scope. It implicitly encourages member states of the EU to reap the benefits of utilizing state aid focused on environmental development and protection- as seen in Article 6(4) which gives the EC the power to measure the consistency of each member state on reaching national climate goals by imposing legislative and budgetary proposals. EU Climate Law has allowed further reform in the law governing green aid, which enhanced other green aid frameworks such as the General Block Exemption Regulation (GBER) and CEEAG, which will be discussed later in this study.

All things considered, this Regulation demanded that the member states of the EU upgraded national policies and investments required for the functioning of those policies to be adequate & satisfactory in order to meet the 2030 and 2050 climate targets pledged under the Paris Agreement²⁸.

1.4 Secondary legal frameworks: The General Block Exemption Regulation overtime: a focus on Green State Aid and a note on new amendments.

As aforementioned, Art 108(3) TFEU requires state aid granted by a member state of the EU to be notified to the EC for review and approval. However, if such state aid falls under a *block exemption*, the provisions of this Article will naturally not apply. In essence, a block exemption in this context refers to a category of state aid which is allowed or permitted to be administered by a member state under EU law. The purpose of such an exemption is to allow state aid to be granted in crucial circumstances which requires aid approval to be processed in a speedy and efficient manner without the need for a detailed analysis of why that aid to be mandated. This process proves useful for matters of significant importance, such as environmental protection. The General Block Exemption Regulation (GBER), which initially

²⁷ Regulation (EU) 2021/1119 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law') (30 June 2021) OJ L 243/1.

²⁸ *ibid* art 2(2).

came into effect in 2008, laid out certain classes of exempted State aid- of which aid focused on environmental protection amounted to a portion of it.

The GBER plays a crucial role in green aid and some authors view it as an ‘important change in the legal regime applicable to State aid for environmental protection’.²⁹ Green aid under the GBER had faced a handful of amendments and improvements over the years since its adoption in 2008, with more revision in 2014 and with the latest in 2023. This discussion shall examine the growth of green aid throughout those years seen in these reforms.

1.4.1 The structure of green aid under REGULATION (EC) No. 800/2008-

Regulation (EC) No 800/2008 (GBER 2008) established the path for the EU to assist in creating the blueprint on block exempted environmental aid, mainly focusing on sustainable investments. Section 4 of this Regulation primarily addresses state aid, which is exempted via this legal instrument in relation to environmental protection, with the relevant definitions laid out in Article 17. The categories for which such state aid is applicable to in referred to within Articles 18-25 of this section.

An overview of these categories demonstrates the following environmental investment aid; investment aid on environmental protection with certain investment caps (Article 18), investment aid on obtaining new transport vehicles which advance current environmental standards laid out by the EU (Article 19), aid focused on small and medium sized enterprises (SME’s) to act in accordance with the Community’s standards of environmental protection (Article 20), investment aid directed towards achieving energy saving measures with an intensity cap based on size of undertaking (Article 21), investment aid intended for high-yielding cogeneration of energy (Article 22), investment aid promoting use of renewable energy sources (Article 23), investment aid supporting environmental studies conducted on energy saving measures (Article 24) and lastly environmental aid provided via reduced environmental taxation (Article 25).

Despite the fact that several essential components of environmental protection were covered under this section of the Regulation, certain key issues remained answered. Specifically, almost no direct acknowledgement or reference was made on environmental aid directed towards waste management systems, recycling or aid for the treatment and management of specific pollutants. Considering that these factors were major components of environmental

²⁹ Ulrich Soltesz and Felix Schatz, ‘State Aid for Environmental Protection The Commission's new Guidelines and the new General Block Exemption Regulation’ (JEEPL. 2009).

pollution at the time (and still are), it is arguable that this framework should have in fact directly addressed them under individual categories under this Regulation.

Additionally, the framework concerning the issuance of environmental investment aids suggests a limitation to the flexibility of the system- this can be seen with the provisions on the clearly set out amounts on the investment intensity caps under most categories. Such limitations leave minimal wiggle room for projects. This may pose to be a problem as the dependence of these investment capacities and level of funds heavily varies based on a multitude of factors & demographics for each member state. For example, economically weak EU member states Bulgaria may require further investment to achieve enhanced results which consequently fulfil the goal of environmental protection compared to powerful economies like Germany. It is crucial to bridge the link between environmental protection and technological & economical advances, hence having a rigid structure on environmental investments could be challenging and inefficient concerning the momentum of achieving the EU's climate goals.

1.4.2 Noticeable amendments in REGULATION (EU) No. 651/2014-

Regulation (EU) No 651/2014 (GBER 2014) issued a more comprehensive list of provisions under Section 7, concerning block exempted environmental state aid, namely Articles 36-49. Notable improvements and new additions will be closely examined below. It can be observed that substantial changes have been made to make this block exemption more effective and efficient towards environmental aid compared to its previous counterpart. New additions and improvements are evident. It must be noted that each provision includes its own aid intensity caps which shall not be examined in detail, however, will be considered when comparing with its predecessor.

One such example is inclusion of a separate provision on providing 'beyond state of the art'³⁰ investment aid shall be given towards matters regarding waste recycling and re-use which is generated by third parties, under Article 47 of the Regulation. The introduction of this provision plays a pivotal role in ensuring sustainability in the internal market and the promotion of recycling systems with reason (Article 47(3)).

³⁰ Regulation (EU) 651/2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty, (17 June 2014) OJ L 187/1, art 47 (6).

Furthermore, there is a new inclusion for providing investment aid ‘for the installation of energy efficient district heating and cooling system’³¹ which is aligned with the rules of the internal market. The inclusion of Article 46 in the 2014 GBER proves important, because the EU as a community (industries and household) generally demands for a high consumption of heating and cooling technologies which generate heavily on fossil fuels and therefore a provision supporting a greener transition towards renewable energy (at least partially) to sustain the demands of district heating and cooling was required, and was addressed within this Article.

In a report published by the EEA on *decarbonization*, it is stated that:

In district heating, which supplies about 10% of the EU’s heat and is more common in northern, central and eastern Europe, fossil fuels contributed more than two thirds (69%) of all fuels burned in combined heat and power plants and heat-only plants in 2020.³²

By specifically addressing this category of energy usage and by promoting investment aid for sustainable cooling and heating systems, the EU is progressing towards meeting its long-term climate goals. Although the aid intensity is not entirely flexible, it does leave room to be extended in the event it is required by SME’s or special locations as mentioned under Article 46 (3) & (4).

Additional consideration is given towards investing in the *remediation of contaminated sites* as mentioned in Article 45 of the Regulation. This essentially relates to ‘repairing environmental damage’³³ caused by contaminated sites which consist of toxic materials which could seriously damage the environment. Some examples of contaminated sites possibly covered under this Article are chemical factories, landfills, military facilities which conduct tests on explosives, abandoned mines etc. This provision introduces the *polluter pays principle (PPP)* which as the name suggests, holds the identified polluter (be it a natural or legal person) liable for the unregulated discharge & maintenance of hazardous waste³⁴. This direct and strong emphasis on the polluter clearly means that in such situations, state aid will not be permitted, unless the polluter is unidentified or if the polluter cannot uphold the

³¹ *ibid*, art 46 (1).

³² European Environmental Agency, ‘Decarbonising heating and cooling — a climate imperative’ <https://www.eea.europa.eu/publications/decarbonisation-heating-and-cooling> accessed 5 June 2025.

³³ Regulation (EU) 651/2014, art 45(1).

³⁴ *ibid*, art 45(3).

financial responsibility of remediation. This further supports the fundamentals of state aid as discussed previously, since according to Article 107 TFEU, state aid shall be issued only as needed in limited circumstances.

The inclusion of this provision posed significant importance for several reasons. Firstly, it was not explicitly addressed in the GBER 2008, and it shows the growing eagerness of the EU to further regulate such major pollutants of the environment. Secondly, it holds polluters liable to the best of its ability, thereby giving a strong message to sites operated by major corporations, on the consequences of not giving priority to the environment with regards to waste disposal and management. This ensures market players remove future obstacles of having to manage climate pollutants due to their operations, which allows future climate burdens to be pre-emptively tackled with minimum resource depletion. This provision also helps better align with the European Green Deal Industrial Plan's *zero-pollution vision*. It is undeniable that the inclusion of this provision is a serious effort by the EU in protecting not only the environment, but also the health of humans & all life as it aims to prevent the rise of unchecked exposure to hazardous and toxic substances.

Additional improvements can be noted under Article 42 which allows operating aid in relation to promoting electricity generated via renewable energy sources. This supports not only the initial investment costs as previously referred to in Article 23 of GBER 2008, but instead focuses on expanding aid given to the production and processes of renewable electricity generation.

All in all, with a long-term climate goal in mind, the GBER 2014 introduced new provisions which were not addressed within the previous Regulation, whilst also expanding the scope and conditions of the existing provisions. However, many dimensions of environmental protection were yet to be regulated and was in pressing need of support by member states for its development and continuation. This was necessary considering the ever-growing socio-economic changes in the modern world which consequently exacerbates the existent global climate crisis. Hence, there was a call for a much more refined and upgraded version of the general block exemption regulation on green aid which came into the picture in 2023.

1.4.3 A contemporary, thorough and resilient structure for permitted green aid under REGULATION (EU) 2023/1315-

Recent positive developments in the contemporary world such as technological advances, scientific and research achievements, growth in availability of resources to assist in achieving

sustainability such as to produce renewable energy, has allowed communities to work together in taking timely action against environmental challenges. However, the lack of tailor-made regulations to effectively distribute green aid, often leads to fruitless results, thus holding up the community from achieving its climate goals. Regulation (EU) 2023/1315 (GBER 2023) came into play at a pivotal time regarding environmental protection. The EC decided to further expand the scope of green aid, introduced faster and efficient green processes and sustainable green transitions, whilst also ensuring to provide additional support to other environmental schemes of the EU such as the Green Deal Industrial Plan and the REPowerEU plan, which shall be discussed in detail later.

One major inclusion which is directly addressed within this Regulation is regarding the allocation of investment & operation aid towards clean energy such as hydrogen derived renewable energy (with other thresholds to be satisfied).³⁵ It is common knowledge that renewable hydrogen energy is a form of clean energy sourced from solar power, hydropower or wind power, which can be utilized instead of burning fossil fuels for the production of energy in the EU. This replacement will not only allow the EU to decarbonize certain energy sectors and allow the aggregate reduction in greenhouse gas emissions but will also allow the EU to become more independent & secure with its energy sources, particularly on how it is derived, certainty for the cost of energy production and its quality. Article 36 as a whole and specifically Article 36a for this reason, reinforces EU's initiative to stay committed to its climate goals via promoting green technologies and other related innovations. This is further supported by providing operating aid for small projects which aim to boost renewable energy as introduced newly under Article 43 of the Regulation.

Further additions which illustrate a serious effort in promoting sustainability is noticeable under Article 36b of the Regulation which provides investment aid for the procurement of clean vehicles- also known as zero-emission vehicles. This is aimed at all methods of transport and for the modification of existing vehicles besides aircrafts. Articles 38-39 further provides improvements on dispensing aid for the utilization of energy efficiently, which is crucial during geo-political unrests as maintaining energy reserves is a trending topic during these crises.

³⁵ Regulation (EU) 2023/1315 amending Regulation (EU) No 651/2014 and Regulation (EU) 2022/2473 OJ L 167/1, p 48.

Additionally, it must be noted that the investment aid intensity caps in the latest GBER have a higher threshold (provided specific conditions are satisfied) in comparison to the previous Regulations, which also implies the EU's strong willingness to allow the allocation of higher investment opportunities to expedite the accomplishment of its climate targets.

Altogether, the GBER 2023 is considered a key instrument and a pivotal piece of legislation regarding the increased support of green aid and in supporting other related legal provisions in the EU. The introduction of new provisions covering a broader range of sectors and environmental issues, higher thresholds for investment or operational aid, combined with the reform of the existing green aid provisions in the previous Regulation allows swift and efficient commencement of investments in problem areas and more attention is given towards green innovation which is a crucial factor to consider in today's modernized and globalized world. Hence, the GBER 2023 is perceived as essential tool for the EU to not only stay committed but also to help achieve its climate objectives in the future.

1.5 The European Green Deal- The EU's game plan towards an efficient green transition.

Endorsed in 2020 by the EC, the European Green Deal (EGD) is regarded as a portfolio of policy initiatives which 'aims to ensure zero emissions by 2050, making Europe the first climate-neutral continent in the world'³⁶ and which allows the EU to be 'a prime destination for investments that bring stable, future-proof quality jobs, with a strong industrial base'.³⁷

It takes the form of a bundle of measures, consisting of policy actions and programs set in place to facilitate the EU's large-scale climate ambition. This bundle includes initiatives such as the REPowerEU plan, the Green Deal Industrial Plan (GDIP), Fit for 55 package, the circular economy action plan, Farm to Fork plan, Zero-pollution action plan, among many others. Each of these strategies aim to dive deep into specific environmental aspects and challenges and how state aid can help improve these conditions. In this discussion and analysis, a strong emphasis and attention will be given towards the GDIP, REPowerEU plan, Temporary Crisis and Transition Framework (TCTF), CEEAG, the InvestEU plan, NextGenEU instrument.

³⁶ Commission, 'The European Green Deal' < https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/story-von-der-leyen-commission/european-green-deal_en > accessed 5 June 2025.

³⁷ Commission, 'The path to sustainable European competitiveness for clean tech: the hydrogen case' https://sustainable-energy-week.ec.europa.eu/news/path-sustainable-european-competitiveness-clean-tech-hydrogen-case-2024-05-28_en (28 May 2024) accessed 5 June 2025.

The EC encapsulated the intentions of the EGD as follows:

A roadmap with actions to boost the efficient use of resources by moving to a clean, circular economy and stop climate change, revert biodiversity loss and cut pollution. It outlines investments needed and financing tools available and explains how to ensure a just and inclusive transition.³⁸

Furthermore, the important role played by the EGD was highlighted by the EC where it was stated that ‘The President of the Commission has made the European Green Deal the top political priority, with the aim of transforming the EU into a fair and prosperous society with a modern, resource-efficient and competitive economy’.³⁹

1.5.1 The Green Deal Industrial Plan: A concrete plan revealing a fragile substructure?

Discussions were underway for a more strategic plan to address a number of current issues surrounding green aid in the EU. This included maintaining up to standard and competent EU-wide environmental aid (in terms of adequate routes to assistance, funds and other facilities) in comparison with major global economies and worldwide environmental policies, whilst simultaneously supporting existing green aid frameworks bearing in mind not to deviate from the climate pledges.

One major element for the successful use of green aid, is that it heavily relies on investors. States provide environmental aid focused on certain industries and sectors which ease the pathway, not only for the public authorities concerned, but also aiming the attraction of potential foreign and local investors which usually consist of private corporations and companies that are predominantly active in green tech, as venture capitalists funding green innovation projects, as financial institutions etc. The funds brought in by such private investors allows faster and more efficient developments in green-innovation, solutions to ongoing environmental issues, thereby expediting the accomplishment of a national level climate targets which contribute to the overall EU climate goals. In order to attract, and most importantly retain such investors, States focus on issuing green aid in large scales, ensuring

³⁸ Commission, ‘The European Green Deal sets out how to make Europe the first climate-neutral continent by 2050, boosting the economy, improving people's health and quality of life, caring for nature, and leaving no one behind’ (Press Release, December 11 2019)
https://ec.europa.eu/commission/presscorner/api/files/document/print/en/ip_19_6691/IP_19_6691_EN.pdf
 accessed 5 June 2025.

³⁹ Commission, ‘Stepping up Europe’s 2030 climate ambition: Investing in a climate-neutral future for the benefit of our people’ COM (2020) 562 final, s 1.

that investors have assurance and certainty against the possible risk in their stake for a project in a certain industry. This in turn, encourages more dedication and involvement in finding solutions to existing grey areas, allows the creation of more jobs in the sector, and consequently strengthens and boosts the local economy. This snowball effect was predicted when the USA put forward a sizeable allocation for green aid (to be deployed in various forms) by passing the Inflation Reduction Act (IRA) 2022. This type of wide-reaching green aid schemes has been adopted by other powerful global economies as well such as China, UK, Japan, etc. Below, will be a discussion on the standard of EU green aid in comparison with major international green aid frameworks.

1.5.2 The Inflation Reduction Act of 2022 and its effect on the EU-

The United States entered a new chapter by introducing a notable advancement in their climate policy making by implementing the Inflation Reduction Act (IRA) in 2022. Although a range of domestic budgetary matters are enveloped in this legislation, specifically regarding green aid and environmental concerns, it can be summarized as follows:

In essence, IRA aims to curb inflation and to invest into domestic clean energy production. The law represents the largest effort into addressing climate change in US history. It aims to achieve a reduction of around 40% of greenhouse gas emissions in 2030 compared to 2005.⁴⁰

The EU recognized the IRA's prominence and sensed a major vulnerability in its own industries and economies, as this critical US legislation vowed over USD 360 billion towards green aid, by stating the following:

The package includes \$386 billion of climate and energy spending and tax breaks – mainly for new or expanded tax credits to promote clean energy generation, electrification, green technology retrofits for homes and buildings, greater use of clean fuels, environmental conservation, and wider adoption of electric vehicles, among other purposes.⁴¹

⁴⁰ Christian Scheinert, 'EU's Response to the US Inflation Reduction Act (IRA)', (Policy Department for Economic, Scientific and Quality of Life Policies, June 2023) <[https://www.europarl.europa.eu/RegData/etudes/IDAN/2023/740087/IPOL_IDA\(2023\)740087_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/IDAN/2023/740087/IPOL_IDA(2023)740087_EN.pdf)> accessed 7 June 2025.

⁴¹ Committee for a Responsible Federal Budget 'What's in the Inflation Reduction Act?' <<https://www.crfb.org/blogs/whats-inflation-reduction-act>> (July 28 2022) accessed 7 June 2025

Such a substantial sum of funds allocated towards various green aid schemes, proved to endanger specific EU markets such as the renewable energy manufacturing industries like solar panel production⁴², the automotive industry and the battery production industry among many others⁴³. This threat could inevitably lead to major economic collapse such as recession caused by the widespread increases in lay-offs and downsizing, due to lack of funding and support from investors as they would rather prefer better & more profitable conditions offered by powerful frameworks such as the IRA.

Additionally, long term investor security and legal certainty were boosted when it was announced and further supported by the U.S Department of the Treasury & IRS when in the ‘final rules’ seen on Section 48 Energy Credit, it was stated that this framework ‘will give clean energy project developers clarity and certainty to undertake major investments to produce more clean power and further strengthen America’s clean energy economy’.⁴⁴ The unavailability of a competent and up to standard green aid scheme, focused on attracting & retaining investors was necessary as otherwise it would result in further depletion of investors, both existing and prospective. Hence, the EC urgently announced the proposal of the Green Deal Industrial Plan (GDIP) in response, besides its main goal to stay committed to its long-term climate pledges.

1.5.3 Are some sky-high green aid commitments from other major economies harming or intimidating the EU?

It was not only the USA that posed a threat towards the EU with its hefty & appealing green packs. China, a global economic powerhouse, not only dedicated colossal environmental aid, but also provides ‘climate finance flowing from China to other developing countries, via four distinct channels, amounted to just below \$45 billion between 2013 and 2022. That equals 6.1% of the total climate finance developed countries provided during the same period’⁴⁵ as reported by the World Resources Institute in late 2024. The EU recognizes the adverse

⁴² Sarah Mcfarlane and Riham Alkousaa, ‘Losing hope of rescue, some European solar firms head to US’ (Reuters, April 15 2024) < <https://www.reuters.com/business/energy/losing-hope-rescue-some-european-solar-firms-head-us-2024-04-15/>> accessed 7 June 2025.

⁴³ Kaya Partners, ‘Race to the Top 2 – EU Revs up with the Green Deal Industrial Plan and the 8 Questions for Investors’ (Inevitable Policy Response, April 26 2023) < <https://ipr.transitionmonitor.com/2023-04-26-q1-2023-briefing/>> accessed 5 June 2025.

⁴⁴ U.S Department of the Treasury, ‘U.S. Department of the Treasury Releases Final Rules on Investment Tax Credit to Produce Clean Power, Strengthen Clean Energy Economy’ 8Press Release, December 4 2024) <https://home.treasury.gov/news/press-releases/jy2736> accessed 5 June 2025.

⁴⁵ Shuang Liu & others, ‘China Is Providing Billions in Climate Finance to Developing Countries’ (WRI, November 7 2024) < <https://www.wri.org/insights/china-climate-finance-developing-countries>> accessed 5 June 2025

consequences of China's action plan, as expressed by a communication of the EC in 2023.⁴⁶ Other Asian economic giants, such as Japan, 'aim to raise up to JPY 20 trillion (approximately EUR 140 billion) – through 'green transition' bonds' whilst "India has put forward the Production Linked Incentive Scheme to enhance competitiveness in sectors like solar photovoltaics and batteries".⁴⁷ Canada on the other hand, pledged a whopping USD 5.3 billion whilst additionally announcing the following:

A \$450 million contribution to the second replenishment of the Green Climate Fund (GCF), the world's largest dedicated climate change fund and a critical funding mechanism of the Paris Agreement...This contribution is a 50 percent increase from Canada's 2019 pledge to the GCF's first replenishment.⁴⁸

Further devotion to solve climate issues was seen when it was reported that a 'coalition of Canadian aid groups has pushed the government to at least triple that number, to \$15.9 billion, for the next five-year period ending in 2031'.⁴⁹ The United Kingdom declared a pledge as well, to invest up to £4.5 billion for green subsidies and grants mainly focusing on the zero-emission vehicle industry and renewable hydrogen energy⁵⁰ and it was recently announced additional £300 million 'for Great British Energy to invest in offshore wind supply chains ahead of the Future of Energy Security summit'.⁵¹ Similar to China, many developed countries have also vowed to provide additional support towards green aid in developing nations.

These climate commitments undertaken by powerful States demonstrates a heated competition regarding global green aid, essentially targeting and contending for dynamic investors, and the EU did not want to find itself in the losing end of the deal. Although some of these green aid frameworks may be smaller in funding capacity, they do excel in faster and

⁴⁶ Commission, 'A Green Deal Industrial Plan for the Net-Zero Age' COM (2023) 62 final.

⁴⁷ *ibid*, s 1

⁴⁸ Government of Canada, 'Canada announces \$450 million for the Green Climate Fund, the world's largest dedicated climate change fund' (Press release, July 12 2023) < <https://www.canada.ca/en/environment-climate-change/news/2023/07/canada-announces-450-million-for-the-green-climate-fund-the-worlds-largest-dedicated-climate-change-fund.html> > accessed 10 June 2025.

⁴⁹ Jordan Omstead, 'How much does Canada owe in climate aid? A trillion-dollar question headlines COP29' (BNN Bloomberg, November 11 2024) < <https://www.bnnbloomberg.ca/business/economics/2024/11/11/how-much-does-canada-owe-in-climate-aid-a-trillion-dollar-question-headlines-cop29/> > accessed 10 June 2025.

⁵⁰ Government of the United Kingdom, 'Billions of investment for British manufacturing to boost economic growth' (17 November 2023) <https://www.gov.uk/government/news/billions-of-investment-for-british-manufacturing-to-boost-economic-growth> accessed 10 June 2025.

⁵¹ Government of the United Kingdom, 'Prime Minister launches major boost for UK clean energy industry' (Press release, 24 April 2025) <https://www.gov.uk/government/news/prime-minister-launches-major-boost-for-uk-clean-energy-industry> accessed 12 June 2025.

more efficient deployment of that state aid. This is another major reason which allows to attract & retain investors who primarily aim at making profits from their projects (as stagnant green aid implementation often delays profits and can be costly for investors in the long run). Taking all these into consideration, the EU pushed the GDIP action plan along with other legal instruments (such as the GBER 2023) to ensure they are ahead in guaranteeing the achievement of its climate pledges and preserving its footing the global green aid race.

1.5.4 How ongoing geo-political strains called for the REPowerEU initiative-

Following the outbreak of the Russia-Ukraine conflict, the EU desperately needed to secure its energy sources to ensure such geo-political conflicts will not affect the smooth functioning of the internal market, which was relied upon by more than 448 million inhabitants⁵².

Therefore, to secure its energy independence, the EU set in motion the REPowerEU plan in May 2022 reasoning that it was launched ‘in response to the hardships and global energy market disruption caused by Russia's invasion of Ukraine, the European Commission is implementing its REPowerEU Plan to phase out Russian fossil fuel imports’.⁵³ Plans were formulated to tackle gas, oil and nuclear energy imports towards a greener transition.

The EC explains that the primary objective of this plan of action is to produce clean energy, reserve energy and to expand and assort its energy sources which fosters resilience & flexibility. The EC further goes on to demonstrate the power of resilience during these politically strained times by stating that, ‘Putin's attempt to divide Europe by weaponizing energy supplies has failed. Our joint efforts continue, and Europe is now better prepared and more united than ever’.⁵⁴

What this strategy signified towards green aid, was that with the initiation & encouragement of clean energy projects, the EU was obliquely resolving a major environmental pollution problem- the over reliance of fossil-fuel derived energy. Hence, this was another key instrument which further supports the visions of the EGD plan (also the GDIP secondarily) and together, the REPowerEU initiative contributes to the EU’s long term climate ambition. The provisions of REPowerEU come in addition to the green aid focused on energy

⁵² Commission, ‘Facts and figures on the European Union’ (no date) < https://european-union.europa.eu/principles-countries-history/facts-and-figures-european-union_en > accessed 12 June 2025.

⁵³ Commission, ‘REPowerEU: Affordable, secure and sustainable energy for Europe’ (no date) < https://commission.europa.eu/topics/energy/repowereu_en > accessed 12 June 2025.

⁵⁴ *ibid*

efficiency in buildings and other clean energy driven projects which are allowed under the GBER structures, as previously discussed.

Stockpiling on energy not only means acquiring or saving up for emergencies but also means efficiently utilizing existing energy. As the EC states, ‘Savings are the quickest and cheapest way to address the current energy crisis’.⁵⁵ Optimized usage of energy by setting stringent EU-wide objectives on an economic but also consumer level, means lowering the risk of misusing energy reserves at an unforeseen hostile period. This measure also overall protects the environment as fossil fuel derived energy produces major greenhouse gas emissions, which is one of the leading causes of negative impacts on the climate in the EU & globally. These objectives are enforced by giving member states, access to EU funds to ‘help EU countries make the critical reforms and investment needed to rapidly end their dependence on Russian fossil fuels’.⁵⁶

This type of green aid is activated via programs such as the Recovery and Resilience Facility (RRF) and is monitored based on member states performance and is maintained via a ‘scoreboard’⁵⁷. This acts as a checkpoint mechanism, since member states must prove it has progressed in achieving the ‘agreed milestones’⁵⁸ to receive funds via this facility. Currently it is reported that roughly around €300 billion is pooled in for the operation of this strategy⁵⁹. Such substantial funds available as green aid is invaluable and helps produce improved outcomes from each member state, thereby adding to the EU’s greater climate goal success. It also supports other legal frameworks such as the Energy Efficiency Directive (EU/2023/1791) which is known to substantially increase ‘the EU’s ambition on energy efficiency’⁶⁰.

As previously discussed, dependence on fossil fuels must be limited or even better, be replaced entirely or partially by clean energy sources to help the dire situation of the climate as of now. However, eliminating fossil fuels altogether may pose as an obstacle as was expressed by researchers in the following manner:

⁵⁵ Commission, ‘REPowerEU Plan’ COM (2022) 230 final.

⁵⁶ Commission, ‘The Recovery and Resilience Facility’ (no date) <https://commission.europa.eu/business-economy-euro/economic-recovery/recovery-and-resilience-facility_en> accessed 14 June 2025.

⁵⁷ Commission, ‘Recovery and Resilience Scoreboard’ (no date) <https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/index.html> accessed 14 June 2025.

⁵⁸ European Commission ‘The Recovery and Resilience Facility’ <https://commission.europa.eu/business-economy-euro/economic-recovery/recovery-and-resilience-facility_en> accessed 14 June 2025.

⁵⁹ Commission, ‘REPowerEU’ (n 51).

⁶⁰ Commission, ‘Energy Efficiency Directive’ (no date) <https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficiency-targets-directive-and-rules/energy-efficiency-directive_en> accessed 15 June 2025.

Fully phasing out fossil fuel dependence is impossible in the short term, large new investments must be made in infrastructure to import gas from countries that are not perceived as geopolitical competitors. This increases the risk of carbon lock-in and of distracting resources from the green transition. Hence, EU policy responses to the polycrisis may end up delaying the transition.⁶¹

However, although there are risks associated with entirely ceasing fossil fuel dependence, this does not mean it is impossible to achieve, if a calculated plan is presented. This may include providing timely, equal and proportionate investments on green energy systems which are strong enough to rival those of fossil fuel investments. Additionally, an EU-wide community message can be promoted as well, where importance is given towards maintaining the efficiency of existing energy reserves with a plan to gradually change to greener energy systems. This would allow for an unstirred and expedited shift in energy usage.

Programmes such as the REPowerEU plan, aims to help this by producing clean energy by boosting investment aid and other green aid measures for the development of green technologies and renewable energy facilities. The increased availability of renewable energy sources to be used throughout the EU, plays a vital role in decarbonization and heavily aids in the accomplishment of other EU climate pledges. Attention is directed to wind energy as ‘Europe is the global leader in offshore wind’⁶², and therefore acceleration of utilizing wind energy resources was in focus. Additionally, the REPowerEU plan aims to facilitate projects with billions of funds for the construction of renewable energy plants & infrastructure such as green energy grids and renewable hydrogen. Growing the energy production industry with biogas (such as biomethane) is also considered as it is proven to be efficient and sustainable⁶³, hence given better opportunities via green aid under this scheme.

Production of clean energy and reserving that energy, eventually allows the EU to also expand and diversify its energy sources and become independent or self-sufficient. Diversifying includes expansion across EU member states and among international partners⁶⁴. One key example is how Norway has a pivotal role in now being the largest

⁶¹ Marco Siddi and Federica Prandin, ‘Governing the EU’s Energy Crisis: The European Commission’s Geopolitical Turn and Its Pitfalls’ (29 December 2023), p. 293.

⁶² Commission, ‘REPowerEU’ (n 51), s 3.

⁶³ Commission, ‘REPowerEU’ (n 51).

⁶⁴ *ibid*, s 2.

natural gas supplier in Europe via its pipeline gas exports⁶⁵. Diversification is supported by the EU Energy Platform which ‘pools demand of European users, coordinates infrastructure use, and works with international partners to prepare for joint gas and hydrogen purchases’.⁶⁶

The REPowerEU initiative understands that for the efficient deployment of EU green aid, it requires simplifying & accelerating procedures when obtaining permits. Usually, complicated procedures pose an obstacle, and the execution of these plans may vary from each member state due to various volatile national legal systems. Section 3⁶⁷ provides variety of measures which can be taken by member states to streamline regulatory procedures (efficiency) thereby encouraging more State initiated (and private) clean energy projects throughout the EU.

In summary, the REPowerEU initiative with its goals of expansion, reservation and production of energy and renewable energy as well as streamlining the process to obtain approval for such projects, demonstrates another dynamic initiative of the EU to advance towards achieving climate neutrality by providing necessary funds, incentives or grants as aid which directly or indirectly functions as environmental aid.

1.5.5 The Temporary Crisis and Transition Framework & its key role in assisting the Green Deal Industrial Plan (GDIP) -

The question arose about how the EU will address the need for green aid under situations out of the ordinary (emergencies) which are not covered by other legal frameworks such as the GBER.

There are always crises along the way and policymakers should anticipate them as far as possible... Politics should be aware that major unexpected events are likely to happen also in the coming decades and that dealing with them can offer unforeseen opportunities to foster rather than stall climate action. The EU should also use its influence to keep climate on top of the global agenda in the current re-balancing of the world order.⁶⁸

⁶⁵ Energy Council ‘Norways Critical Role in Ensuring Europes Energy Security and Sustainability’ (20 December 2024) < <https://energycouncil.com/articles/norways-critical-role-in-ensuring-europes-energy-security-and-sustainability/>> accessed 16 June 2025.

⁶⁶ Commission, ‘EU Energy Platform: Joint gas purchasing to increase energy security for Europe’ (July 2023) < https://energy.ec.europa.eu/system/files/2023-07/ENE%20-%20Joint%20gas%20purchasing%20_FS_final.pdf> accessed 16 June 2025.

⁶⁷ Commission, ‘REPowerEU’ (n 51), s 3.

⁶⁸ Jos Delbeke, ‘Delivering a Climate Neutral Europe’ (2024), p.13.

Therefore, an elaborate game plan was introduced, which stemmed out of the need to encompass temporary calamities. Referred to as the Temporary Crisis & Transition Framework (TCTF), its main goal as the name suggests, is to be a short-term relief mechanism, oriented towards disposing these funds in specific urgent crises- of which environmental crises were one category enclosed by the TCTF umbrella. Additionally, it aims at ‘speeding up investment and financing, for clean tech production in Europe’⁶⁹ and is supportive of providing *matching aid*.

The revision of these State aid guidelines reflects a balance between those Member States with the desire and fiscal space to support and attract clean tech investments, responding to the US IRA, and others Keeping the TCTF’s non-permanent characteristic in mind, its functionality towards green aid in the EU must be delved into.⁷⁰

The TCTF was initiated in 2022, with the latest amendment made in 2024, and due to its ‘temporary’ nature it is currently set to expire by the end of 2025. It’s premised on Article 107 (3) (b) & (c) TFEU, which respectively finds ‘aid to promote the execution of an important project of common European interest or to remedy a serious disturbance in the economy of a Member State’⁷¹ and ‘aid to facilitate the development of certain economic activities or of certain economic areas, where such aid does not adversely affect trading conditions to an extent contrary to the common interest’⁷² to be compatible with the state aid rules of the internal market.

The focus of the TCTF (with regards to green aid) was on raising aid thresholds in order to increase energy security, which was sparked because of the Russia-Ukraine war that posed a threat to the EU’s energy supply.⁷³ Moreover, the TCTF was initiated to also supply extensive green aid (matching aid) to sectors which were under threat because of the inability of being retained in the EU due to larger green aid policies & massive green subsidies offered by other countries (e.g/ the introduction of the IRA in the US as discussed earlier). The TCTF is yet another example which illustrates the EU’s diligent drive towards creating the optimal

⁶⁹ Commission, ‘State aid: Commission adopts Temporary Crisis and Transition Framework to further support transition towards net-zero economy’ (Press release, March 9 2023) < https://ec.europa.eu/commission/presscorner/detail/en/ip_23_1563> accessed 16 June 2025.

⁷⁰ Delbeke (n 64), p. 223.

⁷¹ Consolidated Version of the Treaty on the Functioning of the European Union (2012) OJ C 326, art 107(3)(b).

⁷² *ibid*, art 107(3)(c)

⁷³ Commission ‘Temporary Crisis and Transition Framework for State Aid measures to support the economy following the aggression against Ukraine by Russia’ COM (2023) C 101/3.

conditions to attain its climate goals by ensuring it is up to date with global green aid standards.

It was detected that up to 45% of the EU's natural gas imports were dominated by Russia⁷⁴. Natural gas is a fossil fuel resource and within the EU, it was multifunctional as it was used for generating electricity, overall heating systems, energy stockpile, etc. Essentially, many major EU economies were highly dependent on this singular supply source and the EU realized its internal market was endangered since axing off connections with Russia (as a result of its ongoing invasion of Ukraine) meant widespread electricity scarcity and inflation across the EU. The urgency for green aid under these geo-political conditions were logically made available under the scope of Article 107 (3)(b) of the TFEU. Therefore, the TCTF was initiated during this crisis to help increase temporary aid towards energy which can be derived from renewable sources and towards the green transition as mentioned in Sections 2.5-2.7 of the TCTF. These provisions further supported the REPowerEU initiative as well.

Under Section 2.5, sharper focus is given via providing accelerated (yet short term) investment & operational aid on projects working on clean energy systems which includes renewable energy generation and storage. The legal basis of Section 2.6 falls under Article 107(3)(c) TFEU, and this provision allows investment aid for projects targeted towards the 'decarbonization of industrial production processes'⁷⁵ via renewable energy sources and its efficient use. It further goes on to mention that 'the aid is granted in the form of direct grants, repayable advances, loans, guarantees or tax advantages including tax credits'.⁷⁶ Additionally, Section 2.7 encourages environmental protection via pledging aid for reduced electricity consumption via proportionally granted incentives which aim to encourage the efficient consumption of electricity.

Projects classified in these categories can enjoy benefits such as, simplified state fund access without unnecessary administrative delays. This efficient use of green aid funds allows to create more successful clean energy focused projects in the EU.

Under Section 2.8 of the TCTF, the EU also guaranteed 'supportive private investment'⁷⁷ and matching aid for projects transitioning 'towards a net-zero economy compatible with the

⁷⁴ Maximillian Hess, 'How Eastern Europe Overhauled Its Natural Gas Market' (*Carnegie Endowment for International Peace*, 22 April 2025) < <https://carnegieendowment.org/research/2025/04/how-eastern-europe-overhauled-its-natural-gas-market?lang=en> > accessed 20 June 2025.

⁷⁵ COM (2023) C 101/3 (n 69), s 2.6.

⁷⁶ *ibid* s 2.6 (c)

⁷⁷ *ibid* s 2.8

internal market under Article 107(3)(c) TFEU’.⁷⁸ The main goal of this provision is to encourage green transitions in the sectors set out in Section 2.8 (a) whilst also continuing to retain such undertakings in the EU market.⁷⁹ This allows to foster economic growth and avoids investor depletion to countries with equally competitive green aid frameworks.

Although the TCTF provides temporary aid, it is a crucial framework in supporting rapid investments in the renewable energy sector, thereby also supporting various other EU legal regimes such as the GBER, GDIP and REPowerEU to name a few. It is another great example of how the EU utilized exceptional circumstances laid out in the TFEU, not only as an economic incentive (retaining investors), but also to generate a positive impact on the climate by pushing undertakings and investors to opt for climate friendly energy generation and storage techniques, by providing the optimal environment to carry out these projects. Despite its limited timeline, the TCTF demonstrates efficient and effective green aid usage within the EU.

1.5.6 Blueprint of the Green Deal Industrial Plan-

According to the EC’s 2023 factsheet⁸⁰, the composition of the GDIP consists of what the EC calls, the *four complimentary pillars*, explained in depth accordingly below.

The first pillar focuses on setting up ‘a predictable and simplified regulatory environment’⁸¹ with the introduction of highly optimized legislations such as the Net-Zero Industry Act (NZIA) which allows to fast-track investments (private and national/regional level) on high-impact initiatives. It also establishes *regulatory sandboxes*, which can help to ‘pave the way for simplification of the process of authorisation/certification for placing products in the market’.⁸² The importance of this pillar with regards to state aid, specifically green aid, is that these critical projects and investments will not be hindered by unnecessary regulations & administrative protocols which could possibly give rise to numerous setbacks, thereby deeming it counterproductive. This system will instead allow an efficient and effective execution of those initiatives, therefore step by step ensuring to fulfil the EU’s climate obligations.

⁷⁸ *ibid*

⁷⁹ *ibid*, s 2.8 (85)(i)

⁸⁰ Commission, ‘The Green Deal Industrial Plan- Speeding up the contribution of Europe’s innovative clean tech industries to net-zero’ (no date) < https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/green-deal-industrial-plan_en > accessed 18 June 2025.

⁸¹ *ibid*

⁸² Commission, ‘A Green Deal Industrial Plan for the Net-Zero Age’ COM (2023) 62 final.

Secondly, the GDIP insists on granting express access to funding on both national & EU levels, especially in sectors which demonstrate substantial growth such as the wind energy sector, while also implementing ‘targeted public funding’.⁸³ This pillar was a key element of the amendments made in the latest GBER as discussed previously, where changes were made to facilitate a higher threshold for certain investment or operational aid to efficiently execute this feature. As aforesaid, higher aid intensities coupled with easier and faster access to public funding allows more green aid funds to be mandated and executed successfully. Therefore, the second pillar illustrates the significance of fast-tracking funds for green aid.

The third pillar of the GDIP is concentrated on enhancing green and digital skills via pre-planned programs & agendas. This is mainly targeted towards generating jobs and attracting & retaining workers in many industries and sectors which function with green aid, whilst simultaneously achieving the climate goals. This is done via establishing numerous plans and agendas to educate and train the workforce. Some examples are the European Skills Agenda, Net-Zero Industry Academies and mechanisms to ensure fair transitioning. Specified in this pillar is the following statement:

The green transition will amplify demands for new skills at all levels, requiring a large-scale up-skilling and re-skilling of the workforce. The battery industry alone estimates it will need an extra 800 000 workers by 2025. In the next decade, there will be fierce competition for talents.⁸⁴

A noteworthy acknowledgment is given towards inclusiveness of women and youth for the execution of this proposal. Although enhancing digital skills may not directly relate to the functioning of state aid (unless this category is explicitly allowed as state aid-see *Altmark* criteria discussed earlier), it nevertheless contributes to the efficient use of green aid funds in a particular industry.

The final pillar is rooted on the idea of ‘trade and resilient supply chains’.⁸⁵ The EU aims to do this by firstly opening trade via free trade agreements (FTAs) and expanding access to vital resources such as primary commodities (raw materials) to decrease reliance of obtaining such resources only from one country, due to ongoing & future geo-political conflicts-which if overlooked may not only risk the security of the internal market, but could also mean that

⁸³ *ibid*

⁸⁴ *ibid*

⁸⁵ *ibid*

‘EU efforts to meet its climate and digital objectives are at risk’.⁸⁶ The EU intends to overcome this obstacle via the recent Regulation (EU) 2024/1252 (initiated as the Critical Raw Materials club) which shall ‘ensure EU access to a secure and sustainable supply of critical raw materials, enabling Europe to meet its 2030 climate and digital objectives’.⁸⁷ Secondly it aims at curtailing as many market distortions as possible. These anti-competitive behaviours include dumping measures, unfair subsidies, unfair access to foreign markets, etc. The EU tackles this via the ‘full use of trade defence instruments (TDI) to defend the Single Market from unfair trade practices like dumping and distortive subsidies’.⁸⁸ Thirdly, these FTAs allow the EU to merge and work together with other major global economies such as USA & India to name a few, to help proceed in its climate aid race.

As with the previous pillar, this too does not directly concern green aid per se, however the gains acquired by the implementation of this fourth pillar allows the EU to advance in invention and innovation of green technologies and other green energy systems. With advanced technology in the green space, the EU comes one step closer to achieving its climate goals.

Discussing the GDIP is crucial to evaluate the status of green aid in the EU as of now. For green aid to work, it must first have an effective and efficient perimeter. The GDIP helps achieve this by stimulating more green innovation, research and technology projects in major sectors within the internal market. More green projects result in a fostering environment to efficiently use State funds aimed towards such projects. This is further supported by providing effortless and expedited access to green state funds & resources via the implementation of crucial legal frameworks, whilst still maintaining a strict threshold for permission to access green aid. Hence, the EU becomes an attractive territory for major investors to retain its business, which in the long run, leads to economic expansion and as a result leads to higher financing opportunities- a full circle of benefits. Additionally, the GDIP maintains green aid facilities up to global standards and allows the EU to monitor if it is threatened by unfair policies regarding state aid by other countries. All things considered, the GDIP is an essential instrument for the EU to help accomplish its long-term climate goals.

⁸⁶ Commission, ‘Critical Raw Materials Act’ (no date) < https://single-market-economy.ec.europa.eu/sectors/raw-materials/areas-specific-interest/critical-raw-materials/critical-raw-materials-act_en > accessed 19 June 2025.

⁸⁷ *ibid*

⁸⁸ COM/2023/62 final (n. 78).

1.5.7 The Climate, Energy & Environmental Aid Guidelines 2022

(CEEAG)-

The CEEAG plays a fundamental role in the position of green aid under EU law. Often regarded as a “*building block of European State aid regulation*”⁸⁹, the CEEAG primarily focuses giving guidelines to member states on fairly aligning its provisions with the principles of EU state aid law, whilst simultaneously encouraging the green energy transition within certain sectors of the internal market. The principles of the CEEAG exclusively relies on the exceptional circumstances where state aid is permitted as mentioned under Article 107(2) & (3) TFEU. It corresponds with the EU’s climate ambition and the intentions of the EGD, hence, the CEEAG is considered a key supportive instrument in the sphere of European environmental aid.

Essentially, the CEEAG lays out a guideline to member states on which types of green aid is considered compatible with EU state aid law, and “*it is the Member States who propose and design public funding measures in support of such projects that fall under the CEEAG regulation, according to their national strategies*”⁹⁰. Its core principle is that the environmental state aid must be granted proportionally and with necessity, it must encourage the beneficiary of that aid to be more eco-friendly (incentive effect), it must further the EU’s climate goals and lastly, it must not distort competition rules in the internal market. These conditions set out in Section 3, ensure that EU green aid facilities are effectively used and that no sector is overfunded which could otherwise result in unnecessary fund exhaustion. Also, by ensuring that green aid is compliant with EU competition law, it guarantees that such state funded financial assistance is highly optimized with minimum or no impediments when striving to achieve the climate targets, therefore serving a mutually beneficial purpose.

Section 4 of the CEEAG⁹¹ covers an vast area of sectors where green aid is needed in order to effectively reach the EU’s climate goals, such as in energy infrastructure related matters, in renewable energy sectors which aim to reduce green house gas emissions, towards electricity supply, for green transitions, regarding clean vehicle infrastructure, for restoration of biodiversity and on the remediation of environmental damage, etc, to name a few. The

⁸⁹ European Economics ‘Climate, Environment & Energy (CEEAG)’ (no date)
<<https://www.europeaneconomics.com/en/climate-environment-energy/#:~:text=The%20CEEAG%20apply%20to%20State,environmental%2C%20climate%20and%20energy%20transition.>> accessed 21 June 2025.

⁹⁰ *ibid*

⁹¹ Commission, ‘Guidelines on State aid for climate, environmental protection and energy 2022’ (CEEAG) OJ C 80/01, s 4.

availability of sector specific provisions allows green aid intensity to be fairly granted and bespoke to the need of improvement in each sector, as some sectors may be lacking financially assistance. By establishing the CEEAG, the EU showed its dedication to fix deficient areas of the economy, where with the right funding opportunities it could boost the EU's performance in accomplishing its climate goals. Hence, it is one more instrument where the disposal of green state aid is carefully inspected and executed thereby ensuring efficiency.

1.5.8 Energy Efficiency Directive-

Primarily centred on effectively utilizing energy and on the minimal energy wastage within the EU, the Energy Efficiency Directive (EU/2023/1791) raises the bar and plays an essential role in committing to the 2030 climate goal of reducing greenhouse gas emissions by at least 55%.⁹² The core principle focused within this legislation is the *energy efficient first* rule stated within Article 3 of the Directive which essentially requires all major policy making & investment decisions (over a certain threshold) of all economic sectors (energy and non-energy sectors) of every EU member state, to give priority to the efficient use of energy and provide energy efficiency solutions.⁹³ Such efficient energy solutions can be facilitated mainly via green aid. The Directive also ensures that EU member states set significant efficiency targets and strive to achieve them in order to collectively reduce the EU's energy consumption levels by at least 11.7% in 2030.⁹⁴

Furthermore, it requires member states to set out a target for the reduction of total final energy consumption of its entire public sector (with the exclusion of some public bodies such as military and public transport).⁹⁵ Public bodies can achieve these targets via green aid and via additional support provided by the State.⁹⁶ Similarly, it addresses the private sector with these targets with promise of support to achieve them.

According to the latest amendment to this Directive in 2023, it can be noted that the main reasoning behind this piece of legislation was also one of the main features of other frameworks such as the TCTF and REPowerEU plan- which was fundamentally to address a plan of action on energy reserves and energy production in the EU during major crises.

⁹² Commission, 'Energy Efficiency Directive' (no date) <https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficiency-targets-directive-and-rules/energy-efficiency-directive_en> accessed 24 June 2025.

⁹³ Directive (EU) 2023/1791 on energy efficiency and amending Regulation (EU) 2023/955 (recast) OJ L 231/1, art 3(1).

⁹⁴ *ibid*, art 4

⁹⁵ *ibid*, art 5(1)

⁹⁶ *ibid*, arts 5 (7) & 5(9)

Additionally, this Directive works harmoniously with the main objectives of the EGD (including the GDIP) in relation to the EU's climate ambitions.

In essence, of all the frameworks discussed in this chapter, it can be said that all these instruments (some legally binding whilst others pose as a supportive instrument or guideline) come to an understanding that for green aid to be successful, it must be compatible in a legal habitat such as that of the EU. At first instance, it may seem that the weight of its major climate ambition casts a shadow throughout the EU, however this entails its member states to cooperate and coordinate its individual systems in order to achieve these targets for the betterment of the environment. However, the availability of rigorously & meticulously planned out legal frameworks & instruments which were examined in this chapter, allow the EU to bring into light and successfully execute its plan of action to meet its climate commitments.

1.5.9 Additional supportive programmes-

- The InvestEU Programme-

With an aim to support green investment & sustainable development in key sectors, the InvestEU scheme is set to run between 2021 till 2027, and has its primary goal to create 'more than €372 billion in private investments to high EU policy priority areas'.⁹⁷ It consists of three main organs to help mobilize this plan: the *InvestEU Fund*, the *InvestEU Portal* and the *InvestEU Advisory hub*. Through these mechanisms, the InvestEU programme's purpose is to close the dubious gap between investors and projects and thereby reinforcing 'Europe's investment and business environment'⁹⁸ by providing essential assistance for the processes and by *matchmaking* green projects with suitable investors.

All in all, the InvestEU plan is catered to minimizing the financial risk, by streamlining the process for private investors of green projects in the EU, thereby encouraging a faster and more reliable green transition in key sectors. Moreover, via facilities such as its advisory hub, the InvestEU programme allows companies to obtain further 'advisory support and technical assistance'⁹⁹ with regards to accessing the funds allocated under this programme by the EU

⁹⁷ European Union, 'InvestEU Programme' (no date) < https://investeu.europa.eu/investeu-programme_en > accessed 26 June 2025.

⁹⁸ *ibid*

⁹⁹ *ibid*

budget. The InvestEU programme is incorporated to the NextGenerationEU plan (discussed briefly below) and provides further support to the EGD.

Overall, the InvestEU plan demonstrates the effort put forward by the EU to support and encourage green transitions, especially from the point of view of private investors, who play a major role in the green aid space and in helping the EU achieve its net-zero targets.

- The NextGenerationEU temporary recovery instrument and its role in green aid –

The NextGenerationEU (NGEU) was introduced as a ‘temporary recovery instrument’¹⁰⁰ focusing on economic recovery after catastrophic events and to improve green digitalism, innovation and transition among SMEs. It consists of a massive funding pool via the RRF with over €800 billion expected by 2026¹⁰¹. To be eligible, member states are required to ‘dedicate at least 37% of its recovery and resilience plan’s total allocation to measures contributing to climate objectives’¹⁰² via investments or reforms.

These investments & reforms can be directed towards development and utilization of green technologies such as sustainable transport systems, clean energy and the efficient use of energy in buildings among various other areas where improvement is necessary to align with the EU’s climate goals. More investments & reforms result in generating more jobs and the NGEU model facilitates this process by what it refers to as ‘Smart, sustainable and inclusive growth’¹⁰³, which ensures that green transition is fair and all-inclusive. Furthermore, it contributes towards multiple EU green programs and instruments such as the European Climate Law, the EGD, the GDIP and the REPowerEU plan, which further reinforces the application of these frameworks.

Essentially, the GDIP and its supporting policies and guidelines have aimed at encouraging & attracting more green investments within various sectors throughout the EU. This consequently helps in establishing a strong job market and in improving education in green technology. Better education results in better green innovation. High demand in green technologies and green innovation produces optimal results, which allows individual member

¹⁰⁰ Commission, ‘NextGenerationEU’ (no date) < https://commission.europa.eu/strategy-and-policy/eu-budget/eu-borrower-investor-relations/nextgenerationeu_en > accessed 28 June 2025.

¹⁰¹ *ibid*

¹⁰² Commission, ‘NextGenerationEU: Green Transition’ (no date) < https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/green.html > accessed 28 June 2025.

¹⁰³ Commission, ‘Smart, sustainable and inclusive growth, including economic cohesion, jobs, productivity, competitiveness, research, development and innovation, and a well-functioning internal market with strong SMEs’ (no date) < https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/smart.html > accessed 29 June 2025.

states to contribute greatly towards the EU's collective climate goals. However, the GDIP & its frameworks may reveal some weaknesses in its system, which is the main topic of discussion in the next chapter of this research.

CHAPTER II- CHALLENGES AND LOOPHOLES OF GREEN STATE AID IN THE EU-

In the previous chapter, we conducted an in-depth study of the green aid schemes, frameworks and policies in action as of now within the European Union and how they assist in accomplishing the EU's immediate and future climate ambitions to become the 'first climate-neutral continent in the world'.¹⁰⁴ These legal frameworks have seen much success due to the availability of vast amounts of green aid to be disposed of throughout the EU, which aim to fund specific environmentally problematic areas in various economic sectors where such investments allow for a more productive green transition among these industries all around the EU. However, numerous obstacles present themselves when implementing and operating green aid in a vast territory consisting diverse member states. The handful of challenges faced by the EU will be the topic of discussion in this chapter.

2.1 Disproportionate distribution of green aid-

A collection of 27 member states creating a single market allows the EU to boast a status of being one of the largest economies in the world with a GDP of over USD 19 trillion according to statistics of the World Bank.¹⁰⁵ Each member state plays an important role in contributing and boosting the total economy of the EU and utilizing green aid to effectively transition certain industries in each individual economy. However, the way each economy in this single market contributes can be affected by various other factors such as size of the country and other demographics. Economically & geographically larger countries such as Germany and France often play a bigger role in the economic success of the EU with a significant GDP compared to the smaller and often poorer member states of the EU such as Bulgaria or Cyprus as depicted below in Figure 2.

¹⁰⁴ Commission, 'Delivering the European Green Deal' (no date) < https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/delivering-european-green-deal_en > accessed 1 July 2025.

¹⁰⁵ World Bank Group, 'GDP (current US\$) - European Union' (no date) <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=EU> accessed 1 July 2025.

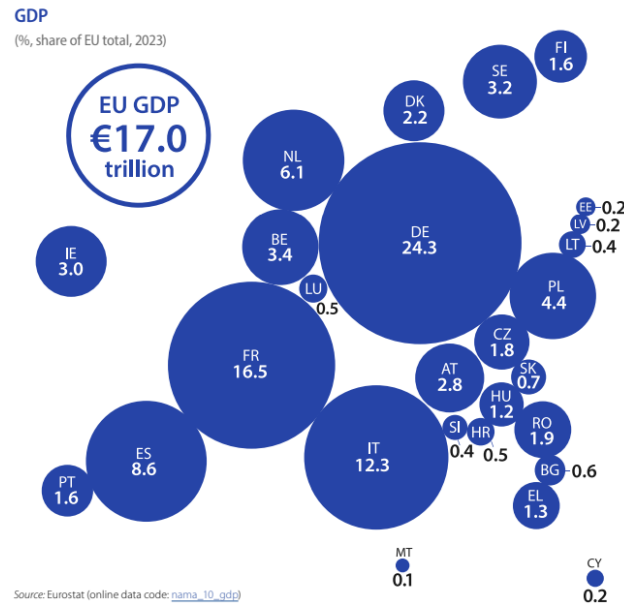


Figure 2- Share of Member States in GDP (2023)¹⁰⁶

As much as these larger economies can be beneficial to the EU, they can also pose as a threat to the environment and the climate goals. As of 2023, the EU had been viewed as ‘the fourth largest greenhouse gas emitter in 2023, after China, the United States and India...’¹⁰⁷ as they house mega industries which produce copious amounts of green house gas emissions. Some examples are the emissions created by the motor vehicle production industry of Germany, followed by the emissions resulting from fuel combustion and transport sectors in France.¹⁰⁸

This often means that green aid must be heavily focused on solving issues already exacerbated in these countries. This is a clear example of how the EU cannot treat the addressing of climate matters equally among its member states. Figure 3 below depicts the noticeable differences in the share of total greenhouse gas emissions caused in the EU as of 2023. It is evident through this chart that in most cases the greater the economic supremacy (combined with a large geographical area), the higher the level of emissions.

¹⁰⁶ Eurostat, ‘Key Figures on Europe: 2024 Edition’ (June 2024) <https://ec.europa.eu/eurostat/documents/15216629/20260915/KS-EI-24-001-EN-N.pdf/4aa75d55-c529-414b-5dc2-e4be3df1b199?version=7.0&t=1744356795120> accessed 1 July 2025, p. 33.

¹⁰⁷ European Parliament, ‘Climate change in Europe: facts and figures’ (6 December 2024).

¹⁰⁸ IEA ‘France-Emissions’ (no date) < <https://www.iea.org/countries/france/emissions> > accessed 3 July 2025.

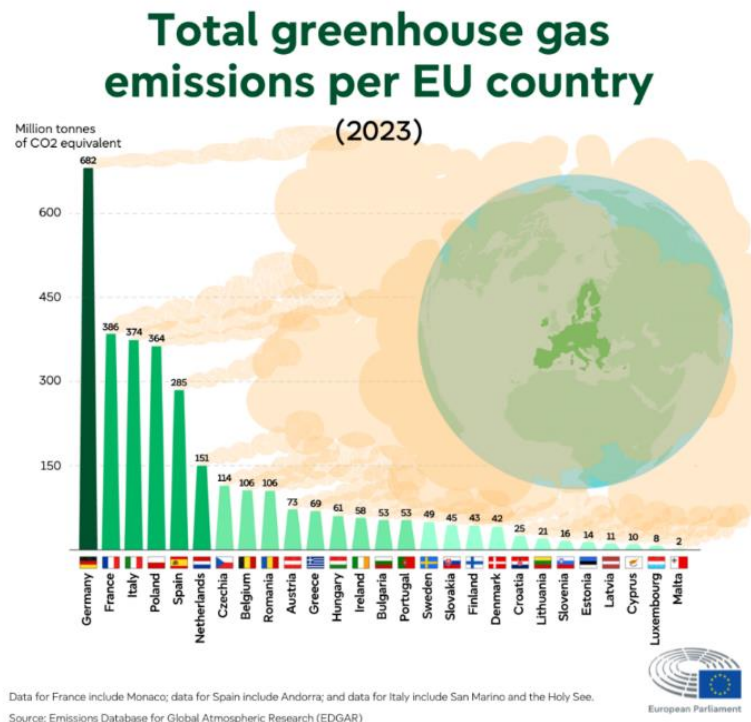


Figure 3- European Parliament, ‘Infographic comparing total greenhouse gas emissions by EU countries in 2023’.¹⁰⁹

These massive economies therefore require large-scale environmental aid in order to efficiently transition these industries to get on track to achieve the EU’s climate goals such as by heavily investing on new green technologies and scrutinizing the effective use of energy. As a result, these economic power players have better budgetary room to address these issues especially during temporary crises, whereas developing member states often cannot afford to allocate sufficient portions of their budget, hence resulting in unfavourable conditions to tackle their own climate related industrial crises. This *fiscal space* allows economically larger member states to maximize the usage of the EU’s state aid rules & frameworks, particularly during temporary crises. The EU’s annual state aid scoreboard system depicted below in Figure 4, illustrates the total state aid exercised by EU member states as of 2023. Following this, Figure 5 demonstrates the share of state aid divided among various policy objectives including environmental protection (depicted in green) which accounts for approximately 30% of total state aid expenditure, as of 2023.

¹⁰⁹ European Parliament, ‘Greenhouse gas emissions by country and sector (infographic)’ (02 December 2024) <https://www.europarl.europa.eu/topics/en/article/20180301STO98928/greenhouse-gas-emissions-by-country-and-sector-infographic> accessed 22 July 2025.

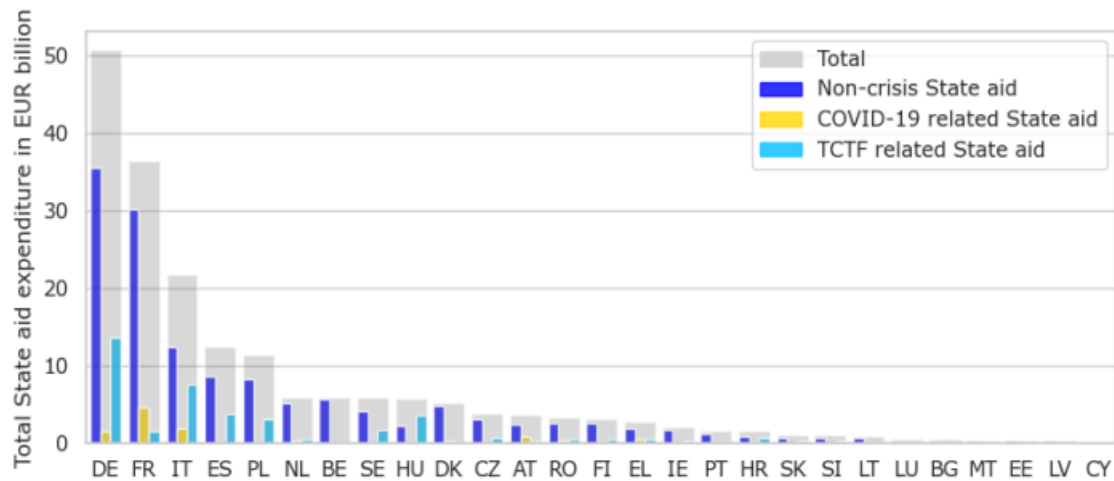


Figure 4- Commission, ‘Total State aid expenditure by Member State in 2023, in EUR billion, breakdown between non-crisis State aid measures, COVID-19 measures, and State aid in response to the Russian invasion of Ukraine and to foster the transition towards a net-zero economy’.¹¹⁰

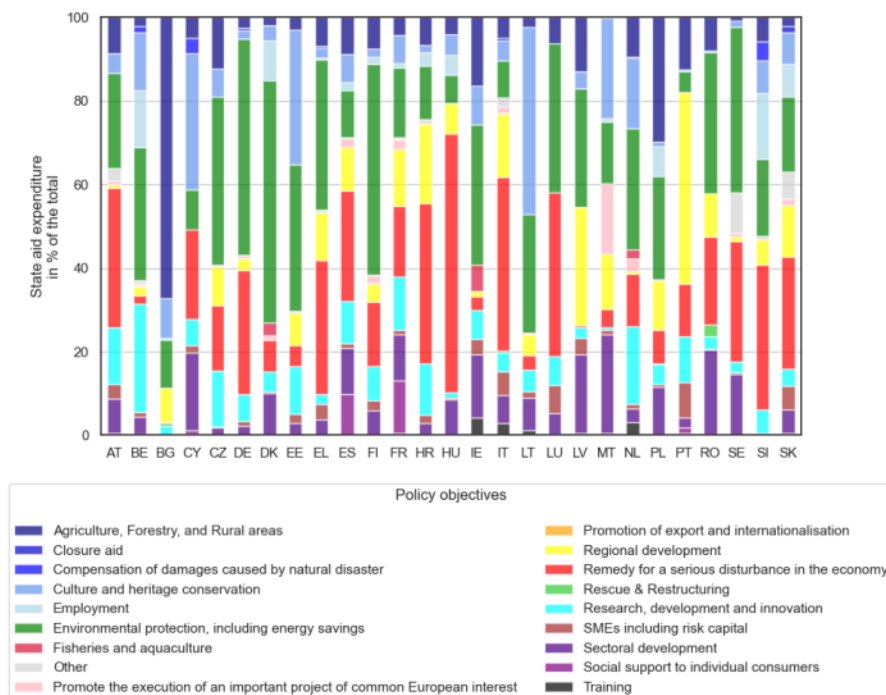


Figure 5- Commission, ‘Total State aid expenditure by Member State, by policy objective, in percentage of the total’ in 2023.¹¹¹

Additionally, the national-level green aid is also much higher in larger economies therefore it allows local companies to enjoy smoother green transitions and developments compared to a

¹¹⁰ Commission, ‘State aid Scoreboard 2024’ (8 April 2025) < https://competition-policy.ec.europa.eu/document/download/68225c70-5570-4e10-b983-53efde939d7f_en?filename=state_aid_scoreboard_note_2024.pdf > accessed 22 July 2025, p. 17.

¹¹¹ *ibid*, p. 25

company in a developing member state. This competitive advantage often leads to the distortion of the internal market practices, therefore damaging one of the key principles of which the EU was built upon. Certainly, the EU aims to strike a balance between these issues by introducing certain mechanisms such as the Just Transition fund which focuses on supporting more negatively impacted member states with regards to climate issues.¹¹² However, disproportionality still poses as a threat to the effective distribution of green aid throughout the EU.

This *disproportionality* faced by other EU member states is an ongoing point of discussion and is a subject of debate among its institutions. As reported in early 2024, the distortion of the internal market due to excessive reliance of national level aid, particularly matching aid (in comparison with the USA's IRA) was flagged by a number of EU member states as it 'undermines the foundations of the single market'.¹¹³ This was later addressed in a report published by the European Parliament on competition policy where it stated under point 11 the following:

Welcomes the protection of the level playing field of European markets and European companies and their workers granted by anti-dumping measures that correct for distortive foreign State aid; calls on the Commission to make swift use of available trade instruments on procurement and foreign subsidies to prevent unfair competition in the internal market;¹¹⁴

It was also freshly reported that major institutional heads take a stance in supporting the complaints raised by smaller member states by 'refusing to exempt the operating costs of solar panel, wind turbine and battery producers from the bloc's notoriously strict state-aid regime'.¹¹⁵ These political rifts jeopardize the solidarity and integrity of the EU and its principles of functioning, hence is seen as an ongoing obstacle concerning green aid.

¹¹² Commission, 'Just Transition Fund' (no date) < https://commission.europa.eu/funding-tenders/find-funding/eu-funding-programmes/just-transition-fund_en > accessed 3 July 2025.

¹¹³ Jonathan Packroff, 'Smaller EU countries revolt against state aid spree' (*Euractive*, 8 March 2024) < <https://www.euractiv.com/section/economy-jobs/news/smaller-eu-countries-revolt-against-state-aid-sprees/> > accessed 5 July 2025.

¹¹⁴ European Parliament, 'Report on Competition Policy-annual report 2024' (15 April 2025) < https://www.europarl.europa.eu/doceo/document/A-10-2025-0071_EN.html > accessed 6 July 2025, p. 6.

¹¹⁵ Alice Hancock 'Brussels split over state aid for clean tech production' (*Financial Times*, 13 June 2025) < <https://www.ft.com/content/36c48615-3fa8-4e28-8729-682f6f3fbe55> > accessed 6 July 2025.

2.2 Scepticism of the existing green aid frameworks and policies-

Legal uncertainty can be a recurring global issue in this day and age, especially due to advances in technology, due to the complications resulting from globalisation and also due to the incompetent, ineffective and imperfect operation of legal systems. Likewise, it is a current challenge faced in the EU, as it strives to juggle the successful coordination of 27 national legal systems and the sovereignty of EU law. Additionally, there could be the possibility of contradictory EU green aid laws which also may be legally uncertain, that can cause further delays and inefficient applications of those laws in matters where green aid is necessary or urgent.

Since the execution of green aid via various frameworks require additional financial support from private investors, it is vital to provide certainty for these parties in order for them to continue the green investments without further hindrances. As stated by the European Central Bank, ‘Substantial investment is needed in the EU in the coming decades to enable the green transition, reduce greenhouse gas (GHG) emissions by 55% from 1990 levels by 2030 and reach net-zero emissions by 2050’,¹¹⁶ therefore as noted before, it is crucial to receive assistance from private investors to achieve the EU’s long term climate goals.

However, in certain circumstances such private investors have raised concerns. The introduction of short-term legal frameworks such as the TCTF and the constant reform of other regulatory frameworks such as the GBER, among other issues, gave rise to legal uncertainty for private investors. These investors are faced with the question of whether, legally speaking, their long-term investments (since most green transition projects are expected to be long-term) are secured or risk-free within the EU? Fluctuations to EU laws governing the realm of green aid could undermine potential investments to the EU as these investors cannot confidently rely on a solid legal framework for an extended time period.

Private investors may also face difficulties of progressing with their green transitions or projects due to the lack of sufficient resources in a particular member state. In a recent study conducted by Allianz, researchers have noted that ‘Europe’s electricity infrastructure and market design disparities have become major obstacles to the green transition’¹¹⁷ and

¹¹⁶ Malin Andersson, Petra Köhler-Ulbrich and Carolin Nerlich, ‘Green investment needs in the EU and their funding’ (European Central Bank, January 2025) < https://www.ecb.europa.eu/press/economic-bulletin/articles/2025/html/ecb.ebart202501_03~90ade39a4a.en.html > accessed 8 July 2025.

¹¹⁷ *ibid*

therefore, ‘Europe risks falling short of its 2050 net-zero target, which requires intermittent renewables to supply 82% of the continent’s electricity’.¹¹⁸

The absence or inaccessibility of vital materials for green projects and transitions due to structural barriers (such as outdated buildings which require upgraded and modernized systems, or because of structures previously constructed to serve fossil fuel based energy sources, or old and outdated technologies in these structures) or due to insufficient national funding (due to being an economically weak country) to further support the green transition are a few reasons as to how green aid schemes may be challenged.

Moreover, legal experts are of the opinion that compared to international environmental aid frameworks such as the IRA, the wide-reaching & welcoming characteristics of the EGD also lacks distinctiveness regarding green technologies:

Although the EU Green Deal Industrial Plan focuses on the same technologies as the IRA it is less technologically specific. For example, the Innovation Fund promotes any project that can lead to significant emission reductions (European Commission 2023b) and thereby, does not single out any specific technologies.¹¹⁹

This article¹²⁰ also goes on to point out that maintaining a level playing field and constantly keeping up with international frameworks not designed to suit EU market conditions may result in ‘replicating inefficiencies’ of those frameworks, hence the efficiency and adaptability of these policies & frameworks should be taken into account.

Another major hurdle green transition projects of private investors may face, is the reluctance by governments to put in maximum effort to clear any administrative obstacles to approve and encourage green transitions. Private investors may often encounter bureaucratic delays such as for example, obtaining permits to build a renewable energy plant. Additionally, the EU’s green aid frameworks may not be equally & timely applied throughout all EU member states, for instance due to political constraints. These delays, usually regarded as *bottlenecks*, are yet another reason for legal uncertainty in the green aid space and will only further

¹¹⁸ Allianz SE, ‘Plug, baby, plug: Unlocking Europe’s electricity market’ (11 March 2025) <https://www.allianz.com/en/economic_research/insights/publications/specials_fmo/250311-electricity-market-europe.html> accessed 11 July 2025.

¹¹⁹ Leonie P. Meissner, Sonja Peterson & Finn Ole Semrau, ‘It’s not a sprint, it’s a marathon: reviewing governmental R&D support for environmental innovation, Journal of Environmental Planning and Management’ (*JEPM*, 08 Jul 2024), p. 18.

¹²⁰ *ibid*

discourage potential investors from actively investing in EU member states on major green projects that could potentially be instrumental in achieving the EU's climate ambition.

This has severely affected the EU and its Green Deal plan, since as aforementioned 'The bulk of sustainable investment is expected to come from the private sector'¹²¹ and as more accurately stated 'Funding remains the Achilles heel of the EU Green Deal'.¹²² A portion of this problematic area had been tackled through the InvestEU programme by providing expert guidance and streamlined access to EU funds, however the problem remains for the effective application of green aid frameworks throughout various national legal systems, some of which can be supportive and fiscally capable, and the others being quite the opposite. Others are of the view that 'Some sectors and projects that are critical to the green transition are not suitable for InvestEU financing'¹²³ due to either not being able to generate profit or because some sectors are monopolized, or since 'these projects will never be commercially viable, private investors will not finance them even if supported by InvestEU'¹²⁴ which can only be achieved by public funding. It is also accounted that majority of the financial reports issued under the InvestEU programme lack transparency due to client confidentiality, 'As a result, it is difficult to verify InvestEU's climate impact and to scrutinise where the intermediated money ends up — let alone establish whether or not the EU lives up to the climate policy leadership role it lays claim to'.¹²⁵

Therefore, it can be said that even though the EU managed to overcome some issues via the InvestEU programme, overall, private investors may be inclined to delay or abandon their projects due to the unpredictable and volatile nature surrounding green aid & green transition frameworks in the EU. Any room for scepticism and distrust in the certainty of the EU's legal frameworks can therefore pose as a major threat to the EU's long term climate targets. Hence, it is the duty of the EU to prioritize the stability of its laws and regulations and be vigilant in monitoring the implementation procedures of each member state in order to ensure effective utilization of EU wide green transitions and green aid frameworks, so that it is certain that all member states of the EU are in sync with its sustainability and environmental targets.

¹²¹ Sebastian Mack & Francesco Findeisen, 'Do more with more- How the EU can improve funding for the European Green Deal' (Policy Brief, *Jacques Delors Centre*, 25 May 2023) <https://www.delorscentre.eu/fileadmin/2_Research/1_About_our_research/2_Research_centres/6_Jacques_Delors_Centre/Publications/20230525_Mack_Findeisen_EuropeanGreenDeal.pdf> accessed 11 July 2025.

¹²² *ibid*

¹²³ *ibid*, s 2.1

¹²⁴ *ibid*

¹²⁵ *ibid*, s 2.3

2.3 Can green aid & subsidies be used as an invisibility cloak to hide protectionist policies? A discussion of loopholes, anti-competitive behaviours & other difficulties-

As discussed earlier in this research, state aid in any form by nature is generally considered illegal under EU law (particularly Article 107 TFEU) since it usually has a tendency to distort competition within the EU's internal market, which is the heart of the EU's structure.

However, as we have seen throughout this analysis of legal frameworks such as the GBER and the CEEAG, among other communications & decisions of the EU, is that 'green aid' can be justified under exceptional circumstances (under Article 107 (3) TFEU) which allows member states to grant necessary aid provided that the ultimate outcome of the aid is to safeguard the environment and that it is not anti-competitive in nature. Nevertheless, one such problem with this, is that the availability of this exception may give rise to member states using it as a tool to get away with aid aimed at cherry picked projects and undertakings,¹²⁶ which promotes anti-competitive behaviour. In other words, green aid may be treated as a loophole in the system. Member states must ensure that the allocation of State aid measures must be available equally within its market and must not be specifically offered to selected corporations as it would create unfair market conditions such as monopolies or market dominance.

The same applies regarding member states offering State aid measures towards certain green aid systems, technologies and sectors. This may be done for numerous reasons. Countries may be selective with the aid provided for green transitions and green technologies if they intend to support local titleholder companies which already possess the expertise and manpower to successfully conduct such green transitions. To illustrate this point, let's take for instance, a solar tech giant such as *ENEL Green Power S.p.A*, which is an Italian multinational corporation that has a number of key features to distinguish itself from other players in the same market, such as the fact that it consists of over 1300 power plants¹²⁷ which are operated in numerous regions, it has long standing experience in the field and possesses a substantial workforce. Therefore, Italy may perceive that this solar tech giant may benefit from green aid towards constructing more renewable energy plants, as it can be more efficient with its resources. However, this indirectly affects smaller local companies in the

¹²⁶ As argued by Austria against Hungary in *Case C-594/18 P*, on granting state aid to a company for the construction of a nuclear power plant *without any competitive selection*.

¹²⁷ Enel Green Power S.p.A, Homepage (no date) <https://www.enelgreenpower.com/who-we-are/our-company> accessed 11 July 2025.

sector as they would be unable to access the same green aid measures due to its profile. This violates EU competition laws as the decision to grant green aid for the purpose of effectively utilizing it, still managed to indirectly distort the market for other players.

As mentioned earlier, green tech leaders tend to have a considerable workforce due to the operating size of the company. This allows the creation of more jobs which consequently helps develop the economy of that country. More investment in these industries therefore result in the creation of more jobs and as a result of this, member states may focus on providing better green aid measures in order to economically expand rather than prioritizing the main purpose of green aid-which is to promote and safeguard the environment. In addition to this, countries may opt to support these local giants as a part of its political advances or economical strategies in the regional or global market. This means countries can push more state funding for green projects or green transitions towards these notable companies as a means of securing the countries own status regarding green tech developments, which can help secure independence and industrial command in future geo-political tensions (eg/ war, pandemics, energy scarcity etc). Using our previous example, Italy may prioritise providing aid for massive companies like *ENEL*, for the reasons discussed above. This behaviour can be recognized in the State aid scoreboard issued by the EC throughout the recent years, which may represent how economically developed member states of the EU such as France & Germany, may target in securing larger shares of approved green aid in times of political or economic instability, thereby further growing its economic power and creating almost monopolistic traits in specific industries such as renewable energy sources.

Although in most cases, countries may not make these choices directly, these protectionist policies and decisions can nevertheless allow market distortion and unfair competition to thrive in the EU's internal market by creating market barriers to smaller or other EU based competitors. Essentially, it is crucial to keep in mind that the EU's collective plan to aim for climate neutrality among other environmental pledges must not be achieved in place of unfair market practices through such protectionist policies as this would undermine fundamental EU laws.

2.4 How can some projects be justified for receiving preferential treatment?

The EU has overtime addressed these discriminatory situations with alternatives and various other approaches to mitigate the risk of disruptions to the internal market.

- Important Project of Common European Interest (IPCEI);

IPCEI's come into existence via Article 107(3)(b) TFEU as a remedy in the event of serious market disruptions. In the EC's communication regarding the criteria to promote IPCEI's, it states the following:

IPCEI's can make a very important contribution to sustainable economic growth, jobs, competitiveness and resilience for industry and the economy in the Union and strengthen its open strategic autonomy, by enabling breakthrough innovation and infrastructure projects through cross-border cooperation and with positive spill-over effects on the internal market and the society as a whole.¹²⁸

Through initiating IPCEI's, green state aid can be granted provided it meets the criteria, which can help the EU as a whole to strategically mobilize green transitions and green tech growth, without creating unfair market conditions for competitors within the internal market.

To avoid this strategy being exploited as a loophole, the EC sets out strict eligibility criteria under Section 3, in order for project proposals to be approved as an IPCEI. Some of these demanding standards are that proposals must be referring a single, clearly defined project in terms of funding, objectives, implementation and players.¹²⁹ Additionally, it requires that the project must contribute to the *common European interest*, 'must demonstrate that it is designed to overcome important market or systemic failures'¹³⁰ and 'must not be confined to the financing Member States, but extend to a wider part of the Union'.¹³¹ Throughout the communication, the EC sets out stringent criteria such as compatibility criteria under Section 4, which discusses the proportionality of the aid through the IPCEI, mechanisms used to ensure transparency of approved IPCEI's and methods used to avoid market distortion. Section 5 also goes on to depict the notification procedures that member states must follow when granting green aid under the IPCEI category.

Examples of approved IPCEI's (currently standing at four green projects) are presented by the EC to the public on their official website (once again reinforcing the importance of transparency). Thus far, the EC reports that up to 22 member states have participated in overall IPCEI's relating to various industries and more than €35 billion state aid was

¹²⁸ Commission, 'Criteria for the analysis of the compatibility with the internal market of State aid to promote the execution of important projects of common European interest' (2021) OJ C 528/02, s 1(2).

¹²⁹ *ibid* s 3.1

¹³⁰ *ibid* s 3.2.1

¹³¹ *ibid* s 3.2.1 (16)

approved,¹³² of which a significant portion (more than €18 billion) consists of approved aid towards renewable energy technologies & transitions such as hydrogen power via projects like *Hy2Tech*, *Hy2Use*, *Hy2Infra* and *Hy2Move*¹³³.

The approval of these large-scale IPCEI's helps promote green transitions and developments in industries which require more focus on green innovation to help combat negative impacts on the climate that these industries may otherwise create, whilst simultaneously ensuring transparency, fairness and legal certainty. Hence it can be argued that once the EU recognized possibilities of loopholes or potential abuse to the functioning of the internal market, it thoughtfully created frameworks which enable EU authorities to minimize or outright stop anti-competitive behaviours.

2.4.1 How the ECJ and other EU institutions uphold higher transparency thresholds & strict punishments for abuse of green aid-

The ECJ plays a fundamental role in ensuring that state aid for environmental matters approved by the EC must maintain legitimate and honest standards and are not in fact used as a tool to gain benefits which are not part of the primary purpose of green aid. This type of scrutiny not only reduces expensive and time-consuming errors but also promotes legal certainty & credibility of the EU institutions decisions. Member states, competitors and investors altogether as players will be capable of relying on these strict measures to be consistently upheld even in the future. This principle was highlighted in the Hinkley Point C case mentioned earlier, where the ECJ clarified the following:

The Commission must check, when authorising aid, whether the activity does not infringe rules of EU law on the environment; second, that the Commission cannot authorise State aid to an activity that breaches EU environmental law because such aid is necessarily incompatible with the internal market; and third, that this obligation is judiciable.¹³⁴

The EC, which reviews and approves state aid notifications, is held accountable for its decisions as it was given adequate time and resources to investigate the compatibility of each

¹³² Commission, 'Approved integrated Important Projects of Common European Interest (IPCEI)' (no date) < https://competition-policy.ec.europa.eu/state-aid/ipcei/approved-ipceis_en > accessed 12 July 2025.

¹³³ *ibid*

¹³⁴ Juliette Delarue & Sebastian Bechtel, 'Access to justice in State aid: how recent legal developments are opening ways to challenge Commission State aid decisions that may breach EU environmental law' (10 May 2021) < <https://pmc.ncbi.nlm.nih.gov/articles/PMC8108431/> > accessed 22 July 2025.

notification prior to its approval. This complaints system allows any opposing member state or affected competitors to bring an action against the possible abuse of green aid which would create adverse effects on the internal market. This is further supported by the availability of a *State Aid Transparency Public Search* to be conducted online which allows access to the entire public.

To further foster transparency in the green aid space, the EC adopted a decision to allow NGO's and the public to have access (with certain eligibility criteria to be met), to review decisions or projects undertaken via green aid to tackle ongoing environmental issues. This decision of the EC supports the *Aarhus Convention*¹³⁵ which was implemented via Regulation (EC) No 1367/2006. This is further supported by the upgraded State aid implementing Regulation and through the very recent issue of the *Code of Best practices* regarding the procedural elements of state aid in the EU.

2.4.2 The role of other legal frameworks to keep the use of green aid in check-

Frameworks such as the CEEAG, TCTF, the Just Transition Mechanism also contribute to preserving strict guidelines and standards to ensure the fair and proportional deployment of green aid and that such aid is used to benefit green transitions or innovation instead of political or economical interests.

Section 3 of the CEEAG 2022 demonstrates a thorough criteria to determine the compatibility of state aid falling under Article 107(3)(c) TFEU and further suggests the availability of the 'transparency award module' for all competitors in the need to access vital information on the aid.¹³⁶ Furthermore, Section 3.2.1.3 of the CEEAG lays out precise provisions to ensure proportionality, meaning aid must be granted & limited to the necessity and must not be given in excess which would otherwise result in market distortion. Under Section 4 it also allows the public to consult on the eligibility of the notified aid (among other requirements) which demonstrate the carefully thought-out steps ensured by the EU to include the public in order to make the grant of aid a clear process. Even though the CEEAG is essentially a soft law instrument, it lays clear guidelines for not only the member state notifying of the aid but also rules for the EC to follow in approving the aid. Any deviation from this would indicate inconsistencies of the EC, thereby damaging the reputation of legal

¹³⁵ United Nations, 'Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters' (25 June 1998) <<https://unece.org/DAM/env/pp/documents/cep43e.pdf>> accessed 12 July 2025.

¹³⁶ Commission, CEEAG (n 87), s 3.2.1.4.

certainty of the EU institutions. Similarly and as discussed previously, frameworks such as the TCTF & InvestEU too, once again impose stringent eligibility criteria whilst also maintaining that aid is appropriately deployed during temporary crises (TCTF) and provides expert advice and access to information and funds for green project initiations (InvestEU).

The importance of mentioning the supportive role played by these secondary frameworks, is to prove the EU's willingness to increase financial transparency and accountability, whilst at the same time maintaining legal certainty and striving to achieve its climate ambitions without compromising the integrity of the internal market.

CHAPTER III- REVIEW OF THE STATUS OF CURRENT GREEN AID FRAMEWORKS AND A FORECAST OF EU CLIMATE ACTION IN THE UPCOMING YEARS-

As it is evident that the EU has introduced multiple legal policies and frameworks to stay on track to reduce green house gas emissions and become a climate neutral region as a whole, by providing higher green aid thresholds and helping & promoting green transitions in major economic sectors, whilst simultaneously accommodating to its internal market policies, the EU has accomplished remarkable feats with its efforts thus far. In this chapter, we shall review the EU's progress to date, the importance of maintaining & reforming its regulatory frameworks and what the future holds regarding EU's green aid and climate protection space.

3.1 Assessing results produced by the EU alongside its climate action undertakings-

As discussed earlier in this research, the ongoing climate strategies are aimed at EU's long-term goal to become a climate neutral continent by the year 2050. In order to achieve this, the EU had set up short-term goals to be achieved roughly every decade, with an annual progress analysis conducted over the years leading up to each decade and eventually to year 2050. Maintaining positive numbers would pose as a challenge to the ever-growing economy & population of the EU, however the EU has proven via updated impact assessments, that its determination and labour towards achieving this goal is yielding favourable results.

In 2023, it was reported that a total reduction of up to 8% of greenhouse gas emissions¹³⁷ was achieved despite the global difficulties faced during the pandemic year in 2020. Since 2021,

¹³⁷ Commission, 'Progress on climate action' (no date) < https://climate.ec.europa.eu/eu-action/climate-strategies-targets/progress-climate-action_en > accessed 19 July 2025.

the climate targets working towards the long-term goal was dealt under the imminently approaching 2030 climate targets. This was addressed by the EC under their communication named ‘Stepping up Europe’s 2030 climate ambition: Investing in a climate-neutral future for the benefit of our people’,¹³⁸ where the importance of prompt action was emphasized by stating that ‘Postponing climate action or rolling back measures is not an option for the European Union’.¹³⁹ Repeated emphasis is made on how emissions resulting from fossil fuel usage generates majority of the greenhouse gas emissions in the EU- specifically over 75%¹⁴⁰ and although as aforementioned, the net greenhouse gas emission dropped by 8%, it recognizes that additional efforts must be made in order to thoroughly decarbonize this issue.

Major improvements and growth can be noted in the renewable energy sectors as research conducted by the EEA states that ‘According to EEA estimates, the share of renewable energy has grown from 10% in 2005 to an estimated 24% of the EU’s gross final energy consumption by 2023’.¹⁴¹ This exponential growth in renewables generate massive environmental benefits, whilst simultaneously offering numerous opportunities and development to economies. Some of these benefits include providing a secure source of energy during turbulent times (geo-political conflicts such as the effects from the Russia-Ukraine war), allowing regions to become more energy-independent. Secondly, developments in the renewables sector creates a plethora of jobs encouraging more education, training and innovation in green technologies whilst also providing safer & contemporized energy related technology systems and infrastructures for the efficient use of energy. As discussed early on, each of these benefits (and much more) are central concerns aimed to be resolved via every regulation, policy and framework issued by the EC over the years, following its climate neutrality goal.

Nevertheless, some sectors in the EU have experienced continuous difficulties with decarbonization, one such sector being the transport industry. It is widely recognized that the transport sector is yet to show improvement, as almost no positive change can be seen since the 1990’s.¹⁴² Despite the availability of green aid and adequate policies to implement such

¹³⁸ COM/2020/562 final.

¹³⁹ *ibid*, p. 2

¹⁴⁰ *ibid*, s3.

¹⁴¹ European Environment Agency, ‘EEA Trends and Projections: EU greenhouse gas emissions see significant drop in 2023’ (*Press Release*, 31 October 2024) < <https://www.eea.europa.eu/en/newsroom/news/eea-trends-and-projections> > accessed 19 July 2025.

¹⁴² Commission, ‘The EU transport sector and its contribution to reaching climate neutrality’ (no date) < https://climate.ec.europa.eu/eu-action/transport-decarbonisation/overview_en#:~:text=Documentation-

aid and encourage green transitions, most methods of transport still heavily rely on fossil-fuel based energy. One possible reason for this could be the lack of powerful & reliable smart-technologies. This is widely seen in the aviation sector which heavily relies on jet-fuel, which is a byproduct of crude oil- a fossil fuel. Although *sustainable aviation fuels* (SAFs) and electric energy systems are available, it is next to impossible to have zero-emission air transport with the current technologies, as well as due to steep pricing, unless heavy investment or generous subsidizing is made on research & development of these technologies & infrastructure, in order to ensure safe, affordable and zero-emission airborne transport. Policymakers too have made persistent efforts to ensure sustainability in the aviation industry¹⁴³ although significant progress is yet to be seen. A similar argument can be made on marine transport technology, fuels and infrastructure as well, since legislations initiated to decarbonize this industry such as via the FuelEU Maritime Regulation¹⁴⁴, has recently seen delays in implementation in countries such as Norway & Iceland (although EEA countries) as recently revealed via the respective national maritime authorities.¹⁴⁵

Another reason for the slow progress of decarbonization in the transport sector despite adequate green aid, is zero-emission vehicles can be too expensive to purchase (or replace with existing fossil fuel-based vehicles). This includes vehicles utilized in major industries (such as railways) but also specifically for private vehicles. Presently, there are various EU produced electric vehicles (EV's) in the market. However, consumers are often faced with making a substantial investment in order to procure it whilst affordable fossil-fuel based vehicles are available at hand. Additionally, not all member states provide adequate infrastructure to support the usage of these vehicle systems. Estimates suggest that it could take up to a decade to completely switch to 100% EV sales.¹⁴⁶ Developed countries such as Germany, Austria and Netherlands (to name a few), may have an abundance of investments made on installing EV charging stations within reasonable distances, EV repair workshops and factories whilst economically & technologically developing EU nations such as Bulgaria,

[The%20EU%20transport%20sector%20and%20its%20contribution%20to%20reaching%20climate,are%20still%20above%201990%20levels.>](#) accessed 20 July 2025.

¹⁴³ Commission, 'Proposal for a Regulation on ensuring a level playing field for sustainable air transport' COM (2021) 561/final, s 1.

¹⁴⁴ Regulation (EU) 2023/1805 on the use of renewable and low-carbon fuels in maritime transport, and amending Directive 2009/16/EC OJ L 234/48.

¹⁴⁵ Dag Aarhus, 'FuelEU delayed in Norway' (16 December 2024) <https://www.sdir.no/en/news/FuelEu_delayed_in_Norway/> accessed 24 July 2025.

¹⁴⁶ McKinsey & Company, 'How the European Union could achieve net-zero emissions at net-zero cost' (Report, 3 December 2020) < <https://www.mckinsey.com/capabilities/sustainability/our-insights/how-the-european-union-could-achieve-net-zero-emissions-at-net-zero-cost>> accessed 18 July 2025.

Greece and Romania may lack efficient placements of these infrastructures to persuade its consumers to buy more EV's as a part of the national level green transition plans.¹⁴⁷ This often occurs due to the weak economic capacity to support green aid frameworks already set in place. However, as discussed in the previous chapters, the EU has managed to address this issue via legal frameworks such as the InvestEU plan, IPCEI's, Just Transition Mechanism and the CEEAG which allow higher aid intensities and fairer aid appropriations for member states in need, which can be effectively utilized by these countries to promote green transition in its transport sector.

3.2 Importance of understanding key areas where reform is required-

The EC has repeatedly remarked that the standard of the current policies alone is insufficient to achieve the 2050 goals without delay, hence continuous reform and expansion of those policies must take place in 'this decade now and avoid leaving a heavier workload for future generations'.¹⁴⁸ This is also backed by reports of the EEA which informs that 'maintaining momentum'¹⁴⁹ is crucial in order to achieve climate neutrality. The EC also emphasizes on the fact that all member states must cooperate with the EU's green aid and environmental policies and with that 'many governments and citizens around the world will see that growing prosperity can be combined with a pathway that limits global climate change...'.¹⁵⁰ More previous publications suggest in their research that the EU is falling behind its climate targets, often stating that member states show less interest in climate ambition.¹⁵¹

Although the EU has a strong framework concerning green aid and its efficient use, through the frequent reviews of its policies and via impact assessments, further progress and effort is necessary in order to timely meet its 2050 climate target. This is possibly done by either implementing stricter policies which encourage green transitions on newly researched problem areas or by reforming existing legal frameworks covering ongoing challenges which can be efficiently used to produce the optimal results.

¹⁴⁷ ACEA, 'Electric cars: 10 EU countries do not have a single charging point per 100km of road' (9 September 2021) < <https://www.acea.auto/press-release/electric-cars-10-eu-countries-do-not-have-a-single-charging-point-per-100km-of-road/>> accessed 18 July 2025.

¹⁴⁸ COM/2020/562 final, s 1.

¹⁴⁹ European Environment Agency (n 136) < <https://www.eea.europa.eu/en/newsroom/news/eea-trends-and-projections>> accessed 18 July 2025.

¹⁵⁰ COM/2020/562 final, s 1.

¹⁵¹ Climate Action Network Europe, 'EU countries off target in fighting climate change' (17 June 2018) < <https://caneurope.org/eu-countries-off-target-in-fighting-climate-change/>> accessed 21 July 2025.

As aforementioned, one such problem area demonstrating poor growth in terms of decarbonization is the EU's transport sector. What can be done to tackle this issue is to introduce and diversify green aid facilities among various categories of the transport sector, such as to include marine transport, aviation, railways and EV's. These green aid facilities could be aimed at research & development on the production of mechanisms and systems for green transport such as introducing methods to utilize sustainable resources for the manufacturing of vessels or improving the efficiency of aircrafts. Additionally, more green aid can be open for production of renewable fuels such as SAF's. Restricting green aid to ensure processes in the transport sector which utilize more fossil fuels or harmful climate practices do not receive any aid in the form of grants, investments, or subsidies is another way to promote zero-emission transport systems. The EC can use this technique (also backed by the ECJ) to pressure member states, companies, and industries as a whole to transition to greener technologies to survive in the market. This kind of restrictive aid can be used within frameworks such as the IPCEI's, InvestEU and the CEEAG which forces the submission of a well-defined plan, highlighting positive climate change aimed by these projects which must be put in place to receive green aid support.

However, the change needed here is that these thresholds and requirements need to be more stringent by either introducing strict watch-dog roles for environmental analysts who can review and impose penalties or other necessary measures for projects which underperform, or which may not reach adequate standards. Moreover, *performance-based reviews* of each member state and its industries should be made more accessible to public criticism. This would ensure companies and national policy makers are put in the spotlight and made accountable for their actions and promises undertaken on behalf of achieving climate neutrality. Additionally, stricter regimes can be enforced via the existing legal frameworks to ensure unfair competitive practices such as protectionism do not take place. More attention can be given to the role of monitoring authorities, who must ensure member states put in a collective effort to reach the climate targets as the protection of the environment must be a priority in every country at this point.

Furthermore, although additional mechanisms such as the National Energy and Climate Plans and binding policies such as the Effort Sharing Regulation¹⁵² are in place, they have still not captured the essential elements of ensuring the successful and efficient use of green aid and

¹⁵² Regulation (EU) 2023/857 amending Regulation (EU) 2018/842 and Regulation (EU) 2018/1999 (2023) OJ L 111/1.

have overlooked the fact that not every EU member state is capable of equally implementing these policies due to economic or internal geo-political disabilities (such as corruption, war etc).

3.3 Future of green aid in the EU-

Over the past years, exponential growth can be noted in the effort and work put towards tackling environmental challenges, both globally and within the EU. Large funding pools available via green aid policies has played a crucial role in contributing to this growth, ensuring that, with consistent review and reform of these structures, green aid can be efficiently utilized for the better transition and innovation of polluting industries & member states towards a greener system. An added perk of increased green transitioning processes to be seen in the EU, is that it is not only helpful & beneficial in protecting the climate, as was expressed earlier in our discussion and also expressed among many legal experts as stated below:

The green transition is not only a race against global climate change but also one for market power. The International Energy Agency (IEA) forecasts that the clean technology industry will be worth US\$650 billion annually by 2030. Serving that industry can contribute to economic prosperity in a net-zero emission future.¹⁵³

Certainly, the climate targets set up to date must extend much further than the year 2050 as the planet has already suffered tremendous impacts from detrimental environmental practices over the past century. However, maintaining attainable goals, sectioned into smaller time frames help us overcome the burden of trying to achieve climate neutrality all at once, which is inefficient and impractical. The EU has a sharp focus laid out with its 2050 climate neutrality plan and we may see further improvements and introduction of additional supportive frameworks more concentrated on specific areas in the near future to help attain this goal. The EU has consistently introduced proposals on modifications of EU climate law which suggests varied targets for specific time periods. Lately, amendments have been brought forward for a ‘90% reduction in net greenhouse gas (GHG) emissions, compared to 1990 levels, as requested by the Commission Political Guidelines for 2024-2029’,¹⁵⁴ as the 2040 climate target according to the EC.

¹⁵³ Meissner, Peterson & Semrau (n 109) p.1-2.

¹⁵⁴ Commission, ‘EU's Climate Law presents a new way to get to 2040’ (Press Release, July 2 2025) <https://ec.europa.eu/commission/presscorner/detail/en/ip_25_1687> accessed 17 July 2025.

Another often overlooked factor in this path to achieve climate neutrality by 2050, is the support and involvement of EU citizens, who show unwavering support to accomplish this goal. This can prove extremely useful as this pressures governments and companies to take increased action on climate related matters, hence urging the efficient use of green aid for green transitions and investments. This encourages a circular economy, more investment of research & development and the creation of more jobs.

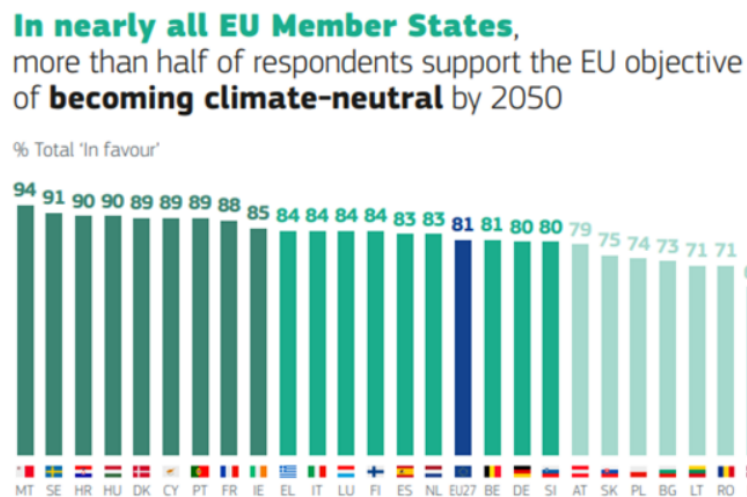


Figure 6: Chart illustrates the ‘strong & sustained support for EU climate targets and policies’ by its citizens as of June 2025.¹⁵⁵

Nevertheless, for a successful assessment, the public must be given a higher seat when evaluating the actions of member states and companies in order to hold them accountable for their actions and undertakings. This has been available via the Aarhus Convention and in some countries via national committees such as the Bürgerrat Klima in Germany and the Citizens’ Climate Convention in France, where it ‘aims to give citizens a voice to accelerate the fight against climate change’.¹⁵⁶ However, many EU member states still do not have appropriate and sufficient measures for citizens to participate in climate panels. We aim to see more accessibility be made available in the future within these member states through binding policies which will allow for smooth coordination and review of laws and green aid throughout the EU, thereby collectively supporting the 2050 targets. Furthermore, the availability of these forums and conventions allows the public to be more informed about climate friendly practices and consumption, which in turn will drive more investment towards decarbonization and more green projects within those countries. This combined with the

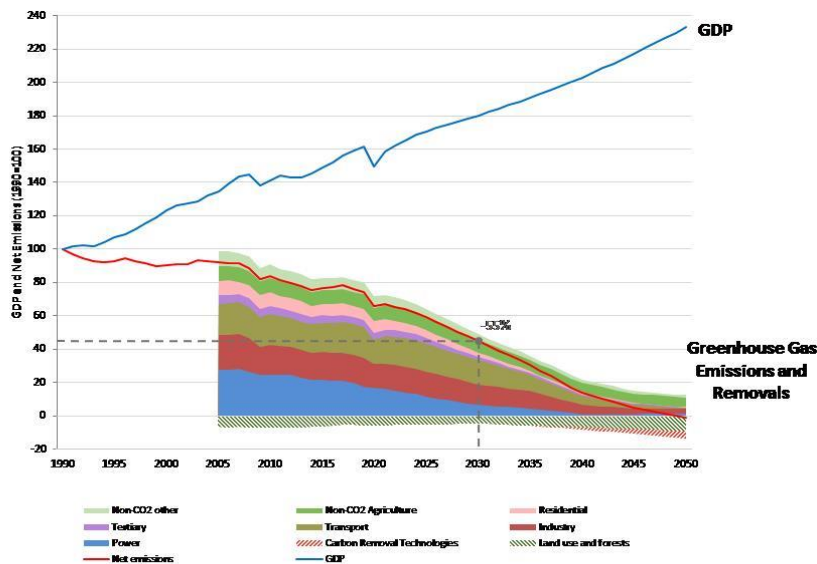
¹⁵⁵ Commission, ‘Climate Change’ survey (no date) <<https://europa.eu/eurobarometer/surveys/detail/3472>> accessed 17 July 2025.

¹⁵⁶ Convention Citoyenne pour le Climat, ‘The Citizens’ Convention on Climate, what is it?’ (no date) <<https://www.conventioncitoyennepourleclimat.fr/en/>> accessed 17 July 2025.

effective use of green aid in those industries will pave the path to successfully achieving climate neutrality. Therefore, the role played by the public must not be overlooked as it is indirectly crucial for the effective deployment and use of green aid in the EU, hence we may hope that EU institutions and member states will give priority to this factor in the future.

Some member states also support the extension of the TCTF framework which aim to deploy green aid towards specific problem areas which will help position the EU market in the global stage. However, this has been a point of debate among other member states such as Sweden for example,¹⁵⁷ as they argue that the extension of the TCTF may fragment the internal market, hence a deep dive into its advantages and disadvantages towards the EU's fundamental policies and the EU's climate goal must be evaluated under close inspection.

More systems have been put in place to increase climate action, such as the EU grid action plan in 2025, where proposals were made 'to modernise the EU's electricity grid, enhance resilience, integrate renewables, and simplify permits to meet the EU's energy goals',¹⁵⁸ which became a prominent topic of discussion after major blackouts in certain EU member states in early 2025, which gave rise to the question of energy security during emergencies. These frameworks ensure that the EU is well prepared for shortcomings in the future which may otherwise hinder its long-term climate goals.



¹⁵⁷ Steffen Sühnel and Giselle Ramacher, 'Projections and Future Perspectives of TCTF and IRA in a Political Context' (PwC Legal Germany, 5 December 2024) <<https://legal.pwc.de/en/news/articles/projections-and-future-perspectives-of-tctf-and-ira-in-a-political-context>> accessed 12 July 2025.

¹⁵⁸ European Parliament, 'MEPs push for more coordination and resilience in European electricity grids' (Press Release, 19 June 2025) <<https://www.europarl.europa.eu/news/en/press-room/20250616IPR28961/meps-push-for-more-coordination-and-resilience-in-european-electricity-grids>> accessed 20 July 2025.

Figure 7: Commission, ‘The EU’s pathway to sustained economic prosperity and climate neutrality, 1990-2050’.¹⁵⁹

Additionally, this year’s budget of roughly €200 billion¹⁶⁰ includes actions to accelerate climate initiatives which allows more financial flexibility on projects, investments and infrastructure aimed at decarbonization. The availability of more funding which could be utilized towards investing in green technologies, sustainable infrastructures, aid focused on fiscally weaker member states and aid prioritizing fixing ongoing problem areas (sectors which underperform even with aid), will greatly benefit the EU by ensuring it stays on track on its climate targets. Optimistically, we could expect these budgetary measures to increase overtime to better accommodate various funding needs expected to be seen in the future.

¹⁵⁹ COM/2020/562 final, s 2

¹⁶⁰ European Parliament, ‘EU budget for 2025 to focus on research, health, education, and climate action’ (*Press Release*, 23 October 2024) < <https://www.europarl.europa.eu/news/en/press-room/20241017IPR24737/eu-budget-for-2025-to-focus-on-research-health-education-and-climate-action#:~:text=Parliament%20demands%20an%20EU%20budget,s%20proposal%20from%20last%20June.>> accessed 22 July 2025.

CONCLUSION-

Throughout this research, we have looked at the various legal policies and frameworks put into action over the years following the EU's pledge to becoming a climate neutral region by the year 2050. Most frameworks seem to encompass many areas which would significantly benefit from the efficient deployment of green aid. This is because, most of these industries have substantial influence on the environment due to the powerful role it plays in the economy. If adequately addressed, state aid, or green aid (to be specific to this research) can have a profound impact on the climate as it would allow a major decarbonization movement within a massive economy such as the EU. The EU is greatly conscious about the importance of its role and has committed itself with major efforts to keep up with the standards of its counterparts on the global stage.

In Chapter I, we covered a variety of existing legal frameworks (hard law and soft law) such as the General Block Exemption Regulations, CEEAG, Temporary Crisis and Transition Framework to name a few, and introduced an assortment of supplementary mechanisms under the European Green Deal plan such as the REPowerEU, InvestEU, JTM, IPCEI's, etc all bearing in mind, the legal foundations set out under Articles 107 & 108 of the TFEU. These legal regimes depict how green aid is facilitated under EU law in order to regulate it via binding or non-binding measures on various sectors of the EU economy, which may pose as a threat to the climate, if major decarbonization efforts or green transitions do not take place immediately or in the near future. However, the EU has been careful to introduce these policies without disrupting the essential functionality of its internal market as it must ensure to maintain an equilibrium, ensure stability and prevent economic or political turmoil. An increased number of these frameworks now provide higher aid intensities and cover a vast area of the economy which require more financial support to optimize itself in terms of protecting the climate.

The role played by key institutions of the European Union, especially the European Commission was discussed in Chapter II, where mechanisms used to prevent prejudice and unfair market practices through green aid were the centre of discussion. Operating the components of green aid across a multitude of member states may give rise to unjust situations and the reasons for this may vary. Some countries may use green aid as a cloak to hide protectionist policies within its borders, whereas another country may use green aid as a tool for corruption. It is therefore necessary to provide elaborate transparency obligations for

member states whilst utilizing green aid, which firstly helps maintain the integrity of the internal market and EU institutions and policies whilst also secondly ensuring the main purpose of green aid is achieved and not forgotten. The efforts of the EU institutions in ensuring this, was covered within this chapter.

In the final chapter we touched on the future of green aid and what reforms maybe expected in order for the EU to stay on track to achieve its 2050 climate goals. Although currently we can see that issues pertaining to the effective implementation of green aid policies are present, the accountability measures available to the EU institutions, member states and its people, may allow for future green aid frameworks to be more considerate on climate issues and to focus green aid on specific problem areas through constant review and modifications made to existing legal frameworks. This will also encourage the inclusion of stricter thresholds and stronger punishments, which in the long run will help green aid to be more efficiently and safely utilized for the benefit of the climate.

If green aid is properly utilized and effectively deployed, the EU will be capable of greatly helping the climate by reducing major green house gas emissions, create more jobs for a stable economy via green transitions and innovation of green technologies, all whilst ensuring there are no distortive market practices. Although the EU's state aid framework is heavily committed to attaining its climate pledges, as argued by many legal experts & discussed in this research, it still needs to optimize its policies, implementation and accountability measures & embrace innovation in order to successfully & timely achieve the climate neutrality targets, as it is imperative to avoid delay. Fortunately, doing this is not impossible. With the EU's excellent track record of closely monitoring its policies and implementation throughout its member states whilst also introducing frequent review & reform for optimal executions of green aid, the EU can help fix key problematic areas concerning the climate neutrality race which will help greatly to serve the ultimate purpose of green aid. This way, the EU will in fact as promised, be on course to becoming the first climate neutral continent in a quarter century from now, ensuring its people and environment will enjoy the rewards of its proactive decision making and will inspire other nations to raise their policies & standards and unite in addressing our alarmingly changing global climate.

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