

THE REFORMED EU EMISSION TRADING SYSTEM TO REDUCE GREENHOUSE GASES (GHGS) EMISSION – A LEGITIMATE, EFFECTIVE AND EFFICIENT EU LEGAL REGIME?

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Abstract: For two decades, the EU has been attempting to reduce its carbon emissions, lower the concentration of GHGs and reverse the global climate change and other negative consequences. Since the EU opted for an emissions trading system (“EU ETS”) as the principal strategy and mechanism to achieve it, the ongoing and massively amended Directive 2003/87/EC is the legislative backbone in this arena. The EU Policy Guidelines 2019-2024 set as the top priority the European Green Deal, which led to a set of legislative proposals reforming the EU climate and energy policy in 2021 (“Fit for 55”). Six of these proposals were approved in 2023 and reformed the EU ETS. Due to its massive importance and multi-dimensional impact, the newly reformed EU ETS has been exposed to both laudatory and disparaging assessments which are further magnified due to international political events in 2025. In this context, it is highly relevant to map the development and status quo of the EU ETS legal regime and assess its legitimacy, effectiveness and efficiency.

Keywords: EU, carbon footprint (CF), greenhouse gases (GHGs), emission trading system (ETS); ETS Directive

Subject classification codes: K32, M48, Q54, Q56

INTRODUCTION¹

Carbon emissions, i.e. predominantly the release of carbon-based chemical compounds through human activities such as burning fossil fuels for energy, transportation, and industrial processes, are one of the primary sources of greenhouse gases (“GHGs”). Other sources of GHGs, such as agriculture and land use, do not necessarily involve the direct release of carbon-based chemical compounds, but still contribute to the GHGs. Since the GHGs trap heat in the Earth’s atmosphere, any increase in their concentration, in particular of carbon dioxide (“CO₂”), methane (“CH₄”), and nitrous oxide (“N₂O”), can lead to global climate change and other very serious consequences.

For over three decades, this has been perceived as a negative phenomenon to be addressed, mitigated and reversed by international law as well as national laws. Due to a myriad of factors, including economic and social, the international law crusade led by the United Nations (“UN”) and bringing such milestones as UNFCCC Kyoto Protocol in 1997 (“**Kyoto Protocol**”),² followed in 2015 by the UN COP21 Paris Agreement in 2015

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¹ This paper is the result of a UNYP internal research project.

² The Kyoto Protocol adopted by UN Framework Convention on Climate Change (UNFCCC), on 11 December 1997, at the third session of the Conference of the Parties (COP 3) in Kyoto, Japan, currently by 192 Parties.

(“**Paris Agreement**”)³ and UN Resolution Agenda 2030 (“**Agenda 2030**”)⁴ with 17 Sustainable Development Goals (“**SDGs**”) and in 2021 by UN COP26 Glasgow Pact (“**Glasgow Pact**”),⁵ is not fully matched by EU law, EU member state’s laws and generally European endeavours. To put it differently, already in 2014, the EU presented, via the Policy framework for climate and energy in the period from 2020 to 2030 (“**Policy framework for climate and energy in 2020-2030**”),⁶ the reduction target of GHG emissions of 40% by 2030 relative to 1990 levels, a renewable energy target of at least 27%, while others noted that, meanwhile, the GHGs reduction has made and, in and of itself, will make only a limited progress⁷ and that the remaining largest GHG emitters, such as China, should be considered and involved.⁸

Certainly, the European Commissions, especially the last two Commissions under the Presidency of Ursula von der Leyen, have referred to the primary EU law, in particular the Treaty on EU (“**TEU**”),⁹ Treaty on the functioning of the EU (“**TFEU**”)¹⁰ and the Charter of fundamental rights of the European Union (“**Charter**”),¹¹ while strongly pushing against GHG emissions and for meeting the Paris agreement goals and SDGs in a harmonized, if not unified manner. However, arguably, GHGs reduction has made only a limited progress,¹² which is dramatically different across the EU and among Europeans.¹³

The current legal framework for combating climate change rests on two pillars. The first pillar is the Regulation (EU) 2021/1119 establishing the framework for achieving climate neutrality (“**European Climate Law**”)¹⁴ which sets the goal of climate neutrality by 2050 and an interim target of at least 55% net emissions reduction by 2030, compared to 1990 levels. The second pillar is the famous EU emissions trading system (“**EU ETS**”), which is set by the ongoing and massively amended Directive 2003/87/EC, establishing a system for GHG emission allowance trading with the EU (“**Directive on**

³ The Paris Agreement adopted by 195 Parties at the UN Climate Change Conference (COP21) in Paris, France, on 12 December 2015.

⁴ A/RES/70/1 UN Resolution adopted by the General Assembly on 25 September 2015: Transforming our world: the 2030 Agenda for Sustainable Development. In: *United Nations Department of Economic and Social Affairs* [online]. [2025-07-07]. Available at: <https://sdgs.un.org/2030agenda>.

⁵ The Glasgow Climate Pact adopted at 2 UN Climate Change Conference (COP26) on 13 November 2021.

⁶ Communication from the Commission COM(2014) 0015 A policy framework for climate and energy in the period from 2020 to 2030. In: *EUR-Lex* [online]. 8. 6. 2014 [2025-07-07]. Available at: <https://eur-lex.europa.eu/EN/legal-content/summary/eu-policy-framework-for-climate-and-energy-2020-to-2030.html>.

⁷ LEE, J. – SHIGETOMI, Y. – KANEMOTO, K. Drivers of household carbon footprints across EU regions from 2010–2015. *Environmental Research Letters*. 2023, Vol. 18.

⁸ LIU, X. – CIFUENTES-FAURA, J. – SHO, W. – TIAN, Ch. Exploring the Carbon Emission Transfers Pathway to Address the Issue of Sustainable Development: A Multi-Regional Input–Output Perspective. *Sustainable Development*. 2025, Vol. 33, No. 44, pp. 5676–5703.

⁹ Consolidated Version of the Treaty on European Union (OJ C 202 7.6.2016, p. 13)

¹⁰ Consolidated Version of the Treaty on the Functioning Of The European Union (OJ C 202 7.6.2016, p. 47).

¹¹ Charter of Fundamental Rights of the European Union (2016/C 202/02).

¹² IVANOVA, D. – WOOD, R. The unequal distribution of household carbon footprints in Europe and its link to sustainability. *Global Sustainability*. 2020. Vol. 3, No. 18, pp. 1–12.

¹³ LIU, X. – CIFUENTES-FAURA, J. – SHO, W. – TIAN, Ch. *Exploring the Carbon Emission Transfers Pathway to Address the Issue of Sustainable Development: A Multi-Regional Input–Output Perspective*.

¹⁴ Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 (“**European Climate Law**”).

ETS”)¹⁵ and which transformed this goal set by the European Climate Law in putting a price on carbon emissions and driving emission reductions in key sectors. In sum, the principal strategy and mechanism of the EU to reduce carbon emissions such as CO₂ and to achieve GHG reduction targets, as set by the international law as well as EU policies and law, is based on the EU ETS. To put it differently, the EU ETS is the EU key climate policy instrument.¹⁶

The Guidelines for the next European Commission 2019-2024: A Union that strives for more (“**Political Guidelines 2019-2024**”)¹⁷ set, as the top priority, the European Green Deal (“**EGD**”),¹⁸ which led to a set of legislative proposals reforming the EU climate and energy policy in 2021 (“**Fit for 55**”).¹⁹ Six of these proposals were approved in 2023 and significantly reformed the EU ETS by, e.g., bringing the carbon border adjustment mechanism („**CBAM**”) and leading to the scope expansion of the EU ETS by the addition of a separate ETS to cover fuel combustion in buildings, road vehicles and additional sectors.

Arguably, the Political Guidelines for the next European Commission 2024-2029: Europe’s Choice (“**Political Guidelines 2024-2029**”)²⁰ and their New plan for Europe’s sustainable prosperity and competitiveness with the Clean Industrial Deal (“**CID**”)²¹ have more cemented, rather than eroded, it. Hence, for better or worse, the reformed ETS is valid and applicable, welcomed and celebrated by some and criticized by others. However, there are no doubts about its massive importance and multi-dimensional impact.

These laudatory and rejecting assessments of the reformed EU ETS are further magnified due to international political events in 2025. Questions about whether the EU is aiming in the right direction, and whether this entire approach is correct and sustainable, mushroom. In such a context, there emerges a strong need transformed in the aim to achieve a deeper understanding and appreciation of the EU legal framework for combating climate change by reducing GHG emissions via ETS. This aim to achieve a deep

¹⁵ Initially Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC and now consolidated as Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a system for greenhouse gas emission allowance trading within the Union and amending Council Directive 96/61/EC.

¹⁶ KOTZAMPASAKIS, M. – WOERDMAN, E. The Legal Objectives of the EU Emissions Trading System: An Evaluation Framework. *Transnational Environmental Law*. 2024, Vol. 13, No. 2, pp. 312–336.

¹⁷ VON DER LEYEN, U. Political Guidelines for the next European Commission 2019-2024: A Union that strives for more. My agenda for Europe. In: *europarl.europa.eu* [online]. [2023-12-12]. Available at: <https://www.europarl.europa.eu/resources/library/media/20190716RES57231/20190716RES57231.pdf>.

¹⁸ Communication from the Commission COM/2019/640 final The European Green Deal. In: *EUR-Lex* [online]. [2025-07-07]. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52019DC0640&qid=1694878065652>.

¹⁹ EUROPEAN COUNCIL. Fit for 55. Legislative package to reduce EU greenhouse gas emissions by at least 55% by 2030 and put the EU to the path to achieve climate neutrality by 2050. In: *European Council* [online]. [2025-07-07]. Available at: <https://www.consilium.europa.eu/en/policies/fit-for-55/>.

²⁰ VON DER LEYEN, U. Political Guidelines for the next European Commission 2024-2029: Europe’s Choice. In: *European Commission* [online]. [2025-07-07]. Available at: https://commission.europa.eu/priorities-2024-2029_en.

²¹ EUROPEAN COMMISSION. Commission’s priorities. Competitiveness. A new plan for Europe’s sustainable prosperity and competitiveness. A clean Industrial Deal. In: *European Commission* [online]. [2025-07-07]. Available at: https://commission.europa.eu/priorities-2024-2029/competitiveness_en.

understanding and appreciation of the ETS regime in the larger context is projected into three research questions – about its legitimacy (RQ1), effectiveness (RQ2) and efficiency (RQ3). This aim along with research questions triad require posing and then moving to a deeper longitudinal analysis, followed by a classic triangular step-by-step analysis, whether this is well founded, aims at correct targets and in a correct manner. The data is to be yielded from European Commission Websites and EurLex and database WoS and Scopus, subjected to a thematic content analysis²² with a qualitative focus²³ and both inductive and deductive features. Such a data with meta-concepts²⁴ is to be predominantly teleologically interpreted.²⁵ The critical and contextual and comparative juxtaposition of results²⁶ is to be glossed²⁷ and refreshed by Socratic questioning.²⁸ Namely, after this introduction (I.), it is highly relevant to map the development and status quo of EU ETS (II.) and then to move to the assessment of its legitimacy (III.), effectiveness (IV.) and efficiency (V.) in order to offer well-founded conclusions (VI.).

I. MAPPING THE EU LAW ON EMISSIONS – THE EVOLUTION TOWARDS THE REFORMED ETS AND ITS STATUS QUO

In the aftermath of the Kyoto Protocol, way before the Paris Agreement, the EU crossed the legislative Rubicon, brought the Directive on ETS and so launched the first trading phase of ETS. Since a development has followed and brought many revisions and changes, the evolution to the current fourth trading phase (2021-2030) offers a very dynamic and instructive picture (II.1.), which complements the statis and deeper analysis of the current, reformed ETS (II.2).

I.1. Development of the ETS regime – The constantly changing Directives on ETS and four trading phases

As stated above, the roots of the current ETS go back to 1997. That year witnessed the Kyoto Protocol, which brought a self-imposed duty by developed industrialized countries to reduce GHG emissions in accordance with individual targets. Based on the principle of “*common but differentiated responsibility and respective capabilities*,” each of these countries has to set its own GHG emissions reduction goals and periodically report on its progress. Originally, 37 countries and the European Community (the EU was

²² KRIPPENDORFF, K. *Content Analysis: An Introduction to Its Methodology*. Los Angeles: Sage Publications, Inc., 2003.

²³ KUCKARTZ, U. *Qualitative Text Analysis: A Guide to Methods, Practice and Using Software*. Los Angeles: Sage Publications, Limited, 2014.

²⁴ IORIATTI, E. Common Contexts of Meaning in the European Legal Setting: Opening Pandora's box? *International Journal of Semiotics Law*. 2022, Vol. 36, pp. 275–291.

²⁵ LENAERTS, K. – GUTIÉRREZ-FONS, J. A. To say what the law of the EU is: methods of interpretation and the European Court of Justice. *Columbia Journal of European Law*. 2014, Vol. 20, No. 2, pp. 1–61.

²⁶ TÓTHOVÁ, M. Several Aspects of the Comparative Method in law. *The Lawyer Quarterly*. 2023, Vol. 13, No. 1, pp. 78–88.

²⁷ HYLAND, K. Applying a Gloss: Exemplifying and Reformulating in Academic Discourse. *Applied Linguistics*. 2007, Vol. 28, No. 2, pp. 266–285.

²⁸ AREEDA, P. E. The Socratic method. *Harvard Law Review*. 1996, Vol. 109, No. 5, pp. 911–922.

established five years later) committed to reduce GHG emissions to an average of five percent against 1990 levels. The Kyoto protocol allowed it to be achieved both via national measures as well as via market-based mechanisms, including the International Emission Trading. Since the goal was set so as to achieve the GHG emission reduction globally, the reduction did not need to occur within the jurisdiction of the country. Hence, the Kyoto protocol set the foundation for the trade of emissions permits.

In 2003, the Directive on ETS was enacted to establish “a scheme for GHG emission allowance trading... in order to promote reductions of greenhouse gas emissions in a cost-effective and economically efficient manner.” (original Art. 1). Accordingly, since 2005 when it took effect, activities generating emissions and listed in Annex I could be done only if their operator held a permit (original Art. 4). National allowances were allocated by national authorities (original Art. 11) and could be transferred (original Art. 12). Within the trade, the biggest bulk was done via an exchange followed by OTC while auctions have been always rather marginal. So far, four phases have occurred, see Table 1.

Tab. 1 ETS phases

Phase 1 (2005–2007)	- covered only CO2 emissions from power generators and energy-intensive industries; - almost all allowances were given to businesses for free; - free trade in emission allowances across the EU was established.
Phase 2 (2008–2012)	- added N2O; - lower cap on allowances (some 6.5% lower compared to 2005); - The proportion of free allocation fell to 90%; - businesses were allowed to buy international credits totalling around 1.4 billion tons of CO2-equivalent.
Phase 3 (2013–2020)	- more sectors and gases included; - a single, EU-wide cap on emissions in place of the previous system of national caps; - auctioning as the default method for allocating allowances (instead of free allocation); - harmonized allocation rules applying to the allowances still given away for free.
Phase 4 (2021–2030)	- the linear reduction factor is increased from 1,74 % to 2,2 % in 2021. This percentage determines the amount by which the cap will decrease each year; - the exclusion from the EU ETS of small installations by Croatia, France, Germany, Italy, Slovenia, Spain, Portugal and Iceland.

Source: prepared by the Author based on https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/development-eu-ets-2005-2020_en

During Phase 3, a set of critical international, regional and national milestones occurred with a massive impact on the EU ETS. In September 2015 came the Agenda 2030 increasing the demand for a shared global responsibility, multi-stakeholder approach

and a vigorous implementation of SDGs.²⁹ Several of its SDGs deal with or overlap with climate change issues, while certainly the most relevant vis-à-vis the ETS is the SDG 13. Interestingly, SDG 13 emphasizes that *“the significant gap between the aggregate effect of Parties’ mitigation pledges in terms of global annual emissions of greenhouse gases by 2020 and aggregate emission pathways consistent with having a likely chance of holding the increase in global average temperature below 2°C or 1.5°C above pre-industrial levels”*. In December 2015, the Paris Agreement set the goal to hold *“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.”* In order to achieve this global warming limitation to 1.5°C, it was stated that GHG emissions must peak before 2025 and decline 43% by 2030. Hence, it was not only about increasing the target of the Kyoto Protocol, but as well about making it a legally binding duty for a much larger pool of subjects, i.e., the climate change was proclaimed to be a shared responsibility (fault) of all countries. The international law pendulum swung and the EU law pendulum followed, if not preceded, it.

At the start of Phase 3, in 2014, and thus already before the Agenda 2030 and Paris Agreement, the European Communication brought the Policy framework for climate and energy in 2020–2030³⁰ targeting *“a 40 % reduction below the 1990 level in EU GHG emissions by 2030, to be achieved through domestic measures alone. The measures include a combination of 43 % emission reductions compared to 2005 in the Emissions Trading System (ETS) and national actions by Member States to cut emissions by 30 % from sectors outside the ETS.”* The share of energy from renewable sources in the EU should reach at least 27 %. These were the EU targets and it was left up to EU member states to figure out how to do it in the most cost-effective manner. Further, it proposed a reform of the ETS addressing the accumulated surplus of allowances by creation of a new market stability reserve with an automatic adjustment of auctioned allowances (avoiding discretionary supply management) and a tightening of the annual cap on emissions after 2020. The pathway to Phase 4 has been shaped, while the Agenda 2030 and Paris Agreement came.

At the end of Phase 3, in 2019, the first European Commission of Ursula von der Leyen came and its Policy Guidelines 2019–2024³¹ set six priorities of which the first one was the EGD.³² The EGD had exponentially growing implications,³³ including the drive to increase significantly the EU’s climate ambition for 2030 and 2050. Instead of a 40 % reduction below the 1990 level in EU GHG emissions by 2030, the EGD brought a 55%

²⁹ BORCHARDT, S. et al. *Mapping EU Policies with the 2030 Agenda and SDGs* (Luxembourg: Publications Office of the European Union. In: *dox.doi.org* [online]. 2022 [2023-12-12]. Available at: <https://dox.doi.org/10.2760/110687>.

³⁰ Communication from the Commission COM(2014) 0015 A policy framework for climate and energy in the period from 2020 to 2030. In: *EUR-Lex* [online]. [2025-07-07]. Available at: <https://eur-lex.europa.eu/EN/legal-content/summary/eu-policy-framework-for-climate-and-energy-2020-to-2030.html>.

³¹ VON DER LEYEN, U. *Political Guidelines for the next European Commission 2019–2024: A Union that strives for more. My agenda for Europe*.

³² Communication from the Commission COM/2019/640 final The European Green Deal. In: *EUR-Lex* [online]. [2025-07-07]. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52019DC0640&qid=1694878065652>.

³³ KOWALSKA, A. – BIENIEK, M. Meeting the European green deal objective of expanding organic farming. *Equilibrium. Quarterly Journal of Economics and Economic Policy*. 2022, Vol. 17, No. 3, pp. 607–633.

reduction by 2030 and complete climate neutrality by 2050 (2.1.1. EGD). In order to make this transition feasible, effective, fair, predictable and irreversible, already the EGD envisaged the proposal for the European Climate Law in 2020 and the reform of the ETS in 2021. Finally, considering the risk of carbon leakage due to international trade, EGD suggests that the European Commission might propose a CBAM. Table 2 summarizes the structures of these policies.

Tab. 2 Political guidelines 2019-24 and EGD as the first of six priorities

	Priority	Description, sub-strategies and plans
P1	A European Green Deal - Europe as the first climate-neutral continent by becoming a modern, resource-efficient economy	EGD1 Biodiversity strategy for 2030 EGD2 Chemicals strategy EGD3 New circular economy action plan (CEAP) EGD4 Environment action program to 2030 EGD5 Forest strategy EGD6 Plastics strategy EGD7 Soil strategy EGD8 Textiles strategy EGD9 Zero pollution action plan
P2	A Europe fit for the digital age	The EU's digital strategy will empower people with a new generation of technologies
P3	An economy that works for people	The EU must create a more attractive investment environment, and growth that creates quality jobs, especially for young people and small businesses.
P4	A stronger Europe in the world - multilateralism and a rules-based global order.	The EU will strengthen its voice in the world by championing multilateralism and a rules-based global order.
P5	Promoting our European way of life	Europe must protect the rule of law if it is to stand up for justice and the EU's core values.
P6	A new push for European democracy	We need to give Europeans a bigger say and protect our democracy from external interference such as disinformation and online hate messages.

Source: prepared by the Author based https://commission.europa.eu/strategy-and-policy/priorities-2019-2024_en and https://environment.ec.europa.eu/strategy_en

At the start up of Phase 4, in 2021 the first European Commission of Ursula von der Leyen managed to finish the enactment of the European Climate law and to present the legislative package Fit for 55,³⁴ including proposals to reforms the EU ETS, in particular the Directive on ETS. The European Climate Law explicitly stated the climate neutrality objective in the sense that at the latest by 2050, emissions should be reduced to a net zero

³⁴ EUROPEAN COUNCIL. Fit for 55. Legislative package to reduce EU greenhouse gas emissions by at least 55% by 2030 and put the EU to the path to achieve climate neutrality by 2050. In: *European Council* [online]. [2025-07-07]. Available at: <https://www.consilium.europa.eu/en/policies/fit-for-55/>.

and thereafter the EU shall aim to achieve negative emissions (Art. 2 European Climate Law). This highly ambitious objective was behind the six reforms of the EU ETS presented, based on proposals for the package Fit for 55 in 2021 and adopted in 2023:

- Reformed increasing the ambition of the EU ETS – the cap has been tightened to bring emissions down by 62% by 2030, compared to 2005 level and allowance reduction 4.3% and -4.4% per year instead of by -2.2% per year and covering new sectors such as buildings, road transport and fuel (R1);
- Reform strengthening the Market Stability Reserve (R2);
- Reform of the EU ETS concerning aviation (R3);
- Reform of the rules of the monitoring, reporting and verification of emissions from maritime transport (R4);
- Reform establishing the Social Climate Fund to complement the new emissions trading system for buildings, road transport and small emitting industry (R5);
- Reform establishing a CBAM to motivate non-EU producers to reduce emissions and to counter carbon leakage – EU importers have to buy CBAM certificates to cover the price difference due to the cost of ETS allowances for EU producers of iron, steel, fertilizers, electricity, etc. (R6).

Since the Political Guidelines 2024-2029 of the second European Commission of Ursula von der Leyen and their seven areas, including the New plan for Europe's sustainable prosperity and competitiveness with the CID, have not reversed it,³⁵ this concludes the reviews of the evolution towards the reformed ETS, i.e., the development of the ETS regime based on constantly changing Directives in the ETS. Consequently, the dynamic perspective should be replaced by a static review of the status quo of the Directive on ETS.

1.2. The reformed ETS regime – Status quo of the Directive on ETS

The legislative backbone of the reformed ETS regime is the Directive on ETS in its consolidated version, i.e. after all six reforms and while incorporating them as well as 16 Directives and the Treaty of Accession of Croatia. Consequently, the currently applicable principles and rules regarding the ETS, and allowing the launch of a discussion about the legitimacy, effectiveness and efficiency, are to be firstly extracted from the consolidated version of the Directive on ETS.

This exploration and extraction logically starts with the review of the structure and schedule of the consolidated version of the Directive on ETS, see Table 3.

³⁵ MacGREGOR PELIKÁNOVÁ, R. EU legislative proposals to involve customers in the greening of the economy. *The Lawyer Quarterly*. 2024, Vol. 14, No. 2, pp. 218–235.

Tab. 3 Consolidated version of the Directive on ETS – structure overview and selected provisions

Chapter I General Provisions	Art. 1 Subject Matter <i>This Directive establishes a system for greenhouse gas emission allowance trading within the Union (hereinafter referred to as the 'EU ETS') in order to promote reductions of greenhouse gas emissions in a cost-effective and economically efficient manner.</i> Art. 2 Scope <i>This Directive shall apply to the activities listed in Annexes I and III, and to the greenhouse gases listed in Annex II.</i> Art. 3 Definitions <i>a) 'allowance' means an allowance to emit a one ton of carbon dioxide equivalent during a specified period, which shall be valid only for the purposes of meeting the requirements of this Directive and shall be transferable in accordance with the provisions of this Directive;</i> <i>ae) regulated entity' for the purposes of Chapter IVa means any natural or legal person, except for any final consumer of the fuels, that engages in the activity referred to in Annex III and that falls within one of the following categories:...</i>
Chapter II Aviation and Maritime Transport	
Chapter III Stationary installations	Art. 3h Scope <i>The provisions of this Chapter shall apply to greenhouse gas emissions permits and the allocation and issue of allowances in respect of activities listed in Annex I other than aviation activities and maritime transport activities.</i> Art. 4 Greenhouse gas emissions permits <i>Member States shall ensure that, from 1 January 2005, no installation carries out any activity listed in Annex I resulting in emissions specified in relation to that activity unless its operator holds a permit issued by a competent authority in accordance with Articles 5 and 6, or the installation is excluded from the EU ETS pursuant to Article 27</i> Art. 10 Auctioning of allowances Art. 10a <i>Transitional Union-wide rules for harmonised free allocation</i> Art. 10b <i>Transitional measures to support certain energy intensive industries in the event of carbon leakage</i> Art. 10f <i>'Do no significant harm' principle</i> <i>From 1 January 2025, the beneficiary Member States and the Commission shall use the revenues generated from the auctioning of allowances ... in accordance with the 'do no significant harm' criteria set out in Article 17 of Regulation (EU) 2020/852, where such revenues are used for an economic activity for which technical screening criteria for determining whether an economic activity causes significant harm to one or more of the relevant environmental objectives have been established ...</i> Art. 11 National implementation measures

Chapter IV Provisions Applying to Aviation, Stationary Installations ...	Art. 18 Competent authority <i>Member States shall make the appropriate administrative arrangements, including the designation of the appropriate competent authority or authorities, for the implementation of the rules of this Directive.</i> Art. 18b Assistance from the Commission, EMSA and other relevant organizations
Chapter IVa ETS for buildings, road transport and additional Sectors	Art. 30a <i>The provisions of this Chapter shall apply to emissions, greenhouse gas emissions permits, the issue and surrender of allowances, monitoring, reporting and verification in respect of the activity referred to in Annex III. ...</i> Art. 30b GHG gas emissions permits <i>1. Member States shall ensure that, from 1 January 2025, no regulated entity carries out the activity referred to in Annex III unless that regulated entity holds a permit issued by a competent authority in accordance with paragraphs 2 and 3 of this Article.</i>
Chapter IVb Scientific advice and visibility of funding	
Chapter V Final Provisions	
Annex I Categories of activities to which this Directive applies	
Annex II GHGs referred to in Art.3 and Art. 30	
Annex IIa Distribution of funds	
Annex IIb Increases in the % of allowances to be auctioned	
Annex III Activity covered by the Chapter	
Annex IIIa Adjustment of linear reduction	
Annex IV Principles for monitoring and reporting	
Annex V Criteria for verification	

Source: prepared by the Author based on EurLex

The reformed EU ETS extends the scope (fuel combustion in buildings, etc.), adds an extra-territorial aspect (CBAM), increases not only the targets but, as well, the funding for decarbonizing ETS sectors (modernization fund, innovation fund), etc. The provided amendments are rather revolutionary than merely evolutionary and go for a highly ambitious target of 62% reductions from ETS sectors by 2030 compared to 2005. This is the key cap-and-trade climate policy instrument arguably now being fairer and avoiding cross-border carbon leakage. This should be in line with the development of the EU law on sustainability and social responsibility,³⁶ which fights against green-washing and

³⁶ RUBÁČEK, F. et al. The sustainability of ESAs triumvirate for sustainability-related disclosures in the financial sector – all for one and one for all. *Acta Universitatis Lodzianis. Folia Iuridica*. 2023, Vol. 105, pp. 123–143.

various trade-offs.³⁷ Indeed, the EU ETS includes the “*do no significant harm principle*” (Art. 10f), which brought in the EU law the strongly pro-EGD³⁸ Taxonomy Regulation.³⁹

The European Commission summarizes its status quo by stating that the reformed EU ETS is presented as the world’s first carbon market which is based on a “*cap and trade*” principle, makes the polluters pay for their GHG emissions and brings overall EU emissions down while generating revenues to finance the green transition.⁴⁰ However, there are voices challenging the legitimacy, effectiveness and efficiency of the EU ETS.

II. LEGITIMACY OF THE REFORMED EU ETS (RQ1) – GENERALLY ACCEPTED

The enthusiasm and commitment of the last European Commissions to reduce the carbon emissions, lower the concentration of GHGs and reverse the global climate change and other negative consequences have never been unanimously shared.⁴¹ Indeed, this has always been rather a source and cause for disputes between politicians, academics and even the society at-large. Empirical observations suggest that the attitude towards it became one of the key factors in recent election campaigns, while deeper studies point to the (alleged) inconsistency and incompleteness, perhaps even a permanent crisis, of the European institutional structure which magnifies differences and destroys the coherence.⁴² This topic becomes even more agitated once it moves from the political arena into the spheres of finance and law, i.e. once the EU ETS is discussed. Since the EU ETS became, via the above mentioned six reforms of Fit 55 stronger, broader and stricter, voices of rejection and/or criticism regarding it became louder⁴³ and naturally the legitimacy became the obvious target.

In addition, since crises accelerate pre-existing trends,⁴⁴ this legitimacy challenge is becoming stronger in the context of the continuous succession of crises affecting the EU,⁴⁵ including the so-called sovereign debt crisis, the COVID-19 pandemic, the War in Ukraine, the energy crisis, the imposition of increased tariffs, waves of illegal immigra-

³⁷ BALCERZAK, A. et al. The EU regulation of sustainable investment: The end of sustainability trade-offs? *Entrepreneurial Business and Economics Review*. 2023, Vol. 11, No. 1, pp. 199–212.

³⁸ MacGREGOR PELIKÁNOVÁ, R. – RUBÁČEK, F. Taxonomy for Transparency in Non-Financial Statements – Clear Duty With Unclear Sanction. *Danube*. 2022, Vol. 13, No. 3, pp. 173–95.

³⁹ Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088.

⁴⁰ EUROPEAN COMMISSION. Climate Action. About the EU ETS. What is the EU ETS? In: *European Commission* [online]. [2025-07-07]. Available at: https://climate.ec.europa.eu/eu-action/carbon-markets/eu-emissions-trading-system-eu-ets/about-eu-ets_en.

⁴¹ FRAMBS, T. V. – DROBNIČ, S. Ill-informed or ideologically driven? Climate change awareness and denial in Europe. *Population and Environment*. 2024, Vol. 46, No. 21.

⁴² LUCARELLI, S. – RANGONE, M. Recent Crises and the Evolution of European Policies. An Introduction. *Forum for Social Economics*. 2024, Vol. 54, No. 1, pp. 1–15.

⁴³ FRAMBS, T. V. – DROBNIČ, S. Ill-informed or ideologically driven? Climate change awareness and denial in Europe.

⁴⁴ D’ADAMO, I. – LUPI, G. Sustainability and resilience after COVID-19: A circular premium in the fashion industry. *Sustainability*. 2021, Vol. 13, No. 4, p. 1861.

⁴⁵ LUCARELLI, S. – RANGONE, M. Recent Crises and the Evolution of European Policies. An Introduction. *Forum for Social Economics*. 2024, Vol. 54, No. 1, pp. 1–15.

tion, etc.⁴⁶ Further, arguably, the pragmatism and pro-competitiveness of the CID cannot offset negative sides of the EGD. Arguably, the EU of the second Commission of Ursula von der Leyen has not only a problematic leadership but as well maintains an inconsistent and incomplete institutional structure, leading to a reduced social cohesion and growing economic and other asymmetries.⁴⁷ Clearly, the reformed EU ETS and the consolidated version of the Directive on ETS are obvious targets for the legitimacy scrutiny.⁴⁸

The original Directive on ETS explicitly included in its Preamble a pro-fundamental rights declaration via “27. *This Directive respects the fundamental rights and observes the principles recognised in particular by the Charter of Fundamental Rights of the European Union*”, but later on admitted a need to go over and above (perhaps even against?) EU member states, see “30. *Since the objective of the proposed action, the establishment of a Community scheme, cannot be sufficiently achieved by the Member States acting individually, and can therefore by reason of the scale and effects of the proposed action be better achieved at Community level, the Community may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty. In accordance with the principle of proportionality, as set out in that Article, this Directive does not go beyond what is necessary in order to achieve that objective.*” Manifestly, the cornerstone of the current legitimacy discussion is the reconciliation of a set of provisions of the primary EU law and objectives of the consolidated version of the Directive on ETS. Hence, it is relevant to overview and juxtapose these provisions, using Table 4, below, with such objectives.

⁴⁶ MacGREGOR PELIKÁNOVÁ, R. *EU legislative proposals to involve customers in the greening of the economy*, pp. 218–235.

⁴⁷ LUCARELLI, S. – RANGONE, M. *Recent Crises and the Evolution of European Policies. An Introduction*.

⁴⁸ KOTZAMPASAKIS, M. – WOERDMAN, E. The Legal Objectives of the EU Emissions Trading System: An Evaluation Framework. *Transnational Environmental Law*. 2024, Vol. 13, No. 2, pp. 312–336.

Tab. 4 EU primary law regarding ETS legitimacy

TEU	Art. 3	<i>3. The Union shall establish an internal market. It shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment. It shall promote scientific and technological advance.</i>
TEU	Art. 4	<i>1. In accordance with Article 5, competences not conferred upon the Union in the Treaties remain with the Member States...</i> <i>3. Pursuant to the principle of sincere cooperation, the Union and the Member States shall, in full mutual respect, assist each other in carrying out tasks which flow from the Treaties.</i>
TEU	Art. 5	<i>1. The limits of Union competences are governed by the principle of conferral. The use of Union competences is governed by the principles of subsidiarity and proportionality.</i> <i>2. Under the principle of conferral, the Union shall act only within the limits of the competences conferred upon it by the Member States in the Treaties to attain the objectives set out therein. Competences not conferred upon the Union in the Treaties remain with the Member States.</i> <i>3. Under the principle of subsidiarity, in areas which do not fall within its exclusive competence, the Union shall act only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States, either at central level or at regional and local level, but can rather, by reason of the scale or effects of the proposed action, be better achieved at Union level....</i> <i>4. Under the principle of proportionality, the content and form of Union action shall not exceed what is necessary to achieve the objectives of the Treaties....</i>
TFEU	Art. 4	<i>2. Shared competence between the Union and the Member States applies in the following principal areas:...(e) environment;..</i>
TFEU	Art. 26	<i>1. The Union shall adopt measures with the aim of establishing or ensuring the functioning of the internal market, in accordance with the relevant provisions of the Treaties</i>
TFEU	Art. 114	<i>Approximation of laws</i> <i>1. Save where otherwise provided in the Treaties, the following provisions shall apply for the achievement of the objectives set out in Article 26. ... 3. The Commission, in its proposals envisaged in paragraph 1 concerning health, safety, environmental protection and consumer protection, will take as a base a high level of protection, ...</i>

TFEU	Art. 191	<i>1. Union policy on the environment shall contribute to pursuit of the following objectives: — preserving, protecting and improving the quality of the environment, — protecting human health, — prudent and rational utilisation of natural resources, — promoting measures at international level to deal with regional or worldwide environmental problems, and in particular combating climate change. 2. Union policy on the environment shall aim at a high level of protection taking into account the diversity of situations in the various regions of the Union. It shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay.</i>
Char.	Art.37	<i>A high level of environmental protection and the improvement of the quality of the environment must be integrated into the policies of the Union and ensured in accordance with the principle of sustainable development.</i>

Source: prepared by the Authors based on EurLex

These primary EU law objectives need to be observed and carried on by the EU ETS. The consolidated version of the Directive of ETS brings its own objectives by stating in Art. 1 *“This Directive establishes a system for greenhouse gas emission allowance trading within the Union (hereinafter referred to as the EU ETS) in order to promote reductions of greenhouse gas emissions in a cost-effective and economically efficient manner. This Directive also provides for the reductions of greenhouse gas emissions to be increased so as to contribute to the levels of reductions that are considered scientifically necessary to avoid dangerous climate change. It contributes to the achievement of the Union’s climate-neutrality objective and its climate targets as laid down in Regulation (EU) 2021/1119 of the European Parliament and of the Council and thereby to the objectives of the Paris Agreement.”*

Hence, in order to appreciate and assess the legitimacy of the EU ETS, the objectives set by the Directive on ETS need to be interpreted and juxtaposed to the above indicated commands and objectives set by the EU primary law, in particular fundamental principles, such as the principle of sincere co-operation and the principle of mutual trust.⁴⁹

This endeavour is far from being easy and even the European Commission has not precisely defined the objective(s) of the EU ETS.⁵⁰ The literal method of interpretation of *“in order to promote reductions of greenhouse gas emissions in a cost-effective and economically efficient manner”* encounters problems with ambiguous and uncertain terms such as *“to promote”*, which, depending upon the selected EU official language, can have a dramatically different meaning going from a weak support over to an obligation of

⁴⁹ TOMÁŠEK, M. European Arrest Warrant – Mutual Trust and Mistrust Among EU Member States. *The Lawyer Quarterly*. 2023, Vol. 13, No. 2, pp. 131–142.

⁵⁰ KOTZAMPASAKIS, M. – WOERDMAN, E. *The Legal Objectives of the EU Emissions Trading System: An Evaluation Framework*.

means to an obligation of results. The contextual interpretation faces the above-mentioned problem of hesitations and changes by the European Commission and other institutions in defying the objectives of the EU ETS. The preferred interpretation method of the EU law, in particular as advanced by the CJ EU, is the teleological interpretation, which looks for the meaning in the perspective of the entire EU legal system, in particular in the light of the relevant objectives pursued by the primary EU law.⁵¹ Hence, via the teleological method, the interpretation of the objectives of the Directive on ETS should be governed by the understanding of the objectives of the primary EU law. Hence, this pro-legitimacy mechanism leans towards interpreting the secondary EU law in compliance with the primary EU law. Even a cursory overview provided by Table 4 suggests that this is feasible. Consequently, the legitimacy of the EU ETS is generally accepted and even it is suggested that it has “a multilevel legitimacy basis”.⁵² This leads to an obvious question – what is (exactly means) this (legitimate) objective of this (legitimate) Directive on ETS. Recently, a well-argued and founded answer was presented under the academic auspices of the Cambridge University Press. Namely, based on the combination of legal research methods and economic theory, there is proposed a hierarchical cascade of objectives of ETS, i.e. the principal aim is the GHG emissions reduction (-62% emissions from ETS sectors by 2030 compared to 2005), which is followed by three secondary aims: cost-effectiveness, economic efficiency and equity, and a meta-goal of coherence.⁵³ This organically implies the issue of the effectiveness and efficiency of the EU ETS.

III. EFFECTIVENESS OF THE REFORMED EU ETS (RQ2) – CAP AND TRADE PRINCIPLE AND POLLUTERS PAY PRINCIPLE UNDER SCRUTINY

Since its launching in 2005, the effectiveness of the EU ETS has been discussed and many objections have been raised. A large part of them have objected to the cap and trade principle and the polluters pay principle. In addition, some have argued based on the environmental Kuznets curve.

Regarding the cap and trade principle, the proponents emphasize that it leads to a gradual reduction of GHG emissions, because producers emitting GHG are motivated to invest in clean alternatives or otherwise behave better in order to rather sell than buy allowance permits. The opponents point out that there are many variables and determinants and, in particular, the desired GHG emissions reduction, ideally without crippling competition and destroying the welfare of the society, can occur (perhaps even can occur only), if caps and related criteria and parameters are set correctly, in particular in the right moment in a correct amount. The reformed EU ETS is presented by the public media, and not just it alone, as entirely wrongly set, i.e. as unrealistic, with inappropriate

⁵¹ LENAERTS, K. – GUTIÉRREZ-FONS, J. A. *To say what the law of the EU is: methods of interpretation and the European Court of Justice.*

⁵² SKJAERSETH, J. B. EU emissions trading: Legitimacy and stringency. *Environmental policy and Governance.* 2010, Vol. 20, No. 5, pp.

⁵³ KOTZAMPASAKIS, M. – WOERDMAN, E. *The Legal Objectives of the EU Emissions Trading System: An Evaluation Framework.*

fund support (modernisation fund, innovation fund) and hurting the most vulnerable, which will not see the (alleged) EUR 65 billion compensations. They argue that this is basically an environmental indulgence taking the form of a carbon tax which, as with other so called taxes ultimately makes things even worse. This is in particular due to its inherent substantive feature, i.e. license to pollute, and procedural features, i.e. hardly to be enforced. For the assessment of the effectiveness more relevant is the substantive feature, especially the fact that both a too low or a too high cap and a too low or a too high allowance price do not incentivize abandoning the old polluting technologies, inventing more friendly ones or implementing them.⁵⁴ This built-in anti-innovation element is further magnified with the permanent instability, especially unstable prices and unstable supplies, and the lack of predictability and transparency. Consequently, the view of the European Commission and European Council⁵⁵ is rejected by many and the cap and trade principle of the EU ETS is presented as just more nonsense from Brussels destroying the European competitiveness, killing inventions and innovations, working for the mighty against the small, naively helping the biggest competitors, if not enemies, and destroying the European way of life, even a “carousal fraud” with “an utopian faith in pricing.”⁵⁶

Regarding the polluters pay principle, a strong academic stream argued rather for the consumption-based principle, while pointing out that goods and services can (and often do) accumulate a significant load of environmental impacts far from the place of their production as well as consumption, i.e. in global supply chains.⁵⁷ The idea behind this was that a more effective approach to reduce GHG emissions would be to go after the local consumption and its global environmental consequences.⁵⁸ Consumption-based policies, as opposed to producer-based policies, should be more effective from the perspective of the regional competitiveness, i.e. instead of fighting against the already pre-existing carbon leakage via the reformed EU ETS, the consumption-based system could prevent it. In addition, the shift from producers to consumers could boost the entire system’s effectiveness because, based on prior studies, the income is one of the key (if not the single most important) determinants of emissions.⁵⁹ Finally, it can be proposed that this shift could not only boost the effectiveness but as well the legitimacy, because allowing Europeans to demonstrate their environmental responsibility via a multi-stakeholder model and make them the ultimate decision makers might be more democratic and transparent than setting up a Byzantine system in which they are just passive

⁵⁴ BORGHESI, S. – MONTINI, S. The Best (and Worst) of GHG Emission Trading Systems: Comparing the EU ETS with Its Followers. *Frontiers in Energy Research*. 2016, Vol. 4, No. 27.

⁵⁵ EUROPEAN COUNCIL. Fit for 55: Reform of the EU emission trading system. In: *European Council* [online]. [2025-07-07]. Available at: <https://www.consilium.europa.eu/en/infographics/fit-for-55-eu-emissions-trading-system/>.

⁵⁶ PEARSE, R. – BÖHM, S. Ten reasons why carbon markets will not bring about radical emissions reduction. *Carbon Management*. 2014, Vol. 5, No. 4, pp. 325–337.

⁵⁷ IVANOVA, D. – VITA, G. – STEEN-OLSEN, K. – STADLER, K. – MELO, P. C. – WOOD, R. – HERTWICH, E. G. Mapping the carbon footprint of EU regions. *Environmental Research Letters*. 2017, Vol. 12.

⁵⁸ WOOD, R. – DEY, C. J. Australia’s carbon footprint. *Economic Systems Research*. 2009, Vol. 21, pp. 243–66.

⁵⁹ IVANOVA, D. – VITA, G. – STEEN-OLSEN, K. – STADLER, K. – MELO, P. C. – WOOD, R. – HERTWICH, E. G. Mapping the carbon footprint of EU regions.

subjects, if not directly objects. In this context, it is illustrative to remember that EU GHG emissions have been decreasing since the financial crisis of 2007-2009,⁶⁰ i.e. that EU keeps constantly lowering its carbon footprint for almost two decades (and with European businesses and Europeans bearing the financial burdens for it) while others do arguably less. However, still some academics are not impressed by the EU ETS and its targets and argue that many top world emitters are still located in the EU and that only a small part of EU households conform to climate targets with a carbon footprint under 2.5 tons of CO₂ per capita⁶¹ and so making the system more demanding and more reaching is the right way, i.e. the reformed EU ETS is pro-effective.

Regarding the environmental Kuznets curve, a split of opinions is manifest. Regarding the EU and its environmental policies, some argue that the environmental Kuznets curve works and that the turning point was and/or can be achieved, while still others believe that the available evidence shows the emissions keep growing with the wealth and GDP per capita.⁶² This is a huge issue, because the effectiveness of the set policy and legal framework depends upon the consistency of the underlying economic and environmental theory. Indeed, the establishment, interpretation and application of both mentioned principles, cap and trade and polluters pay, depends upon the endorsement or rejection of the environmental Kuznets curve, which links various indicators of environmental degradation and GDP per capita.⁶³ It states that, firstly, pollution emissions increase and environmental quality declines, but once a certain level of GDP per capita is reached, the trend reverses, i.e. high income levels and economic growth leads to a reduction in GHG emissions and generally the improvement of the environment. The U-shaped vision of the environmental Kuznets curve is followed neither by the UN, nor by the EU, nor by the EU ETS. However, at least in the context of the globalization, in particular multijurisdictional supply chains, Western values perceptions and endorsement, and innovation factors in the EU,⁶⁴ in particular certain EU member states,⁶⁵ this could have at least a partial merit. This proposition is further supported by findings about positive the effect of waste avoidance, innovations, digital transformation and circularity for the drive to net zero emissions.⁶⁶ As a matter of fact, a noticeable academic stream suggests the EU ETS is a scene where certain states and organized industry lobbies representing both industrial and financial sectors have enormous power to secure schemes that bolster existing

⁶⁰ WOOD, R. – NEUHOFF, K. – MORAN, D. – SIMAS, M. – GRUBB, M. – STADLER, K. The structure, drivers and policy implications of the European carbon footprint, *Climate Policy*. 2020, Vol. 20, No. 1, pp. 39–57.

⁶¹ IVANOVA, D. – WOOD, R. The unequal distribution of household carbon footprints in Europe and its link to sustainability. *Global Sustainability*. 2020. Vol. 3, No. 18, pp. 1–12.

⁶² IVANOVA, D. – VITA, G. – STEEN-OLSEN, K. – STADLER, K. – MELO, P. C. – WOOD, R. – HERTWICH, E. G. *Mapping the carbon footprint of EU regions*.

⁶³ ALMEIDA, D. – CARVALHO, L. – FERREIRA, P. – DIONÍSIO, A. – HAQ, I. U. Global Dynamics of Environmental Kuznets Curve: A Cross-Correlation Analysis of Income and CO₂ Emissions. *Sustainability*. 2024, Vol. 16, No. 20.

⁶⁴ MacGREGOR PELIKÁNOVÁ, R. – SANI, M. Luxury, Slow and Fast Fashion – A Case study on the (Un)sustainable Creating of Shared Values. *Equilibrium. Quarterly Journal of Economics and Economic Policy*. 2023, Vol. 18, No. 3, pp. 813–851.

⁶⁵ MacGREGOR PELIKÁNOVÁ, R. – HÁLA, M. – BENEŠ, M. Unitary Patent System and innovation dynamics in the European Union: The role of economic resources and R&D investments. *JEMI – Journal of Entrepreneurship, Management and Innovation*. 2025, Vol. 21, No. 2, pp. 98–115.

⁶⁶ BALSALOBRE-LORENTE, D. – RADULESCU, M. – PILAŘ, L. – SHAH, S. A. R. A Holistic approach to sustainability: Exploring the main and mediating role of circular economy in net zero emissions. *Journal of Environmental Management*. 2025, p. 382.

emissions-intensive accumulation processes rather than disrupt them, and so the system is inherently and irreparably wrong and wrongly set, i.e. ineffective.⁶⁷ As a matter of fact, even the deep legal analysis identifying as the principal objective to “promote” 62% emissions reductions in the ETS covered sectors by 2030 is sceptically regrading the inclusion of new sectors in the EU ETS, i.e. regarding the effectiveness of the EU ETS as such, and regarding the secondary cost-effectiveness is not conclusive whether really the reformed EU ETS goes for the primary objective “at the lowest possible cost.”⁶⁸

Nevertheless, it must be admitted that any move from the cap and trade principle and the polluters pay principle along with the installation of environmental Kuznets curve might perhaps boost certain aspects of the legitimacy and effectiveness of the EU ETS, but could dramatically impact its efficiency. However, before any discussion about the efficiency of such a different system is launched, there must also be discussed, and ideally assessed, the efficiency of the current system, i.e. the efficiency of the reformed EU ETS.

IV. EFFICIENCY OF THE REFORMED EU ETS (RQ3) – REJECTED AND CHANGES DEMANDED

Since its launch in 2005, the efficiency of the EU ETS has been discussed and many objections have been raised. It has been pointed out that the used criteria and parameters undermine the operation of the entire system and that the dramatically different levels of household consumption across the EU, along with the varying economic power and local particularities, cripple the functioning of the EU ETS.⁶⁹ In particular, it can be implied from numerous studies, that the policy and legal framework to reduce GHG emissions, to promote carbon neutrality and reverse the global climate change must consider each jurisdiction’s unique development stage⁷⁰ and that the imposition of “fit-all” solutions can not only have a lower legitimacy and reduced effectiveness, but as well a very poor efficiency.

This proposition is partially supported by the fact that a large part of the criticism of the EU ETS has been directed at the cap and trade principle and the polluters pay principle and has originated much more from some EU member states than others. As much as the legitimacy is not challenged and the effectiveness is rather moderately objected to, a rather strong wave of the EU ETS efficiency is coming and unsurprisingly from the so called peripheral spheres and regarding the primary “cost-pass” subjects and industries, as already observed by prior European Commissions.⁷¹

⁶⁷ PEARSE, R. – BÖHM, S. Ten reasons why carbon markets will not bring about radical emissions reduction. *Carbon Management*. 2014, Vol. 5, No. 4, pp. 325–337.

⁶⁸ KOTZAMPASAKIS, M. – WOERDMAN, E. The Legal Objectives of the EU Emissions Trading System: An Evaluation Framework. *Transnational Environmental Law*. 2024, Vol. 13, No. 2, pp. 312–336.

⁶⁹ IVANOVA, D. – VITA, G. – STEEN-OLSEN, K. – STADLER, K. – MELO, P. C. – WOOD, R. – HERTWICH, E. G. *Mapping the carbon footprint of EU regions*.

⁷⁰ ALMEIDA, D. – CARVALHO, L. – FERREIRA, P. – DIONÍSIO, A. – HAQ, I. U. *Global Dynamics of Environmental Kuznets Curve: A Cross-Correlation Analysis of Income and CO2 Emissions*.

⁷¹ EUROPEAN COMMISSION. Ex-post investigation of cost pass-through in the EU ETS. November 2015 and CLUDIUS, J. et al. Ex-post investigation of cost pass-through in the EU ETS – an analysis for six industry sectors. *Energy Economics*. 2020, Vol. 91.

Arguments against the efficiency of the current EU ETS typically starts with the proposition that this is an environmental indulgence taking that is imposed and enforced in an unfair manner. Namely, almost all ETSs are hardly to be enforced and the inherent complexity of the system, such as the EU ETS, magnifies the differences between subjects and creates the potential for leaking and abuses.⁷² The crippling effect of the asymmetry of information is further worsened by the institutional players, such as (certain) national competent authorities, such as the Ministry of Environment of the Czech Republic. Hence, even if it is assumed that the EU ETS is legitimate and effectively set (which in reality is not unanimously accepted), then there is a huge issue with the efficiency generated by such a policy and legal framework and its procedural ramifications. In contrast to laudatory statements of the European Commission and European Council,⁷³ the operation of the reformed EU ETS and the effects of the application of its principles in 2025 leads to very worrisome situations. For example the coupled effect of the extension of the reach and scope of the EU ETS and the way how the cap, price and exceptions were set, led to the current unstable setting to the climbing auctioned price. It exceeded EUR 77 for one ton of emissions of CO₂ within the energy exchange EEX in Leipzig as well as other auction places and is expected to further growth to EUR 95 per ton of emission of CO₂, i.e. twice as much as agreed and demanded by the EU and EU member states.⁷⁴ Since the reformed EU ETS, including compensation and mitigation of its negative effects, is built on the ceiling in the amount of EUR 45 per ton of emission of CO₂ for the ETS II emission allowances/permits, the reality of EUR 95 means an inevitable shock and this shock will hit in particular the most vulnerable – low income Europeans using CO₂ generating sources for heating and road transport. The head of the Czech competent authority expresses his expectation that the reformed EU ETS will be promptly modified and the European Commission will bring a new legislative proposal in the coming months.⁷⁵ Undoubtedly, the efficiency of the EU ETS should consider a myriad of benefits and costs, i.e. not only financial, but as well social and societal, etc.⁷⁶ Well, the European Commission keeps launching calls for evidence and public consultations regarding the evaluation of the effectiveness and, even more, efficiency of the reformed EU ETS,⁷⁷ but it is questionable whether this is not too little too late, especially in the light of the growing resistance and rise in the popularity of political parties running their campaigns based on

⁷² BORGHESI, S. – MONTINI, S. *The Best (and Worst) of GHG Emission Trading Systems: Comparing the EU ETS with Its Followers*.

⁷³ EUROPEAN COUNCIL. Fit for 55: Reform of the EU emission trading system. In: *European Council* [online]. [2025-7-7]. Available at: <https://www.consilium.europa.eu/en/infographics/fit-for-55-eu-emissions-trading-system/>.

⁷⁴ TRAMBA, D. Unijní strop nefunguje. Nové emisní povolenky se obchodují za 77 eur. *Ekonomický deník*. In: *Ekonomický deník* [online]. 9. 7. 2025 [2025-08-08]. Available at: <https://ekonomickydenik.cz/eex-nove-emisi-povolenky-77-eur/>.

⁷⁵ TRAMBA, D. *Unijní strop nefunguje. Nové emisní povolenky se obchodují za 77 eur*.

⁷⁶ KOTZAMPASAKIS, M. – WOERDMAN, E. *The Legal Objectives of the EU Emissions Trading System: An Evaluation Framework*.

⁷⁷ EUROPEAN COMMISSION. Commission launches public consultation on the EU Emissions Trading System and the Market Stability Reserve. In: *European Commission* [online]. [2025-08-08]. Available at: https://climate.ec.europa.eu/news-your-voice/news/commission-launches-public-consultation-eu-emissions-trading-system-and-market-stability-reserve-2025-04-15_en.

the rejection of EGD and reformed EU ETS.⁷⁸ Namely, pursuant to a noticeable academic stream, the reformed EU ETS is just a carbon trading built on questionable economic theory and instituted through particular patterns of decision making, it is not amendable to reform, i.e. its inefficiency is due to its ineffectiveness, i.e. for example, a progressive tax reform should be rather considered than the (current) regressive carbon pricing.⁷⁹

CONCLUSIONS

For decades, the EU has been following, if not exceeding, the UN drive to reverse the global climate change, in particular to reduce GHGs emissions. The EU key climate policy instrument is the EU ETS and the legislative foundation of its framework is the repeatedly and significantly amended Directive on ETS. The current, reformed EU ETS reflects the growing GHG emission reduction commitment of the EGD with Fit for 55 in a highly ambitious manner. The mapping of the development of the EU ETS testifies about a continuous drive which is fully reflected by the status quo. The analysis of the reformed EU ETS confirms that its legitimacy is not challenged by dramatic and insurmountable objections. The same cannot be stated about the effectiveness, because the underlying cap and trade principle and polluters pay principle is not unanimously accepted as pro-effective and, particularly in the light of the environmental Kuznets curve, serious and so far not well addressed questions emerge. However, the strongest and almost frontal attack on the EU ETS is linked to the efficiency. Namely, the setting is perhaps too ambitious and unrealistic in the global context, but it can be hardly stated that the entire idea of materializing the EU pro-environment committed as envisaged by the *prima EU law* via EU ETS is absolutely wrong. However, the realization is often perceived as such. Indeed, perhaps it is not so much about the rather obvious legitimacy (RQ1), the discussed appropriateness of the cap and trade principle and polluters pay principle (RQ2) and the heavily challenged materialization (RQ3). Instead, the true question to be posed and answered is about the very values and priorities of the EU, in particular since the ETS is gradually moving to the highly problematic “two-speed Europe”, i.e. the same setting, application and enforcement of the ETS in the entire EU appear to miss the majority support, at least right now.

As a matter of fact, the massive problems linked to the efficiency and, even more, the perception of the inefficiency of the reformed EU ETS progressively build even arguments against its effectiveness, if not directly the legitimacy. Certainly, the reformed EU ETS cannot afford to be perceived as a mechanism supporting an arbitrary and not transparent exercise of power and magnifying pre-existing differences in the EU. Less certain is whether the discussed legislative change can fix it and convince Europeans that the reformed EU ETS is a demonstration of the rule of law, cohesion, European values and the well-being of Europeans (Art. 3.1 TEU).

⁷⁸ KOPECKÝ, J. Evropa jde do kyték, nedopustíme nové emisní povolenky, slíbil Havlíček za ANO. In: *iDnes.cz* [online]. 18. 9. 2024 [2025-08-08]. Available at: https://www.idnes.cz/zpravy/domaci/snemovna-spor-o-emisni-povolenky-etsii-cesky-green-deal-zavazek-ano-havlicek.A240918_095643_domaci_kop.

⁷⁹ PEARSE, R. – BÖHM, S. *Ten reasons why carbon markets will not bring about radical emissions reduction*.