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The EU Emission Trading System Tax Regime and the Issue of Unfair Maritime Competition

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Abstract: This article starts by providing an updated literature review and the EU legislative framework concerning reducing carbon emissions in the maritime industry as part of the European Green Deal (EGD). It specifically examines the EU Emission Trading System (ETS) tax regime. This document then analyses the current factors influencing ships' decisions to avoid stopping at hub ports and going to neighbouring Mediterranean countries, such as North Africa and Turkey. In the discussion section, this study presents various suggestions for updating EU laws or expediting the collection and analysis of data to prompt the Commission to take appropriate actions to prevent unfair competition between EU and non-EU ports. This study focuses on identifying the most effective solutions within the EU legislative framework to address the need for the Commission to take legitimate action to prevent ships from bypassing EU hub ports. These solutions can be further developed alongside initiatives at the International Maritime Organization (IMO), and certain provisions can be adjusted at the EU level. The IMO's call for a carbon fee on bunkering exacerbates the existing challenges. Preventive measures must be implemented to control the diversion of shipping traffic from EU hub ports, ensure fair treatment of EU ports involved in transhipment, and prevent carbon leakage. Moreover, the recent Houthi attacks in the Red Sea have significantly increased shipping costs on the route around the Cape of Good Hope to Europe, necessitating increased allowances for traffic to and from Europe.

Keywords: decarbonisation; emission unit allowances; EU ETS directive; European Green Deal; International Maritime Organization; traffic deviation; transhipment ports

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1. Introduction and Background

Climate change and the transition to clean energy have emphasised the need for governments, international organisations, financial institutions, investors and consumers to achieve environmental sustainability, including the maritime sector. It is important to note that maritime transport is the primary mode of global trade, accounting for over 80% of all trade.

Nevertheless, the maritime industry is the sixth-largest emitter of greenhouse gases (GHGs) due to its size, representing around 3% of global anthropogenic emissions, despite being more efficient than air or road transport for moving goods. The International Maritime Organization (IMO) has predicted that emissions could increase by 250% by 2050 if no action is taken to counter it [1,2].

Maritime transport also has negative environmental impacts, such as the discharge of gases like sulphur oxides, nitrogen oxides, and aerosols into the sea and oil spills. However, they are less frequent and have significant consequences when they do occur. Maintaining the traditional shipping business is not sustainable. Those not taking sustainability standards will face increasing fees and significant financial penalties.

Shipowners participating in commercial maritime routes involving European ports must comply with increasingly demanding environmental criteria. Fleet modernisation costs are high, but proactive operators can benefit from favourable credit conditions for

investment in green technology. In the long term, those not investing in green technology will become less competitive as their fleet's energy efficiency reduces and the market sanctions them.

Furthermore, investing in fleet modernisation and green technology may increase fuel efficiency and competitiveness with appropriate incentives and no financial penalties. It is also necessary to investigate the impact of ship owners collecting advance payments from shippers for allowances due in the following year (EU MRV), as this could increase consumer costs.

Considering our history and continued backing of decarbonisation policies, assessing how the allowances will affect the EU ETS maritime framework is essential. This analysis is necessary to prevent and deter traffic diversion in the main hub ports of EU members. We also look for a flexible solution to guarantee that our GHG reduction goals are not compromised.

This study does not adhere to the traditional empirical research process for data collection. Instead, it has analysed various EU and IMO documents and public statements for solutions to endorse the EU Commission's action. This paper aims to identify unfair conditions resulting from traffic deviation at the port hubs of EU member states near the EU's southern border and enhance the fair competition of EU ports against neighbouring ports. As a result, we will explore possible solutions and measures to rectify this unfair situation, which could disrupt the EU internal market and the corresponding logistic chain.

Therefore, the problem statement and the goal of this research can be announced as follows: "The EU ETS Regime and its Impact on Unfair Maritime Competition: Seeking New Solutions".

2. Literature Review and Methodology

This study initiates a comprehensive literature review on the impacts of EGD and the latest application of the ETS tax regime on the maritime and port sectors. A limited amount of documentation is available on the subject we intend to explore in this paper.

The most recent and updated study is slightly concerning [3] and only reflects (abstract) "on the potential implications of the EGD for the countries in the EU's Southern Neighbourhood, especially in the energy sector, agriculture and food system, trade in raw materials, climate action, and circular economy".

In addition to the source mentioned, we will review recent documentation on maritime decarbonisation that may be indirectly relevant to this study. Furthermore, we will provide a brief overview of the analysis and proposals regarding the impact of public policies on energy transition [4], the status and prospects of maritime transport decarbonisation [5], the updated literature and analysis of the Market-Based Measures (MBMs) on shipping [6], the port decarbonisation process and its implications [7], a roadmap for the decarbonisation in Cyprus [8], a comparative review of the alternative fuels in the maritime sector [9] and the impact of the inclusion of shipping in the EU ETS [10].

Implementing green policies is crucial for achieving environmental sustainability, and the EGD is essential for addressing energy and climate transition. To enhance our research focus, let us review the general literature on the economic impacts of green policies such as the EGD, including inflation, economic welfare, and the labour market [2,4,11–14].

Naturally, these environmental policies could lead to a gradual rise in fossil fuel prices, an increase in production expenses, a decrease in output, and a reduction in actual wages. Implementing green taxes, incentives for renewable energy, and stringent environmental regulations might drive up production costs, leading to higher prices for goods and services for consumers. Also, in the short term, the EGD framework may lead to reduced consumption, which could negatively impact economic welfare. Shifting resources toward green investments can lower immediate consumption, thus undermining short-term economic welfare.

The shift towards green growth policies has the potential to significantly impact labour markets as it leads to a gradual transition to green jobs. This transition may result in job

losses in traditional energy sectors and increased unemployment in regions that rely on fossil fuel industries. While green tax reforms can improve environmental quality and economic efficiency, they may also place additional tax burdens on businesses, affecting their competitiveness and potentially slowing economic growth.

Implementing EGD can create imbalances between sectors, leading to overinvestment in green sectors and underinvestment in other critical areas of the economy. This situation may also result in reliance on non-existent or inefficient competitive measures, particularly in the event of a deviation in ETS maritime traffic. Furthermore, the transition to green investments carries inherent risks, as the economic benefits of green fiscal policies may not materialise as expected, potentially leading to financial instability.

A comprehensive review of the recent literature reveals that the subject of this article needs to be thoroughly analysed, presenting an opportunity for actual and further research. This gap in the literature aligns with the time since the implementation of the ETS Directive in the maritime sector on January 1st.

The research aims to comprehensively analyse the EGD's impact on the EU's southern member states. It will take a unique legal approach to support the European Commission's efforts to prevent or limit the diversion of maritime traffic from EU hubs to neighbouring countries, particularly in Northern Africa and Turkey.

The literature is limited, so we will summarise international and EU maritime initiatives to reduce greenhouse gas emissions. It is important to emphasise the key points that will significantly impact our proposals to adapt the existing EU ETS maritime regulation.

Of course, it is generally accepted that the EGD can be a win–win situation for the EU and its southern neighbours, enabling the implementation of EU green inputs and creating a market for green products. As explained, EGD also negatively impacts the economy, which could further burden the costs of ETS deviation. We must adjust the ETS Directive or make it more operational to tackle the unfair trade conditions impacting southern EU hub ports.

Given the limited critical literature on the EU ETS question we are addressing, it would be helpful to offer a brief overview of the key decarbonisation policies in the maritime and port sectors at the IMO and EU levels. Then, we will analyse the impact of the EU ETS on the unfair situation at the EU border. We suggest practical measures to avoid or prevent hub traffic deviation without jeopardising the EU ETS regime. Lastly, we will discuss the constraints on Red Sea routing, the combined impact, and the EU ETS allowance payment.

3. Overview of International Maritime Framework on Decarbonisation

3.1. Overview of IMO Planning and Commitments

In October 2018, the IMO approved a follow-up programme intended to be used as a planning tool in meeting the timelines identified in the Initial IMO Strategy up to 2023. In October 2020, a new EEDI (the EEXI—Efficiency Design Index for Existing Ships) was proposed for retroactive application. SEEMP is expected to require operational efficiency improvement objectives. Despite criticisms of ambiguity and a lack of specificity, the draft was approved at the 75th meeting of the IMO's MEPC in November 2020 and has been in force since 1 January 2023. Meanwhile, in June 2021, the new EEDI was adopted at the 76th meeting.

In July 2023, IMO adopted the 2023 IMO Strategy on Reducing GHG Emissions from Ships, following the agreed-upon programme of follow-up actions [15]. Therefore, the IMO is committed to the goals as follows:

1. Improve the energy efficiency of new ships to reduce carbon intensity.
2. Decrease CO_2 emissions per transport job by at least 40% by 2030 compared to 2008.
3. Increase the use of zero or near-zero GHG emission technologies, fuels, and energy sources to represent at least 5% (striving for 10%) of the energy used by international shipping by 2030.

4. Aim to reach net-zero GHG emissions from international shipping by around 2050, considering different national circumstances, while pursuing efforts to phase them out in line with the long-term temperature goal of the Paris Agreement.

In addition, the IMO has established specific targets to achieve net-zero GHG emissions from international shipping. These targets include reducing the total annual GHG emissions from international shipping by at least 20% (aiming for 30%) by 2030 compared to 2008 and by at least 70% (aiming for 80%) by 2040 compared to 2008.

3.2. Overview of the European Union's Planning and Commitments

3.2.1. The European Green Deal (EGD)

Global and European Union regulation and an implementation roadmap are essential to accomplish the new ambitious decarbonisation goals. While the IMO measures to reduce GHG emissions have some merit, they need to be complemented by operational measures that do not align with the time goals set by the EU in the EGD framework. Therefore, the European Union policy is essential for reducing ships' greenhouse gas emissions.

With a robust package, the European Commission decided on 11 December 2019, to send the European Parliament, the European Council, the Economic and Social Committee, and the Committee of the Regions a communication called "European Green Deal" (EGD) [16]. With this communication, the Commission proposes to tackle climate and environmental challenges through a new strategy for sustainable growth.

In conjunction with other international efforts and responses to implementing the 2030 Agenda and the UN Sustainable Development Goals, the Commission aims to achieve zero net emissions of greenhouse gases by 2050 and decouple growth from resource use.

The EGD sets out its objectives and then defines the policies and measures to achieve them. The eight objectives are as follows:

(i) Raise the EU's climate ambition for 2030 and 2050;
(ii) Provide clean, secure, and affordable energy;
(iii) Mobilise industry for the circular and clean economy;
(iv) Build and renovate in an energy- and resource-efficient manner;
(v) Accelerate the transition to sustainable and intelligent mobility;
(vi) "From farm to fork": designing a fair, healthy, and environmentally friendly food system;
(vii) Preserve and restore ecosystems and biodiversity;
(viii) Adopt a zero-pollution ambition for an environment free of toxic substances.

Then, under the title "Integrating sustainability into all European Union policies", the EGD elaborates on the various possible ways of financing policies and measures to achieve the eight objectives outlined above. The Commission estimates that achieving the EGD by 2030 will require an additional annual investment of EUR 260 billion, or around 1.5% of 2018 GDP, with public and private funding.

After the general presentation of the EGD, we will outline the main rules and measures impacting the maritime and port sectors.

3.2.2. On the Maritime Port Sector, Playing with Alternative Fuels

The maritime port sector aims to integrate a wide decarbonisation perspective. It is widely believed that the sector should be regulated in matters with a global impact, such as energy transition and decarbonisation.

Any regulations in the maritime port sector must consider the impact of international maritime transport to prevent unfair situations. Therefore, developing a practical roadmap for implementation in this sector is necessary. This roadmap should include financially sustainable targets and measures supported by both public and private sources. It should be realistic, reliable, and agreed upon by both public authorities and private stakeholders.

The most challenging issue for the fleet would be the energy transition. It may be crucial to adopt measures to change the paradigm in ships, especially in new builds, such as obligating ports to provide electrification of terminals for ships at berth—the On-Shore

Power Supply, OPS—and limiting the cleaning of "scrubbers" (the exhaust gas cleaning systems or filtering systems of exhaust emissions from ships, EGCSs) in port.

However, starting from the current situation and forecasts, it is necessary to launch the appropriate measures and policies. In the case of maritime transport and ports, there are some points of interest in the EGD which have a significant impact on the sector, namely the following eight:

(i) The vision of how to achieve climate neutrality by 2050 [17].
(ii) Carbon pricing throughout the economy (i.e., including shipping);
(iii) The continued decarbonisation of the energy system is essential for achieving climate objectives;
(iv) Building smart and innovative infrastructure contributing to climate neutrality under the TEN-E, such as smart grids, hydrogen grids, carbon capture, storage, and use, and energy storage, also enabling sectoral integration;
(v) The use of the green and digital challenge, together with the industrial strategy and the objective of modernising the economy, to design a new action plan for the circular economy, focusing on resource-intensive sectors such as textiles, construction, electronics and plastics;
(vi) The assumption is that transport (road, rail, aviation and maritime/inland waterways) is responsible for 25% of the European Union's greenhouse gas emissions, and these figures continue to rise;
(vii) Regulating access to ports for the most polluting ships and making ships at berth use shore-side electricity (On-Shore Power Supply—OPS);
(viii) The promotion of a sustainable "blue economy" to alleviate multiple pressures on land resources and in the fight against climate change.

Another key topic concerns the issue of "green ports", i.e., the Commission's initiative to study the capacity of Europe's seaports to become "green" ports. The study will list the factors affecting that capacity and seek to maintain or improve their economic development.

It is also important to consider the reduction in emissions in ports (through the OPS connection) and the reduction in road traffic through better integration into the city's road network and the greater use of railways. In these terms, adopting a sustainable, intelligent mobility strategy is essential to achieve the progressive decarbonisation of ports.

Regarding the review of the air quality directives, the Commission aims to set new benchmarks for avoiding high concentrations of pollution, aligning them more closely with the recommendations of the World Health Organisation, whose guidelines are being revised. The review also aims to improve all clean ambient air legislation, considering lessons learned from the 2019 assessment [18].

The European Parliament has produced a preliminary report on air quality directives and the ongoing review. The report outlines several recommendations for the sector [19], including supporting the Commission's plan to eliminate polluting emissions. It emphasises the need for a holistic approach to tackle air pollution, which requires integrating air quality into EU policies such as climate, energy, transport, industry, agriculture, and waste.

The report recommends that the Commission and the member states strengthen their emissions legislation, focusing on reducing emissions at the source. It warns that most member states will unlikely meet the emission reduction commitments set by Directive No 2016/2284/EU (NCE, "National Emission Ceilings Directive") for 2030 and 2050. The report also calls for stringent measures to reduce emissions from transport, including road, maritime, aviation, industrial installations, agriculture, and energy production.

As part of the "FuelEU Maritime Initiative", the Commission aims to introduce an obligation to prohibit emissions by certain types of ships, particularly ferries and cruise ships, while berthed or anchored in port by adopting electricity grid connection systems (On-Shore Power Supply, OPS).

The Commission's proposal intends to regulate the demand for clean fuels and increase incentives for their use. This proposal will be complemented by revising the Alternative Fuel Infrastructure Directive (Directive No 2014/94/EU) (AFID Directive).

The Alternative Marine Fuels Initiative aims to regulate the demand for infrastructure and the use of alternative fuels. However, meeting the objective depends on global developments, the different roadmaps for ships to reduce emissions, and the definition of specific objectives in conjunction with the AFID Directive. Meeting the objective will not be easy without stimulating investment in new technologies and research.

Here are four possible roadmaps for reducing emissions:

(a) Implement mandatory On-Shore Power Supply (OPS) in ports for the most polluting ships, with few exceptions (such as ferries and cruise and container ships), and individually verify their emission levels.

(b) Set a life cycle greenhouse gas (GHG) emission cap linked to mandatory OPS for the most polluting ships, targeting ships similar to the previous roadmap.

(c) Similar to the previous roadmap, but with GHG emission calculations to be performed by a "pool" of ships or with incentives for those exceeding the requirements, similar to the EU ETS carbon credit system.

(d) Include ship energy efficiency (measured in grammes of CO_2 per tonne per nautical mile), for example, in the "slow steaming" decision, as a basis for the decision on the alternative fuel obligation.

The AFID Directive requires member states to assess the necessity of OPS systems for inland and maritime navigation in ports. The aim is to ensure that these systems are deployed promptly in priority ports and other ports by the end of 2025 unless there is no demand or the deployment costs outweigh the benefits, including environmental ones. Additionally, the directive requires member states to provide fixed and mobile refuelling points for LNG bunkers, at least in core ports, by the end of 2025.

The directive will evaluate the term "alternative fuels" and specify the types of fuels involved, including their differentiation by production source, such as fossil or renewable. Methane and ammonia may be added to the list of alternative fuels, which means that LNG will be included under this definition.

The matters of OPS and LNG bunkers are crucial. They should be discussed collaboratively among all stakeholders in the maritime port sector, including ship operators, port authorities, and energy suppliers at each port. This inclusive discussion will ensure that a balanced approach is taken to meet the supply and demand. Urgent investment in OPS systems and LNG bunker terminals in ports is needed.

Current studies on alternative fuels are promising, covering various types such as biofuels, ammonia, and hydrogen and emerging technologies like assisted propulsion (wind-assisted propulsion and 'hull air cavity lubrication'). These emerging technologies hold great potential for reducing emissions in the maritime and port sectors, offering a hopeful outlook for the future.

4. The Problem Statement and Discussion: the EU Emission Trading System (EU ETS) Directive to Include Shipping Emissions—The Impact on the Hub's Traffic Deviation

4.1. The New Measures Applied to the Maritime and Port Sector

The European Union has amended directive No 2003/87/EC to include shipping emissions in the EU ETS and extend this to other sectors. The EU ETS has operated since 2005 and was the world's first. Based on the carbon market and its increased price, the installations covered by the system have reduced emissions by about 35% from 2005 to 2019.

The "Fit For 55" package considered a basket of measures to address GHG emissions for the shipping sector: Extension of ETS to Maritime Transport (ETS), Revision of the Renewable Energy Directive (RED), Revision of Alternative Fuels Infrastructure Directive (AFIR), Revision of the Energy Taxation Directive (ETD), and New FuelEU Regulation. However, the IMO push forward an international assessment and implementation of efficient measures for climatic transition has been delayed, dangerously jeopardising the EU efforts.

The above package aimed to reduce greenhouse gas (GHG) emissions by at least 55% by 2030. The system covers emissions of carbon dioxide (CO_2), nitrous oxide (N_2O), and

perfluorocarbon (PFC)—created in aluminium production. So far, the system has covered heat and power plants, intensive industries (refineries, steel plants, cement plants, ceramic and cellulose plants, and petrochemical plants, among others), commercial aviation, and producers of N_2O and PFC.

The EU ETS review has included the first amendment to the "Market Stability Reserve" (MSR), which also aimed to adapt it to the global aviation system known as CORSIA (Carbon Offsetting and Reduction Scheme for International Aviation). However, more work besides in the carbon market is required to achieve the intended emission reduction within the set deadlines. Other complementary policies are also needed, particularly in transportation and energy, which impact investments in infrastructure and clean technologies.

This EU ETS global package shall result in a 43% reduction in emissions in 2030 (compared to 2005), consistent with the global reduction target of 40% by the same date. With the new target (55% in 2030, about 1990), the reduction rate has needed to be reviewed, with the corresponding legislative changes, particularly in the maritime and aviation sectors, whose emissions have grown internationally by about 50% since 1990.

In the maritime sector, the increase in emissions in recent decades and the limited options for decarbonisation make it essential to adopt measures starting from the pandemic recovery itself. Although emissions from bunker fuel sold in the European Union are monitored, they are not covered by the EU ETS or any other Union climate legislation and are outside the Paris Agreement.

The Commission has decided to extend the ETS to maritime transport and analyse emissions from buildings, road transport, and potentially all fossil fuels to improve their efficiency, expanding the EU emission market. In parallel with the ETS and the MSR review, innovation and modernisation funds should be set up to support the desired transition and decarbonisation ETS revenues (from the allowances market) will be allocated to EU Member States and the EU budget. For this purpose, port authorities (and, generally, managing bodies) must include port projects in each Member State's national energy and climate plans.

4.2. The Critics of EU ETS on the Impact of the Traffic Deviation and the Recent Houthi Attacks' Impact

Despite the merits of the EU policy in including maritime transport in the EU ETS framework, this issue has led to many different positions.

While there is a generic commitment by ship operators to reduce emissions, a July 2020 study published by the ECSA (European Community Shipowners' Association) and ICS (International Chamber of Shipping) highlights a very significant set of disadvantages that will result from including international shipping in the regional emission market, preferring the global option of a version of Market-Based Measures (MBMs) [20].

Although one can defend the Commission's proposal to include maritime transport in the carbon market, there is an urgent need for a clearer final wording. The options range from intra-European trade to global maritime trade, considering some or all journeys, and a clear direction is crucial at this point.

A somewhat conciliatory hypothesis, which does not greatly affect international maritime trade, could be to link a significant part of the emissions of ocean transport (i.e., long distance). Another directly related aspect is the application of the proceeds of the maritime ETS market to investment in the sector and, if necessary, to benefit from the aviation scheme (CORSIA), which, like shipping, is mainly international.

Given that the IMO is not proceeding towards decarbonisation at equal speed, the ETS Directive has created unfair competition between EU ports and neighbouring non-EU ports because emission unit allowances (EUAs) apply differently or may not apply.

The current plan for the ETS maritime framework has raised serious concerns about the system's extra-EU application, which could lead to carbon and business leakage at the expense of EU ports. The potential impact of the revised ETS Directive, which includes a "port of call" definition that only incorporates ports where ships stop to load or unload

cargo or embark or disembark passengers while excluding calls in "neighbouring container transhipment ports", is a matter of grave concern for EU ports.

However, loopholes allow shipping companies to evade ETS costs related to extra-EU voyages. For instance, they can easily avoid or reduce these costs by calling at ports outside the EU or through transhipment. That means that shipping companies can change the order of their port calls and add a non-EU port before calling in the EU.

We must notice that the EU ETS Implementing Regulation has ruled out this option for some ports, including Tanger Med (Morocco) and East Port Said (Egypt), which are excluded from the definition of "port of call" under the ETS. Nevertheless, this evasion option remains possible in all other non-EU ports.

Another option for shipping companies is transhipment evasion using the hub-and-spoke model. They can drop off cargo in a non-EU transhipment port and then distribute it via smaller (feeder) vessels to EU ports (this is happening now, and simultaneously, with the routes diverted by the Cape of Good Hope due to the Houthi threat). This option may lead to a shift in port traffic and transhipment activities from EU ports to non-EU ports, resulting in significant business and economic losses. Theoretically, this evasion option is possible at any non-EU port, including Tanger Med and East Port Said.

Moreover, the Energy Taxation Directive (ETD) states that EU countries are required to achieve cumulative end-use energy savings for the entire obligation period (running from 2021 to 2030), equivalent to new annual savings of at least 0.8% of final energy consumption in 2021–2023, at least 1.3% in 2024–2025, 1.5% in 2026–2027, and 1.9% in 2028–2030.

This directive is currently under review. The 2021 proposal introduces taxation on fuels supplied by vessels in intra-EU waterborne navigation.

A new taxation is overcome because the bunkering activity triggers taxation. If a ship bunkers in an EU port and is followed by another call at an EU port, all the bunkered fuel will be taxed. Thus, such a proposal would impact EU ports, especially those with important bunkering activities. So, together with the EU ETS, it would imply an extra taxation on top of the ETS charge for short-sea shipping (SSS) within the EU. In the first semester of 2024, the Belgian EU Presidency attempted to achieve an overall political agreement to review the Energy Taxation Directive. However, it failed during the last meeting of the Council Taxation Working Party on April 25, 2024. This was due to opposition and reservations from different delegations regarding the compromise proposal, particularly concerning the maritime pillar. As a result, the file appears to be on hold again [21].

To update the problem, we must address the recent Houthi attack on the regular and tramp shipping routes near the Red Sea together. Over the past ten months, missile attacks by Houthi rebels on ships have forced many shipping routes to be rerouted to avoid the Red Sea. These attacks have resulted in significantly longer voyages for ships bound for Europe, increasing fuel consumption by around 9000 nautical miles or 80% when circumnavigating the Cape of Good Hope.

The impact of this traffic diversion will vary for EU hub southern ports. While western ports in the Mediterranean and Atlantic will benefit from the rerouting, central and eastern ports may experience a decrease in large ship calls, increasing feeder ships and potential carbon leakage in the Mediterranean.

The combined impact of ship rerouting at the Cape of Good Hope and new ETS allowances will affect different port categories in various ways. Western ports may witness a surge in traffic volume, potentially leading to partial coverage of ETS allowances for shippers and possible congestion. Meanwhile, central and eastern Mediterranean ports may experience decreased traffic, congestion on new feeder routes, and additional charges due to the new ETS allowances.

5. The Possible Solutions for EU ETS Revision

5.1. Discussion and Analyses of Some of the Incoming Proposals

In light of these risks and loopholes, the EU Commission must take action to prevent carbon and business leakage, safeguard EU ports, and ensure that the ETS maritime

framework achieves its intended objectives. While the revised ETS Directive includes measures to mitigate the risks of carbon and business leakage, more comprehensive steps must be taken to close the loopholes that enable shipping companies to avoid ETS costs.

The revised ETS Directive includes a review clause that requires the Commission to monitor changes in port traffic and propose measures to address evasion if it is established. However, proactive measures are essential to prevent these risks from materialising.

On 18 June 2024, the member states listed below proposed temporary solutions during the Council meeting for Transport, Telecommunications, and Energy [22]. These solutions aim to prevent unfair competition between ports within the EU and ports outside the EU. The proposed member states (nine) are Portugal, Spain, Italy, Greece, Croatia, Malta, Cyprus, Lithuania, and Romania.

Six proposals by those member states have been launched to balance the unfair situation as follows:

(i) A targeted maritime-related adjustment of the ETS Directive—we will support changes presented by the Commission, as appropriate, directed at keeping the competitiveness of EU ports and shipowners, especially focused on transhipment operations;
(ii) A transitory "stop the clock" clause, for instance, allowing for a deferred period of application of ETS (rejected at once);
(iii) Some concrete measures to contain and avoid the shift of operations from EU ports to neighbouring third countries ports are already in its 2024 report or before if needed; time is of the essence to avoid the shift of operations;
(iv) Insurance for a level playing field in the treatment of the EU transhipment ports and their competitors in neighbouring third countries;
(v) Close monitoring of the list of third-country ports within the 300 nautical miles—for the time being, only two have been identified, but other ports may need building conditions to join this list;
(vi) A consistent action within international fora, especially in the IMO, to implement a market-based measure to reduce greenhouse gas emissions—as members of IMO, we will strive in this direction. We should collectively strive for global action at the IMO level immediately.

Spain has emphasised the need to tax container emissions based on their origin and route rather than the ship they are carried on. This proposal is a new approach that needs to be evaluated [23].

At the same Transport Council meeting, the Commission announced its intention to release a report with the initial monitoring results by the end of this year. It will then assess whether any adjustments are necessary to review the legislation. However, it may be too late to act.

It is crucial to support the proposed measures fully and implement an expedited and additional method for monitoring traffic deviation. If we remove the "stop the clock" clause, which does not align with the decarbonising policy, the remaining proposals must be developed to be effective, as medium-term measures may not prevent traffic deviation in the hub. While some ideas are feasible, it should be noted that regaining a regular line call in a hub port will usually take five to ten years.

It is important to emphasise that transhipment services may be moved outside the EU area, leading to increased distance sailed by vessels and carbon leakage, which undermines environmental goals.

5.2. As a Result to Be Discussed: The New Feasible Proposals in Line with the ETS Directive

In the previous paragraph, it was evident that implementing feasible measures to prevent traffic deviation at the EU hub takes time. A carbon tax at an IMO level should better align with the EU's decarbonisation policy. This situation raises the question of whether there is a practical and simple solution to reduce or eliminate the trend of traffic deviation.

We must consider another measure that is clearly stated as follows:

Until traffic deviations are confirmed, the proposal will delay the accountability and payment of EU Allowances (EUAs), especially in the southern hub EU ports. According to the Directive, the MRV (Regulation No 2015/757) should be submitted by March 2025, while the EUAs should be surrendered by September 2025.

The EU MRV regulation establishes rules whereby shipping companies report the reported carbon dioxide (CO_2) emissions annually and other relevant information from ships calling EEA ports. CO_2 emissions are the largest component of greenhouse gas emissions from maritime transport.

Hence, after 1 January 2024, the scope of the MRV regulation has expanded to include CH4 and N_2O emissions from shipping. According to a study commissioned by the Royal Belgian Shipowners' Association [24], the ETS is fraught with ambiguities and contractual risks for shipowners, operators, and charterers, especially when it states that the responsible entity must be the same for EU MRV and EU ETS.

Thus, this solution seems suitable as it allows for the monitoring and study of the behaviour of the markets and shipping lines without causing any disruption to the parties involved.

The computing/payment of the allowances resulting from the calls in the EU ports less than 300 miles from neighbouring ports shall be suspended and computed in an autonomous account until assertive and accurate monitoring of traffic deviations is performed over those ports. In such a case, several directive articles may support this measure and should be interpreted extensively to prevent/sustain that behaviour.

The directive requires the MRV (Regulation No 2015/757) to be submitted in March 2025 and the EUA to be surrendered in September 2025. This solution seemed appropriate because it allows for monitoring and analysis of the markets and shipping lines' behaviour without causing any disruption to the involved parties

The proposed solution is currently the most suitable option. It will allow current and future studies on monitoring and analysing market and shipping line behaviour, even those that are more detailed and time-consuming. It will also prevent deviation from shipping line plans and should be publicly announced immediately.

However, managing this proposal is challenging due to the changes in the MRV system and accountability. In this case, we must also consider what is clearly stated in the ETS Directive.

Recalling number 3 of article 3gg of the ETS Directive (2003/87/EC), the Commission is in charge of monitoring the implementation of the chapter, especially what concerns the following:

1. "to detect evasive behaviour to prevent such behaviour at an early stage";
2. "monitor impacts regarding, among other things, possible transport cost increases, market distortions and changes in port traffic, such as port evasion and shifts of transhipment hubs, the overall competitiveness of the maritime sector in the Member States, and in particular impacts on those shipping services that constitute essential services of territorial continuity."

In cases of high risk or traffic deviation, the Commission must propose measures to ensure the effective implementation of maritime transport regulations. These responsibilities include measures to address the trend of shipping companies attempting to evade the requirements of this directive.

The directive aims to implement preventive and reactive measures to prevent and contain the potential operations shift from EU ports to neighbouring ports. This aim is to ensure fair treatment between EU transhipment ports and their competitors and prevent carbon leakage. Specifically, article 3gg, point 3 of the directive, proposes an immediate and expedited method of assessing deviations for the main hub ports on the southern flank of the EU. This text is intended to prevent traffic loss to non-European countries, such as North Africa and Turkey, and maintain EU ports' competitiveness.

On the other hand, an expedited method must be implemented to address the traffic congestion at the main EU ports near the EU border within a 3- to 6-month timeframe.

This approach is essential to activating the Commission initiative because waiting for a full report will take too long (as the Commission proposes, one year).

It is urgent to amend the ETS Directive or expedite the Commission's action to contain the forecasted diversion of regular container lines near non-EU ports. This diversion increases shipping emissions and degrades the logistics trade and security chain.

Preventive and reactive measures must be implemented to avoid and contain the operations shift from EU ports to neighbouring ports. This situation will ensure a level playing field in treating the EU transhipment ports and their competitors and prevent carbon leakage.

The proposed action, specifically outlined in number 3 of article 3gg of the directive, suggests an immediate and expedited method of deviation assessment on the main hub ports on the southern flank of the EU.

This action is designed to prevent traffic loss to non-European countries, thereby maintaining the competitiveness of EU ports and ensuring a level playing field for EU transhipment ports and their competitors.

6. Conclusions

The European Commission's "European Green Deal" communication, sent on 11 December 2019, proposes a comprehensive strategy to address climate and environmental challenges. The plan aims to achieve sustainable growth through new transformative policies and measures that are citizen-focused, participatory, equitable, and inclusive, ensuring no one is left behind.

The Commission aims to develop a roadmap for implementing the EGD aligned with the 2030 Agenda and the UN Sustainable Development Goals.

The European Union is taking significant steps to combat climate change by amending Directive No 2003/87/EC to include shipping emissions in the EU ETS. This initiative aims to reduce greenhouse gas (GHG) emissions by at least 55% by 2030. The EU ETS has operated since 2005 and was the world's first carbon market.

The new EU ETS legislation will result in a 43% reduction in emissions in 2030 compared to 2005, consistent with the global reduction target of 40% by the same date. With the new target of 55% in 2030, the reduction rate needs to be reviewed, and legislative changes must be made, particularly in the maritime and aviation sectors. These sectors' emissions have grown internationally by about 50% since 1990, making adopting measures from pandemic recovery essential.

The cost of the EU ETS in shipping is a significant concern and will vary based on the type and segment of the ship. The full financial impact of the system will be seen over the next few years as it is phased in.

According to an analysis by Clarksons Research, a VLCC sailing from Ras Tanura to Rotterdam will require approximately USD 200,000 in allowances this year, representing 4% of current freight costs, based on 2022 trading patterns and an EUA price of USD 90 per ton. These costs are expected to increase to 10% in 2026 when the EU ETS is fully implemented [25].

These figures demonstrate the substantial financial incentives established by the EU ETS to reduce greenhouse gas emissions. They also underscore the importance of using effective technology to enhance fuel efficiency. Even a minor reduction in fuel consumption can significantly impact companies' EU ETS expenses, enabling them to remain competitive.

Given that the International Maritime Organization (IMO) is not progressing towards decarbonisation at an equal pace, the ETS Directive has created significant unfair competition. Therefore, it is crucial to implement measures that ensure a level playing field and a fair transition towards a low-carbon economy.

This study proposes two effective measures, supported by research and existing legislative documents:

(a) Payment of EU Allowances (EUAs) shall be delayed until it is confirmed whether traffic deviations are occurring. Postponing EUA accountability and payment could

be considered, especially in the south hub EU ports, to avoid traffic deviations. Monitoring should be conducted to confirm and measure their existence.

(b) Based on article 3gg of the directive, the Commission shall take immediate action to expedite the assessment of deviations in the main hub ports on the southern flank of the EU within three to six months. This action aims to prevent traffic loss to non-European countries (specifically North Africa and Turkey) and maintain the competitiveness of EU ports.

Currently, we must also consider the increasing costs and ETS credits. For example, container ship transits from the Gulf of Aden to the Mediterranean decreased by 91% in the first half of December due to the diversion of around 620 vessels. Additionally, bunker and crude tanker transits decreased by 37% and 31%, respectively, due to attacks by the Houthis. Routing vessels from Asia to Europe via Africa adds approximately nine to fourteen days to the original itinerary.

The increased speeds of these ships are intended to compensate for at least some of the longer distances, maintaining sailing times and the additional cargo needed to and from Europe at adequate levels. However, this impacts bunker consumption and emissions, affecting the ETS credits.

Tanger Med and Algeciras ports are almost congested in the EU south and nearby regions, with more requests to handle extra cargo than planned. However, the impact is global: major transhipment hubs, such as Singapore, face severe congestion and declining port productivity due to a significant change in regular line patterns and vessel rerouting.

Carriers and shippers will continue to face challenges and concerns in the remaining year and probably the next one, with most companies still diverting around Africa and facing increasing logistic costs. Combined with the ETS diversion, this diversion would cause multiple changes in maritime patterns and the logistic chain.

An amendment to the ETS Directive is urgently needed. Alternatively, the Commission should take expedited action to contain the forecast diverting of regular container lines near non-EU ports. This diversion is increasing emissions from shipping and degrading the logistics trade and security chain.

Preventive and reactive measures should be implemented to avoid and contain the shift of operations from EU ports to neighbouring ports, ensure a level playing field in treating the EU transhipment ports and their competitors, and prevent carbon leakage.

It should be noted that a "perfect storm" regarding shipping costs to Europe seems to be on the horizon. Therefore, the European Commission must immediately prevent this unfair competition and level the playing field.

Marcus Aurelius, the Roman Emperor, noted that we have to act when he recalled, "Waste no more time arguing about what a good man should be. Be one".

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Nomenclature

AFID	Alternative Fuel Infrastructure Directive—Directive No 2014/94/EU
AFIR	Alternative Fuel Infrastructure Regulation
AIS	Automatic Identification System
CBAM	Carbon Border Adjustment Mechanism
CEF	Connecting Europe Facility
CII	Carbon Intensity Indicator
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation

COSS	Committee on Safe Seas and the Prevention of Pollution from Ships
CSND	Clean Sea Net Data
ECSA	European Community Shipowners' Association
EEDI	Energy Efficiency Design Index
EES	Entry–Exit System
EEXI	Efficiency Design Index for Existing Ships
EGCS	Exhaust Gas Cleaning System
EGD	European Green Deal
EMSA	European Maritime Safety Agency
ERTMS	European Rail Traffic Management System
ETD	Energy Taxation Directive
ETIAS	European Travel and Information System
ETS	Emission Trade System
EU Taxonomy	Taxonomy of the European Union
EUAs	Emission Unit Allowances
FSC	Flag State Control
GDP	Gross Domestic Product
GFS	GHG Fuel Standard
GHG	Greenhouse gas
ICS	International Chamber of Shipping
IMO	International Maritime Organization
IPCC	Intergovernmental Panel on Climate Change
LDCs	Least Developed Countries
LRIT	Long-Range Identification and Tracking
MAI	Maritime Accident Investigation
MARPOL	International Convention for the Prevention of Pollution from Ships
MBM	Market-Based Measure
MEPC	Marine Environment Protection Committee
MGO	Marine Gas Oil
MRV	Monit., Report. And Verifying CO_2 Emission Maritime Transport
MSR	Market Stability Reserve
NCE	National Emission Ceilings Directive—Directive No 2016/2284/EU
OPS	On-Shore Power Supply
PFCs	Perfluorocarbon Emissions
PRF	Port Reception Facilities Directive—Directive No 2019/883/EU
PSR	Port Service Regulation
RED	Renewable Energy Directive
SEEMP	Ship Energy-Efficiency Management Plan
SIDS	Small Island Developing States
SLLP	Poseidon's Principles and the Sustainability Linked Loan Principle
SSN	Safe Sea Net
SSS	Short Sea Shipping
TEG	Technical Expert Group for Taxonomy
TEN-E	Trans-European Energy Network
TEN-T	Trans-European Transport Network
UNCTAD	United Nations Conference on Trade and Development
UNFCCC	United Nations Framework Convention on Climate Change

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