UiT The Arctic University of Norway

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[Between Exploitation and Sustainability: A Critical Environmental Analysis of Norway's Seabed Mining in Light of UNCLOS and Domestic Law]

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Abstract

This thesis explores the balance between Norway's ambitions for seabed mining and accompanying environmental and legal obligations, rooted in both domestic and international law. As it has been discovered the existence of potentially valuable minerals among the deep seabed, the implications on marine ecosystems have been highlighted as a concern, making it crucial for countries to adhere to legal regulations. Starting with an international perspective, the study covers Norway's duties as a member of the United Nations Convention on the Law of the Sea (UNCLOS), focusing on the environmental articles 192, 194, 204, 206 and 208 set out in part XII of the convention. These articles embody principles for the preservation and protection of the marine environment, laying out obligations on members who look to exercise their right to exploit their natural resources. The focus then shifts towards domestic law, evaluating Norwegian legislation such as Article 112 of the Norwegian Constitution, the Seabed Minerals Act and the Nature Diversity Act. These examples of domestic legislation are closely tied with the acts of seabed mining as they govern the areas potentially impacted by the industry. The thesis makes use of primary sources and legal argumentation, aiming to identify important areas of contention and potential non-compliance. Considering whether the Norwegian government's actions towards seabed mining are taking into consideration the environmental and legal risks that follow. And whether these actions align with both domestic and international law.

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List of Abbreviations

ABNJ	Areas Beyond National Jurisdiction
BBNJ	Biodiversity Beyond National Jurisdiction
CBD	Convention on Biological Diversity
EIA	Environmental Impact Assessment
GAIRAS	Generally Accepted International Rules and Standards
IOMP	Integrated Ocean Management Plan
ISA	International Seabed Authority
ITLOS	International Tribunal for Law of the Sea
NCS	Norwegian Continental Shelf
NGO	Non-Governmental Organization
OSPAR	The Convention for the Protection of the Marine Environment of the North-East Atlantic
SCSA	South China Sea Arbitration
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea

1 INTRODUCTION

1.1 Objective of the Thesis

In a modern society concerned with sustainability, the environmental impacts of industrial activities have become an increasingly relevant topic. One of the currently emerging industries is the exploration and exploitation of seabed minerals. As the seabed contains minerals in abundance, seabed mining looks like a promising economic venture but raises legal, environmental and social obstacles. The regulation of seabed mining is still in its infancy, and there remains uncertainty around the correct ways to move forward. As a country with a long coastline and experience in utilizing its marine resources, Norway looks to take steps towards exploring and potentially exploiting the seabed within their national jurisdiction. The objective of this thesis is to explore Norway's framework regarding seabed mining, specifically in relation to its obligations under both domestic legislation and the United Nations Convention on the Law of the Sea (UNCLOS)[1]. By reviewing legal text and scholarly articles this study looks to explore the balancing of economic interests with environmental protection. This study is timely due to the recent steps by the Norwegian government to advance seabed mining activities which impacts a variety of stakeholders such as policymakers to environmental activists. By focusing on this topic, the thesis hopes to contribute meaningful insights to a debate on the demand for resources, ethical considerations and environmental law development.

1.2 Research Questions

A. What obligations do Norway have under UNCLOS to protect the marine environment concerning seabed mining within Norway's national jurisdiction?

B. How does Norway's domestic regulations on seabed mining currently align with its international obligations?

[1] United Nations Convention on the Law of the Sea, Montego Bay (adopted 10 December 1982, in force 16 November 1994) UNTS 397.

C. Are the current legal frameworks sufficient in addressing the environmental concerns raised by various stakeholders?

1.3 Methodology and Sources

The methodology for this thesis involves a comprehensive legal analysis focusing on Norwegian national legislation and obligations arising under UNCLOS concerning seabed mining. The main sources of this thesis are the Seabed Minerals Act[2], the Nature Diversity Act[3], Article 112 of the Norwegian Constitution[4], and the United Nations Convention on the Law of the Sea (UNCLOS)[5]. Supplementary sources such as academic literature, preparatory works of these acts, legal commentary and reports will be used to provide a wider view on the topic as well as differing interpretations.

Environmental principles will be discussed as legal rules, through customary international law or as codifications in international treaties such as UNCLOS. The Vienna Convention on the Law of Treaties (VCLT)[6] will be relevant through Articles 30 and 31 considering treaty interpretation as part of customary international law. These principles aid in understanding the scope and application of obligations under UNCLOS and other relevant treaties in the context of seabed mining.

The primary research method in this thesis is doctrinal legal research. The goal being to systematically identify, analyze and clarify the current applicable law regulating seabed mining in Norway in relation to both domestic and international levels. methodically bringing and introducing legal information to answer current and potential legal problems. By looking into the relevant regulations, case law, directives and treaties, this thesis aims to offer a comprehensive understanding of the legal scenery, herein addressing both the current and potential legal challenges related to seabed mining activities in Norway.

It is important to carefully consider adding political perspectives, specifically when there is a lacking existing framework. However, this cannot abolish the necessity of critically looking into the balance between economic interests and environmental obligations, both at the state

[2] Seabed Minerals Act, entered into force 1 July 2019.
[3] Nature Diversity Act, entered into force 19 June 2009.
[4] Article 112 of the Norwegian Constitution on the Right to Environment, entered into force 1992 and amended in 2014.
[5] United Nations Convention on the Law of the Sea, Montego Bay (adopted 10 December 1982, in force 16 November 1994).
[6] Vienna Convention on the Law of Treaties, Vienna 23 May 1969, entered into force 27 January 1980.

and stakeholders magnitude. By using this methodology, this thesis will contribute to the debate within the growing field of seabed mining, and possibly identify ambiguities and gaps that could require legislative measures. Chapter 4 of the thesis will account for conclusions and offer recommendations based on the findings, suggesting ways to harmonize economic activities with environmental concerns in the context of seabed mining in Norway.

1.4 Scope and Structure

The scope of this thesis is confined to the domestic environmental regulations governing seabed mining within national jurisdiction particularly on the Norwegian continental shelf (NCS). Regarding international law, the main focus will be Part XII of UNCLOS, with some references to environmental principles. This thesis will not discuss economic, technological and geopolitical factors unrelated to environmental protection. Neither will this study concern seabed mining on the continental shelf of Svalbard and remains confined to Norwegian national jurisdiction of the NCS. This study is limited to seabed mining activities within Norway's national jurisdiction and will not cover possible obligations in areas outside of national jurisdiction, commonly referred to as "the area," which is mainly regulated under a separate regime of UNCLOS and international law. Finally, this thesis takes place while Norway is pending a parliamentary decision regarding the opening of areas on the continental shelf. Additionally the International Seabed Authority (ISA) is in its process of finalizing its regulatory guidelines for seabed mining. The development of regulations regarding seabed mining concerning environmental law makes the outcomes of the discussed topics uncertain. Chapter 1 contains some background information on the process of seabed mining in Norway, along with controversies and impacts following this activity. Chapter 2 goes into international law, specifically UNCLOS, and looks into Norway's obligations when it comes to shaping their domestic law as well as the actions towards seabed mining within national jurisdiction. Chapter 3 focuses on Norway’s domestic laws related to seabed mining and analyzes whether they align with international commitments. Environmental principles which might influence the interpretation and applicability of these laws will briefly be discussed.

1.5 Background

Norway manages marine areas more than five times larger than the land mass of 385,207 km². For generations people lived off the vast fish stocks along the Norwegian coast, but as technology developed Norway also became the third largest shipping nation in the world in the 19th century. At the discovery of the Ekofisk area in 1969, Norway's oil adventure began and remains a key source of prosperity and growth to this day.[7] On May 10th, 2017, the Norwegian Minister of Petroleum and Energy Terje Søviknes (Progress Party) announced an initiative to draft a new legislation governing mineral activities on the Norwegian continental shelf.[8] This marked a significant change in the country's approach to seabed mining. Up till that point, the Norwegian sea areas had been minimally explored for mineral deposits, and the mineral exploration of such resources had been limited. The proposed law was introduced with the goal of establishing a robust regulatory framework to manage potential future opportunities related to seabed mining. The proposed regulation aimed to ensure sustainable and economically viable management of mineral resources on the Norwegian continental shelf, balancing value creation with environmental and safety considerations.[9] On June 22, 2018, the Norwegian Government proposed a new law concerning mineral activities on the continental shelf, referred to as the seabed mineral law. The proposal's primary intention was to set the groundwork for mineral exploration and extraction activities on the Norwegian continental shelf, with provisions to ensure coexistence with other maritime activities. The proposed law also acknowledged the state's property rights to mineral resources and was informed by existing practices within the Norwegian continental shelf. As part of the proposal, it was noted that the Norwegian Petroleum Directorate had begun mapping mineral resources in the country's deep-sea areas. However, as of the proposal's date, comprehensive details regarding the scale and impact of this new industry were not provided.[10] On March 22, 2019, the Norwegian Parliament enacted Law No.7 concerning mineral activities on the continental shelf, also known as the Seabed Minerals Act, the law came into force on July 1st, 2019. Its purpose was to facilitate the exploration and extraction of mineral deposits on the

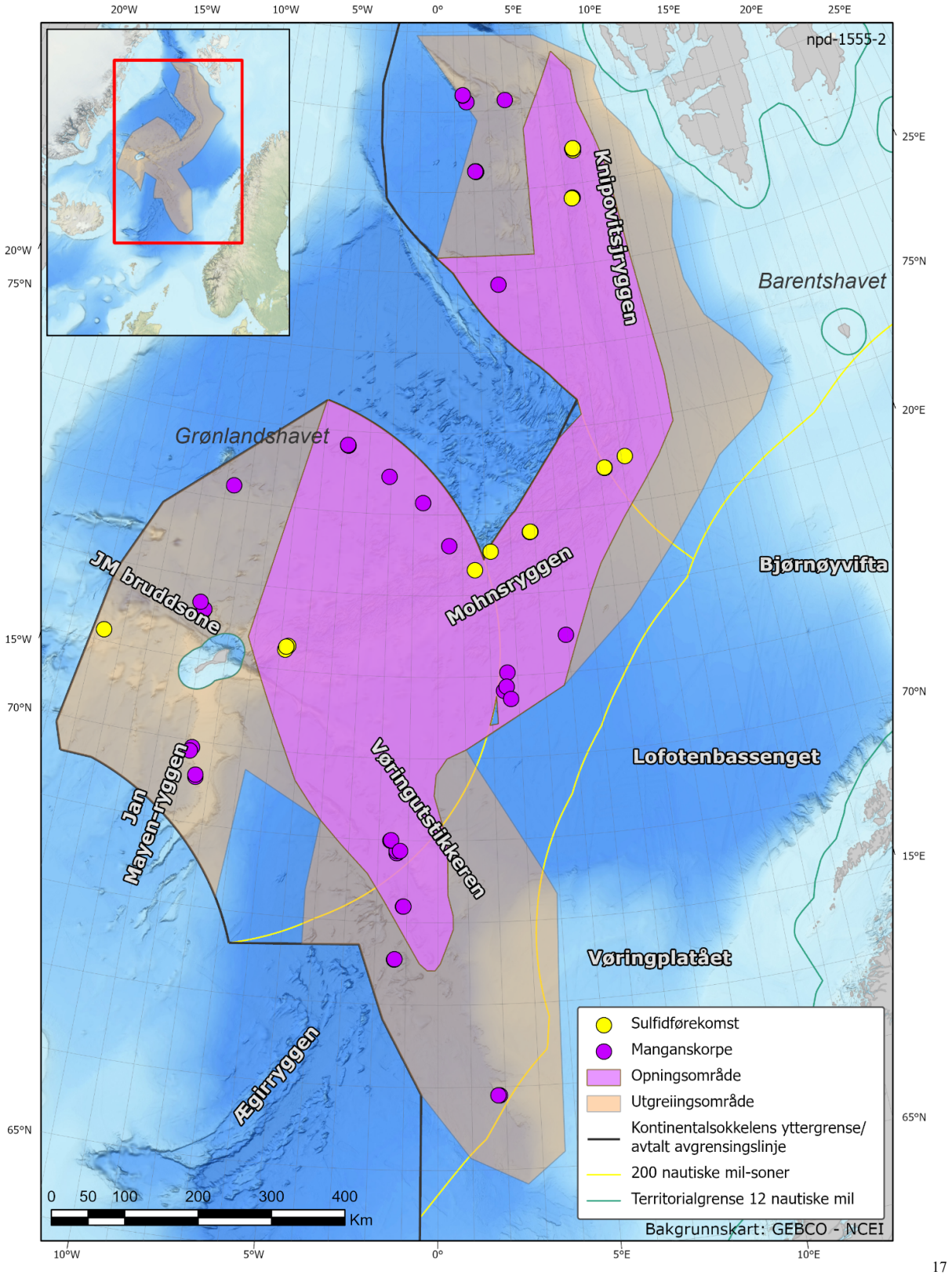
[7] The ocean nation of Norway. The Norwegian Government. Last updated: 15/10/2021: The ocean nation of Norway - regjeringen.no (accessed 15.06.2023)
[8] Exciting Future Perspectives - New Seabed Mineral Act on Hearing. Ministry of Petroleum and Energy. 10/05/2017. Spennende fremtidsperspektiver - ny havbunnsminerallov på høring - regjeringen.no (accessed 15.06.2023)
[9] Ibid.
[10] Proposal for a New Law on Mineral Activity on the Continental Shelf. Ministry of Petroleum and Energy. 22/06/2018. Forslag til ny lov om mineralvirksomhet på kontinentalsokkelen - regjeringen.no (accessed 15.06.2023)

continental shelf in line with the societal objectives. The law emphasizes a balanced approach, taking into account considerations of value creation, environmental protection, operational safety and other commercial activities and interests.[11] On May 11, 2020, the Norwegian Government initiated a process to open areas of the Norwegian continental shelf for mineral activities, proposing to increase the budget for mapping seabed minerals by 70 million, raising the total to 139 million Norwegian Kroner (NOK). The initiative was driven by factors including population growth, wealth increase and rising demand for renewable energy, which together raised interest in metals available on the seabed. The opening process targeted specific regions with promising sulfide and manganese crusts deposits and includes conducting impact assessments to evaluate potential environmental, economic, and social effects. Part of the process also involved a resource assessment detailing the types of resources available on the Norwegian continental shelf.[12] On January 12th, 2021, a proposal for the impact assessment for mineral activity on the Norwegian Continental shelf went to a public hearing with a three-month deadline, receiving 53 inputs from various bodies. The program was then established September 10, 2021, with the Department's assessment of the received feedback.[13] On October 27, 2022, The Norwegian Ministry of Petroleum and Energy announced that seabed mineral extraction could become an essential industry for Norway, contributing to global access to crucial metals. As part of the opening process, the impact assessment was set up for public hearing until January 27, 2023. Two types of seabed minerals, sulfides and manganese crusts, containing various metals had been detected on the Norwegian continental shelf. The Minister of Oil and Energy, Terje Aasland (Labor Party) emphasized the potential of this new industry, provided it is profitable and environmentally acceptable. The government aimed to enable profitable mineral activities on the seabed while ensuring an acceptable level of environmental impact, with exploration areas opening for commercial surveying and potential mining.[14] In a press release dated June 20, 2023, from the Ministry of Petroleum and Energy, the government proposed to open parts of the Norwegian continental shelf for commercial seabed mineral activity. Alongside, they presented a strategy outlining how Norway intends to be a world leader in fact- and knowledge based management

[11] The Seabed Minerals Act enters into force. Ministry of Petroleum and Energy. 01.07.2019. Havbunnsmineralloven trer i kraft - regjeringen.no (accessed 15.06.2023)
[12] Opening process for mineral activity on the Norwegian continental shelf. Ministry of Petroleum. 11/05/2020. Har igangsatt åpningsprosess for mineralvirksomhet på norsk kontinentalsokkel - regjeringen.no (accessed 15.06.2023)
[13] Programme for an impact assessment established. 10/09/2021. Program for konsekvensutredningen for mineralvirksomhet på havbunnen fastsatt - regjeringen.no (accessed 15.06.2023)
[14] Impact Assessment for Mineral Activities on the Norwegian Continental Shelf. 27.10.2022. Konsekvensutredning for mineralvirksomhet på norsk kontinentalsokkel - regjeringen.no (accessed 15.06.2023)

of seabed mineral resources. Environmental considerations will be taken into account throughout the value chain, and extraction will only be permitted if the industry can demonstrate that it can be done sustainably and responsibly. Terje Aasland emphasized that minerals are necessary for the success of the green shift to renewable energy. With resources currently controlled by a few countries, seabed minerals could become a source of access to essential metals, and Norway is well-positioned to lead the way in managing these resources sustainably.[15] The submission from the Ministry will need to be approved in Parliament, then the granting of licenses for exploration and exploitation under the Seabed Minerals Act may commence.[16]

[15] The Government is paving the way for a new ocean industry - seabed mineral activity. 20/06/2023. Regjeringa legg til rette for ei ny havnæring – havbotnmineralverksemd - regjeringen.no (accessed 15.06.2023)
[16] Seabed Minerals Act. 1/7/2019. Act relating to mineral activities on the Continental Shelf (Seabed Minerals Act) - The Norwegian Petroleum Directorate (npd.no) (accessed 15.06.2023)



-This image shows the suggested area for opening mineral exploration on the NCS marked in pink.

[17] Image. Opening area for mineral activity on the Norwegian continental shelf. The Norwegian Oil Directorate. opningsomrade_m_forekomst_meld.st.25.png (2480×3508) (npd.no) (accessed 15.08.2023)

1.6 Controversy and Possible Impacts

Norway's Minister of Petroleum and Energy, Terje Aasland, argues that Norway's seabed minerals are crucial for advancing the green transition.[18] He acknowledges that metals like copper, cobalt, and nickel, known to be present on the Norwegian seabed, are essential for green technologies. Emphasizing Norway's leading position in offshore technologies and strict environmental standards as unique qualifications for responsibly advancing this new ocean industry. The minister concludes that Norway should leverage its long tradition of responsible resource management to meet the increasing demand for these critical minerals, which he sees as a cornerstone for the country's contribution to global sustainability.[19]

The Ministry of Petroleum and Energy process to open up parts of the Norwegian continental shelf for mineral activity has not been met with the same enthusiasm from all related parties. In the earlier mentioned impact assessment hearing with the deadline of 27.01.2023, a united front of environmental organizations voiced their concerns regarding the process.[20] According to Karoline Andaur, the Secretary-General of World Wildlife Fund Norway. The government's decision to move forward with seabed mining is contradictory to reason, given the incomplete impact assessment.[21]

Another voice of concern came from the Norwegian Environment Agency (Miljødirektoratet) which provided a comment to the public hearing and draft decision on opening of an area on the Norwegian continental shelf. The report highlights the lack of knowledge about the natural environment, technology, and environmental impacts associated with deep-sea mineral extraction.[22] This includes not only the physical extraction process but also the potential environmental impacts. There are no assessments of whether, where, and how it is possible to conduct mineral operations in an environmentally sustainable manner, in line with international obligations and expectations for sustainable management. According to the Environment Agency, the report does not fulfill the requirements of the seabed mineral law § 2-2. The extraction of minerals on the continental shelf could have significant and irreversible consequences for the marine environment. This includes the potential for permanent loss of

[18] The green shift needs Norwegian Seabed minerals. The Ministry of Petroleum and Energy. 21.11.2022 Det grønne skiftet trenger norske havbunnsmineraler - regjeringen.no (Accessed 25.06.2023)
[19] Ibid.
[20] Impact Assessment for Mineral Activities on the Norwegian Continental Shelf. 27.10.2022. Konsekvensutredning for mineralvirksomhet på norsk kontinentalsokkel - regjeringen.no (accessed 15.08.2023)
[21] Government's mineral proposal - against all reason. World Wildlife Fund Norway. Published 27/01/2023. Regjeringens mineralforslag: – Strider mot all fornuft - WWF (Accessed 20.06.2023)
[22] Comment for the Impact Assessment on opening of mineral activity on the Norwegian Continental Shelf. The Norwegian Environment Agency. 12/04/2021. miljodirektoratet.pdf (regjeringen.no) (Accessed 20.06.2023)

valuable and vulnerable species, landscapes, and ecosystems. There are no formalized process steps after opening to safeguard necessary knowledge acquisition and area-wise assessments of which areas should be protected due to environmental considerations and which areas might be suitable for mineral extraction. There is significant uncertainty regarding both the economic and environmental effects associated with seabed mineral extraction. It's poorly highlighted that there are several factors that reduce potential revenue, while both economic costs and environmental consequences are expected to be significant.[23]

In summary, this document points out a lack of foundational knowledge, procedural safeguards, and clear sustainable guidelines to support the decision to open the seabed for mineral extraction. The potential environmental impact and economic uncertainties further complicate this decision-making process. Opening large parts of the proposed study area for mineral extraction doesn't align with a precautionary approach due to missing process steps to ensure that industries don't get access to areas that should be protected. If areas are to be opened, it should be limited to surveys, and active sulfide occurrences should be protected from both exploration and extraction based on current knowledge.

It is no secret that hard materials like seabed minerals will take earth a long time to sustainably recreate. Seabed mining is certain to have some noticeable effects on the ecosystem, leaving the remaining question of how much and what could be done to minimize it? A study from 2011 was done on investigating the recovery of nematode assemblages 26 years after experimental dredging in the Clarion-Clipperton Fracture Zone.[24] While the oxygen levels and nutrient concentration appeared to restore after 26 years, there was a steep decline in biodiversity compared to untouched areas both with and without nodules. The vast difference of ecosystems on the ocean's seabed suggests the recovery rate of an area would not be the same universally but the study concluded that deep-sea ecosystems are generally unique and fragile.[25] There is no doubt that seabed mining will have an impact on the marine environment and this needs to be weighed carefully with the benefits of such operations.

Another more recent study from 2020 found that the interplay between the ecosystems in the ocean, particularly the pelagic and benthopelagic, is too complex to draw short term conclusions on the impact. The study also points out that the current recommendations and existing guidelines by the International Seabed Authority (ISA) is inadequate and lacks

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[23] Ibid.

[24] Miljutin, D. M., Miljutina, M. A., Arbizu, P. M., & Galéron, J. (2011). Deep-sea nematode assemblage has not recovered 26 years after experimental mining of polymetallic nodules (Clarion-Clipperton Fracture Zone, Tropical Eastern Pacific). Deep Sea Research Part I: Oceanographic Research Papers, 58(8), 885–897. https://doi.org/10.1016/j.dsr.2011.06.003 (Accessed 15.06.2023)

[25] Ibid.

standardization for methods of environmental assessments.[26] The ISA is tasked with governing seabed mining on the seabed outside of national jurisdiction known as “the area” and consists of expertise and experience shared between many different states. This suggests that Norway as a country would not have the necessary experience and resources to conduct a comprehensive environmental assessment needed for starting the exploitation phase as soon as they are planning. One could argue that Norway only needs to study the seabed within their national jurisdiction and immediate bordering areas which could require less resources. But when Terje Aasland attempted to defend the opening process, his response was that neither Miljødirektoratet nor the Institute of Marine Research have a clear plan on how to gain knowledge on the sustainability of seabed mining, and therefore needs to lean on the industrial process.[27] This paints a picture of urgency to access potentially important minerals where the environment is set as a second priority due to the lack of knowledge over the consequences. In order to quantify exactly how much knowledge is satisfactory can be difficult, but the recent studies are in agreement that we are below that threshold currently. Until there is a wider understanding of deep-sea ecosystems, the precautionary principle should be implied along with enhancing the requirement of EIAs to protect individual species and the health and stability of the ocean seabed.

In conclusion, while The Ministry of Petroleum and Energy persistently uses terms like sustainability and environmental concerns throughout their process of seabed mining, the haste in actualizing this venture invites some skepticism. The coming years will be crucial in determining whether Norway can indeed uphold its commitment to environmentally responsible seabed mining. The world will be watching closely as this process towards possible marine mineral extraction in the Norwegian seas unfolds.

2 NORWAY'S OBLIGATIONS UNDER INTERNATIONAL LAW

2.1 Introduction

International law has influence on the domestic legal development of Norwegian maritime areas. Through several international conventions and agreements, important frameworks are

[26] B.Christiansen, Denda and S.Christiansen, Potential effects of deep seabed mining on pelagic and benthopelagic biota, Marine Policy. https://doi.org/10.1016/j.marpol.2019.02.014 (Accessed 15.06.2023).

[27] Hvem roper etter havbunnsmineraler? Aftenposten, published 20.08.2023, 09:00. Hvem roper etter havbunnsmineraler? (aftenposten.no) (Accessed 20.08.2023)

put in place for the domestic management of States sea areas.[28] Norway is legally bound to uphold certain obligations under international treaties and conventions to which it is signatory. This impacts how Norway may use and prioritize areas under its domestic jurisdiction including its obligations under the United Nations Convention on the Law of the Sea (LOSC). The United Nations Convention on the Law of the Sea (UNCLOS) of 1982 serves as a foundational framework for the rights, freedoms and obligations of states at sea. In the preamble of the agreement, it aims to establish and secure a legal order for the seas that promotes communication, peaceful exploitation, and fair utilization of resources.[29] UNCLOS is widely recognized with over 169 parties together and serves as a codification of existing law, meaning that parts of it are recognized as international customary law.[30] In the context of seabed mining in Norway, this would mean that any deviation from UNCLOS regulations would not only breach this widely accepted treaty but could also be seen as opposing the norms of international customary law, thereby intensifying both the legal and ethical implications of non-compliance. UNCLOS may therefore establish rights and obligations for Norway as a coastal state in both regards to environmental considerations and the exploitation of resources. Under the United Nations Convention on the Law of the Sea (UNCLOS), the responsibilities of states are divided into two main categories: (i) areas within national jurisdiction, where a coastal state may exercise sovereignty over the territorial sea, as well as sovereign rights and jurisdiction within the Exclusive Economic Zone (EEZ) and the continental shelf (CS), and (ii) areas beyond national jurisdiction, where no state can assert territorial authority. The zones are set by measuring the distance from the baseline, usually drawn along the low-water line, but the coastal states can also draw straight baselines where the coast has deep indentations or there is a row of islands near the coast as in Norway's case.[31] The relevant area for seabed mining in Norway is located on the continental shelf, including the extended continental shelf, as illustrated in the map above.

UNCLOS principles encompass the preservation and protection of the marine environment, sustainable use of marine resources, and the equitable sharing of benefits derived from seabed

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[28] Schütz, S. E., & Johansen, E. (2023). Faglig grunnlag for overordnede prinsipper for arealbruk til havs. Research report. Page 65. https://bora.uib.no/bora-xmlui/handle/11250/3062756 (accessed 15.07.2023)

[29] United Nations Convention on the Law of the Sea, Montego Bay (adopted 10 December 1982, in force 16 November 1994) UNTS 397.

[30] Qiang, Zou. The relationship between UNCLOS and Customary International Law: Some reflections. August 2023. https://doi.org/10.1016/j.marpol.2023.105691 (accessed 15.08.2023)

[31] Schütz, S. E., & Johansen, E. (2023). Faglig grunnlag for overordnede prinsipper for arealbruk til havs. Research report. Page 65. https://bora.uib.no/bora-xmlui/handle/11250/3062756 (accessed 15.07.2023)

mining. This involves a commitment to conduct Environmental Impact Assessments (EIAs) before marine activities commence and to ensure that any adverse impacts on the marine environment are minimally disruptive and appropriately mitigated.[32] Skeptics of seabed mining amplify these concerns. To truly honor the spirit of UNCLOS, particularly Articles 145 and 194, some argue that the International Seabed Authority (ISA) should consider a moratorium on seabed mining. The preface being, until the global community can ensure marine environmental protection with certainty, pausing seabed mining might be the most sensible path forward.[33] The suggestion for the ISA to consider a moratorium on seabed mining until certain environmental measures are in place reflects a precautionary approach. This essentially argues for a pause to ensure that the dual objectives of UNCLOS sustainable use and marine environmental protection are genuinely compatible and achievable. In the context of Norway's ambitions for seabed mining, these voices represent a cautionary note. Norway is one of few countries that voted against the international moratorium on deep-sea mining at the International Union for Conservation of Nature (IUCN) conference on the 8th of September 2021.[34]

Norway is obligated to protect and preserve the marine environment under UNCLOS article 192. Following article 193, states have the sovereign right to exploit their natural resources in accordance with their environmental policies and duty of article 192. Article 194, 204, 206 and 208 outline obligations to take measures to protect and preserve the marine environment and limit pollution. These articles can therefore constitute obligations onto Norway as a member state of UNCLOS as the Seabed Minerals Act requires that all reasonable measures must be taken to prevent pollution.[35] I will interpret articles 192, 194, 204, 206 and 208 below in further detail as they elaborate on article coastal states obligation to protect and preserve the marine environment and possibly Norway's obligations concerning seabed mining.

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[32] Ibid.

[33] Folkersen, M.V.; Fleming, C.M.; Hasan, S. Depths of uncertainty for deep-sea policy and legislation. Glob. Environ. Chang. 2019, 54, 1–5.

[34] Skancke, Seabed minerals in Norway. An analysis of conflicts and sustainability issues. 2022-05-16. Page 36. Munin: Seabed minerals in Norway. An analysis of conflicts and sustainability issues. (uit.no) (accessed 15.07.2023)

[35] Ulf Hammer, Trond Stang, Sverre B. Bjelland, Yngve Bustnesli og Amund Bjøranger Tørum, Norsk Lovkommentar: Petroleumsloven, Juridika.no § 10-1 nr. 4.6 tredje ledd.

2.2 UNCLOS Article 192

Article 192 of UNCLOS sets out a general obligation for states to protect and preserve the marine environment.[36] Although the succeeding articles offer some elaboration, there is a need for interpretation of the article because of its short and ambiguous nature in order for it to be practically applicable. A notable case in this regard has been the South China Sea Arbitration (SCSA) between the Philippines and China. Although China did not comply with the tribunal's decision, the case has had a significant impact in developing the meaning of Article 192. The imperative to both "protect" and "preserve" was distinctly delineated. While "protect" implies an obligation to defend the marine environment from potential future harm, "preserve" emphasizes the duty to either maintain or, if possible, enhance its current state.[37] The tribunal also identified the article to cover all maritime zones and the four components of rare or fragile ecosystems, marine living resources, endangered species and the habitat of threatened or endangered marine life.[38] As a state party to UNCLOS, Norway has obligations under Article 192 when carrying out seabed mining activities on their continental shelf.
It is important to understand that Article 192 of UNCLOS imposes both a positive and a negative obligation on states as confirmed in the South China Sea Arbitration (SCSA).[39] The positive obligations require states to take proactive measures to protect and preserve the marine environment, such as performing environmental assessments or implementing conservation practices. The negative obligations, on the other hand, necessitate abstaining from actions that would harm the marine environment, like dumping hazardous substances. Importantly, the primary responsibility under Article 192 is one of due diligence, rather than achieving a particular outcome.[40] This suggests that Norway would be expected to exercise a reasonable level of care in its seabed mining activities to minimize harm to marine living resources, endangered species, and fragile ecosystems. Failing to meet this due diligence standard could potentially put Norway in breach of Article 192. Although interpretations of articles by the courts may vary, ITLOS is highly recognized and they may hold Norway

[36] United Nations Convention on the Law of the Sea, Montego Bay (adopted 10 December 1982, in force 16 November 1994) UNTS 397. Article 192.
[37] The Republic of Philippines v. The People's Republic of China. (2016). The South China Sea Arbitration. Permanent Court of Arbitration (PCA), Case No. 2013-19. Para. 941.
[38] Jianping Guo. The developments of marine environmental protection obligation in article 192 of UNCLOS and the operational impact on China's marine policy – A south China sea fisheries perspective. October 2020. https://doi.org/10.1016/j.marpol.2020.104140 (Accessed 15.07.2023)
[39] The Republic of Philippines v. The People's Republic of China. (2016). The South China Sea Arbitration. Permanent Court of Arbitration (PCA), Case No. 2013-19.
[40] Ibid.

responsible for updating their marine policies to ensure compliance with international interpretations. China updated their fisheries policies after the SCSA[41], and Norway could find itself in need of updating EIAs, stakeholder liability and more adaptive management strategies.

The Seabed Disputes Chamber of ITLOS in Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area (Seabed Mining Advisory Opinion) noted that the obligation to protect and preserve should be considered regarding EIAs for seabed mining activities and not guided by national interests but the welfare of humanity at large.[42] In light of the developments from the South China Sea Arbitration (SCSA) and the Seabed Mining Advisory Opinion, Norway finds itself with a more nuanced framework within which to conduct its seabed mining activities. This is particularly relevant as it pertains to Article 192 of UNCLOS, which requires states to protect and preserve the marine environment. These international rulings offer further guidance on how Norway can improve its due diligence to meet its obligations under Article 192, including, but not limited to, the conduct of comprehensive and transparent EIAs. To fulfill its due diligence obligations under Article 192, Norway is required to take adequate measures to protect and preserve the marine environment. This could entail conducting comprehensive Environmental Impact Assessments (EIAs) prior to progressing with seabed mining activities, in order to evaluate and mitigate potential environmental risks.

As the regime for seabed mining is still in its early stages, there is certain to be more updates and policies concerning seabed mining in which Norway must keep up with. By continually monitoring their process and having efficient response mechanisms ready for adverse events Norway could avoid possible unforeseen damage to marine environment.

As the regime for seabed mining is still in its early stages, there is certain to be more updates and policies concerning seabed mining in which Norway must keep up with. By continually monitoring their process and having efficient response mechanisms ready for adverse events Norway could avoid possible unforeseen damage to marine environment. The above interpretations of Article 192 highlights the gravity and expansive nature of state obligations concerning the marine environment. Article 192 covers a broad yet fundamental obligation for Norway to protect and preserve the marine environment in all its activities, including seabed mining. Article 192 of UNCLOS obliges Norway to exercise due diligence in the

[41] Ibid.

[42] International Tribunal for the Law of the Sea. Responsibilities and obligations of States sponsoring persons and entities with respect to activities in the Area. 2011. 17_adv_op_010211_en.pdf (itlos.org) (Accessed 15.07.2023)

protection and preservation of the marine environment. In practical terms, this means that Norway has to take all reasonable and appropriate measures to prevent harm to the marine ecosystem. Due diligence does not necessarily mandate a specific outcome but does demand a diligent process, such as performing comprehensive Environmental Impact Assessments (EIAs) that consider both immediate and long-term consequences, and consulting with relevant experts and stakeholders. In line with international law, Norway must also adhere to best environmental practices and standards, which may include those established by international bodies. Failure to exercise this level of care could lead Norway to be in breach of its international obligations under UNCLOS Article 192.

2.3 UNCLOS Article 194

Article 194(1) focuses on measures to prevent, reduce and control pollution of the marine environment.[43] UNCLOS defines "pollution of the marine environment" as; the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities.[44] Seabed mining involves the extraction of minerals from the deep seabed, and is likely to present substances or energy into the marine environment potentially causing harm. In the SSCA, the tribunal deemed China's island building activities as breaching article 192 by causing harm to the marine environment. The tribunal connected this to Article 194(5)'s directive to protect rare or fragile marine ecosystems and habitats of marine life.[45] Although dredging the seafloor for the construction of islands does not equal seabed mining activities, they both involve moving or extracting materials on the seabed. This shows that Article 194 covers a wide range of activities which could damage the marine environment. Seabed mining activities fall under the scope of this article and require the implementation of measures to prevent, control and reduce pollution.
When exploring what measures to prevent, control and reduce pollution entail, we do have

[43] United Nations Convention on the Law of the Sea, Montego Bay (adopted 10 December 1982, in force 16 November 1994) UNTS 397. Article 194.
[44] United Nations Convention on the Law of the Sea, Montego Bay (adopted 10 December 1982, in force 16 November 1994) UNTS 397. Article 1(4).
[45] Jianping Guo. The developments of marine environmental protection obligation in article 192 of UNCLOS and the operational impact on China's marine policy – A south China sea fisheries perspective. October 2020. https://doi.org/10.1016/j.marpol.2020.104140 (Accessed 15.07.2023)

enough information based on previously mentioned studies and land mining activities to say that preventing pollution from seabed mining is unlikely. Measures to "reduce" and "control" using "the best practicable means at their disposal" in 194(1) could be interpreted as an obligation which varies between states based on technological advancement and economic ability. Seabed Mining Advisory Opinion established a high threshold for all states when sponsoring seabed mining activities in "the area" when the Island of Nauru requested to be held to a lower standard for its responsibilities than a more developed state.[46] Norway has not requested any such leniency when it comes to international obligations, but as mentioned earlier that the venture is heavily based on economic prospects, cost efficiency is an important factor for justifying seabed mining activities domestically. The Seabed Mining Advisory Opinion shows that seabed mining as a potentially intrusive and damaging industry requires a high threshold in the implementation of international obligations. The tribunal also observed that Article 194(2) is an example of a 'due diligence' obligation, requiring states to take reasonable and appropriate measures to prevent damage to the marine environment.[47] By instilling a 'due diligence' obligation, Article 194(2) requires states to exercise caution and ensure their activities neither harm their environment nor transcend their borders to damage other states or international waters. This demands not only the implementation of high end, low impact technologies but also comprehensive surveillance, and monitoring strategies to manage unforeseen environmental challenges.

Another possible obligation under Article 194(2) relates to the impact on other states or areas outside national jurisdiction. Further, the tribunal referenced principles from international environmental law, underlining that states should ensure their activities, even within their own jurisdiction, do not detrimentally affect the environment of other states or areas outside of national jurisdiction.[48] This would prevent Norway from causing transboundary harm by "moving" the damage to other areas and neglecting to take samples and require impact assessments to take into account those ecosystems as well.

The ethos of Article 194 transcends individual state actions. It celebrates international cooperation, as highlighted by the 2002 MOX Plant case.[49] Given the overall and interrelated nature of marine ecosystems, isolated actions are insufficient. Norway is not just mandated to

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[46] International Tribunal for the Law of the Sea. Responsibilities and obligations of States sponsoring persons and entities with respect to activities in the Area. 2011. 17_adv_op_010211_en.pdf (itlos.org) (Accessed 15.07.2023)

[47] Rothwell DR, Stephens T. The international law of the sea. 2nd ed. Hart; 2016. Page 370.

[48] König Doris. Marine Environment, International Protection. Chapter C.7(a). Last updated February 2013. Oxford Public International Law: Marine Environment, International Protection (uit.no) (Accessed 15.07.2023)

[49] Rothwell DR, Stephens T. The international law of the sea. 2nd ed. Hart; 2016. Page 371.

act sensible within its jurisdictions but to lead international collaborations, sharing expertise, advancing research, and evolving best practices collectively.
In conclusion, Norway's seabed mining activities fall under the scope of Article 194 focused on pollution. It holds states to a high threshold to not cause transboundary pollution, carefully assess the potential impacts, and collaborate with other states if necessary in order to use high end, low impact technology.

2.4 UNCLOS Article 204

Article 204 of UNCLOS presents that States shall as far as practicable, observe, measure, evaluate and analyze the risks or effects of pollution of the marine environment.[50] Similar to Article 194, Article 204 acts as a supplementary provision for protecting and preserving the environment. Seabed mining involves risks to the environment and requires evaluations both before, during and after a marine activity constituting risk to the environment. The wording of "as far as practicable" is an ambiguous term which I think reflects the practical limitations that may arise when implementing monitoring and assessment measures. The state's capacities and capabilities to carry out the required tasks over time. In the context of seabed mining the extreme depths and complex marine environments may present logistical and technical challenges that constrain the ability to monitor or measure impacts effectively. Therefore, "as far as practicable" serves as a standard that calls for maximum feasible effort within the limits of technological capability and logistical practicability.
In the South China sea case, the tribunal commented on article 206 stating "the terms "reasonable" and "as far as practicable" contain an element of discretion for the State concerned, but the obligation to communicate reports of the results of the assessments is absolute."[51] For Article 204 this suggests that the obligation to analyze, measure, evaluate and observe are absolute, but that the means taken towards doing so is left up to the state within the scope of scientifically recognized methods. Additionally, the wording of "directly or through the competent international organizations" implies that there is a scope of international cooperation as the state of the marine environment is a global concern. Norway needs to monitor any marine activities within national jurisdiction but also share data and

[50] United Nations Convention on the Law of the Sea, Montego Bay (adopted 10 December 1982, in force 16 November 1994) UNTS 397. Article 204.
[51] The Republic of Philippines v. The People's Republic of China. (2016). The South China Sea Arbitration. Permanent Court of Arbitration (PCA), Case No. 2013-19.

research cooperating with international organizations. Norway's seabed mining activities are under the scope of Article 204 to monitor any potential seabed mining activities within their own jurisdiction. It highlights the importance of ongoing measurements and ensuring an international approach to conserving the marine environment.

2.5 UNCLOS Article 206

This article requires that states must assess the potential effects of planned activities that may cause substantial pollution of or significant harmful changes to the marine environment. The results of this assessment should be communicated as stipulated in Article 205, thereby contributing to a transparent and informed decision-making process.[52] This would mean that Norway is under the obligation to evaluate the environmental consequences of activities within its jurisdiction.

The wording of "reasonable grounds" is a term for legal interpretation. It allowed for the assessment of what counts as "reasonable" to be dynamic and perhaps change over time as its scientific understanding evolves. Due to the increasing scientific evidence concerning the environmental impacts of seabed mining, including harm to marine biodiversity, Norway may find it increasingly difficult to argue that it doesn't have "reasonable grounds" to conduct an extensive EIA. The requirement to communicate the results of the EIA adds a dimension of transparency and accountability. This is particularly important because it mandates international notification and consultation, allowing potentially affected parties to be aware and possibly influence the decision-making process. This requirement can serve as an additional check on Norway's activities, requiring the nation to make its EIA publicly available for scrutiny.

Similarly to Article 192, Article 206 perhaps for the most part imposes a "due diligence" obligation, meaning the state is required to take all necessary measures to prevent harm but is not necessarily held accountable for all unintended environmental damage that may occur. It is a call for responsible behavior and good governance rather than a strict liability provision. As seen in the South China Sea Arbitration, due diligence plays a pivotal role in the application of Article 192. This standard would be a significant focus if Norway's EIA procedures were ever legally challenged.

[52] United Nations Convention on the Law of the Sea, Montego Bay (adopted 10 December 1982, in force 16 November 1994) UNTS 397. Article 206.

In the case of compliance with Article 206, this would require a comprehensive Environmental Impact Assessment (EIA) to evaluate the potential environmental harm. This would include an evaluation of the risks to marine biodiversity, possible pollution levels, and the long-term consequences on marine ecosystems. Based on the contention surrounding the EIA conducted by the Norwegian Ministry of Petroleum and Energy, it seems unlikely that the assessment would be able to fulfill this requirement due to the gaps of knowledge. Failure to conduct a thorough EIA in line with Article 206 would place Norway in a risky legal position. Not only could it be in violation of UNCLOS, but it might also risk damaging its reputation as a state committed to sustainable marine resource management.[53] Therefore, a comprehensive EIA under the framework of Article 206 is crucial for balancing Norway's economic interests in seabed mining with its international environmental obligations.

2.6 UNCLOS Article 208

Article 208 pertains to pollution by seabed activities within national jurisdiction. Section 1 obliges states to adopt laws and regulations preventing, reducing and controlling pollution.[54] As a signatory to UNCLOS, Norway must enact laws that regulate seabed activities in order to reduce pollution. Section 2 adds that other measures should be adopted for the same reasons. Section 3 further specifies that such laws and regulations need to be equal or even more stringent than existing international standards. Norway's laws, regulations and measures should be not less effective than international standards. When considering what may constitute as "international rules, standards and recommended practices and procedures" may be unclear. The term (GAIRAS) refers to Generally Accepted International Rules and Standards. The term is associated with a set of widely Accepted International Rules and Standards which is susceptible to be developed by recognized bodies such as the International Maritime Organization (IMO), the International Seabed Authority, or other relevant international organizations. This article is highly important regarding Norway's situation, a coastal state with extensive offshore resources and planned activities. This could require periodic review and amendments in order to ensure compliance.

[53] Norway's follow-up of Agenda 2030 and the Sustainable Development Goals. Ministry of Foreign Affairs. Norway's follow-up of Agenda 2030 and the Sustainable Development Goals - regjeringen.no (Accessed 25.07.2023)
[54] United Nations Convention on the Law of the Sea, Montego Bay (adopted 10 December 1982, in force 16 November 1994) UNTS 397. Article 208.

Section 4 calls for harmonizing such policies at the appropriate regional level. This implies that Norway would need to work with other relevant States to the area to harmonize policies. An example of this is through the The Convention The Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR)[55], aimed at protecting and preserving the North-Atlantic ocean. OSPAR is a legally convention which incorporates principles like the Precautionary Principle and Best Environmental Practice.[56] Norway could therefore be obligated to implement these principles as a part of their domestic legislation. However, the submission from the Ministry of Petroleum and Energy to open parts of the continental shelf means they claim to possess sufficient knowledge to move ahead with the opening of areas on the NCS.[57] In making this submission, the Ministry is essentially asserting that they understand the environmental, economic risks and benefits well enough to make an informed decision. This could imply that the planned activities will not only be economically viable but also meet regulatory and environmental standards. As the many of the minerals of interest are to be used for the advancement of renewable energy, one could argue that it will balance itself out at later stages, but this would be impossible to predict currently it has not been established that these minerals cannot be gathered elsewhere. In its consultation report, The Norwegian Environment Agency refers to Article 208 of UNCLOS when criticizing the Ministry of Petroleum and Energy approach to seabed mining.[58] These two opposing sides show a clear contention between the industrial push and the environmental considerations when it comes to what constitutes enough knowledge to proceed with seabed mining.
Section 5 says that states shall contribute to formulating global and regional standards through the competent international organizations. This places a responsibility on Norway to participate as an active part in international forums that focus on establishing global and regional standards for seabed mining. Article 208 implies that international standards may be legally binding if they are widely accepted. This suggests that coastal states might have to abide by international 'soft law,' even if they are not legally obligated to do so.[59] This could

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[55] OSPAR Convention. In force 25 March 1998.
Sintra Statement Paper (ospar.org) (Accessed 25.07.2023)
[56] Skancke, Seabed minerals in Norway. An analysis of conflicts and sustainability issues. 2022-05-16. Page 46.
Munin: Seabed minerals in Norway. An analysis of conflicts and sustainability issues. (uit.no) (accessed 15.07.2023)
[57] The Government is paving the way for a new ocean industry - seabed mineral activity. 20/06/2023. Regjeringa legg til rette for ei ny havnæring – havbotnmineralverksemd - regjeringen.no (accessed 15.06.2023)
[58] Comment for the Impact Assessment on opening of mineral activity on the Norwegian Continental Shelf. The Norwegian Environment Agency. 12/04/2021.
miljodirektoratet.pdf (regjeringen.no) (Accessed 20.06.2023)
[59] Erik Jaap Molenaar, Coastal State Jurisdiction over Vessel-source Pollution, Kluwer Law International 1998, p. 141.

result in Norway being found retroactively in violation of its international obligations if they were to proceed with seabed mining currently.

The International Seabed Authority (ISA) governs mineral activities in international waters. The ISA is currently finalizing a comprehensive framework including regulations, standards and guidelines regarding exploration and exploitation of seabed minerals known as the Mining Code.[60] Part IV, section 1 of the Draft Regulations on Exploitation of Mineral Resources in the Area contain obligations to apply (a) the precautionary approach, (b) the best available techniques and best environmental practices, (c) integrate best available scientific evidence, and (d) promote accountability and transparency in the assessment.[61] The ISA also stated that "Exploration should not occur in protected areas or where there's a risk of severe environmental damage."[62] By acting as the most recent developing international order on the case of seabed mining, I would argue that the Mining Code is to be considered GAIRAS and it is important that Norway comply with the principles laid out in this Mining Code.

Article 208 of UNCLOS imposes stringent obligations on coastal states like Norway to align their domestic laws, governing seabed activities, with international standards. The evolving ISA Mining Code serves as a vital point of reference in this regard. As such, Norwegian legislation must at the very least, be as effective as the rules and standards of the ISA.

In its comments on the EIA conducted by the Ministry of Petroleum and Energy, the Environment Agency pointed out several relevant aspects.[63] Firstly, the lack of knowledge about the environment in the areas investigated were prudent. More information could therefore be required in order to understand the consequences. The agency also pointed out that there was no plan in place for gathering such knowledge. I interpret this as when an impact assessment is not able to assess any impact based on the lack of knowledge, it cannot produce any result justifying going forward with the activity. Another comment considers the fact that areas like the Mid-Atlantic Ridge which is considered generally vulnerable have not been evaluated adequately and marine conservation zones have not been covered despite

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[60] The International Seabed Authority https://isa.org.jm/node/20314 (accessed 15.07.2023).

[61] Draft regulations on exploitation of mineral resources in the Area. The International Seabed Authority. 15–19 July 2019. Page 36. isba_25_c_wp1-e_0.pdf (isa.org.jm) (Accessed 20.08.2023)

[62] Decision of the Assembly of the International Seabed Authority relating to the regulations on prospecting and exploration for polymetallic sulfides in the Area (ISBA/16/A/12/Rev.1), Kingston 2010 https://isa.org.jm/files/files/documents/isba-16a-12rev1_0.pdf (Accessed 15.07.2023)

[63] Comment for the Impact Assessment on opening of mineral activity on the Norwegian Continental Shelf. The Norwegian Environment Agency. 12/04/2021. miljodirektoratet.pdf (regjeringen.no) (Accessed 20.06.2023)

Norway's commitment to preserving 30% of natural areas.[64] If there are areas potentially fragile, further considerations need to be taken as the potential for harm would be increasingly significant. Lastly, they commented that the resource potential is still not thoroughly evaluated with the content of valuable metals. They end the comment by stating that if the area is to be opened, it should be limited to investigation, not extraction and that clear guidelines for documentation is needed.[65] By neglecting several of these concerns, the Ministry of Petroleum and Energy have decided that they will leave the decision up to the Norwegian Parliament. With this in mind, one cannot conclude that the Ministry of Petroleum and Energy is acting in accordance with international law when it comes to environmental considerations. Norway is obligated though article 208 to update its relevant domestic legislation to embody the principles of the Mining Code.

3 NORWAY'S LEGISLATIVE FRAMEWORK ON SEABED MINING

3.1 Section 112 of the Norwegian Constitution

In this chapter I will look into article 112 of the Norwegian Constitution and its relevance to seabed mining in Norway. Section 112 of the Norwegian Constitution asserts that every person has the right to a healthy environment, with natural resources managed for long-term sustainability, and grants citizens the right to information about the environment and planned encroachments. It also obliges the state authorities to implement measures to uphold these principles.[66] The environment is constitutionally protected in Norway. This has implications for how we interpret laws related to natural resources, such as the Seabed Minerals Act. Not only does this provision outline citizens' rights to a healthy environment, but it also has broader implications for societal interests concerning nature and biodiversity.
The first part of Section 112 focuses on the principle of sustainable development. It emphasizes the long-term perspective that should guide resource management to protect future generations. This principle isn't just applicable to terrestrial resources but also extends to seabed minerals and the marine environment that could be affected by mining operations.[67]

[64] Ibid.
[65] Ibid.
[66] Article 112 of the Norwegian Constitution. Kingdom of Norway. 17/05/1814, last consolidated: 15/05/2023. The Constitution of the Kingdom of Norway - Lovdata (Accessed 15/05/2023)
[67] Hans Chr. Bugge, Climate Law: International, European and Norwegian Climate Law Towards 2030, Universitetsforlaget 2021, page. 380.

Originally, Section 110b was created to legally enforce the seven basic environmental rights outlined in the 1987 Brundtland Report, "Our Common Future."[68] These include the right to a specific quality of the environment, a duty to prevent environmental degradation, and the principle of solidarity with future generations.

This Article replaced the previous environmental provision, Article 110b, which was adopted in 1992. With the constitutional reform in 2014, the content of the environmental provision was strengthened and moved to the human rights chapter of the Constitution.[69] Although the Article is humanistic, it also safeguards the value of nature and biodiversity. Despite a broad application, the article's practical application is inherently vague and requires further interpretation.

People vs. Arctic Oil was the first case that prompted further interpretation of Article 112 by the courts. Greenpeace together with 4 other NGOs sued the state, claiming the allocation of 10 extraction licenses for petroleum in the Barents Sea was in violation of Article 112. They also claimed that the pollution from the production and combustion of petroleum violated the act. The essential basis of the claim was the alleged failure to specifically consider the consequences of a potential increase in global production of oil and gas, as a result of new discoveries under the licenses.[70] In summary, the core issue was whether the courts could review the Parliament's decisions based on Article 112. Despite the NGOs losing the case, the court offered some potentially significant insights on the application of Article 112 in its judgment. Firstly, the judges consider climate change within the scope of the article and explain that the Norwegian government cannot be held responsible for the burning of Norwegian petroleum in other countries but if the state's actions lead to environmental degradation within Norway's national jurisdiction, the state is more likely to be held responsible under Article 112.[71] In the case of seabed mining, the immediate environmental consequences would happen within national jurisdiction making the application of article 112 higher in the event of environmental damage. A possible breach resulting from the pending approval for Parliament to approve the opening of areas on the NCS would be that the state is found breaching the obligation to inform its citizens of the potential damage. The judges

[68] World Commission on Environment and Development, Our Common Future (also known as the Brundtland Commission Report), Oslo 1987.

[69] Supreme Court of Norway, Nature and Youth Norway v. Ministry of Petroleum and Energy, HR-2020-2472-P, Judg. of Dec. 22, 2020. Page 22(4).
hr-2020-2472-p.pdf (domstol.no) (Accessed 20.07.2023)

[70] Alvik. 2018. The first Norwegian climate litigation. The Journal of World Energy Law & Business, 11(6), 541-545.

[71] Supreme Court of Norway, Nature and Youth Norway v. Ministry of Petroleum and Energy, HR-2020-2472-P, Judg. of Dec. 22, 2020. Page 22(4).
hr-2020-2472-p.pdf (domstol.no) (Accessed 20.07.2023)

stated in majority that the Article requires the state to take measures to implement its requirements but also set a high threshold for judicial intervention on acts of Parliament in cases of grossly neglected duties. The court also said that these duties can apply to both action taken and action avoided.[72] If there is a real risk of significant environmental damage, and there is scientific uncertainty about this, the precautionary principle follows from the sustainability principle and the right to a certain environmental quality.

The court's judgment has received criticism for being overly cautious and for not sufficiently incorporating global advancements like the Paris Agreement.[73] This raises questions about whether the court adequately justified why a "gross" violation of the state's duty is needed for Article 112 to be considered breached. In his article commenting on the case, despite agreeing with the court's decision to act in the favor of the oil industry, Ivar Alvik points out a few observations which could be deemed relevant in the case of seabed mining. The first is that the court's decision draws a distinction between CO2 emissions within Norway and those arising from the consumption of its exported products, specifically oil and gas.[74] The clear-cut separation between domestic and international emissions might be an oversimplification.[75] If Norwegian seabed mining results in environmental damage that affects international waters or neighboring maritime territories, Norway could arguably be seen as having some responsibility, even if the actual damage occurs outside its direct jurisdiction. Just as with oil and gas, the demand for seabed minerals will drive the supply.[76] If the international consensus is to address the demand side of the equation, supply will naturally adjust. However, the environment's value and the broader implications of harming it require that any potential impacts be actively and comprehensively addressed rather than being left to assumption. Just as the Paris Agreement sets out guidelines for emission controls, there may arise international agreements or regulations governing seabed mining.[77] Similarly to the obligations under UNCLOS, Norway being a participant in many international environmental agreements, will have to align its seabed mining activities with international regulations as they develop. Christina Voigt's "The Climate Judgment of the Norwegian Supreme Court: Aligning the Law with Politics," wherein the interpretation and potential implications of Article 112 are

[72] Ibid.
[73] Hans Chr. Bugge, Climate Law: International, European and Norwegian Climate Law Towards 2030, Universitetsforlaget 2021, page. 380.
[74] Alvik, I. (2018). The first Norwegian climate litigation. The Journal of World Energy Law & Business, 11(6), 541-545.
[75] Ibid.
[76] Ibid.
[77] Ibid.

thoroughly examined.[78] Voigt highlights the Constitution's clear commitment to securing both present and future generations' right to a conducive environment. In her perspective, she points out the Supreme Court's direction towards a local application of Article 112. The Court states that the Constitution typically does not shield against consequences of actions beyond Norwegian borders, preventing instances where the implications have direct ramifications on Norway.[79] This would include scenarios like oil or gas exports from Norway resulting in environmental damage within its territory. The Supreme Court's position could prove problematic as its overt deference to the Parliament could be seen as minimizing its own authority in holding the state to its Constitutional commitments. This potentially infringes upon the foundational principles of the rule of law that demand a distinct separation of powers.[80] Herein lies a limitation of the Court's prerogative, with Article 112 serving as a basis for judicial review only under specific circumstances. This article can be invoked in court, especially when there's a legislative or administrative negligent act on an environmental issue or a disregard of obligations as outlined in Article 112. In essence, while there now is some interpretation of Article 112, the dynamics of environmental challenges might require future reinterpretations. I agree with Voigt in recognizing the article's potential to influence broader policy changes, both within and outside Norway, especially in a changing environmental landscape.

Considering these interpretations, the opening of mineral activities on the NCS could be seen as an encroachment on the obligation to manage natural resources on the basis of comprehensive long-term considerations which will safeguard this right for future generations. Citizens and organizations could therefore invoke Section 112 to argue against such activities, especially if they believe the government has failed to take necessary measures to preserve a healthy environment.

If the Norwegian government proceeds with seabed mining today, and it hypothetically results in damaging environmental effects, the court's decision would largely depend on how the damages manifest and where they occur. As Ivar Alvik emphasized, the court has previously made distinctions between domestic and international implications. If the environmental damages from seabed mining are predominantly domestic, the Norwegian courts might be

[78] Christina Voigt, The First Climate Judgment before the Norwegian Supreme Court: Aligning Law with Politics, Journal of Environmental Law, Volume 33, Issue 3, November 2021, Pages 697–710, https://doi.org/10.1093/jel/eqab019 /(Accessed 25.07.2023)

[79] Ibid.

[80] Sampford, UNPACKING THE RULE OF LAW, ACCOUNTABILITY AND THE PUBLIC TRUST. Dec 2, 2021
RULE OF LAW – Separation of Powers | Accountability Round Table. (accountabilityrt.org) (accessed 25.07.2023)

more inclined to hold the government accountable under Article 112 of the Constitution, given its mandate to ensure a healthy environment for current and future generations. However, as Christina Voigt highlighted, the Supreme Court has shown deference to the Parliament in its interpretations of Article 112, which could limit its capacity to hold the state accountable to its constitutional obligations. This difference suggests that if the Parliament supports seabed mining and can justify it from a legislative or policy standpoint, the courts might be reluctant to counteract the government's decision. However, the interpretation of Article 112 can evolve over time. While the current stance may lean towards a limited application, growing environmental concerns and international pressures could push the court towards a broader interpretation in the future.

Given that Article 112 of Norway's constitution underscores both environmental and human health, the line between the two is blurred, reinforcing the idea that environmental degradation directly affects individual and collective rights. I consider the obligation to manage natural resources on the basis of comprehensive long-term considerations, safeguarding this right for future generations as well as giving rise to exercising caution and gathering more information before proceeding.

In conclusion, Article 112 of the Norwegian constitution implies that the state is obligated to inform its citizens of the state and potential damage to the environment from its activities. By not performing an extensive EIA to uncover these questions, the state would breach its obligations were it to move forward with seabed mining in its current form. Therefore the state must gather sufficient knowledge about the environment before proceeding with its activities.

3.2 Nature Diversity Act

In this chapter, I will discuss the applicability and possible influence of the Nature Diversity act on Seabed Mining in Norway. Due to all the different sectors and vast environmental landscape, Norwegian environmental law can be characterized as fragmented and lacking in coherence with laws and regulations scattered across various departments. While such a setup provides flexibility, it could weaken environmental protection as such is the case with seabed mining being primarily handled by the Ministry of Petroleum and Energy. Therefore, overarching rules, like the Nature Diversity Act, are essential in safeguarding environmental considerations. The Nature Diversity Act has established the principles for official

decision-making in sections 8-12. These are principles the ministry must abide by in its decision-making process concerning the opening of the NCS for seabed mining. The Act summarizes several environmental principles, knowledge-based decision-making (§ 8), the precautionary principle (§ 9), the ecosystem approach and cumulative environmental effects (§ 10), the polluter pays principle (§ 11), and the principle of environmentally sound techniques and operations (§ 12).[81] The crucial question is whether these principles apply to activities regulated by the Seabed Minerals Act and, if so, to what extent.

The Act's territorial scope extends to the edge of territorial waters, with some clauses applicable "as far as practicable" to the continental shelf, notably § 8–10.[82] Interestingly, § 11 and 12 are excluded from this statement, which could raise concerns about the selective application of principles. The phrase "as far as they are suitable" generates ambiguity around how these principles apply to the continental shelf. My interpretation is that there's no compelling reason to minimize the importance of these principles in this context.

The preparatory works and discussions that led to Norway's Nature Diversity Act underline that the legislation isn't just a national endeavor, and it's closely tied to Norway's international commitments, such as the Convention on Biological Diversity.[83] Essentially, the law serves as a mechanism to translate these international obligations into domestic action. Importantly, this isn't just limited to forests, parks, or protected areas; it also has ramifications for industries like seabed mineral extraction. So, there's really no basis to argue that the principles outlined in the Nature Diversity Act shouldn't apply to these offshore activities as well.

Section 7 of The Act explicitly imposes duties from 8-12 on public authority and not private entities.[84] However, section 6 concerns a duty of care in which private entities could be indirectly influenced by the principles as considered “reasonable conduct”.[85] Section 6 does not belong to the paragraphs stated to specifically cover the continental shelf. However, section 14 states that measures under the act shall be weighted against other important public interests[86], which seabed mineral exploration and extraction is likely to be considered.

While the Nature Diversity Act's principles may not be explicitly tailored for seabed mineral activities, they are nonetheless applicable and essential for balancing environmental and other

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[81] The Nature Diversity Act. Ministry of Climate and Environment. 19/06/2009. https://www.regjeringen.no/en/dokumenter/nature-diversity-act/id570549/ (Accessed 20.07.2023)
[82] Ibid.
[83] Ot.prp. nr. 52. 2008-2009. page. 371 https://www.regjeringen.no/contentassets/a821d3fd355e4440bac64fa6e7e59642/no/pdfs/otp200820090052000ddpdfs.pdf (Accessed 20.07.2023)
[84] The Nature Diversity Act, section 2. Ministry of Climate and Environment. 19/06/2009. https://www.regjeringen.no/en/dokumenter/nature-diversity-act/id570549/ (Accessed 20.07.2023)
[85] Ibid.
[86] Ibid.

concerns. Their importance could have been fortified had they been explicitly mentioned in the Seabed Minerals Act. Regardless, they could operate as general principles of environmental law and remain significant in the case of domestic seabed mining in Norway. The sustainable exploration and exploitation of natural resources, while simultaneously protecting and conserving the natural environment, is a balancing act that many nations grapple with. In Norway, this complex issue is critically important, especially concerning seabed mining and its potential impacts on marine biodiversity and ecosystems. As a pioneering nation in marine conservation, Norway's legislative framework reflects its commitment to both economic growth and the preservation of natural heritage. The Nature Diversity Act is a cornerstone in this commitment.[87] For the purpose of seabed mining, three principles from this Act stand out: knowledge-based decision-making, the precautionary principle, and the ecosystem approach with cumulative assessment. § 8. Knowledge-based Decision Making emphasizes the importance of basing public decisions, especially those affecting biodiversity, on scientific knowledge. This includes the status of species, the distribution of natural types, their ecological status, and the potential effects of influences on them.[88] This is of paramount significance for seabed mining, which has the potential to significantly alter marine ecosystems and species distribution. The precautionary principle §9 underscores the need for caution when adequate knowledge about potential environmental effects is lacking. If there's a risk of serious or irreversible damage to biodiversity, the absence of complete knowledge should not be an excuse to delay or avoid taking protective measures.[89] Given the early stages of seabed mining and the gaps in our understanding of its long-term impacts, the precautionary principle becomes vital. It demands a cautious approach to seabed mining, especially when the consequences of such activities are uncertain. Ecosystem Approach and Cumulative Assessment §10 acknowledges that impacts on ecosystems must be viewed in their entirety, considering the combined burden that the ecosystem is, or will be, subjected to. It's not just about the immediate or direct effects but about understanding the holistic and cumulative pressures on the ecosystem. Seabed mining shouldn't be viewed in isolation. Its impact assessment must take into account other stressors and activities in the marine environment, ensuring that the total pressure on marine ecosystems remains sustainable and doesn't cross ecological thresholds.

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[87] Sørensen, The New Approach - The Norwegian Diversity Act. 3 June, 2010. Microsoft PowerPoint - The_New_Approach_ The_Norwegian_Nature_Diversity_Act_Sorensen_Lange_100603.pptx (regjeringen.no) (Accessed 20.07.2023)
[88] The Nature Diversity Act, section 2. Ministry of Climate and Environment. 19/06/2009. https://www.regjeringen.no/en/dokumenter/nature-diversity-act/id570549/ (Accessed 20.07.2023)
[89] Ibid.

I consider Norway's Nature Diversity Act to provide a robust framework, ensuring that any intervention in natural environments, such as seabed mining, is approached with caution, thorough knowledge, and a comprehensive understanding of ecological impacts. These principles reinforce Norway's commitment to sustainable growth that doesn't compromise its rich marine biodiversity. Seabed mining operations must align with these foundational principles to ensure the continued health and vitality of Norway's marine ecosystems.
The Ministry of Environment made several references to the Nature diversity act when commenting on the hearing for opening of parts of the NCS.[90] They pointed out that the draft decision to open the continental shelf for mineral activities appeared to be based solely on where minerals are most likely to be located, rather than a thorough Environmental Impact Assessment (EIA). They also contended that the EIA does not provide a foundation for making an informed decision on opening the region for seabed mining. The principles outlined in sections 8-10 of the Nature Diversity Act, which emphasize the importance of the knowledge base, precautionary measures, and cumulative impact, had not been considered as guidelines for the draft decision.[91] This omission represents a significant gap in assessing the potential impacts of seabed mining. Given the limited knowledge about the deep-sea environment and the significant risk of irreversible damage, the importance of a precautionary approach in section 9 of the Nature Diversity Act should be highly reflected in the EIA. Due to the current lack of knowledge, it's impossible to ensure a sufficient precautionary approach if the area is opened for seabed mining today.
The Environments feedback raises significant concerns regarding the proposed seabed mining activities on the Norwegian continental shelf. While the potential for mineral extraction might be vast, the current considerations fail to cover the potential environmental and socio-cultural impacts, especially when assessed against the principles of the Nature Diversity Act and other international obligations. The need for a comprehensive and inclusive evaluation, which integrates precautionary principles, cumulative impact assessment, and marine conservation considerations, remains a pressing requirement before any concrete decision should be made.
The Ministry of Petroleum and Energy did acknowledge the need for comprehensive knowledge and mapping of marine environments and adherence to the principles laid out in the Nature Diversity Act as a collective goal.[92] But by stating that they will lean towards the

[90] Comment for the Impact Assessment on opening of mineral activity on the Norwegian Continental Shelf. The Norwegian Environment Agency. 12/04/2021. miljodirektoratet.pdf (regjeringen.no) (Accessed 20.06.2023)
[91] Ibid.
[92] Consultation on the proposed impact assessment program for mineral activity on the Norwegian continental shelf – processing of the received consultation inputs. 12.01.2021.

assessment by the industry as the Environment Agency has not presented a practiacal plan to move forward, they appear to not consider the inadequacies of the assessment to constitute a delay of the opening process.[93]

From the documents presented, the Norwegian government seems to acknowledge the Nature Diversity Act during the EIA, but ultimately decide that where it might lack in knowledge and comprehensiveness, it constitutes enough to move forward with the process. I consider that stakeholders, environmental agencies and the Ministry of the Environment to be well within their rights to be concerned. Their apprehensions revolve around the pace at which the government is pushing forward. The tight timeline for decision-making might not allow for comprehensive knowledge accumulation, which can be problematic given the potential environmental risks associated with seabed mining.

Comparing the two sides, the government appears to view its procedures and considerations as aligning with the Nature Diversity Act's principles. Yet, the skeptical voices argue that the current interpretation and application of the Act might be too lenient. I consider the Ministry of Petroleum and Energy to take advantage of the ambiguity surrounding the current state of environmental law which is often an obstacle for the implementation of international law in general.[94] Considering the guidelines within the Nature Diversity Act §7-10, and the expressed concerns through the consultation process, to constitute a breach of the Nature Diversity Act domestically.

3.3 The Seabed Minerals Act

This chapter aims to provide an understanding of the requirements in the Seabed Mineral Act, focusing specifically on the environmental implications of seabed mining activities. The Seabed Minerals Act was introduced in 2019 and sets out in § 1-1: “This law aims to facilitate the exploration and extraction of mineral deposits on the continental shelf in line with societal objectives, ensuring consideration for value creation, environment, operational safety, other

vurdering-av-horingsinnspill-forslag-til-konsekvensutredningsprogram-for-mineralvirksomhet-pa-norsk-kontinentalsokkel-l1261.pdf (regjeringen.no) (Accessed 20.07.2023)

[93] Hvem roper etter havbunnsmineraler? Aftenposten, published on 20.08.2023, 09:00. Hvem roper etter havbunnsmineraler? (aftenposten.no) (Accessed 20.08.2023)

[94] Lowe, Vaughan, 'Implementing international law', International Law: A Very Short Introduction, Very Short Introductions (Oxford, 2015; online edn, Oxford Academic, 26 Nov. 2015), https://doi.org/10.1093/actrade/9780199239337.003.0003 (accessed 25 July 2023)

business activities, and other interests".[95] With a general scope seemingly covering critical factors surrounding seabed mining, I consider the Seabed Minerals Act to be the main domestic legislative reference on this matter.

In the preparatory works to the Seabed Minerals Act, the Ministry of Petroleum and Energy considers the main objective of the Act to economically and profitably manage mineral resources. While considerations for value creation, the environment, safety in operations and other interests must be taken into account.[96] The question arises whether any of the objectives in Section 1-1 carries more weight than the others. On page 55, it is elaborated that the Act shall function in coherence with Article 112 of the Constitution, but does not specify how and what that entails, leaving room for a lot of interpretation.[97] It is evident that while environmental considerations are important, economic profitability is highlighted as a primary objective. This suggests that in cases of conflict, economic interests might take precedence, although the situation would require further interpretation leaving it to be evaluated on a case-by-case basis.

The preparatory works of the Seabed Minerals Act reveal that it was indeed drafted with an understanding of the potential environmental risks posed by seabed mining. It shows that the Norwegian Parliament understood the concerns of environmentalists and sought to create a legislation that could enable the co-existence of seabed mining and marine biodiversity.[98] This prompts me to question whether this is realistic in terms of giving the responsibility of creating the act to the Ministry of Petroleum and Energy. While organizations like the Environmental Agency are represented through the consultation processes of the preparatory acts in addition to the EIA process of the opening for exploitation on the NCS, their concerns seem to repeatedly be neglected.[99] I respect that the likelihood of a concrete plan being formulated and presented within a timely manner is less likely if opposing sides are given an equal say in the process. However, if the Seabed Minerals Act is not comprehensively covering environmental concerns either though its own provisions or consistently with other legislative frameworks, it leaves Norway in a vulnerable position in terms of possible breaches of international obligations to protect the marine environment.

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[95] Seabed Minerals Act. 1/7/2019. Act relating to mineral activities on the Continental Shelf (Seabed Minerals Act) - The Norwegian Petroleum Directorate (npd.no) (accessed 15.06.2023)

[96] Prop. 106 L (2017–2018. The Minsitry of Petroleum and Energy. 22 June 2018. Page 26. Prop. 106 L (2017–2018) (regjeringen.no) (Accessed 20.07.2023)

[97] Ibid. Page 55.

[98] Falkanger, Thor. Legal commentary. The Seabed Minerals Act. 8.04 2022. https://juridika.no/lov/2019-03-22-7/%C2%A72-1/kommentar (Accessed 20.07.2023)

[99] Comment for the Impact Assessment on opening of mineral activity on the Norwegian Continental Shelf. The Norwegian Environment Agency. 12/04/2021. miljodirektoratet.pdf (regjeringen.no) (Accessed 20.06.2023)

In response to Sabima, Greenpeace and Nature and Youth among others calling for a moratorium on seabed mining, the department adds that exploration and extraction require permission after an impact assessment as part of an opening process shedding light on the relevant interest and concerns of the areas in question. They also did not see any need to include the precautionary principle into the seabed minerals act as it is covered under the Nature Diversity Act § 9.[100] While it is expected that the Parliament will make a decision in October/November 2023 regarding the approval of opening the NCS for seabed mining, it is clear that the Ministry of Petroleum considers the contentious opening process adequate in considering environmental concerns based on the current knowledge. Based on the impact assessment is it therefore likely they do not consider seabed mining to have potentially serious or irreversible consequences on the environment.

The Act's operation is further complicated by international law considerations. The Norwegian Constitution, Section 112, imposes a duty on authorities to take measures for environmental preservation. Granting permits for unsustainable mineral activities could violate this obligation.[101] Additionally, international principles like the 'Precautionary Principle' could necessitate that authorities deny permits where there is a foreseeable risk of substantial pollution.[102] UNCLOS provides additional guidelines on how the Act should be interpreted. If the Seabed Mineral Act's administration contravenes these international commitments, this could imply a violation of due diligence obligations under international law as mentioned in chapter 3. The Seabed Minerals Act attempts to balance economic interests with environmental sustainability. However, ambiguities in the Act concerning the due diligence obligations raise questions of its effectiveness and alignment with international law. The Act's provisions seem to provide authorities with the power to monitor and set conditions but do not clearly establish an obligation to deny permits where activities are not sustainable, leaving room for legal challenges and potential contravention of international obligations. In sum, while the Seabed Minerals Act creates a legal framework for seabed mining, its priority on economic profitability and lack of incorporation of the precautionary principle and consistency with other obligations under domestic and international law remains a complex and potentially contentious issue.

In section 1-2, paragraph 4 of the Seabed Minerals Act, it says "the law applies with the

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[100] Prop. 106 L (2017–2018. The Ministry of Petroleum and Energy. 22 June 2018. Page 28. Prop. 106 L (2017–2018) (regjeringen.no) (Accessed 20.07.2023)

[101] Article 112 of the Norwegian Constitution. Kingdom of Norway. 17/05/1814, last consolidated: 15/05/2023. The Constitution of the Kingdom of Norway - Lovdata (Accessed 15/05/2023)

[102] Hans Chr. Bugge, Climate Law: International, European and Norwegian Climate Law Towards 2030, Universitetsforlaget 2021, page. 380.

limitations that follow from agreement with foreign states or international law otherwise"[103]. This refers to conventions and treaties Norway are bound to in addition to principles of customary international law. The word "limitations" could infer that international law only functions as a basis for restricting the interpretation of international law in cases where a conflict arises and not as supplementing the Act's provisions. However, it is stated in Prop. 106 L that the rules in the Seabed Minerals Act must "be practiced in accordance with these conventions"[104] which could indicate that international law may function as more than a limitation. In my opinion, much as UNCLOS has left intentionally ambiguous provision left to be developed further, The Seabed Minerals Act must rely upon later developments of international law as it includes principles and gaps of knowledge which Norway as a part of the international community have yet to properly comprehend.

The Seabed Minerals Act §10-1 requires to "Take all reasonable measures to avoid damage to marine flora and fauna, cultural heritage on the seabed, as well as to prevent pollution and littering of the seabed, its subsurface, the sea, air, or land.".[105] In his commentary of the Act, Ulf Hammer points out that the interpretation of this clause can change over time based on new or amended legislation and what is considered reasonable could be re-evaluated later.[106] As the Seabed Mineral Act is shown through its preparatory works to be largely based on the Petroleums Act, Norway's international obligations, such as the United Nations Convention on the Law of the Sea is therefore able to influence the interpretation of this clause. This would therefore also apply to the requirement of reasonableness referred to throughout the Seabed Minerals Act. This shows that there will be close cooperation between national and international rules in the environmental area.

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[103] The Seabed Minerals Act, Section 1-2, paragraph 4. 2019.
Act relating to mineral activities on the Continental Shelf (Seabed Minerals Act) - The Norwegian Petroleum Directorate (npd.no) (Accessed 20.07.2023)

[104] Prop. 106 L (2017–2018. The Ministry of Petroleum and Energy. 22 June 2018. Page 19.
Prop. 106 L (2017–2018) (regjeringen.no) (Accessed 20.07.2023)

[105] The Seabed Minerals Act, Section 10-1, paragraph 2. 2019.
Act relating to mineral activities on the Continental Shelf (Seabed Minerals Act) - The Norwegian Petroleum Directorate (npd.no) (Accessed 20.07.2023)

[106] Hammer, Ulf. Legal commentary of the petroleum act. § 10-1, 4(1). January 18, 2012.
https://juridika.no/lov/1996-11-29-72/%C2%A710-1/kommentar (Accessed 25.07.2023)

4 CONCLUSIONS

4.1 International Obligations

There are several articles of UNCLOS that act as an international framework that governs marine activities such as seabed mining, each bringing different obligations on states, including Norway. Article 194 requires states to take measures to prevent, reduce, and control pollution from various seabed activities, including mining. It requires Norway to utilize technology and management strategies to prevent transboundary pollution and environmental harm. Article 204 complements this by necessitating ongoing evaluations and observations concerning pollution risks, based on global cooperation. Article 206 further insists on a comprehensive Environmental Impact Assessment (EIA) to evaluate potential environmental consequences. Failure to conduct an adequate EIA exposes Norway to potential violations of international law and reputational damage.

Article 208 places a substantial obligation on Norway to align its domestic laws with internationally accepted standards. The Mining Code developed by the International Seabed Authority is fast emerging as the main source for international standards.

There are gaps in knowledge, as pointed out by the Norwegian Environment Agency, regarding the environmental impact of planned activities. It is important for Norway to follow international standards, particularly those emerging from the ISA's Mining Code, both for legal reasons and for marine preservation. The Agency's recommendation that activities be limited to investigation rather than extraction would be a step in the direction of Norway's international obligations.

Norway is not only obligated to act responsibly within its jurisdictions but also to serve as a leadership role in international collaborations, research sharing, and formulation of best practices. Failure to do so would not only be a violation of UNCLOS provisions but would also weaken its international standing as a responsible and sustainable maritime state.

In summary, by balancing economic interests and environmental preservation, is essential for Norway as it contemplates proceeding with seabed mining activities. At a minimum, Norway needs to update its domestic legal framework to reflect principles of international law, implement a comprehensive EIA, and engage in cooperative international efforts to ensure its seabed mining activities are sustainable, responsible, and legally cooperable.

4.2 Domestic Legislation

The examination of Section 112 of the Norwegian Constitution, the Nature Diversity Act, and the Seabed Minerals Act reveals a backdrop of conflicting priorities, principles, and obligations. These provisions value environmental sustainability in some sense and aim to respond to both domestic and international obligations. Section 112 of the Norwegian Constitution, could act as an important piece of legislation for environmental rights and responsibilities. Paragraph 3 requires the state to inform and act with caution to properly understand the implications of seabed activities and its impact on the environment which is constitutionally protected. The Nature Diversity Act includes several applicable principles such as knowledge based, precautionary and ecosystem approach that are paramount for guiding sustainability concerning activities such as seabed mining. However, the tension between different governmental sectors and lack of application of precautionary principles also leaves Norway at the risk of breaching both domestic and international legal obligations. The Seabed Minerals Act is intended to be Norway's main domestic legislation regulating seabed mining activities. Although it is the most recent domestic legislation, it seems to be tailored by and after industrial guidelines mirrored on the Petroleum Act, leaving room for concern regarding its implementation of Article 112 and The Nature Diversity Act. While it aims to balance economic and environmental interests, it does not give guidance on how to reconcile these two. Its preparatory work shows that it leans toward economic profitability over environmental sustainability, which might make Norway vulnerable to international legal challenges. The term "reasonable" as used in the Seabed Minerals Act leaves for different interpretations, which could lead to decision-making that does not cover Norway's international obligations. Currently, the Seabed Minerals Act requires supplemental legislation or amendments to make sure it stays aligned with evolving international norms and scientific understanding.

In summary, while Norway's domestic laws include frameworks that might be able to protect environmental considerations, they also carry ambiguities and potential loopholes that could sabotage this objective. Each law, in its way, highlights the tensions between economic development and environmental sustainability. Because of this, there is an immediate need for Norway to clarify and, if necessary, amend its domestic legislation to better align it with its

constitutional, environmental, and international obligations. This may involve a re-evaluation of the weight given to environmental concerns over economic interests and an updating of laws in light of new scientific data and international legal standards.

4.3 Recommendations

In order to balance the environmental obligations with economic interest in seabed mining, Norway could improve several areas to address the current concerns. Requiring more comprehensive Environmental Impacts Assessments, where the Ministry of Petroleum conducts it together with the Environment Agency, would ease many of the concerns regarding potential harm. These EIAs should exceed current international standards due to the uncertainty surrounding seabed mining as would be aligning with the precautionary principles embodied throughout the majority of relevant domestic and international provisions.
Norway could request an advisory opinion from ITLOS regarding the implementation of international law into their domestic law. Despite being a domestic venture into their own national jurisdiction, seabed mining interests represent the collective interests of humankind due to the vast amount of ocean there is on earth. If this venture goes well, it could be employed on an international scale and set the example of an industry taking the future generations into consideration.
Due to the growing landscape of international law and scientific observations, it is crucial for Norway to establish methods for continued monitoring and adaptation of its seabed policies. The government could create an independent body with legal experts, familiar with the environmental and industrial sectors to consider the effectiveness and adherence of existing regulations. This body could also suggest amendments to domestic laws as new international regulations, scientific discoveries or technological improvements emerge. Currently, environmental law in Norway is rather fragmented, this would create a clear legal framework which is able to adapt to new challenges and opportunities. The Mining Code currently being finalized by the ISA is a comprehensive framework in which Norway not only should mirror its practices after, but through Article 208 of UNCLOS is obligated to do so.
In summary, this thesis has attempted to give a thorough analysis of the balance in which Norway must reach uniting the economic activities of seabed mining and the environmental obligations under both domestic and international law. The contention between the two interests is complicated and riddled with legal, ethical and environmental considerations. However, by carefully planning, inclusive dialogue between stakeholders, and dedication to

ongoing monitoring and adaptation, Norway could realistically pursue seabed mining activities in a way that considers both economic and environmental responsibilities. As seabed mining continues to be debated, these recommendations offer actionable directions for Norway to align its policies with a sustainable and legally cooperable future.

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