Reducing Greenhouse Gas Emission from vessels through Climate Quotas

May coastal states enforce jurisdiction over foreign vessels within their maritime zones and ports in regards to GHG emission and climate quotas?

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«*Greenhouse gas emissions keep growing. Global temperatures keep rising. And our planet is fast approaching tipping points that will make climate chaos irreversible. We are on a highway to climate hell with our foot on the accelerator*»[1]

[1] United Nation, Secretary-General`s remarks on High-Level opening of COP27.

Abbreviations

CDEM	Design, construction, manning, equipment standards
EEZ	Exclusive Economic Zone
GHG	Greenhouse gas
ICJ	International Court of Justice
ILC	International Law Commission
IMO	The International Maritime Organization
ITLOS	The International Tribunal for the Law of the Sea
MBM	Marked based measures
MEPC	Marine Environmental Protection Committee
PCIJ	Permanent Court of International Justice
UNCLOS	The United Nation Convention on the Law of the Sea
UNFCCC	United Nations Framework Convention on Climate Change
WTO	World trade organisation

Content

1.Introduction

1.1.Statement of the problem and its relevance

The development of standards to reduce greenhouse gas (GHG) emission from vessels presents numerous challenges of a technical, regulatory, and political nature.[2] The primary function of The United Nations Convention on Law of the Sea (UNCLOS)[3] is to ensure that a consistent set of standards are implemented globally.[4] Despite UNCLOS advocating for global measures to regulate shipping, regional regulations persists as a legal alternative. However, given the global nature of climate change, international institutional have the most significant influence.

There was a significant 9,6% surge in total shipping GHG emissions from 2012 to 2018.[5] This upward trend is not consistent with the international community`s pledge to keep the rise in global temperature well below 2 degree Celsius.[6] The Emission Gap Report 2022[7] disclosed that we are falling to meet the targets established in the Paris Agreement[8], with no realistic path to 1,5 degrees Celsius in place.[9] To prevent a climatic catastrophe, a rapid systemic reform is necessary. The International Maritime Organization (IMO) has been working on reducing shipping-related GHG for over two decades, yet the progress remains slow. The recent developments such as the Paris Agreement combined with developments at the IMO offers hope for better institutional interactions and coverage on divisive issues. However, the urgent need for concrete emissions reductions in the shipping sector remains.[10]

Recognizing this urgency, this thesis focuses on port and coastal states ability to control GHG emission from foreign vessels transiting to or from their port through the implementation of climate quotas. In response to these challenges, market- based measures like climate quotas are seen as necessary to achieve climate targets, as technological and operational measures alone

[2] Ringbom,"Regulating Greenhouse gases from ships",129.
[3] The United Nation Convention on the Law of the Sea(UNCLOS) Done at: Montego Bay. Date enacted: 10.12.1982 (Entered into force: 16.11.1994).
[4] Ringbom,"Regulating Greenhouse gases from ships",129.
[5] International Maritime Organization (IMO), *fourth IMO GHG Study* (2020).
[6] UN Environment programme(UNEP), *The Emission Gap Report 2022*(UNEP 2022).
[7] UN Environment programme(UNEP), *The Emission Gap Report 2022*(UNEP 2022.
[8] Paris Agreement, Paris Climate Change Conference, COP 21. Done at: Paris. Date enacted 12 December 2015, (Entered into force 4 November 2016).
[9] UN Environment Programme(UNEP), *The Emission gap Report 2022*(UNEP 2022).
[10] Ringbom, "Regulating Greenhouse gases from ships",130.

may not be sufficient. These quotas set emission limits or targets with the aim to incentivize and enforce emission reductions in the shipping industry, contributing to global efforts to mitigate climate change. A pertinent query then arises concerning whether such regulations can extend to the vessels voyage to and from a port, and if this interferes with navigation rights under international law.

The conflicting principles of territorial sovereignty and freedom of the high seas have caused controversy in maritime law.[11] UNCLOS provides a framework to protect the interests of both coastal and flag states, seeking to balance their interests through the concept of "due regard". However, the historic competition between *mare clausum* and *mare liberum* still influence state priorities. [12] Coastal states often priorities sovereignty as the guiding principle due to concerns about vessel-source pollution, while flag states contest the right to free navigation. The thesis takes inspiration from the "Norstar" [13] case between Panama and Italy, which exemplifies how coastal state authority can impede freedom of navigation. The case will be analysed further in the thesis.

1.2.Research question

This dissertation examines the access of a coastal State to enforce jurisdiction over foreign vessels in regards to GHG emission. In light of the aforementioned observations, the main question in this dissertation is; *May coastal states enforce jurisdiction over foreign vessels within the maritime zones and ports in regards to GHG emission and climate quotas?*

1.3.Limitation

The thesis analyses the extent to which coastal states possess perspective and enforcement jurisdiction over foreign vessels operating within their maritime zones. Due to relevance, internal waters and ports will be the main maritime zones under examination in this study. The analysis is also conducted from the perspective of an impartial costal state and does not focus on any particular state. Additionally, the term "foreign vessels" is significant as it underscores the international scope of this study. The term contrasts with "national vessels", indicating that the dissertation concentrates on how coastal states impact the navigational freedom of foreign

[11] Brown, *The International Law of the sea* (Aldershot: Dartmouth, 1994),6.
[12] Tiberg, Schelin, *Tiberg & Schelin On Maritime & Transport Law*,41.
[13] Judgement 10.April 2019 (ITLOS), M/V "Norstar" (No.25) Case (Panama v. Italy).

vessels. In relation to "foreign vessels", the jurisdiction of the flag state is taken into account. The type of vessel, whether based on ownership or activity, influences a coastal state`s authority over navigational rights. The UNCLOS, differentiates between commercial vessels, non-commercial government vessels, and naval or military ships. Nonetheless, the focus of this dissertation remains on commercial vessels. The term "voluntarily" is frequently used throughout the study, indicating that situations involving force majeure or distress, where vessels does not voluntarily enter the internal waters or ports, are not considered within the scope of this thesis. Considering the scope of this thesis, the examination of whether UNCLOS regulates GHG emissions will not delve into assessing if GHG fits within the various relevant articles.

1.4.Methodology and central source material

This thesis will primary use a doctrinal legal approach, emphasizing teleological and normative analysis[14] of relevant applicable law. To determine the present geographical extent and scope of coastal state jurisdiction over GHG emission, conventional rules incorporated in UNCLOS together with other treaties such as the Paris Agreement, are analysed in combination with state practise.

Firstly, a formal or treaty-based approach is employed to analyse the regime interactions. This approach focuses on the instances where the interactions are cultivated and directed by legal tools or methods that are integral to the normative structures of the corresponding treaties.[15] One such example is the "rules of reference", a distinct attribute of UNCLOS. These rules contribute to the dynamic character of the treaty, positioning it as a "living treaty".[16] Moreover, UNCLOS includes conflict or compatibility provisions defining its relationship with other agreements. [17] In particular, Article 237 of UNCLOS adopts a position of "openness and complementary" towards established and subsequent legal frameworks aimed at preserving the marine environment.[18] However, this article is applicable solely to Part XII of UNCLOS.

[14] Trevisanut, Giannopoulos and Roland., *Regimes Interactions in Ocean governance: Problems, Theories and Methods*,12.
[15] Trevisanut, Giannopoulos and Roland., *Regimes Interactions in Ocean governance: Problems, Theories and Methods*,12.
[16] Holst, Rozemarijn Roland, "Law of the Sea: UNCLOS as a Living Treaty",chapter 3.
[17] Trevisanut, Giannopoulos and Roland.,*Regime Interactions in Ocean governance: Problems, Theories and Methods*,12.
[18] Trevisanut, Giannopoulos and Roland.,*Regime Interactions in Ocean governance: Problems, Theories and Methods*,12.

Additionally, Article 311 of UNCLOS outlines the relationship between UNCLOS as a comprehensive treaty and other legal instruments. These articles serves as the foundation for evaluation the interplay between UNCLOS and the Paris Agreement.

Another legal method for regime interaction is the interpretation of international agreements.[19] The Vienna Convention[20] Article 31(3)(c), supports this method, providing a set of valuable interpretation tools. Considering the intricate normative context of ocean governance, treaties do not function in isolation. They must be construed and implemented within the wider legal framework that is prevalent at the of interpretation.[21] The Vienna Convention provides a set of interpretation tools that mandate the interpreter to consider the evolution of treaty provisions and subsequent normative developments.[22] This necessitates consideration of their objectives and purposes, subsequent agreements and practices, as well as any other pertinent international law applicable between the involved parties.[23] Article 31(3)(c) of the Vienna Convention institutes the principle of systematic integration, necessitating the integration of these external rules when interpreting a treaty provision in a situation governed by an external set of rules. Rather than providing detailed regulation within the convention, UNCLOS incorporates standards set under other instruments and applies them to its parties.[24] Consequently, the due diligence stipulations as detailed in Articles 192, 194, 207, and 212 of UNCLOS must be interpreted in light of the Paris Agreement. This necessity arises due to the integral relevance these provisions have to climate change and pollution stemming from GHG emissions, issues which are at the core of contemporary climate change jurisprudence.

Through the collective application of these methodologies, this study endeavours to illuminate the intricate normative interplay between the Paris Agreement and UNCLOS. Yet the interactions between these instruments is not symmetrical, given their unique legal characteristics. UNCLOS, being a more comprehensive and dynamic framework convention, contrasts with the Paris Agreement more recent, specific set of rules. Consequently, the main

[19] Trevisanut, Giannopoulos and Roland.,*Regime Interactions in Ocean governance: Problems, Theories and Methods*, 15.
[20] Vienna Convention on the Law of Treaties, Done at: Vienna. Date enacted 23 May 1969 (Entered into force:27 January 1980) 1155 UNTS 221.
[21] Vienna Convention, Article 31.
[22] Vienna Convention, Article 31.
[23] Trevisanut, Giannopoulos and Roland., *Regime Interactions in Ocean governance: Problems, Theories and Methods*, 15; Vienna Convention, Article 31.
[24] Scott, "Ocean Acidification: A due diligence obligation under the LOSC?", 114.

focus lies on how considerations related to GHG emission and climate change are integrated within the UNCLOS framework.

Article 38 of the Statue of the International Court of Justice (ICJ)[25] provides a useful foundation for the identification and selection of pertinent sources of international law. This article, acting as the principal methodological underpinning of this thesis, enumerates the legal sources acknowledged by international law. The research is primarily based on international conventions as outlined in Article 38(1)(a). The Paris Agreement and UNCLOS are extensively referenced, but other legal instruments are also examined to fully comprehend the connections between these two instruments and there place within the larger international legal system. To comprehend the evolution, interplay, and interpretation of the legal instruments in focus, an extensive body of international case law is also examined. Case law serves as an additional source, providing interpretative guidance when identifying relevant legal concepts. In order to clarify the complicated legal challenges, several academic publications are cited throughout the thesis.

1.4.1.UNCLOS

Prior to delving into the specific jurisdictional rights of coastal states, it is pertinent to briefly expound on the fundamental structure and inherent characteristics of UNCLOS. UNCLOS entered into force in 1994. According to the UN General Assembly, UNCLOS III should consider:

> A broad range of related issues including those concerning the regimes of the high seas, the continental shelf, the territorial sea(...)and contiguous zone, fishing and conservation of the living resources of the high seas(...), the preservation of the marine environment (including the prevention of pollution) and scientific research;(...).[26]

The UNCLOS which replaced the Geneva Conventions, is meant to be a "Constitution for the Oceans"[27] and covers a considerably larger variety of topics. The UNCLOS creates a legal framework for international environmental law within which several regulatory instruments

[25] Statue of the International Court of Justice (adopted 26 June 1945, in force 24 October 1945) USTS 993.
[26] UNGA Res. 2750 (C) (XXV), of 17 December 1970, para C (2).
[27] Treves,"United Nations Convention on the Law of the Sea", *Audiovisual Library of international law.* 2008. https://legal.un.org/avl/ha/uncls/uncls.html.

function through general obligations, a distribution of jurisdiction, and a rule of reference.[28] Part XII of UNCLOS, titled "Protection and Preservation of the Marine Environment", specifically deals with pollution sourced from vessels. However, the zonal sections of UNCLOS also contains relevant regulations. The package nature of UNCLOS and its numerous cross-reference highlights the close relationship between vessel-source pollution and other issues, such as navigation rights. The emphasis on responsibilities over rights and on conserving the entire marine environment rather than focusing solely on individual states interests are distinctive features of Part XII. [29]

1.4.2. Paris Agreement

It is crucial to determine the legal obligations within the Paris Agreement before examining the interaction between the Paris Agreement and UNCLOS XII. The Paris Agreement does not specifically mention the maritime industry's commitment to support its objectives or the IMO`s particular responsibility in this regard.[30] However, there are elements in the Paris Agreement that could impact shipping.

Though this thesis does not provide an exhaustive analysis, certain elements warrant special attention. Primary among these is the understanding that the Paris Agreement should not be dismissed as soft law, suggesting that it lacks legal enforceability.[31] It is a legally binding treaty, governed by the Vienna Convention on the Law of Treaties.[32] The Paris Agreement contains "a mix of hard, soft and non-obligations between which there is dynamic interplay" [33]. Instead of imposing mandatory emission reduction requirements, parties must set goals for climate stabilization. Each party is obligated to take "ambitious" measures that "represent a progression over time" and are intended to achieve the Agreement`s objectives.[34] As a result, minimal or no action regarding GHG emission is not an option for states. These elements provides flexibility in determining the measures to be implemented while simultaneously setting a clear goal and emphasizing that no state or group of states is exempt from reducing emission.[35]

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[28] Molenaar, *Coastal State jurisdiction over vessel-source pollution* (The Hauge: Kluwer Law International, 1998), 51.
[29] Molenaar, *Coastal state jurisdiction over vessel-source pollution*, 51.
[30] Ringbom,"Regulating Greenhouse Gases from ships", 136.
[31] Boyle, "Protecting the Marine Environment from Climate Change", 95.
[32] Rajamani, "The 2015 Paris Agreement: Interplay Between Hard, soft and non-Obligations", 351-352.
[33] Rajamani, "The 2015 Paris Agreement: Interplay Between Hard, soft and non-Obligations", 352.
[34] The Paris Agreement, Article 3.
[35] Ringbom, "Regulating greenhouse gases from ships", 137.

1.5.Structure of the thesis

There are different problems that must be addressed before finding an answer to the research question. The structure of the thesis is arranged into four district part: Chapter 2 analyses the jurisdiction of a state, paying particular attention to what the state may impose on a foreign vessel. This chapter seeks to establish the jurisdiction in the relevant maritime zones and how far the jurisdiction may reach. It carefully examines the prescriptive and enforcement jurisdiction of a port state, conducting a detailed analysis to ascertain the scope of this jurisdiction. Chapter 3 is divided into two sections. The initial segment begins with a thorough exploration of UNCLOS, providing a succinct summary of the "constitution of the ocean" while emphasizing its evolving characteristics. This part of the chapter discusses the fundamental provisions of Part XII, particularly those pertinent to GHG emission and climate change. It evaluated the degree to which UNCLOS explicitly regulates GHG emissions. Following this evaluation, the chapter delves into the responsibilities UNCLOS places on states to safeguard the marine environment from the negative impacts of climate change. This segment further analyses the normative connection between UNCLOS and the Paris Agreement. A central question of interest is whether a State`s obligation to safeguard and preserve the marine environment under UNCLOS Part XII can be met solely through adherence to the Paris Agreement. This question forms a pivotal point of discussion within this chapter.

Expanding on the research conducted in the preceding chapters, Chapter 4 analyses the potential for a port state to impose climate quota regulations as a port enter requirement. The extent to which such measures can be applied is also examined. Finally, Chapter 5 presents a series of concluding reflections.

2.Jurisdiction

2.1.Introduction

Before analysing a state`s right to impose GHG restrictions on foreign vessels, it is important to examine the concept of jurisdiction. The general legal competence of a state finds its expression in the concept of jurisdiction, which exists by virtue of a state's sovereignty.[36] In contrast to "sovereignty" the term "jurisdiction" can variate in meaning but it is often more concrete and specific.[37] This dissertation distinguishes between prescriptive and enforcement jurisdiction. Prescriptive jurisdiction is the power to create rules while enforcement jurisdiction is the power give these rules effect.

A sufficiently close or substantial link between the person, fact or event and the state exercising jurisdiction is the most fundamental rule in order to be entitled to exercise jurisdiction.[38] Thus, the existence of a valid or genuine relation justifies jurisdiction based on a specific principle that represents the nature of the link, such as the territorial principle. The adequacy of the link is frequently assessed in relation to current bases of jurisdiction, upholding the notion of state sovereignty. These considerations can ultimately be expressed in restriction upon jurisdiction in three ways*; ratione loci*, *ratione materiae* and *ratione personae*.[39] The scope of jurisdiction in the context of coastal state jurisdiction over emission differs in each maritime zone, depending on the kind of subject matter and the type of vessel. Furthermore, It should be distinction between territorial and extra-territorial jurisdiction. Territorial jurisdiction is jurisdiction over activities that occurred within a state's territory, whereas extra territorial is jurisdiction over activities occurring beyond it.[40] Both principles will be examined closer in the examination of jurisdiction in the different maritime zones.

Before exploring the right to enforce jurisdiction, it is necessary to distinguish between the parties involved in jurisdiction over vessel pollution and examine the jurisdictional balance

[36] Molenaar, *Coastal state jurisdiction over vessel-source pollution*,75.
[37] Molenaar, *Coastal state jurisdiction over vessel-source pollution,*75.
[38] Molenaar, *Coastal state jurisdiction over vessel-source pollution*,76; Mann, *The Doctrine of Jurisdiction in international Law* (A.W.Sjithoff, 1964), 83.
[39] Molenaar, *Coastal state jurisdiction over vessel-source pollution*,76.
[40] Molenaar, *Coastal state jurisdiction over vessel-source pollution*,75.

under UNCLOS. International law assigns jurisdiction in this area to states operating as various capacities, including as coastal, port and flag states.[41]

2.2.Flag state jurisdiction and coastal state jurisdiction

There are two conflicting interest in the UNCLOS, freedom of the sea and coastal state jurisdiction. A state may have jurisdiction over the sea as a territorial state or as a flag state depending on whether the state has jurisdiction based on the ships flag or because it is a coastal state.

A ship is not an international legal subject on itself, and must always be connected to a state. It should always bear the flag of a particular state. The flag identifies the nationality of the ship and indicates which state that may exercise flag state jurisdiction over the vessel.[42] Based on the nationality principle, flag states have exclusive prescriptive and enforcement jurisdiction under customary international law over emission from vessels in regards to vessels flying their flags, regardless of where the vessel is.[43] While there is shared jurisdiction with another state, this applies when its vessels are situated within the ports, territorial sea, or internal waters of a different state. Coastal state jurisdiction over foreign ships will gradually decrease the closer to the high seas.

Primarily, a coastal state is exercised jurisdiction over its maritime zones. The coastal state has jurisdiction over vessels that violates their law while navigating therein. A coastal state has two enforcement options: within one of its ports or at sea. UNCLOS Article 202(1) regulates enforcement actions within a port. The enforcement actions rely on the voluntary presence of the alleged offender within the port. This means that the enforcement jurisdiction of the coastal state can be exercised over foreign vessels present in its ports, assuming they are there voluntarily. Enforcement at sea is governed by article 25(1), 27, 220(2-8), 233 and 234. Enforcement action at sea are subject to various provisions, depending on the circumstances and location of the alleged offense. Article 25(1) asserts the authority of coastal states to take necessary measures to prevent passage of foreign ships through its territorial sea if such passage is not innocent. UNCLOS Article 220(2-8) address enforcement measures related to pollution

[41] Molenaar, *Coastal state jurisdiction over vessel-source pollution*,92.
[42] UNCLOS, Article 91.
[43] Molenaar, *Coastal state jurisdiction over vessel-source pollution,*95.

from vessels, including boarding, inspection, detaining and monetary penalties. While UNCLOS Article 233 concentrates on enforcement measures in instances of pollution by dumping, asserting that the flag state and coastal state have joint jurisdiction in enforcing laws and regulations enacted in accordance with UNCLOS. The coastal states deal with violations committed in lateral passage and also broadly with violations inside there maritime zones because of the combination of enforcement in port and enforcement at sea.[44] A opposed to this, port State jurisdiction, in theory, has jurisdiction over violations committed beyond the coastal states maritime zones. Based on the vessel`s voluntary presence within ports, a port state may exercise its enforcement jurisdiction.[45]

2.3.Right to enforce jurisdiction

2.3.1.Introduction

The legal basis for the extent of the enforcement jurisdiction of the coastal and port state depends on the zone in which the violation takes place combined with where the ship is at the time of enforcement. The balance between the interests of the flag state and the coastal and port states interest is crucial. Coastal and port state jurisdiction increases as the violation and enforcement occur closer to land, while the protection of freedom of navigation strengthens closer to the open sea. This chapter investigates the rights of coastal states under UNCLOS to regulate pollution and implement climate quotas for foreign vessels, primarily focusing on ports and internal waters. For a thorough understanding, a brief overview of jurisdiction in various maritime zones is provided.

Maritime zones are measured from the coastal state`s baseline. The first zone, known as internal waters, lies within this baseline and is subject to the state`s territory.[46] Within these waters, the coastal state exercises full sovereignty, just as on land. As such, foreign vessels fall under the complete prescriptive and enforcement jurisdiction of the coastal state. The next zone is the territorial sea, which is part of the coastal state`s territory and falls under its sovereignty over land and sea territory.[47] Within this zone, the coastal state has all the rights and responsibilities

[44] Molenaar, *Coastal state jurisdiction over vessel-source pollution*,93.
[45] Molenaar, *Coastal state jurisdiction over vessel-source pollution*,93.
[46] UNCLOS, Articel 8(1).
[47] UNCLOS Article 2(1).

inherent to its sovereignty, such as controlling navigation and emission.[48] However, foreign vessels retain certain privileges, notably the right of innocent passage.[49] Beyond the territorial sea, vessels are in theory accorded the freedom of navigation. The next maritime zone is the Exclusive Economic Zone (EEZ), which extends up to 200 nautical miles from the baseline.[50] The coastal states does not have sovereign rights over the EEZ but maintains "sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources" [51] within it. Moreover, the coastal states has jurisdiction over the EEZ for the "protection and preservation of the marine environment" [52]. As for the contiguous zone, UNCLOS Article 33 appears to have no relevance to the coastal state`s jurisdiction over emission. Lastly, we have the high seas. As per UNCLOS Article 86, the high seas constitute the portions of the ocean not subject to any state's jurisdiction. The principle of freedom of the high sea, *Mare liberium*, applies in this area.[53]

With the categorization of different maritime zones, the interrelationships becomes more apparent. As stated previously, this chapter will analyse the jurisdiction of coastal states with concerning ports and internal waters. The analyse will differentiate between legislative and enforcement jurisdiction, focusing on violations of emission regulations and climate quotas. Regulations pertaining to emission and climate quotas may influence zones extending beyond ports and internal waters. The scope of prescriptive and enforcement jurisdiction will be the final topic evaluated in this chapter.

2.3.2.Ports and Internal waters

2.3.2.1.Introduction

Internal waters is defined as the "waters on the landward side of the baseline of the territorial sea".[54] They are often equated with the state`s land territory in terms of legal status. Within these internal waters and ports, the coastal state exercise full territorial sovereignty, meaning foreign vessels have no inherent right of passage.[55] Apart from a few exceptions which are not

[48] Crawford, *Brownies principles of public international law* (New York: Oxford University Press, 2019), 250.
[49] Crawford, *Brownies principles of public international law*, 250.
[50] UNCLOS, Article 55 and 57.
[51] UNCLOS Article 56(1)(a).
[52] UNCLOS Article 56 (1)(b)(iii).
[53] UNCLOS Article 87.
[54] UNCLOS Article 8 section 1.
[55] UNCLOS article 2(1), 8, 11 and 12; Molenaar, *Coastal state jurisdiction over vessel-source pollution*,101-102.

relevant in the present context[56], a state`s jurisdiction is consequently not limited with respect to ships present in its ports or internal waters.[57] The coastal state enjoys complete prescriptive jurisdiction within its internal waters. Despite this, the right to deny or condition access to ships has been a matter of debate in international law.[58] Although its customary to keep ports open, general international law does not acknowledge a right of access to ports. As Hakapää pointed out, "It might be desirable to keep the ports open anytime and anywhere, but form a legal point of view there is hardly any obligation to do so" [59]. Some legal scholars suggest a presumption of maintaining port openness to foreign traffic, but they rarely discuss its legal implication.[60]

The coastal state can set conditions for port entry, especially concerning ship safety and environmental protection standards. This right has been acknowledged broadly in state practice. In the Nicaragua case the ICJ confirmed that the coastal state can regulate port access due to its sovereignty by stating; "It is by virtue of its sovereignty that the coastal state may regulate access to its ports."[61]

2.3.2.2.Prescriptive jurisdiction

An examination will follow on the authority of states to set conditions for vessels entering their ports, the scope of territorial sovereignty, and the restrictions set by UNCLOS on port and coastal state jurisdiction, particularly with regards to GHG emissions and climate quotas.

A gap exists in the convention regarding states prescriptive rights to enforce conditions on ships entering their ports or internal. UNCLOS does not directly address the right of port states to deny access to vessels, suggesting that this matter is regulated under general international law.[62] Article 255, however, implies that there is no inherent right of entry. This Article states that

[56] UNCLOS article 8(2) establishes geographical exceptions. If areas that have not previously been considered as internal waters are delimited by the establishment of strait baselines there shall exist a right of innocent passage in these waters. Situations of Force majeure and distress is also two exemption. See Molenaar*, Coastal state jurisdiction over vessel-source pollution*,101.
[57] Ringbom, *The EU Maritime Safety Policy and International Law* (Martinius Nijhoff Publishers, 2008) Brill Academic Publishers,204.
[58] Ringbom, *The EU Maritime Safety Policy and International Law,*204.
[59] Hakapää, *Marine Pollution in international Law, Material Obligations and Jurisdiction with Special Reference to the Third United Nations Conference on the Law of the Sea,* (Helsinki: Suomalainen Tideakatemia, 1981)163.
[60] Ringbom, *The EU Maritime Safety Policy and International law*,208.
[61] Judgement 27 June 1986 (I.CJ.) Reports, Military and Paramilitary Activities in and against Nicaragua (Nicaragua v. United States of America), para 213.
[62] Ringbom, *The EU maritime safety policy and international law*,212.

"States shall endeavour to adopt reasonable rules, regulations and procedures(…)to facilitate (…) access to their harbours and promote assistance for marine scientific research(…)[63]". The territorial sovereignty of the state, extending to ports and internal waters, is the foundation for this discussion.[64] The absence of UNCLOS restrictions on prescriptive jurisdiction in ports and internal waters leads one to believe that it is unrestricted. Furthermore, the convention indirectly endorses states` right to enforce additional entry conditions.

Firstly, Article 25(2) endows coastal states with the authority to "take the necessary steps to prevent any breach of the conditions to which admission of those ships to internal waters or such a call is subject». The language offers no restrictions on this jurisdiction regarding how far local laws may go; therefore, there is no question about the states jurisdiction to impose entry requirements on foreign vessels.[65] Secondly, Article 211(3) outlines specific procedural criteria for "states which establish particular requirements for the prevention, reduction and control of pollution of the marine environment as a condition for the entry of foreign vessels into their ports or internal waters". The phrase "particular requirements" implies that these criteria might deviate from the generally accepted international standards. The remaining portions of Article 211 additionally recognize the possibility for coastal states to coordinate these requirements at a regional level. It also imposes a responsibility on flag states to ensure that vessels navigating within a coastal state`s territorial sea offer information regarding their intended port of arrival and compliance with the relevant port entry conditions.[66] This indicates that coastal states may regulate foreign ships emission, potentially through climate quotas.

However, UNCLOS sets out some limitations on the port and coastal state jurisdiction. These constraints are grounded in the principles of non- discrimination, good faith, and non-abuse of rights. [67] Any imposed condition should be fair to all vessels, regardless of their nation of origin. As long as a state regulates emission in a general non-discriminatory manner, it is unlikely the regulation would be deemed abusive. Ringbom point out that "the mere fact that the requirement in question may not be the optimal or least intrusive method of addressing those concerns hardly constitutes an abuse of right" [68].

[63] UNCLOS, Article 255; Ringbom, *The EU maritime Safety policy and international law*,212.
[64] UNCLOS, Article 2(1).
[65] Ringbom,*The EU Maritime Safety Policy and International law*, 213.
[66] Ringbom,*The EU Maritime Safety Policy and International law*, 213.
[67] UNCLOS, Article 300 and Article 227.
[68] Ringbom,*The EU Maritime Safety Policy and International Law*, 227.

When a ship voluntarily enters the ports or internal waters, it is considered to have accepted the coastal or port state`s conditions. The vessel can decide whether to accept these conditions and enter the port. Each state has always had sovereignty over its port, hence this could be seen as a codification of customary international law. Based on this analyse, there`s no legal principle prevents a state from enforcing stricter regulations, provided domestic rules do not contradict the above-mentioned general restrictions on prescriptive jurisdiction.

2.3.2.3.Enforcement jurisdiction

This section discusses the enforcement jurisdiction of a coast state in ports and internal waters, including considerations of GHG emission and climate quotas. The relevant provisions for enforcement jurisdiction are found in Part XII of UNCLOS, which focus on the protection and preservation of the marine environment. It`s important to consider the broad enforcement authority granted to states over foreign vessels entering their ports voluntarily under general international law when interpreting UNCLOS. The enforcement provisions in Part XII originates from the need to specify limitations on port state jurisdiction and to include safeguards against the misuse of enforcement jurisdiction.[69]

Two articles in UNCLOS Part XII address port state enforcement, all subject to the safeguards outlined in Section 7 of Part XII. The first relevant Article is Article 218, which applies to violations of international discharge standards, irrespective of the location of the discharge. This includes instances occurred within the coastal jurisdiction of the port state, on the high seas, or in other states coastal waters.[70] Article 218 deviates from the accepted rules of international law's jurisdiction by allowing enforcement, which must be interpreted to include prescription,[71] in cases when the port state is not directly harmed.[72] The article posits that violation involving marine pollution are offenses against the global community as a whole rather than a specific state.[73]

Next, Article 220(1) establishes the port state`s optional "coastal" jurisdiction over violations committed by ships in its coastal zones. The jurisdiction is more limited *rationa loci* than Article

[69] Ringbom, *The EU Maritime Safety Policy and international law*, 215.
[70] Ringbom, *The EU Maritime Safety Policy and international law,* 215.
[71] Molenaar,*Coastal state jurisdiction over vessel-source pollution*,106-108.
[72] Ringbom, *The EU Maritime Safety Policy and international law*, 216.
[73] McDorman,"Port State Enforcement: A Comment on Article 218 of the 1982 Law of the Sea Convention", 319; Ringbom,*The EU Maritime Safety Policy and international law*, 216.

218, as it only refers to the territorial sea and the EEZ. It does not mention internal waters, implying violations therein falls fully under port state jurisdiction.[74] However, Article 220(1) is broader *ratione materiae* in two significant cases. Firstly, it can involve enforcement of national rules if adopted in accordance with UNCLOS, signifying that it is not solely restricted to the applicable international rules and standards. Secondly, the enforcement right may relate to any regulations "for the prevention, reduction and control of the marine environment," potentially encompassing regulations related to GHG emissions or climate quotas. Article 220(1) does not limit the means of enforcement available, suggesting a wide range of enforcement tools for the port state.[75]

Port state jurisdiction can apply international conventions laws to visiting foreign vessels through domestic laws if necessary. Coastal or port states have both prescription and enforcement jurisdiction within their ports and internal waters. Coastal state prescriptive jurisdiction is referred in UNCLOS provisions on in-port enforcement. Within their maritime zones, coastal states can enforce what they are allowed to prescribe.[76] As Ringbom stated, "the voluntary presence of the ship in a port subjects it to the essentially unlimited territorial jurisdiction of the port under general international law." [77] However, should a coastal state enforce entry requirements related to GHG emission and climate quotas this may easily impact other zones. This takes us to the next section.

2.3.3.Restrictions which impact other zones

This section analyses the complex legal debate concerning port states ability to establish entry requirements affection other maritime zones. Specifically, it evaluates the potential for port states to regulate vessel operations during the navigation to port and introduces the contentious concept of extraterritorial jurisdiction. While international law and UNCLOS do not typically justify extraterritorial jurisdiction over non-nationals, some argue for a more expansive interpretation. It is crucial to strike a balance between port states enforcing environmental regulations and the rights of foreign vessels is essential in this evolving legal context.

[74] Ringbom,*The EU Maritime Safety Policy and international law*, 216.
[75] Ringbom,*The EU Maritime Safety Policy and International Law*, 217.
[76] Molenaar,*Coastal state jurisdiction over vessel-source pollution*, 193.
[77] Ringbom,*The EU Maritime Safety Policy and International Law*, 214.

The scope of climate quotas could potentially encompass emissions from an entire voyage, which includes both the high seas and the territorial waters of third states. However, the legal basis for prescribing and enforcing such rules is unclear. This is because international law does not typically justify extraterritorial jurisdiction over non-nationals,[78] and UNCLOS reflects this view concerning coastal states` right to regulate foreign vessels.[79] Nevertheless, states may navigate this complex legal landscape by relying on a basis of jurisdiction affirmed or expanded by UNCLOS provisions, enforcing their regulations when the vessel enters the port.[80] There are some instances where states have extended laws beyond their maritime zones, potentially supported by UNCLOS, customary law, or other international agreements.

The analyse focuses on port entry conditions, which are crucial to discussions about port state`s abilities to control vessel management as ships approach their waters. This connects port state jurisdiction to the absence of a general right for foreign ships to enter ports under international law. The extent of prescriptive jurisdiction is analysed first.

2.3.3.1.Extent of prescriptive jurisdiction

One perspective suggests that port entry requirements only apply to vessel operation when the state may do so based on extraterritorial jurisdiction. According to this interpretation, neither UNCLOS nor other international law grants port states broader prescriptive authority over the extraterritorial activities of foreign ships. However, the port state is not ordering how the vessel should behave on the high seas but setting requirements for vessels that wish to visit its ports. Furthermore, a vessel may be entirely barred from entering and cannot be forced to do so. Extraterritorial vessel operations are considered a matter related to a state`s authority to regulate port entry, which may be connected to the territorial jurisdiction basis. The port state may lawfully take into consideration what happened during the navigation to the ports, but the vessel are not required to operate in a particular manner during the route. Despite the lack of a regular basis for extraterritorial jurisdiction to establish such regulation, a more expansive interpretation that allows port states to impose entry conditions concerning activities of vessels outside their territory is endorsed. This view is supported by Bevan, which notes that the "the

[78] Crawford, *Brownlie`s Principles of public international law* (New York: Oxford University Press, 2012) 456-457.
[79] Bevan,"Port State Jurisdiction, International Conventions, and Extraterritoriality: An Expansive Interpretation",124.
[80] Molenaar,*Coastal State Jurisdiction and Vessel-source Pollution*, 130.

laws legitimacy stems from the port states ability to control access to its port and thus condition entry as it sees fit".[81]

2.3.3.2.Extent of Enforcement Jurisdiction

Regarding enforcement jurisdiction, a distinct issue arises concerning its scope. The issue is whether a port state`s enforcement options are limited to denying entry to the port or port services when implementing pot entry conditions. Molenaar draws a comparison between Article 218 and Article 25, arguing that a state is not allowed to take more punitive measures concerning port entry condition, such as imposing a fine or detaining a vessel.[82]

UNCLOS Article 218 addresses the port state`s power to enforce its pollution regulations on foreign vessels voluntarily present in its port. This article permits port states to investigate, inspect, and institute proceedings in cases of violations of pollution rules. Conversely, Article 25 addresses the right of the coastal state in its territorial sea, including the right to set conditions for entry of foreign ships into ports. This article enables the coastal state to initiate requisite measures to prevent any violation of the conditions for admitting foreign vessels into internal waters or a port outside these waters. Through his comparison of these two articles, Molenaar suggests that a state`s power to impose punitive measures for port entry conditions are limited.

In light of this, one may claim that UNCLOS provides that international law prohibits a state from implementing additional punitive measures concerning port entry requirements, such as levying a fee or detaining a vessel. The combined effect of UNCLOS Article 25 and 218 implies that a port state can only assert enforcement rights related to the conditioning entrance or access to service if it has mandated a condition of entry concerning extraterritorial vessel activities. This interpretation emphasizes the need to balance the interests of the port state, which seeks to enforce its environmental regulations, and the right of foreign vessels, which become subject to the port state`s jurisdiction upon entering its port.

[81] Bevan,"Port State Jurisdiction, International Conventions, and Extraterritoriality: An Expansive Interpretation",130.
[82] Molenaar,"Port State Jurisdiction: Towards Comprehensive, Mandatory and Global Coverage",229.

Some argue that this limiting approach may not be sustainable, suggesting that states should be granted more expansive enforcement powers in the long run.[83] However, the view of Molenaar represents a sound interpretation of international law.

2.4.Concluding remarks

The analyse of prescriptive and enforcement jurisdiction underlines the vital role of coastal states in governing foreign vessels within their ports and internal waters. The provisions under UNCLOS allow these coastal states to set rules for foreign vessels, including regulations concerning GHG emissions and climate quotas. There exists a possibility for coastal states to impose climate quotas on foreign vessels, applicable for the entirety of their voyage to and from the port. However, this raises complex legal and practical issues when the voyage passes through internal waters and maritime zones of other countries. Coastal states can use their jurisdiction to contribute to global environmental goals while abiding by UNCLOS principles of non-discrimination, good faith, and non-abuse of rights. Thus, the broad potential jurisdiction of coastal states presents both opportunities and challenges in the pursuit of environmental conservation and sustainable maritime activities. From a legal perspective, the principle of extraterritorial jurisdiction and freedom of the high seas, as defined in UNCLOS, limits the ability of any state to unilaterally impose regulations on vessels operation outside its maritime zones. While a port state has clear jurisdiction to regulate activities within its territorial waters and can set conditions for port entry, extending these conditions to a vessel operation on the high seas or in other countries` maritime zones could be seen as an overreach of its jurisdiction. However, some legal scholars argue for a broader interpretation of the port state jurisdiction, suggesting that it could lawfully take into consideration a vessel`s operations during its entire journey to the port when setting entry conditions. This perspective could be supported by the port state`s sovereign right to control access to its ports.

In conclusion, the potential for port states to regulate vessel operations during navigation and the concept of extraterritorial jurisdiction presents various legal debates. Port states may establish entry requirements, including climate quotas, as long as they operate within their territorial jurisdiction and adhere to treaty obligations.

[83] Bevan,"Port State Jurisdiction, International Conventions, and Extraterritoriality: An Expansive Interpretation",132 – 135.

3.UNCLOS and GHG emission

3.1.Introduction

The chapter analyses UNCLOS, in particular Part XII, and its relevance to climate change and GHG emission. The development of regulations to reduce GHG emissions from ships has a number of technological, legislative and political difficulties.[84] The main intention of UNCLOS in 1982 was to provide

> a legal order for the seas and oceans which will facilitate international communication, and will promote the peaceful use of the seas and oceans, the equitable and efficient utilization of their resources, the conservation of their living resources, and the study, protection and preservation of the marine environment.[85]

In regards to prevention of pollution the primary role of UNCLOS is to ensure that a uniform set of standards is adhered to globally.[86] In addition to acknowledging the freedom of navigation and other traditional freedoms of the sea, the framework sets out a global framework for the rational use and conservation of sea resources while preserving of the marine environment.[87]

The 1992 Rio Conference Report`s Agenda 21[88] references UNCLOS. The Report asserts that UNCLOS; "sets forth rights and obligations of states and provides the international basis upon which to pursue the protection and sustainable development of the marine and coastal environment and its resources" [89]. To protect the coastal and marine environment, Chapter 17 of Agenda 21 introduces new elements like the precautionary approach. The shift in focus is now on protecting the marine ecosystem and preventing environmental deterioration rather than simply controlling pollution sources.[90] Moreover, Alexander Yankov, a former judge for the Law of the Sea, opined that "it's difficult to imagine the development of the modern law of the sea and the emerging international law of the environment in ocean related matters outside the

[84] Ringbom,"Regulating Greenhouse gases from ships",129.
[85] UNCLOS, Preamble.
[86] Ringbom,"Regulating Greenhouse Gases from Ships",1.
[87] Boyle,"Litigating Climate Change under Part XII of the LOSC", 459.
[88] 1992 United Nations Conference on environment & Development:Agenda 21, in *Report of the UN Conference on Environment and* Development (Rio de Janeiro, Brazil: 3 to 14 June 1992).
[89] 1992 United Nation Conference on Environment & Development: Agenda 21, Ch 17, para 17.1.
[90] Boyle,"Litigating Climate Change under Part XII of the LOSC", 460.

close association and interaction between UNCLOS and Agenda 21"[91]. The interpretation and application of UNCLOS must take into account developments in international law and policy particularly in the context of climate quotas and GHG emission regulations.[92]

3.2.GHG causing marine pollution

While climate change and GHG emission are not explicitly addressed in UNCLOS, there is potential to interpret Part XII of UNCLOS to encompass GHG emissions, despite them not being explicitly identifies as a source of marine environment pollution. The definition of marine pollution in UNCLOS is broad. Pollution of the marine environment is defined as;

> The introduction by man, directly or indirectly, of substances or energy into the marine environment, (..), which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, (..) impairment of quality for use of sea water and reduction of amenities.[93]

A traditional analyse of the language in UNCLOS would place a focus on the intentions of the parties involved during the treaty`s negotiation.[94] It is worth noting that the extent and severity of climate change could not have been anticipated during the negotiations in 1982. However, interpreting the original intentions of the parties in an overly limited manner could lead to a narrow understanding. Furthermore, it is widely recognised that the definition is broad enough to encompass pollution caused by GHG emission.[95]

On the 30th anniversary of UNCLOS, Michael Wood characterized UNCLOS as a "living instrument," designed with inherent flexibility.[96] In parallel, Judge Lucky recognised in his separate opinion to the ITLOS Fisheries Advisory Opinion that:

> The 1982 Convention and the Statute of the Tribunal are "living instruments". This means that they "grow" and adapt to changing circumstances. An act/ statute is always "speaking". The law of the sea is not static. It is dynamic and,

[91] Yankov,"The law of the Sea and the Agenda 21:Marine Environment Implications", 272.
[92] Vienna Convention, Article 31(3)(c).
[93] UNCLOS Article 1(1)(4).
[94] Meinhard,"Climate Change and the Use of the Dispute Settlement Regime of the Law of the Sea Convention", 321.
[95] Boyle,"Litigating Climate Change under Part XII of the LOSC", 462 – 463; Scott, "Ocean Acidification", 113.
[96] Holst, Rozemarijn Roland,"Law of the Sea: UNCLOS as a Living Treaty", 382-283.

> therefore, through interpretation and construction of the relevant articles a court or tribunal can adhere and give positive effect to this dynamism[97]

In light of this, it is evident that UNCLOS can evolve to reflect developments in international law and policy. The main goal of the definition was to encompass all potential risks to the marine environment. GHG emission could fit both as "substances or energy into the marine environment" and the likelihood to have "deleterious effects". Higher concentration of GHG could result in higher retention of energy and consequent increase of the global temperature.[98] Scientific evidence has linked human-caused GHG emission to marine pollution through alterations in water temperature, sea levels, ocean currents, and sea ice.[99] These changes are expected to have significant impacts on living resources and marine life[100], providing a solid basis for the argument that GHG emissions contribute to marine pollution by increasing energy in the sea. GHG emission more than meet the conditions for marine pollutions set out in Article 1 of the UNCLOS by these harmful, toxic and long-lasting impacts.[101] Insofar climate change has or is likely to have negative impact on the marine environment, Part XII should be considered[102].

3.2.Part XII of UNCLOS

This chapter analyses how UNCLOS Part XII can be utilized to mandate states to protect and preserve the marine environment against the detrimental impacts of climate change. UNCLOS Part XII outlines the responsibilities of state parties in regards to the marine environment. As climate change and GHG emissions are likely to impact the marine environment negatively, UNCLOS Part XII is relevant.[103] As previously noted, the obligation "to protect and preserve the marine environment" in Article 192 forms the foundation of Part XII. According to the Tribunal this general obligation extends both to "protection" of the marine environment form

[97] Request for Advisory Opinion submitted by the Sub-Regional Fisheries Commission (Separate Opinion of Judge Lucky) 2.April 2015,ITLOS Reports 2015.
[98] Dupuy, Venuales, *International environmental law*,172.
[99] Boyle,"Protecting the Marine Environment from Climate Change",84; European Commission, "Consequences of the climate change".
[100] European Commission, «Consequences of the climate change".
[101] Boyle,"Protecting the Marine Environment from Climate Change",85.
[102] Boyle,"Protecting the Marine Environment from Climate Change",85.
[103] Boyle,"Litigating Climate Change under Part XII of the UNCLOS", 462-463.

future damage and "preservation" in the context of maintaining or improving its current state.[104] Thereby, it addresses both future impacts and present effects. Furthermore, Article 192 places specific responsibilities on states, which are further detailed in other sections of Part XII and additional relevant international law.[105]

A pivotal clause is Article 194, which obligates states to take "all measures(..) necessary to prevent, reduce and control pollution of the marine environment form any source"[106] and to "ensure that activities under their jurisdiction or control(..) do not cause pollution damage to other states or their environment"[107]. In the Pulp-Mills[108] and Fisheries Advisory Opinion[109] the ITLOS identified this as a due diligence obligation. [110] This implies that states are obligated to undertake necessary steps to prevent and reduce harmful pollution. Beyond implementing appropriate laws and measures, states must also demonstrate a "certain level of vigilance in their enforcement and the exercise of administrative control".[111] Article 194(3) specifies that actions taken should address marine pollution form "all sources", encompassing *inter alia* the release of "toxic, harmful or noxious substances particularly those which are persistent from land-based sources, from or through the atmosphere" [112]. Anthropogenic GHG emission can potentially be included under Article 194 when they cause or are likely to cause marine pollution, even if GHG is not mentioned directly in the Article.[113] In such cases, climate quotas can serve as a regulatory mechanism for controlling GHG emissions, thereby contributing to the fulfilment of obligations under UNCLOS.

Section 5 of Part XII provides a framework for managing pollution from various sources that could harm the marine environment. For the purpose of this dissertation, Article 207, concerning land-based source of pollution, and Article 212, focusing on pollution through the

[104] The South China Sea Arbitration (The Republic of Philippines v. The People`s Republic of China), PCA Case No.213-19 (12.07.16),para 941.
[105] The South China Sea Arbitration, PCA Case No.213-19,para 941.
[106] UNCLOS, Article 194(1).
[107] UNCLOS, Article 194(2).
[108] Judgement 20.April 2010 (ICJ) Pulp Mills on the River Uruguay(Argentina v. Uruguay).
[109] Request for Advisory Opinion submitted by the Sub-Regional Fisheries Commission(Advisory Opinion), 2.April 2015, ITLOS Rep. 4(Fisheries Advisory Opinion).
[110] Judgement 20.April 2010 (ICJ) Pulp Mills on the River Uruguay (Argentina v. Uruguay), para 197 and 223; Request for Advisory Opinion submitted by the Sub-Regional Fisheries Commission (Advisory Opinion), 2.April 2015, ITLOS Rep. 4 (Fisheries Advisory Opinion) para 197.
[111] Request for Advisory Opinion submitted by the Sub-Regional Fisheries Commission (Advisory Opinion), 2.April 2015, ITLOS Rep. 4(Fisheries Advisory Opinion) para 197.
[112] UNCLOS, Article 194(3).
[113] Boyle,"Litigating Climate Change under Part XII of the UNCLOS", 464.

atmosphere, bear the most significance. Article 212 governs pollution from or through the atmosphere. The Article establishes the same obligation as Article 194 and 207, specifically to "prevent, reduce and control" such pollution, while also mandating the undertaking of any additional required steps. There are different opinions on whether Article 212 is applicable to GHG. Certain scholars, such as Harrison, contend that this provision possesses an broad scope, encompassing air pollution generated by all activities within a state's territorial jurisdiction.[114] However, others argue that the provision is restricted to pollution form aircrafts and ships.[115] The Article limits its scope to aircrafts and vessels of its registry and airspace under state sovereignty. Additionally, the source of pollution it covers is exhaustively listed in the clause. In light of the substantial importance linguistic boundaries bear in this analysis, the article may be less suitable for an evolutive interpretation.

There is a discussion regarding the pertinence of Article 207, which pertains to land-based pollution, within the context of climate change. Some assert that Article 207 does not encompass land-based pollution that is transmitted through the atmosphere, as Article 212 deals with atmospheric pollution.[116] Others argue that the scope of Article 207 has expanded to cover pollution originated from all land-based sources, regardless of whether they are point or diffuse input.[117] The obligation of states under Article 207 is to;

> Adopt laws and regulations to prevent, reduce and control pollution of the marine environment from land-based sources, including rivers, estuaries, pipelines and outfall, taking into account internationally agreed rules, standards and recommended practice and procedures.[118]

Furthermore, states shall also take "measures as may be necessary to prevent, reduce and control such pollution".[119] Notably, this provision can adapt to changing conditions and new challenges because the list is non-exhaustive. In this context, climate quotas serves as an example of such measures that regulate and reduce GHG emissions, hence contributing to the control of marine pollution. As further stipulated, parties are called upon to "establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution

[114] Harrison, *Saving the Oceans Through Law* (Oxford: Oxford University Press, 2017), 256.
[115] Proelß, *United Nations Convention on the Law of the Sea: A commentary* (Beck/Hart Publishing, 2017).
[116] Proelß, *United Nations Convention on the Law of the Sea: A commentary,* 1277-1314.
[117] Boyle,"Litigating Climate Change under Part XII of the LOSC" 464.
[118] UNCLOS, Article 207(1).
[119] UNCLOS, Article 207(2).

of the marine environment from land-based sources".[120] This could potentially include the adoption and enforcement of climate quotas on a global or regional scale.

The guidelines provided under Article 194 and 207 promote measures to "prevent, reduce and control". However, these are broad and general. They do not explicitly call for an immediate or ultimate cessation of GHG emissions, nor do they suggest that all pollution must be completely eliminated.[121] It could be adequate that taking actions that gradually reduce marine pollution by reducing emission over time would be satisfactory.[122] The verbiage of these articles was designed to afford states substantial discretion, allowing them to harmonize economic progression with environmental stewardship, without imposing overly rigorous obligations.[123] However, this was established during a period when the existential threat of climate change to our oceans was not fully comprehended by policymakers. Modern challenges like climate change has impact the content of the text in article 207, as well as the evolution of international law through systematic integration and interpretation.[124]

In the context of interpreting and applying UNCLOS to marine pollution resulting from GHG emission, the UNFCCC[125] becomes essential.[126] Article 2 of the convention explicitly mentions stabilizing GHG concentration to avoid "dangerous anthropogenic interference with the climate system". The provision does not require the total elimination of GHG emissions, rather it expects adequate preventive measures to be implemented. Given the scientific uncertainty and potential for significant and irreversible damage to marine ecosystem it advocates precautionary measures. Strengthening this argument, the precautionary principle in Article 3(3) of UNFCCC mandates parties to prevent or reduce climate change causes and alleviate its impacts.[127] Implementing climate quotas and GHG emission regulations could be seen as such measures, helping to stabilize GHG concentrations.[128] There is a compelling argument that the Paris Agreement provides a standard for actualizing Articles 192, 194, and 207 of UNCLOS. Given the impact of GHG emissions on the marine environment, the Paris Agreement indicates the

[120] UNCLOS, Article 207(4).
[121] Pulp Mills case, para 187.
[122] Boyle,"Protecting the Marine Environment from Climate Change", 88.
[123] Boyle,"Litigating Climate Change under Part XII of the LOSC", 467.
[124] Vienna Convention on the Law of the Treaties, Article 31(3).
[125] United Nations Framework Convention on Climate Change. Done at: Rio de Janeiro. Date enacted 9 May 1992. (Entered into force 21 March 1994).
[126] Vienna Convention on the Law of Treaties, Article 31(3), Boyle, "Litigating Climate Change under Part XII of the LOSC", 466.
[127] UNFCCC, Article 3(3).
[128] Boyle,"Protecting the Marine Environment from Climate Change",89.

"necessary measures" and establishes the generally accepted rules or standards referred to in these articles. This leads to the next focus of this dissertation, which is the interpretation of UNCLOS in in light of the Paris Agreement.

3.3.Interpreting UNCLOS in the light of the Paris Agreement

3.3.1.Introduction

As nations strive to address the pressing challenges posed by climate change, the interplay of international law has become an increasingly important area of focus. One such interplay exists between the UNCLOS and the Paris Agreement on climate change. Article 237 and 311 of UNCLOS delineate the convention`s interaction with other instruments. UNCLOS as a comprehensive treaty, oversees the utilization and conservation of the oceans, while the Paris Agreement seeks to curtail global temperature increases and foster sustainable development. In this context, the role of climate quotas and regulations pertaining to GHG emissions gain considerable importance. Climate quotas, which are essentially market-based measures, aim to control the volume of GHG emissions by assigning specific limits to nations or industries. These quotas can be traded, creation an incentive for industries, such as shipping, to reduce emission. UNCLOS Part XII places various duties on states to avoid or reduce harmful pollution from GHG emission. The obligation can be divided into two types: the rule of reference and due diligence. The rule of reference requires states to comply with international accepted standards, while due diligence mandates states to exhaust all feasible steps to prevent pollution form their jurisdiction.

By studying the relationship between those two pivotal international law instruments, this chapter aims to contribute to a deeper understanding of the legal framework for tackling the complex and interconnected challenges of climate change, GHG emissions and ocean governance.

3.3.2.Rule of reference

As previously noted, the Paris Agreement could signify the "necessary measures" and serve as the generally accepted rules of reference in UNCLOS Article 192, 194 and 207. This argument thus lays out a clear avenue for the non-compliance of a state or states with the Paris Agreement

to be brought up in UNCLOS proceedings as a result of non-compliance with the requirements detailed in Part XII.[129] On the other side, Article 207 is noticeable circumspect when referring to international laws and standards. The phrasing of the Article may not appear to lend the underlying duty of due diligence any particular meaning. The articles obligates states to "take into account internationally agreed rules and standards" when adopting "laws and regulations to prevent, reduce and control pollution" from or through the atmosphere and from land-based source.[130] This vague obligation stands in contrast with the obligation in other Articles such as Article 210 on pollution from dumping.[131] Given that the term "taking into account" is somewhat weak, states are given considerable freedom in deciding the stringency of their rules regarding marine pollution originated from land-based and atmospheric GHG emission. However, this flexibility does not apply to members of the Paris Agreement but members of UNCLOS. The article should not make it mandatory to comply with internationally agreed standards, and states are free to stay outside the scope of international agreed agreements.[132] On the contrary, the article cannot have the effect of diminishing the commitment to the Paris Agreement when a state is party to it. Boyle even goes as far as stating that "any other view would make nonsense of participation in the Paris Agreement".[133] It should be noted that this is only applicable to the parties of the Paris Agreement.

Implementing climate quotas and regulating GHG emission, in this context, become pivotal instruments for states to fulfil their obligations under both the Paris Agreement and UNCLOS. These measures presents an opportunity for states to take decisive action to mitigate climate change and reduce their environmental impact.

3.3.3.Due diligence

Due diligence, as outlined in Part XII of UNCLOS, is another category of responsibilities. This bring forth the query as to whether states must undertake actions beyond their climate regime commitments to fulfil their duties under UNCLOS Part XII when addressing GHG emissions. It is evident that there is no general obligation to abstain from all activities that could contribute to ocean acidification and GHG emission, but rather a due diligence obligation under UNCLOS

[129] Boyle,"Litigating Climate Change under Part XII of the LOSC", 466-467.
[130] UNCLOS, Article 207(1) and 212(1).
[131] UNCLOS, Article 208(3), 209, 210, 211.
[132] Boyle,"Litigating Climate Change under Part XII of the LOSC", 468.
[133] Boyle,"Litigating Climate Change under Part XII of the LOSC", 468.

Part XII.[134] Due diligence is defined as "an obligation of conduct" that obligates states to employ "adequate means" and exert the "best possible efforts" towards the attainment of a specific outcome.[135] States are obligated under a general, mandatory duty to protect and preserve the marine environment, with due diligence obligations reflected in Articles 192, 194, 207 and 212. These obligations are conveyed in different ways, using phrases as "to ensure", "prevent, reduce and control" and "protect and preserve". Despite the difference in wording, all these articles reflects the duty of due diligence, emphasizing a commitment to safeguard the marine environment from detrimental impacts of GHG emissions originating from all sources.

Prior to evaluating compliance, the severity of the due diligence obligation must be defined. The Seabed Chamber of the International Tribunal for the Law of the Sea (ITLOS) acknowledges the complexity in defining this obligation, describing it as a "variable concept".[136] The severity of this duty is influenced by multiple factors. In the South China Sea Arbitration, it was determined by the Tribunal that the obligation under Article 192 is influenced by other provisions in Part XII and relevant international law. [137] It is also shaped by specific responsibilities outlined in other international agreements.[138] Thus, the Paris Agreement and environmental law significantly influence the content of this obligation, even in the absence of explicit external standards in due diligence regulations. This interpretation is supported by the Vienna Convention Article 31(3)(c), which obligates to interpret a treaty in light of "any relevant rules of international law applicable in the relations between the parties". In this context, climate quotas and GHG emission regulation become essential factors. When interpreting the due diligence requirements of Article 192, 194, 207, and 212, the Paris Agreement must be considered. These articles address climate change and pollution from GHG emission, which are fundamental concerns under climate change legislation. As such, the implementation of climate quotas and stringent GHG emissions regulations can be seen as necessary steps towards fulfilling these due diligence obligations.

[134] Responsibilities and obligations of States with respect to activities in the Area, Order of 19 May 2010, ITLOS Reports 2008-2010, p.39, para 115-223; Scott, «Ocean Acidification: A due diligence obligation under LOSC», 26.
[135] Responsibilities and obligation of States with respect to activities in the Area, Advisory Opinion, 1 February 2011, ITLOS reports 2011, p.10. p 41, Section 110.
[136] Responsibilities and obligation of States with respect to activities in the Area, Advisory Opinion, 2011, Section 117.
[137] The South China Sea Arbitration on Award of July 12, 2016, para 941.
[138] The South China Sea Arbitration on Award, para 942.

Secondly, the question as to what it means to take the Paris Agreement into account. Each party to the Paris Agreement is required to "prepare" a level of contribution to reach the global peak of GHG emission as soon as possible, followed by rapid reductions. [139] The specific contribution of each party is determined according to their capabilities, without prior agreement. The foundational due diligence obligation that underpins UNCLOS Part XII and all international environmental legislation essentially reflects each party's unilateral obligation.[140] This correlation between "all appropriate measures" and due diligence was emphasized in the Pulp Mills case and the International Law Commission (ILC) Report 2000[141] where the special rapporteur expressed the view that the terms were synonyms. [142] In the context of international law, the terms share the same core meaning, referring to the standard of care that states must exercise when dealing with potential environmental harm. This interpretation implies that states have the duty to take all essential and reasonable steps to prevent, mitigate, and manage the negative impact of their actions on the environment, in accordance with the principle of due diligence. However, this obligation evolves in line with the global temperature goal outlined in Article 2 of the Paris Agreement.[143] Measures taken to mitigate the impact of GHG emissions and climate change should align with the path towards this temperature target. This is where climate quotas and GHG emission regulation become pivotal. By establishing specific limits on GHG emission, also known as climate quotas, states can ensure that their actions align with the goals of the Paris Agreement.

The vagueness of UNCLOS 194 and 207 suggests states are merely obligated to consider the Paris Agreement, rather than implement it fully. Article 207 demonstrates a notable level of cation in its reference to international laws and norms, and is written in such a manner that the underlying duty of due diligence appears to lack specific meaning.[144] With respect to marine pollution from land-based sources, states are obligated only to consider internationally agreed rules and standards. Moreover, the standard of conduct in UNCLOS Part XII, which calls for "prevention, reduction and control" as well as "ensure", is quite general. This may impact the claim that the Paris Agreement encompasses the "necessary measures" and general recognized regulations and standards mentioned in Article 194 and 207. However, due to the significant

[139] The Paris Agreement, Article 4.
[140] Pulp Mills Paragraph 101, (Corfu Channel (United Kingdom v. Albania), Merits, Judgment, I.C.J. Reports (1949), p 22.
[141] Report of the International Law Commission on its work on its fifty-second session (2000), UN Doc. A/55/10.
[142] ILC Report (2000), UN Doc. A/55/10, paragraph 718; Pulp Mills, paragraph 197, 204 and 223.
[143] Boyle,"Protecting the Marine Environment from Climate Change",92.
[144] Boyle,"Litigating Climate Change under Part XII of the LOSC",467.

impact of GHG emissions on the marine environment, a more stringent approach is necessary. According to the Advisory Opinion, the standard of due diligence must be stringent for activities that entail higher level of risk.[145] Based on previous discussion[146], it can be emphasized that GHG emission has a substantial influence on the marine environment and life. Consequently, a due diligence requirement that merely requires taking the Paris Agreement into account and does not mandate compliance is disproportionate to the harm climate change inflicts on the seas. Therefore, measures taken must be sufficiently precautionary given the scientific uncertainty and risk of serious and irreversible damage to the marine environment resulting from GHG emission.[147] This is where climate quotas and GHG emission regulations play a crucial role.

The principle of precaution is of outmost importance. The Advisory opinion has identifies it as a fundamental part of the general due diligence obligation.[148] Principle 15of the Rio Declaration[149] emphasizes the necessity of applying the precautionary approach in environmental protection. According to this principle, the lack of absolute scientific certainty should not be employed as an excuse to postpone cost-effective measures intended to prevent environmental degradation, especially when there`s a risk of serious or irreversible damage.[150] Climate quotas and GHG emission regulations are representative of this precautionary approach. They provide concrete, measurable means to reduce GHG emissions and to mitigate their impact on the marine environment. At a minimum, states should ensure full compliance with the Paris Agreement. However, considering the unique challenges posed by GHG emission regulation, further steps may be necessary.[151]

One may argue that the Paris Agreement is insufficient to address the issue of GHG emissions, as it is not specifically designed to shield the oceans from the detrimental impacts of climate change. The Paris Agreement focuses on the global temperature and GHG reduction. Reducing GHG emission can help safeguard the marine environment from the negative consequences of climate change. However, this is not always the case, as seen with ocean acidification, which

[145] Responsibilities and obligation of States with respect to activities in the Area, Advisory Opinion, 2011, Section 117.
[146] See Section 3.2.
[147] Boyle,"Protecting the Marine Environment from Climate Change", 88.
[148] Responsibilities and obligation of States with respect to activities in the Area, Advisory Opinion, 2011, Section 131.
[149] UNGA "Rio Declaration on Environment and Development". A/CONF.151/26 Vol. I, Annex I. Done at: Rio de Janeiro, 3-14 June 1992, (Entered into force 12 August 1992), p 4.
[150] Rio Declaration, principle 15.
[151] Harrison, *Saving the Ocean through Law*,254.

is primarily caused by CO2 emissions. [152] The only way to halt ocean acidification is to reduce CO2 emissions. States are not required to reduce CO2 emissions if they can achieve their reduction targets for other GHG under the Paris Agreement.[153] Therefore, without tackling ocean acidification the state may comply with the regulation in the Paris Agreement. This raises the argument that compliance with the Paris Agreement may not sufficiently satisfy UNCLOS Part XII.[154] However, the implementation of climate quotas and GHG emission regulations can provide a more comprehensive approach to address these gaps. These measures can help ensure a more holistic approach to tackling the diverse challenges posted by climate change, going beyond the scope of the Paris Agreement, and thus better fulfilling the due diligence requirement under UNCLOS. In cases where the Paris Agreement`s commitments are deemed insufficient in addressing the effects of climate change on oceans, these additional measures embedded in Part XII could extend beyond those pledges.

Additionally, there is the matter of *lex specialis* in international law. The principle recognizes that specific laws deviate from general laws when resolving conflicts in norms.[155] This could suggest that Part XII of UNCLOS should not supersede the Paris Agreement, as the latter is a more explicit regulation on the subject of climate change. However, this does not imply that the specific climate quotas and GHG emission regulations established by different states and regions can`t significantly contribute to the interpretation and implementation of the Paris Agreement. The ILC asserts that a specific rule should be interpreted and comprehended within the context of the general standard or against its background.[156] Therefore, instead of directly integrating the Paris Agreement into UNCLOS Part XII, it should be construed in conjunction with the framework goals, principles and regulation. Interpreting the Paris Agreement in this manner, could suggest that nations must give due consideration to the effects of climate change on marine environment. This necessitates the implementation of specific actions to address this issue. It is not obligatory for nations to make substantial reduction in their emissions, but rather embrace a broader and more nuanced range of approaches. Climate quotas and GHG emission regulations serves as examples of such specific rules. These regulation often provide more detailed and locally relevant standards for reducing emission, designed to complement the

[152] Harrison, *Saving the Ocean through Law*,253.
[153] Harrison, *Saving the Ocean through Law*,253.
[154] Boyle,"Protecting the Marine Environment from Climate Change",93.
[155] UN General Assembly,"Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law", Report of the Study Group of the International Law Commission, finalized by Martti Koskenniemi (2006) A/CN.4/L.682, paragraph 56.
[156] UN General Assembly,"Fragmentation of International law", paragraph 56.

broader objectives of the Paris Agreement. Consequently, it is crucial to interpret the Paris Agreement in light of its principles, regulations and purpose, requiring states to undertake particular measures to mitigate the impact of climate change on the seas.

4.Climate quotas

4.1.Introduction

This Chapter will explore the potential for port state to enforce climate quotas as entry requirement to their ports. Climate quotas, as market-based measures aimed at reducing GHG emission, have impacts that extend beyond the boundaries of ports. As discussed in Part 2 the extraterritorial effect of these measures raises questions about their impact on navigation rights and freedom of the high seas. Climate quotas are measures based on the "polluter pays" principle, seeking to address the significant contribution of GHG emission from transportation to climate change. It is worth noting that international shipping is responsible for approximately 2.1 percent[157] of global GHG emission, and this figure is projected to increase in the future.[158] Despite this substantial contribution[159], shipping remains excluded from the Kyoto Protocol and the Paris Agreement. This exclusion is motivated by factors such as the desire for fair competition in international trade and a tradition of special treatment within the section.[160]

This chapter will explore the possibilities and mechanisms through which states can regulate climate quotas in the shipping domain. Firstly, it is crucial to determine the legal feasibility of a state regulating an international market like shipping. As deducted from the analyse in Part 2, it can be contend that ports may regulate emission from vessels engaged in international voyage. Once the jurisdiction and capability of a state to regulate GHG emission form shipping is established, the next question arises: What measures can be imposed on foreign vessels? One could argue that, in the absence of jurisdiction, a state may not influence emissions form these ships and therefore should not be held responsible for them.[161] However, states has full

[157] International Maritime organization, "Third IMO GHG Study 2014.".
[158] Harrison, *Saving the Ocean through Law*, 260; International Maritime organization,"Third IMO GHG Study 2014".
[159] International Maritime organization, "Third IMO GHG Study 2014."; Harrison, *Saving the Ocean through Law*, 260.
[160] Røsæg, "Luftfart og skipsfart i det internasjonale klimaarbeidet",178.
[161] Røsæg, "Luftfart og skipsfart i det internasjonale klimaarbeidet",179.

jurisdiction over foreign emissions within their ports. The state has the power to arrest and detain the ship until the required climate quotas are purchased or the associated fees, based on GHG emission, are paid. Moreover, a foreign vessel could be denied entry to the port if the fees are not paid.

This chapter will also explore whether these fees could have impact behaviour outside of a state`s jurisdiction, such as on the high seas. To examine this issue the pivotal case Norstar[162] and its significant will be analysed for its relevance in this context.

4.2.“Norstar” case

The ITLOS case Norstar presents a constructive perspective on how coastal state authority can interfere with the freedom of navigation. Norstar was a Panamanian-flagged oil taker that supplied oil and gas to yachts in the coast of Italy, France and Spain. The tanker purchased tax-free fuel for boats in Italy under the condition that it would not to be used within Italy. The fuel was transported outside the territorial boundary and filled on Italian boats there. Upon returning to Italian waters, sanctions for violating Italian tax law were imposed on the ship.

The central issue was whether the arrest and detaining of Norstar constituted a violation of the freedom of navigation and the freedom of the high seas.[163] The majority opinion concluded that Italy´s prescriptive jurisdiction “concerns both alleged crimes committed in the territory of Italy and bunkering activities carries out by Norstar on the high seas”.[164] According to prior case law, Norstar would fall within the freedom of navigation if it had conducted bunkering operations for recreational vessels on the high seas.[165] However, the Tribunal had to determine whether extraterritorial non-flag state prescription itself violated the freedom of navigation, given that enforcement ultimately occurred in internal waters where no freedom of navigation exists.[166]

[162] M/V «Norstar»(No.25) Case (Panama v. Italy), ITLOS Judgment,10.April 2019.
[163] “Norstar” Judgement, section 214.
[164] «Norstar» Judgement, section 177 and 186.
[165] M/V «Virginia G» (Panama/Guinea-Bissau) Judgement, ITLOS Reports 2014, p.4, para 223; “Norstar” Judgement, section 219.
[166] «Norstar» Judgement, section 221; M/V «Louisa» (Saint Vincent and the Grenadines v. Kingdom of Spain), Judgement, ITLOS Reports 2013, p.4, section 109; «ARA Libertad» (Argentina v. Ghana), Provisional Measures, Order of 15 December 2012, ITLOS Reports 2012, section 61.

The Tribunal in Norstar specifically stated that when extraterritorial prescriptive jurisdiction is exercised, UNCLOS Article 87, which defines the freedoms of the high seas, applies.[167] Regardless of the effect, the tribunal notes that;

> any act which subjects activities of a foreign ship on the high seas to the jurisdiction of States other than the flag State constitutes a breach of the freedom of navigation, save in exceptional cases expressly provided for in the Convention or in other international treaties.[168]

As such, the application of Italy`s criminal and customs laws to the bunkering activities of the Norstar on the high seas could be considered a violation of UNCLOS article 87.[169] This interpretation finds support in case law.[170] Without a valid legal basis, the exercise of extraterritorial prescriptive jurisdiction over the activities of foreign ships on the high seas infringes upon Article 87. Nonetheless, it is important to note that the wording in the Norstar Judgement in para 224 is unfortunate at a doctrinal level.[171] UNCLOS Article 87 states that "exceptional cases expressly provided for in the Convention or in other international treaties" falls within the category of exceptions that would not violate the article. This includes laws applying to behaviour on the high seas or in the EEZ based on the prescriptive jurisdictional grounds of customary law.[172]

As highlighted by the dissention opinion,[173] no legal basis suggests that Article 87 restricts the scope of customary jurisdiction.[174] The Tribunal rejected Italy's claim that only activities causing a "chilling effect" on navigation or physical interference with navigation are covered by UNCLOS Article 87.[175] The Tribunal was therefore not defining the provision`s boundaries. In light of this, it may be preferable to broadly construe references to customary law in

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[167] Honniball,"Freedom of Navigation Following the M/V «Norstar» Case." *The blog of the Norwegian Centre from the Law of the Sea*, 04.06.2019. https://site.uit.no/nclos/2019/06/04/freedom-of-navigation-following-the-m-v-norstar-case/
[168] «Norstar» Judgement, section 224.
[169] «Norstar» Judgement, section 224 and 225.
[170] Judgment 7.September 1927 (P.C.I.J), Series A, No.10 "Lotus", para 25; M/V «Saiga» (No.2) (Saint Vincent and the Grenadines v. Guinea), Judgement, ITLOS Reports 1999, para 149-150; The Artic Sunrise Arbitration, (Netherlands v. Russia), Award (Merits) 14 August 2015, para 332-333.
[171] Honniball,"Freedom of Navigation following the M/V "Norstar" Case".
[172] Honniball,"Freedom of Navigation following the M/V "Norstar" Case"; Ryngaert, *Jurisdiction in international law* (Oxford: Oxford University Press, 2008); Vrancken, "State jurisdiction to investigate and try fisheries crime at sea".
[173] Joint Dissenting Opinion of Judges Cot, Pawlak, Yani, Hoffamnn, Kolodkin and Lijnzaard and Judges ad hoc Treves.
[174] Joint Dissenting Opinion, "Norstar" (No.25) Case (Panama v. Italy), section 19.
[175] «Norstar» Judgement, section 222-225.

UNCLOS`s Preamble and Article 293(1), as asserting that customary prescriptive state authority remains "justified by the Convention" when consist with UNCLOS.[176]

In discussing the scope of exclusive flag state jurisdiction, the Tribunal emphasized its critical role in UNCLOS Article 87, which safeguarded the right to freedom of navigation.[177] The Tribunal asserted that this principle prevents states other than the flag state from executing enforcement jurisdiction on the high seas or from "extending their prescriptive jurisdiction to lawful activities conducted by foreign ships on the high seas".[178] However, the majority did not provide justification for this broad interpretation of UNCLOS Article 92, and it is not supported by any case law, state practice, or subsequent treaty law. For instance, the Tribunal cited a remark by the Permanent Court of International Justice (PCIJ) in the "Lotus case" [179] stating that "In virtue of the principle of the freedom of the sea, that is to say, the absence of any territorial sovereignty upon the high seas, no state may exercise any kind of jurisdiction over foreign vessels upon them". [180] However, in the same judgment from the PCIJ also stated that "it by no means follows that a state can never in its own territory exercise jurisdiction over acts which have occurred on board a foreign ship on the high seas".[181] This aspect was not taken into account by the Tribunal in the Norstar case.

The final issue in the Norstar case was the exercise of prescriptive jurisdiction over the high seas. Italy argued that Article 87 was neither applicable nor violated because the enforcement took place in internal waters, not on the high seas.[182] The tribunal disagreed, stating that Article 87 could still apply and be violated if a state applies its extraterritorial criminal and customs laws to the actions of a foreign ship on the high seas and criminalizes them. [183] As a result, Italy was found to have violated the freedom of navigation by applying its criminal and custom laws to the high seas and requesting Spanish authorities to enforce them.[184] The tribunal established that because Article 87 addresses both extraterritorial application and enforcement of non-flag state legislation, it is applicable when extraterritorial components of prescription are present.[185] However, it is unclear what constitutes a violation of UNCLOS Article 87 in the "Norstar"

[176] «Norstar» Judgement, section 225; Honniball, "Freedom of Navigation Following the M/V «Norstar» Case".
[177] «Norstar» Judgement, Section 225.
[178] «Norstar» Judgement, Section 225.
[179] Judgment 7. September 1927, (P.C.I.J), S.S. "Lotus" (Series A, No.10).
[180] «Lotus» p.25; «Norstar» Judgement, section 216.
[181] «Lotus», p.25.
[182] «Norstar» Judgement, section 226.
[183] «Norstar» Judgement, section 226.
[184] «Norstar» Judgement, section 226.
[185] «Norstar» Judgement, section 153.

judgement. The tribunal used the same reasoning for concluding that the article was both applicable and violated, providing no justification for why this specific application of Italian law constituted a breach of UNCLOS Article 87.[186] The dissenting opinion raised concerns about this reasoning, highlighting its relevance, application, and violation of a treaty provision should be analysed separately.[187]

The dissenting opinion did not find Article 87 (1) on freedom of navigation applicable or violated in this case.[188] Article 89 protects the free movement of vessels, primarily shielding them from non-flag state enforcement jurisdiction on the high seas. The Norstar willingly entered Spain's domestic seas where the decree was enforced, which was not disputed by the joint separate opinion.

In relation to a potential violation of Article 87, the tribunal recognized that Italian practices contained both territorial and extraterritorial components.[189] The tribunal should have considered the balance of conflicting interests to assessed whether the territorial aspects provided a sufficient jurisdictional nexus for prescriptive jurisdiction over the entire offense. By acknowledging the extraterritorial extension without analysing sufficiency of the jurisdictional nexus, the tribunal risks implying that any extraterritorial effect is enough to breach Article 87.

4.2.1.Post "Norstar"

The Norstar case highlights the complex aspects of the jurisdictional issues and indicates areas that require further clarification. The judgement suggests that violations of high seas freedom, including freedom of navigation[190], can result from non-flag state prescription over foreign vessels conduct on high seas. Unfortunately, the tribunal`s discussion of exceptions overlooks customary international law jurisdictional rights and uses a broad, unnecessary interpretation of UNCLOS Article 92. Furthermore, the tribunal fails to analyse the jurisdictional basis for Italy`s extraterritorial extension of its laws, leading to ambiguity in distinguishing between the

[186] «Norstar» Judgement, section 226; Honniball,"Freedom of Navigation Following the M/V «Norstar» Case".
[187] «Norstar» Judgement, Joint Dissenting Opinion, section 14 and 28.
[188] «Norstar» Judgement, Joint Dissenting Opinion, section 13.
[189] «Norstar» Judgement, section 166; Honniball,"Freedom of Navigation Following the M/V «Norstar» Case".
[190] UNCLOS, Article 87.

application and breach of an UNCLOS provision. Despite these shortcomings, the ITLOS or Annex VII Arbitral Tribunal may have the opportunity to clarify these issues in further cases.

The upcoming M/T San Padre Pio[191] case presents an opportunity to delve into the interpretation of Article 87 and 92 of UNCLOS.[192] The case revolves around the M/T "San Padre Pio" which was intercepted by Nigeria on January 23, 2018, while conducting ship-to-ship transfers of gas oil in its EEZ. Switzerland alleging that Nigeria`s arrest and detention of M/T San Pedro Pio violated the principle freedom of navigation and exclusive flag state jurisdiction. The case gives the ITLOS a chance to further develop and refine recent developments established in the Norstar Judgement. This is due to Switzerland's allegation that Nigeria's arrest and detention of M/T "San Padre Pio" violates both the freedom of navigation and the related exclusive flag state jurisdiction.[193] Hence, the Tribunals decision could provide more clarity on its understanding and implementing of the principle of freedom of navigation, as well as the exercise of prescriptive and enforcement jurisdiction, as established in the Norstar case.

The application of climate quotas in international shipping offers a promising approach to address the industry`s significant contribution to global GHG emissions. However, this regulatory approach raises complex legal challenges, particularly concerning jurisdictional rights and the freedom of the high seas. While the "Norstar" case left certain issues unresolved it paved the way for future refinement in the interpretation of these legal matters. Future cases, such as the M/T San Padre Pio case, are anticipated to provide future clarity and guidance on the implementation of environmental measures like climate quotas in international shipping. Enforcing climate quotas by port states demonstrates the potential for local jurisdiction to contribute to global climate mitigation efforts. However, it is crucial to navigate these efforts with a comprehensive understanding of international law, navigation rights, and the balance between territorial and extraterritorial jurisdiction. Further legal developments will continue to shape this critical intersection of environmental sustainability and maritime law.

In the context of vessel emission, the Norstar case does not explicitly prohibit port states from rejecting vessels based on their presumed emissions since their previous port visit where they may have evaded environmental fees. While such actions may have negative economic

[191] M/T «San Padre Pio» (Switzerland v. Nigeria), Provisional Measures, Order of 9 July 2019, ITLOS Reports 2018-2019, p 375.
[192] Weinberg, «Implications of the M/V «Norstar» (Panama v. Italy) and the M/T «San Padre Pio» Case (Switzerland v. Nigeria) for the Further Developments of the Law of the Sea», 203.
[193] UNCLOS, Art 58, 87 and 97. Honniball,"Freedom of Navigation Following the M/V «Norstar» Case".

consequences, they do not directly govern behaviour on the high seas.[194] Therefore , it can be considered reasonable to apply behaviour-regulating environmental fees or quotas. Additionally, Røsæg proposes that the geographical location of the behaviour outside the state`s jurisdiction should not affect the enforcement of fees and other sanctions meant to control behaviour.[195] While only the flag state has jurisdiction over the ship outside any state`s jurisdiction, this does not this preclude a state from imposing legal consequences to actions occurring outside its territory.

4.3.Measures enforced

Climate quotes is viewed as a marked-based measure (MBM) to reduce GHG emission. The implementation of a MBM that applies to all vessels introduce an additional economic incentive for shipowners to cut emission.[196]

It follows from the Paris Agreement that the states are free to use what measures they see fit to reduce the GHG emission. The IMO is also free to decide the steps to take to cut GHG emission. The IMO has considered potential MBM in-dept since the 56th session of the Marine Environmental Protection Committee (MEPC) in 2006.[197] A variety of potential measures have been suggested by the IMO for short-, mid-, and long-term study.[198] The IMO`s work in this area underscores the argument that coastal states have some jurisdiction in this area. However, the IMO has fallen short in making MBM`s to reduce GHG emission. It is widely acknowledged that the IMO`s climate targets cannot be fully achieved with the current measures.[199] If the goal for shipping are to be achieved, it appears unavoidable that technological and operational measures will need to be supplemented by MBM`s given the current level of technologies advancement.[200] There seems to be a gap between the goals and the available technology. It is evident that financial incentives is offered to ship operators in order to encourage them to cut emission while also taking immediate action. The legal requirements for both technological, operational and market-based should be strengthen to accomplish this. The pressure is on the IMO to agree and implement reduction MBM such as climate quotas. The question has been

[194] Røsæg,"Luftfart og skipsfart i det internasjonale klimaarbeidet",180.
[195] Røsæg,"Luftfart og skipsfart i det internasjonale klimaarbeidet",180.
[196] Harrison, *Saving the Ocean through law*,265.
[197] International Maritime Organisation (IMO), "Market-Based Measures".
[198] Ringbom,"Regulating Greenhouse Gases from Ships",158.
[199] Ringbom,"Regulating Greenhouse Gases from Ships",141.
[200] Ringbom,"Regulating Greenhouse Gases from Ships",158.

raised as whether such measures could be in breach with the obligations of parties to the world trade organisation (WTO).[201] However, it should not be too challenging to design MBM within this framework to reduce GHG emission.[202] It should be possible for the IMO to establish MBM as climate quotas.

In conclusion, navigating through international law and maritime regulation in the face of increasing environmental pressures constitutes a dynamic and intricate task. The evolving landscape of legal frameworks and environmental policies provides both challenges and opportunities for the shipping industry. While the precise rout to emission reduction is still being charted, promising directions such as climate quotas and other MBM`s offers substantial potential. As global stakeholders continue to grabble with the implications of the Paris Agreement and the mandates of the IMO, it becomes even more critical to strike a balance between the operational needs of the shipping industry and the urgent call to safeguard our planet. M/V "Norstar" and M/T "San Padre Pio" represent important milestone on this journey. They not only illuminate the complexity of maritime law and jurisdiction, but also underscore the need for continuous dialogue, clarification and innovative thinking. With determination and collaborative effort, it is within our reach to create a sustainable and responsible maritime future, reconciling economic growth, environmental stewardship, and the rules of international law.

5.Concluding remarks

The main research question addressed in this thesis is: *May coastal states enforce jurisdiction over foreign vessels within the maritime zones and ports in regards to GHG emission and climate quotas?*

The analysis of prescriptive and enforcement jurisdiction in Part 2 highlights the important role of coastal states in regulating foreign vessels within their ports and internal waters. Coastal states possesses the sovereign right to control port access and set entry conditions, which could lawfully consider a vessel`s entire journey to the port. While port states' potential to regulate vessel operations during navigation and the concept of extraterritorial jurisdiction elicit various legal debates, it is evident that port states can mandate climate quotas within their territorial

[201] Røsæg,«Luftfart og skipsfart i det internasjonale klimaarbeidet», 186.
[202] Røsæg,«Luftfart og skipsfart i det internasjonale klimaarbeidet», 186.

jurisdiction and in compliance with treaty obligations. The legal basis for this has been explored to some extent in the Norstar case.

Furthermore, the analysis of UNCLOS Part XII reveals that states have a duty to protect the marine environment from climate change and GHG emission. This duty includes a due diligence requirement, where states must take appropriate measures and exercise care in addressing climate change, considering the Paris Agreement and other relevant frameworks. The UNFCCC's[203] precautionary principle further emphasizes the need for measures to reduce GHG emissions. Climate quotas and GHG emissions regulations can be seen as precautionary measures aligned with international obligations. The intersection of UNCLOS and the Paris Agreement plays a significant role in addressing the challenges posed by climate change, GHG emission and ocean governance. UNCLOS Part XII imposes duties on states to prevent or reduce harmful pollution form GHG emissions, with the obligation falling under two categories: rule of reference and due diligence. The due diligence requirement obligates states to take appropriate measures and exercise care to protect the marine environment from the harmful effects of GHG emissions. This obligation includes considering the Paris Agreement and should be viewed against the framework goals, principles and regulation. Compliance with the Paris Agreement is argued as a minimum requirement to fulfil the due diligence obligation. However, if states fail to adequately tackle the impact of climate change on the ocean, they are required to implement additional measures to safeguard the marine environment from climate change and pollution. Climate quotas and GHG emission regulations exemplify such measures that align with the precautionary measures.

In summary, the intersection of UNCLOS and the Paris Agreement highlights the importance of addressing climate change, GHG emissions, and ocean governance. The jurisdiction of coastal states over foreign vessels, coupled with their duty of due diligence, offers pathways for the application of climate quotas and GHG emission regulations. These could form part of an all-encompassing strategy to shield the marine environment from the negative impacts of climate change.

[203] United Nations Framework Convention on Climate Change. Done at:Rio de Janeiro. Date enacted 9 May 1992.(Entered into force 21 March 1994).

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