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Legal and Permitting Structure Review for Offshore Wind in
Denmark and Sweden

Putri Løgager

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Abstract

With the ambitious objectives of the European Green Deal, offshore wind energy is especially an important sector of Europe's renewable energy strategy. This thesis aims to clarify the intricate legal and regulatory structures governing offshore wind projects, with a particular focus on the permitting process in Denmark and Sweden, and to what extent it is aligned with the Renewable Energy Directive's 2023/2413 objectives as one of the instruments of the European Green Deal. Through a combination of legal dogmatic and comparative law methods, this thesis analyses how these two countries correspond with the objective of the EU Green Deal, to shorten the permit process for offshore wind project to two years while promoting the concept of a 'one-stop-shop' permit mechanism to reach the overall EU mandated renewable energy target of 42.5% by 2030.

The Renewable Energy Act and sector-specific legislation in Denmark, as well as the Environmental Code and sector-specific legislation in Sweden, are examined in relation to the permit application procedure for offshore wind power. Findings reveal that Denmark is taking a more proactive approach in their national law to achieving the objective of the EU Renewable Energy Directive, as seen by its 'one-stop shop' mechanism and accelerated permit issuance process. On the other hand, improvements are needed in Sweden's national law to achieve the EU's objectives. Differences in national laws regarding municipalities involvement, dispute resolution procedures between defence and energy interests, and societal perception towards offshore wind farms are the main barriers to a swift permitting process. This thesis highlights the necessity of efficient permitting procedures to unlock the full potential of offshore wind energy, which is crucial for meeting renewable energy targets and mitigating climate change. Promoting the offshore wind industry and achieving the sustainability objectives of the EU Green Deal depend heavily on legislative measures of the Member State's national law to streamline the permitting procedures, ensuring transparency, and predictability.

Keywords: EU Green Deal, Sustainability, Offshore Wind, Renewable Energy Directive, Offshore Wind Permit, Renewable Energy Act, Environmental Code, Environmental Law

Abbreviations

| | |
|---------|--|
| DEA | Danish Energy Agency |
| DK | Denmark |
| EEZ | Exclusive Economic Zone |
| EIA | Environmental Impact Assessment |
| EU | European Union |
| ICSID | International Centre for Settlement of Investment Disputes |
| IPCC | Intergovernmental Panel on Climate Change |
| IEA | International Energy Agency |
| RE Act | Renewable Energy Act |
| RED III | Renewable Energy Directive 2023/2413 |
| SE | Sweden |
| SOU | Statens Offentliga Utredningar / Swedish Government Official Reports |
| TFEU | Treaty of Functioning of the European Union |
| UNFCCC | United Nations Framework Convention on Climate Change |
| OSW | Offshore Wind Industry |

1 Introduction

1.1 Background

1.1.1 Urgency of Addressing the Climate Change

It is abundantly clear that solving the climate change crisis is critically urgent as the average world temperature rises. United Nations Convention on Climate Change (UNFCCC) has been the vehicle for organizing efforts to create an efficient global response since climate change entered into a political agenda in 1980s.¹ The fundamental source of international law, which is International Conventions, is believed to have the legal force required to cooperate with other nations to concurrently mitigate climate change. Based on the UNFCCC, several international regulations pertaining to climate change mitigation were created. These include the Kyoto Protocol, an international agreement that governs developed countries (Annex I) and developing countries with regard to efforts to reduce gas emissions,² and the Paris Agreement, which was negotiated by 196 countries. Attempts to restrict the global temperature increase to 1.5° C are outlined in the Paris Agreement.³ In order to meet the climate targets outlined in the Paris Agreement, a substantial transformation of the global energy system is crucial. Such change will be made possible by the rapid adoption of low-carbon technologies to replace conventional fossil fuel generation usage.

The urgency of addressing climate change is highlighted by the latest conclusions of the 6th Assessment Report on Climate Change by the Intergovernmental Panel on Climate Change (IPCC). As a clear wake-up call, the report emphasizes the acceleration and escalation of climate-related effects. In response to the growing frequency and intensity of extreme weather events as well as the rising global temperature, the IPCC's report highlights the urgent need for quick and decisive actions.⁴ The IPCC emphasizes that to prevent catastrophic effects, limiting global warming to 1.5°C over pre-industrial levels is crucial. However, the global temperatures have already exceeded 1° C above pre-industrial level⁵ and current emission trajectories are not even close to meeting this ambitious target. The world runs the risk of passing important tipping points without swift and consistent cuts to greenhouse gas emissions, which may set off feedback loops that worsen the effect of climate change. The growing frequency and intensity of extreme weather conditions, such as heatwaves, storms, and wildfires which disproportionately harm disadvantaged populations and ecosystems, highlight the importance of tackling climate change. These incidents serve as a wake-up call of the necessity of taking

¹ Jernnäs, Maria, 'Governing Climate Change under the Paris Regime, Meeting Urgency with Voluntarism', Linköping Studies in Arts and Sciences No. 819 (2021).

² Kyoto Protocol to the United Nations Framework Convention on Climate Change 1998, article 2.

³ Paris Agreement 2015, article 2 (a).

⁴ IPCC, 2023: Sections. In: Climate Change 2023: Synthesis Report.

⁵ Climate Analytics, *Global warming reaches 1° C above preindustrial, warmest in more than 11000 years*, (Climate Analytics, 26 November 2015), < <https://climateanalytics.org/publications/global-warming-reaches-1c-above-preindustrial-warmest-in-more-than-11000-years>> accessed on 10 April 2024.

prompt, decisive action to reduce the dangers associated with climate change and increase resilience to its effects. As countries struggle with the severe repercussions of climate change, there is an increasing demand to switch from fossil fuels to renewable energy sources. For this reason, the European Green Deal is a noteworthy demonstration of proactive planning that recognizes the interdependence of the energy problem and climate catastrophe.

1.1.2 Contextualization within the European Green Deal

The European Union has already begun modernizing and restructuring its economy in order to become carbon neutral. Between 1990 and 2018, the EU reduced greenhouse gas emissions by 23%.⁶ The European Green Deal centers the EU's efforts to combat climate crisis biodiversity loss while working toward climate neutrality by 2050 on the energy transition.⁷ Fundamentally, the European Green Deal establishes ambitious targets and policy objectives in several areas, such as industry, transportation, energy, and agriculture. One of the key components of the European Green Deal is the proposal to increase the EU's 2030 greenhouse gas emission reduction target from 1990 levels to at least 55%. The EU's determination to quicken decarbonization efforts and accomplish a swift transition to renewable energy sources is reflected in this revised target. Increasing the proportion of renewable energy in the EU's energy mix is a key focus of the European Green Deal in the context of the energy transition. In addition to decreasing dependency on fossil fuels and lowering the risks associated with climate change, renewable energy sources are viewed as crucial contributors to job creation, energy security and sustainable economic growth.

Increasing the utilization of renewable energy in a sustainable way is necessary to achieve these goals. Energy from renewable sources will need to take over the role of conventional energy or fossil fuels, which accounted for more than 72% of primary energy consumption in Europe in 2017.⁸ With its enormous potential for producing clean, renewable electricity, offshore wind energy is essential to achieving the objectives of the European Green Deal. Owing to the abundant wind resources found in European waters, offshore wind has become a crucial element of the EU's strategy to attain climate neutrality and decarbonize its energy sector. By 2050, the European Commission aims to generate at least 300 gigawatts (GW) of offshore wind power, compared to the present installed capacity of around 25GW.⁹ These are ambitious targets for offshore wind capacity increase. It is anticipated that Europe will see a large investment in renewable energy infrastructure, technological advancement, and job creation as a result of this offshore wind capacity's exponential rise.

⁶ Communication from the Commission (COM) 2019/640, The European Green Deal [2019].

⁷ *Ibid.*

⁸ EUROSTAT, 'Energy, transport, and environment statistics', 2019, pp.10.

⁹ Communication from the Commission (COM) 2020/741, An EU Strategy to harness the potential of offshore renewable energy for a climate neutral future.

1.1.3 Overview of the Offshore Wind Industry in Europe

With the global concern challenge of the current climate and biodiversity crises, the oceans and seas are a key concern. Offshore wind energy is a maritime energy resource that not only makes it possible for the world's energy demands and marine biodiversity to coexist peacefully, but it is also one of the most effective tools against climate change. Currently, wind is already accounting for 15% of total electricity generated in Europe and the International Energy Agency projects that by 2042, wind energy will be surpassing all other sources of electricity generation in Europe.¹⁰ The EU acknowledged the enormous potential of offshore wind in contributing to the transformation to green renewable energy. A consensus has been achieved among the European Institutions regarding stricter targets for renewable energy. The European Commission, the European Parliament, and the EU Council have reached a consensus on the amended versions of the Renewable Energy Directive (RED III) following the conclusion of the trialogue. Under RED III, the new target of renewable energy in total consumption is 42.5% by 2030,¹¹ which is 10% higher than the 2018 adopted directive (RED II). To be able to meet the ambitious target, the RED III's article 16(a) mandates that the permit period for offshore renewable energy projects not surpass two years, considering the difficulties encountered by the offshore wind sector in the past, whereby the regulatory and permitting procedure resulted in notable delays.¹² It is crucial to evaluate how this Directive is being implemented in the Member States. Especially considering the amended RED III's objective and the EU's desire to accelerate and simplify the permitting procedure. For the purpose of making sure that the offshore wind permit process is in line with the RED III's aims and the larger European Green Deal goals, this study looks at the permitting structure in Denmark and Sweden, and the country's national legal basis on the implementation of the Directive.

1.1.4 Importance of Swift Permitting Structures

Establishing an offshore wind farm is often a big project involving numerous stakeholders. It is also necessary to evaluate and examine significant environmental impacts. The application process for numerous permits and notifications, together with discussions with relevant authorities, organizations, and individuals, makes the legal process complex and time-consuming. The EU's transformation to a low-carbon, sustainable energy future depends on the offshore wind industry. Slow permitting process for offshore wind projects is one of the enduring obstacles to the EU's high renewable energy ambitions. According to Rabobank's report, one of the main obstacles impeding the implementation of offshore wind energy project across Europe is the lengthy regulatory process.¹³ The timely deployment of offshore wind power throughout Europe is still hampered by permitting delays, despite advancements in technology and increasing political support for renewable energy

¹⁰ International Energy Agency, *Offshore Wind Outlook*, 2019.

¹¹ Directive (EU) 2023/2413 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 Directive 98/70/EC as regard to the promotion of energy from renewable sources [2023] OJ L 2023/2413, article 3.

¹² *Ibid*, article 16(a).

¹³ Zahra Janipour, 'The Bottlenecks Challenging Growth in the EU Offshore Wind Supply Chain' (Rabobank, 13 March 2023) < <https://www.rabobank.com/knowledge/d011354306-the-bottlenecks-challenging-growth-in-the-eu-offshore-wind-supply-chain> > accessed on 10 April 2024.

sources. Additionally, the slow permitting process poses economic and investment concerns for the offshore wind industry. Permit application delays can drive up project costs, discourage investment, and erode investor confidence in the regulatory framework. Consequently, employment creation, economic expansion, and industrial competitiveness in Europe's renewable energy sector are all at risk, and the development of the offshore wind industry is hampered.

The average time it takes for an offshore wind project to get from early development to full commissioning is nine years globally.¹⁴ Permitting and consenting take up most of this time, and when there are obstacles or delays in the permitting procedure, timetables become extended even more. Once it is permitted, large-scale offshore wind projects typically be built in two years or less.¹⁵ Fast-track processes are one technique to lower the maximum lead periods required for permitting offshore wind. As mentioned above, the European Union introduced the newly revised Renewable Energy Directive 2023/1413 (REDIII) as a solution to combating a long permit procedure. Article 16a (1) specifically mentioned 'in the case of offshore renewable energy projects, the permit-granting procedure shall not exceed two years, where duly justified on the ground of extraordinary circumstances, Member States may extend the period by up to six months'¹⁶. Thus, Member States are looking into more innovative and advanced supporting systems to shorten lead times for offshore permits. Given this, it raises the question of how do the permitting structures in EU countries align with the stipulations of RED III? And what strategies have they employed to streamline the permitting process for offshore wind projects?

1.2 Purpose and research questions

With its enormous potential for producing clean and sustainable energy, offshore wind energy is an essential part of Europe's renewable energy portfolio. There is an increasing desire to expedite the deployment of offshore wind projects across European waters due to the ambitious objectives outlined in the European Green Deal. However, achieving these goals will require navigating the intricate legal and regulatory structures that govern offshore wind development. The aim of this thesis is to offer a thorough comprehension of the complex legal and regulatory structures that oversee offshore wind projects in Europe, specifically in relation to the European Green Deal with a concentration on the streamlined permitting procedure in a few chosen EU countries. In order to evaluate the efficiency and effectiveness of the permit procedure for offshore wind projects, this thesis will conduct a comparative study of permitting procedures for offshore wind projects in Denmark and Sweden with a focus on their alignment with the objectives of the EU Green Deal which is to streamline the permitting process for offshore wind industry across Europe and promoting the concept of 'one stop shop' to be able to swift the permitting procedure into the mandated target of two years. This thesis will analyse legal challenges and opportunities encountered by stakeholders involved in offshore wind projects. This

¹⁴ GWEC, *Global Offshore Wind Report*, 2022, pp.17.

¹⁵ *Ibid.*

¹⁶ Directive (EU) 2023/2413 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 Directive 98/70/EC as regard to the promotion of energy from renewable sources [2023] OJ L 2023/2413, article 16a.

involves identifying and connecting regulatory uncertainties to legal risks that might become an investment barrier that hinder the development of offshore wind industry. To further the shift to sustainable energy and draw capital to offshore wind projects, this entails analysing the significance of regulatory stability and legal certainty. Based on that, the questions in this research are:

RQ1: *“How do the permitting processes for offshore wind projects in Denmark and Sweden compare in terms of their alignment with the European Green Deal objectives?”*

And RQ2: *“What factors contribute to differences in streamlining across these countries?”*

1.3 Delimitations

Despite the fact that offshore wind energy is a worldwide issue involving many stakeholders, academic disciplines and sectors, this thesis will restrict the scope to only analysing the permit structure for offshore wind projects in two Nordic countries; Denmark and Sweden.

The legal material covers both EU laws and a selection of national laws. At the EU level, the main materials used in this thesis include The Renewable Energy Directive 2023/2413 (RED III). At the National level, the main materials used in this thesis include i) Denmark national legislation: Consolidated Act 1791 of September 2, 2021 on the Promotion of Renewable Energy Act and ii) Sweden national legislation: Swedish Environmental Code 1998:808, *Miljöbalken*. Additionally, governmental and non-governmental reports, and news sources also constitute the materials that will be used in this analysis.

Case laws, legal and regulatory frameworks governing offshore wind projects in Denmark and Sweden are the particular focus of this research, as well as how these two countries’ permitting processes support efficient and swift approval processes. As a result, other aspects of offshore wind energy in these two countries will not be covered in this thesis. Despite these countries’ different offshore wind development settings and experiences, the study is limited to these three cases for purposes of comparability. The rationale behind the selection of these countries is their notable roles in Europe’s offshore wind energy production, different approaches to policy implementation and regulatory frameworks, and alignment with EU Green Deal objectives.

1.4 Method and Materials

This thesis explores the complex nature of offshore wind regulation in connection to permit application at both the EU and national levels by utilizing a combination of EU legal method, legal dogmatic analysis, comparative law analysis, and discourse analysis. With an emphasis on the extent to which these frameworks align with the objectives of the European Green Deal, the methodology used in this thesis aims to give a thorough examination of the legal and regulatory frameworks regulating the

permit of offshore wind projects in the two EU Member States, Denmark and Sweden. The regulatory frameworks at the national and EU levels will be examined using legal dogmatic analysis as the basis. As the main EU legal document that will be analysed in this thesis is the EU Renewable Energy Directive 2023/2413, it is important to note that unlike regulations, EU legal directives are not directly applicable. ‘The idea of the directive form is that obligations arising from a directive should be able to be implemented in the existing national legal system in the way that best suits the national structure, provided that the result that the directive aims at is met.’¹⁷ Incorporating directives is not only required by the directive itself, but also from article 188 TFEU which states ‘A directive shall be binding, as to the result to be achieved, upon each Member State to which it is addressed, but shall leave to the national authorities the choice of form and methods.’¹⁸ In order to determine how Member States uphold the ideas and concepts included in the directive once the directive text is transformed into national legislation, it is crucial that one examine how the directive is being implemented in the Member States. As Hettne, J and Otken Eriksson state, ‘the result that the directive aims for may fail if the directive does not have the same impact in all countries.’¹⁹

In order to identify important legal principles, definitions, and provisions relevant to offshore wind project permitting, this method entails a methodical review of legal documents, including directives, regulations, and national laws. Legal dogmatic method involves ‘a search for practical solutions that fits the existing system best, rather than being limited to a mere description and understanding of the existing law.’²⁰ Additionally, this thesis also aims to contribute to finding suggestions based on the analysis findings. This method then is crucial because ‘legal doctrine can serve three main goals: description, prescription, and justification. It has a prescriptive voice and through this, can legitimise newly proposed solutions.’²¹

To evaluate the similarities and differences in the permitting procedures and regulatory frameworks for offshore wind projects in Denmark and Sweden, a comparative law method will be carried out. This method compares institutional arrangements, administrative procedures, legal provisions, and challenges in each country in an organized manner. In order to improve the harmonization of national permitting systems with EU objectives, this thesis looks at regulatory approaches in different national settings to identify patterns, trends, and best practices that will lead to practical and policy suggestions. Comparative law method serves ‘the act of comparison which provides insight into the other law, our own law and, as importantly, our own perceptions and intuitions, as self-reflection that often can yield insight into our view of the law.’²² This quote highlights the value of comparative law method for legal research to obtain insights into other legal systems and improve

¹⁷ Hettne, J./Otken Eriksson, I. (red.), EU-rättslig metod. Teori och genomslag i svensk rättstillämpning. Norstedts Juridik, 2 uppl. 2011, pp. 178.

¹⁸ Consolidated Version of the Treaty on European Union [2012], OJC 326, article 288.

¹⁹ Hettne, J./Otken Eriksson, I. (red.), EU-rättslig metod. Teori och genomslag i svensk rättstillämpning. Norstedts Juridik, 2 uppl. 2011, pp. 181.

²⁰ Jan M. Smits, ‘What is Legal Doctrine? On the Aims and Methods of Legal-Dogmatic Research’ in Maastricht Private Law Institute Working Paper No. 2015/06 (2015).

²¹ *Ibid*, pp. 213.

²² Eberle, J. Edward, ‘The Methodology of Comparative Law’, Roger Williams University Law Review, Vol. XVI, 2011, pp. 56.

one's understanding of both national and international laws. Through the method of comparison, this paper aims to cultivate a more nuanced understanding of the law's complexities and implications. The objective of using comparative law method is to evaluate the solutions used in various legal systems and determine whether the results of this comparison point to any similarities or differences between the legal systems under comparison.²³

Two levels of legal documents will be analysed in this thesis. First is at the EU level which includes The Renewable Energy Directive 2023/2413 (RED III) as a part of the EU Green Deal instrument to give an understanding of the overarching EU regulatory framework and objectives for offshore wind energy. The second is at the national level which includes i) Denmark national legislation: Consolidated Act No. 1791 of September 2, 2021 Promotion of Renewable Energy Act and ii) Sweden national legislation: Swedish Environmental Code 1998:808, Miljöbalken. Additionally, by analysing the underlying literature and narratives influencing the regulatory discourse around offshore wind energy and EU Green Deal, literature review will supplement the legal dogmatic and comparative analysis in this thesis. This method involves reviewing reports, academic journals, news media, stakeholder and government statements associated to offshore wind development in Europe and the EU Green Deal. Furthermore, in order to shed light on the broader socio-political context, this method offers a qualitative lens through which to examine how stakeholders, politicians, and the general public frame interpret the legal instruments.

1.5 Outline

This paper is structured to offer a thorough examination of the legal and regulatory frameworks governing offshore wind projects in Europe, with an emphasis on the permitting processes of offshore wind farms in Denmark and Sweden. This thesis will examine the two countries' legal and permit structures and examine the objective of the European Green Deal, which is to streamline the permitting procedures and promoting the concept of a 'one-stop shop' permit mechanism. In chapter two (2), the development of offshore wind industry in Europe is examined, with a particular focus on Denmark and Sweden. This chapter offers an overview of how the offshore wind sector has evolved in the two countries, charting its upward trajectory from the industry's inception to the present day. This chapter looks at significant turning points, developments and changes in legislation and policies that have influenced offshore wind development in Denmark and Sweden. Moreover, this chapter also highlights the challenges that the offshore wind industry is currently facing. The objective of this chapter is to present a comprehensive knowledge of the barriers impeding the sustainable expansion of offshore wind power in Europe through the identification and analysis of this problem.

Chapter three (3) will thoroughly examine the permitting process for offshore wind projects in Denmark and Sweden. The primary law regulating permit framework in the two countries is examined, along with the process and the parties involved. After

²³ Calboli, Irene, *Comparative Legal Analysis and Intellectual Property Law: A Guide for Research*, Oxford University Press, 2021, pp. 48.

analysing each national laws, this chapter will give a comparative study in the form of a table, showing significant variations in national law governing offshore wind permit procedures. In order to facilitate a clear comparison of the various and complex frameworks, a table will highlight important terminology and key points to draw the comparison. Chapter four (4) then will make an evaluation based on the analysis, focusing on the issues of the national permit processes in the two countries. A conclusion concerning the implementation of the objectives delineated in the Renewable Energy Directive 2023/2413 (RED III) in the European Union will be made subsequent to the comparative study. This conclusion will evaluate the degree to which the new RED III objectives are being streamlined and implemented throughout the EU by looking at the permitting structures in Denmark and Sweden as examples of Member States. These two case studies will provide further insight into the legal and regulatory landscape surrounding offshore wind energy development in Europe and how it aligns with the European Union's ambitious green objectives.

2 Development of the Offshore Wind Industry in Europe

2.1 Denmark

With the construction of the Vindeby Offshore Wind farm in 1991, Denmark became a leader in the Offshore Wind power. This project served as a demonstration to show that wind turbines could survive extreme climate conditions at sea and that it might be economically possible to use such turbines to produce electricity. The Danish Parliament and government signed an energy agreement in June 2018 that promotes the construction of three new large-scale offshore wind farms in Denmark by 2030. This will increase the country's offshore wind energy supply by at least 2,400 MW and help Denmark become fossil fuel independent by 2050. The Danish Energy Agency received the final proposals for Thor Offshore Wind Farm, the first of the three offshore wind farms, in Q4 2021. It was intended for the two more offshore wind projects to go out to tender in 2021 and 2023. However, soft clay formations found during the first site inspections have put the second offshore wind farm's tender on hold. The world's first energy islands were established in June 2020 by the Danish Parliament and government. It is located one in the North Sea and one in the Baltic Sea (Bornholm). The energy islands are expected to be finished in 2033 and 2030, respectively, and have a 5 GW and 12 GW total capacity in the long run. Through this, Denmark is making a contribution to the implementation of the Paris Agreement.

Additionally, a legally binding Climate Act²⁴ was enacted in Denmark, setting an objective to achieve climate neutrality by 2050 and a 70% reduction in emissions by 2030. The Climate Act includes a mechanism requiring the Danish Minister of Climate, Energy and Utilities to publish a climate action plan every five years with a ten-year perspective and to set a new national climate target that cannot be less ambitious than the previous national climate.

2.2 Sweden

In the industrial sector, Sweden still utilizes a little over 120TWh of fossil fuels,²⁵ in addition to a significant number of other fuels and fossil raw materials, all of which need to be replaced with renewable alternatives. It was not until the late 1990s that wind power gained prominence in Sweden.²⁶ The use of renewable energy and wind power has grown quickly worldwide and in Swedish industry in the last decade. Considering Sweden already has a plentiful supply of affordable, clean energy, many businesses that require a lot of energy have chosen to locate in Sweden. The renewable energy mix and affordable energy prices in Sweden are likely to draw

²⁴ Consolidated Act No 2580 of 13th December 2021.

²⁵ Swedish Wind Energy Association, 'Roadmap 2040', 2021, pp. 9.

²⁶ Pettersson Maria, Söderholm Patrik, 'Reforming Wind Power Planning and Policy', CESifo DICE Report, 2011, pp. 54.

further businesses. For the current trend to continue, Sweden must exhibit a resolute commitment to the advancement of wind power. Effective regulation and coordination amongst the government institutions are essential if Sweden wants to meet its energy and climate objectives in the most economical manner. The energy policy goals of Sweden include, among other things, that by 2040, all power produced in the country must come from renewable sources and that by 2045, there should be no net emissions of greenhouse gases into the environment. In 2021, wind energy generated around 17 percent of the nation's total electricity generation, or about 27 TWh.²⁷ To meet the government's objective of using only renewable energy by 2040, the Swedish Energy Agency calculated that about 50TWh of offshore wind power needs to be planned.

2.3 Challenges faced by the Offshore Wind Industry in Europe

The International Environmental Agency (IEA) stated that the development of offshore wind farms should be a main priority for nations and companies alike in the renewable energy sector because offshore wind alone could provide all the electricity used globally today. Additionally, this is only considering offshore wind projects close to the coastline; offshore wind projects in the high seas may even have greater potential. However, although offshore wind energy has a lot of potential, there are several obstacles that must be solved before offshore wind farms can reach its full potential. The lengthy process and uncertainty of getting a permit approval in offshore wind industry has been one of the biggest challenges in expanding the offshore wind farm in Europe. In a world of growing global competition, permits are necessary for pre-secure investments and components. To create a solid offshore wind legal framework that offers the sector assurance and security required to substantially invest and contribute to offshore wind projects, clear and sound public policies, laws, and regulations must be in place.

Expanding on the point above, The *Strabag and Others v. Germany Case*,²⁸ which was brought before the International Centre for Settlement of Investment Disputes (ICSID), is a prime example of a dispute arising from uncertainty in the permit process for offshore wind farms. The case concerned various aspects of offshore wind farms in the North Sea, which included legislative changes and permits in the host country that affected offshore wind production, and as a result, investors began abandoning their offshore wind farms. The case of Strabag and Others v. Germany highlights the complex interaction that exists in offshore wind energy sector between permitting structure, investor interests, governmental policies, and regulatory frameworks. It serves as an alarming example of how crucial it is to have a transparent, stable, and predictable permit structure and regulatory frameworks to promote the offshore wind industry's sustained growth and development.

²⁷ Naturvårdsverket, 'Offshore Wind Farms', 3 May 2023, <<https://www.naturvardsverket.se/en/international/research/the-environmental-research-fund/calls/offshore-wind-farms/>>, accessed on 12 April 2024.

²⁸ Strabag and others v. Germany/Erste Nordsee-Ofshore Holding GmbH, Strabag SE, Zweite Nordsee-Ofshore Holding GmbH v. Federal Republic of Germany [2019] (ICSID Case No. ARB/19/29).

This section takes into account for looking into the challenges that impacted the countries that are analysed in this thesis, Sweden and Denmark. According to Lina Kinning, one of the responsible persons for offshore wind in Svensk Vindenergi, ‘The number of countries aiming to expand their offshore wind sector is steadily rising. Sweden faces the danger of missing this train, which would hinder the development of power production.’²⁹ In Sweden, the planning process entails striking a balance between many interests, but the balancing principles are ambiguous and provide local governments with a great deal of power which will be discussed in the next chapter. Due to this, legal rules in Sweden tend to permit ‘negotiations’, court rulings, etc, which in turn creates more incentives to appeal and thus a higher chance of effectively obstructing wind power projects.³⁰ Moreover, it is frequently unavoidable that stakeholder opinions will be given a great deal of weight in judgments made by Swedish courts because the only legally binding source, which is The Swedish Environmental Code, does not specifically specify how to evaluate and balance the interests involved, such as municipality interest and the Swedish Armed Forces.

Notwithstanding the numerous obstacles, it is anticipated that Europe will continue to lead the offshore wind industry in terms of expansion, especially looking into Denmark and Sweden, which have a lot of potential in contributing to reaching the renewable energy target and utilizing its offshore wind potential. This growth comes from both the public and private sectors of the offshore wind sector in Europe. As of today, two European private companies are leading the offshore wind industry portion worldwide. Ørsted, a private Danish company is the world’s leading offshore wind developer with a capacity of 7.5 gigawatts.³¹ On the third place, Swedish public company, Vattenfall is leading with a capacity of 2.5 gigawatts.³² The statistics demonstrate the equal importance of the public and private sectors for offshore wind energy’s future. Additionally, they also highlight the necessity of ongoing collaboration between all parties involved in the offshore wind industry to secure future investments. To handle various issues facing offshore wind industry, regulators are essential, as are laws and guidelines. A nation with a well-defined legal system might have more effective assistance programs and a more transparent permit application process. Therefore, to provide investors with the circumstances required to both safeguard and fully utilise offshore wind energy’s potential in the energy market, countries such as Denmark and Sweden must have a well-established legal framework to govern this. In the next section, the analysis will focus on the national laws and regulations in both Denmark and Sweden connected directly and indirectly to the offshore wind industry, taking into focus on the permitting structure in both countries to get a deeper insight into the two countries before comparing the two with the EU bigger objectives in achieving the renewable energy target and expanding offshore wind industry.

²⁹ Baltic Wind EU, ‘*Offshore News, Regulatory, Sweden*’, May 8th 2023, < <https://balticwind.eu/government-study-evaluating-offshore-wind-projects-may-delay-their-development-in-sweden/> >, accessed on 21 April 2024.

³⁰ Pettersson Maria, Söderholm Patrik, ‘*Reforming Wind Power Planning and Policy*’, CESifo DICE Report, 2011, pp. 58.

³¹ Statista, ‘*Leading offshore wind power developers worldwide as of December 2021, by operating capacity*’ < <https://www.statista.com/statistics/1368762/offshore-wind-power-capacity-by-developer-worldwide/> >, accessed on 21 April 2024.

³² *Ibid.*

3 Legal Overview of the Permitting Process

3.1 Permitting Process in Denmark

The Danish Energy Agency (DEA) is a division of the Ministry of Climate, Energy, and Utilities, which is in charge of managing the permitting process for offshore wind farms in Denmark. There are three different types of permits in Denmark, which include permit to carry out preliminary investigations, permit to establish the offshore wind turbines, and permit to exploit wind power for a given number of years.³³ The regulatory framework governing the development, financing, operation, and selling of power in the renewable energy market, as well as the implementation of the Renewable Energy Directive is provided by the Act on Promotion of Renewable Energy (Danish RE Act), the Electricity Supply Act (Consolidated Act No. 984 of May 12, 2021), and the executive orders issued thereunder. The primary law governing renewable energy sources, including offshore wind energy is the Act on Promotion of Renewable Energy, which encourages the generation of electricity from renewable sources to lessen reliance on fossil fuels, improve supply security, and cut down on greenhouse gas emissions. The other source of law, which is the Electricity Supply Act governed the production, distribution, trade, and transportation of electricity. The Electricity Supply Act was created to make sure that the organization and operation of the energy supply serve the objectives of economics, the environment, supply security, consumer protection, and equitable access to affordable power.³⁴

The Danish state may give private parties rights of use and access under the Danish RE Act to utilize wind energy in Danish territorial seas and the exclusive economic Zone (EEZ) in accordance with the Danish RE Act.³⁵ International law, such as the United Nations Convention on the Law of the Sea³⁶ governs the State's exclusive rights to energy resources from wind and water at sea. The sovereignty of the coastal nations over the marine area is established in article 2 of the Convention on the Law of the Sea, which covers 'both the airspace over the maritime territory as well as its seabed and subsoil.'³⁷ In Denmark, there are two different procedures for acquiring permits for the construction and operation of offshore wind farms: i) Tender announced by the State, and ii) Open-Door procedure which will be further discussed in the next chapter. The permitting process for offshore wind farm construction and operation comprises the four primary licenses listed below, which are subject to both the tender procedure and open door.

³³ Danish Energy Agency, *Procedures and Permits for Offshore Wind Parks*, < <https://ens.dk/en/our-responsibilities/offshore-wind-power/offshore-procedures-permits>>, accessed on 10 April 2024.

³⁴ Consolidated Act No. 984 of May 12, 2021.

³⁵ Consolidated Act No. 1791 of September 2, 2021, Chapter 1 §3.

³⁶ The United Nations Convention on the Law of the Sea of 10 December 1982 (UNCLOS).

³⁷ *Ibid*, article 2.

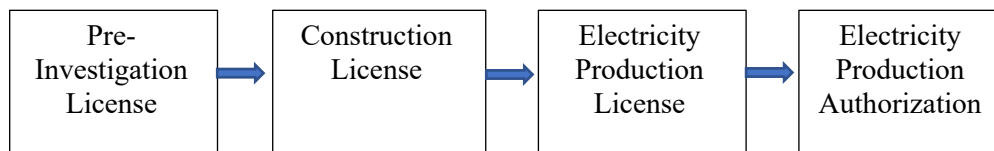


Figure 1. Permitting Process in Denmark

The Danish RE Act governs the pre-investigation, construction, and electricity production license while the Danish Electricity Supply Act governs the electricity production authorization. This thesis will primarily focus on analyzing the Danish RE Act in governing the permitting process from pre-investigation and construction license.

3.1.1 Danish RE Act

The definition of renewable energy is given in Chapter 1 Section 2 § 2 of the Act on Promotion of Renewable Energy/ RE Act (Consolidated Act No. 1791 of September 2, 2021) as energy derived from renewable non-fossil sources, such as biomass, landfill gas, sewage treatment plant gas, wind, solar, and geothermal energy, ambient energy, tide, wave and other ocean energy, and hydropower.³⁸ This definition is the implementation of Article 1(1) of the Renewable Energy Directive 2023/2413 (RED III).

Conditions for a permit are laid down in Article 22 for pre-investigation, Article 25 for construction/establishment permit and Article 29 for operation permit. This permit requirements under the Renewable Energy Act for offshore wind turbines replaced section 11 of the Electricity Supply Act³⁹ which follows from Executive Order no. 493 of 12th June 2003 on conditions and procedures for issuing permits for the establishment of new electricity production facilities⁴⁰ as amended by executive order no. 1335 of 2nd December 2010 that stated ‘All wind power plants that meet the requirements of executive order no. 651 of 26 June 2008 on the technical approval scheme for the construction, manufacture, installation, maintenance and service of wind turbines and later changes therein, are not covered by the approval requirement in the Electricity Supply Act.’⁴¹ In addition to this, the conditions for a permit under the Renewable Energy Act also replaced the previously permit requirements under the Coastal Protection Act Chapter 3 Section 16a.⁴² As a part of the pre-investigation phase, Environmental Impact Assessment (EIA) is a crucial aspect in permitting structure for offshore wind industry. It is when individual projects conduct the environmental assessment in compliance with national laws implementing the EU EIA Directive. In Denmark, EIA for offshore wind projects is governed by the Renewable Energy Act under Article 27. The Danish Energy Agency (*Dk. Energistyrelsen*) is in charge of deciding case-by-case whether a wind turbine project needs an environmental impact assessment. Should an EIA be

³⁸ Consolidated Act No. 1791 of September 2, 2021, Chapter 1 Section 2 § 2.

³⁹ Consolidated Act No. 984 of May 12, 2021, Chapter 3 § 11.

⁴⁰ Executive Order (*Dk. Bekendtgørelse*) No 493 of June 12th, 2003.

⁴¹ Executive Order (*Dk. Bekendtgørelse*) No 1335 of December 2nd, 2010, Section 1(3).

⁴² Consolidated Act No 705 of May 5, 2020, Chapter 3 (16)a.

necessary, the applicant must provide an EIA statement. The Danish Energy Agency then must make an EIA statement available to the public for at least eight weeks during the consultation phase, which is regulated under Article 9(2) of the RE Act. In total, this phase usually takes place around 9-12 months until the permit is granted.⁴³

Additionally, municipalities in Denmark have a voice regarding the establishment of an offshore wind farm in Denmark. Article 22b of the RE Act mentions ‘A municipal council may object to the granting of permission for a preliminary investigation as regards offshore wind turbines that are planned to be located up to 15 km from the municipality’s coastline.’⁴⁴ This section of the Act gives the municipality the right to object which will be reviewed by the Minister for Energy, Utilities and Climate before the Minister decides whether or not to grant the permit. However, if the minister determines that there is a justification for giving the pre-investigation permit based on specific conditions stated in the RE Act, an objection from a municipality will not automatically result in the application being denied.⁴⁵ Following this pre-investigation permit or license, offshore wind developers then can proceed for the construction/establishment of the offshore wind turbines permit and operation permit. Overall, the Danish Energy Agency aims to provide a “one-stop shop” permit by coordinating the interdepartmental planning and permitting procedure in practice. The permit for offshore wind farms has a validity of 30 years, and it can be extended with another application. The permit may be issued for a shorter amount of time under certain circumstances.⁴⁶

3.1.2 Public Participation under the RE Act

Denmark believes that to ensure the sustainability of energy transition initiatives, encouraging community involvement, and influence the future of renewable energy production, increasing public participation is essential. Several measures have been put in place under the framework of the Danish Renewable Act to encourage and enable public participation in the installation and operation of wind turbines. The Co-Ownership and Guarantee Fund Scheme are two important RE initiatives acting as vital instruments for enlisting community support and strengthening regional players in the renewable energy sector.

The Co-Ownership scheme is regulated under Article 6(a) of the RE Act. The objective of this scheme is to raise community support and interest in the installation of new wind turbines.⁴⁷ For offshore wind, unless the project is developed through a tendering process, the scheme applies to wind turbines situated within the 15 km zone from the residential properties. In accordance with this rule, the developer must provide the residential property owner with the possibility to purchase at least twenty percent of the ownership shares. Moreover, Section 72 of the RE Act permits the

⁴³ COWI, ‘Danish Planning and Permitting Regimes for EEZ Sector’, 23rd May 2019.

⁴⁴ Consolidated Act No. 1791 of September 2, 2021, Chapter 3 § 22b.

⁴⁵ *Ibid*, para.3.

⁴⁶ Consolidated Act No. 1791 of September 2, 2021, Chapter 3 §29(2).

⁴⁷ *Ibid*, Chapter 2 §6(a).

imposition of a criminal penalty that consists of a fine in case of failure to offer the sales option.⁴⁸

Guarantee Fund scheme is regulated under Article 21 of the RE Act. Local wind turbine owners' organizations can finance the preliminary studies, among other things with the support of the guarantee fund from the government. The objective of this scheme is to promote local participation in the growing installation of wind turbines. Apart from offshore turbines that are being developed through a tender process, the scheme is applicable to wind turbines located onshore, nearshore, and offshore. To support this scheme, the Minister for Climate, Energy and Supply provided 10 million DKK⁴⁹ which is funded by the general energy taxes. By enabling local wind turbine owners' associations to get guaranteed funding for preliminary investigation, the government encourages local communities to become more involved in the shift towards renewable energy. This is in line with the overarching objective of encouraging community ownership of renewable energy assets and decentralizing energy production. The Guarantee Fund scheme allows community involvement in the planning, creation, and execution of renewable energy projects.

More recently, on 24th April 2024, The Danish Minister for Cities and Rural Areas (*Dk. Ministeren for byer of landdistrikter*) submitted a proposal of Act on State-designated energy parks to the Danish Parliament.⁵⁰ Chapter 1 Article 1 defines the purpose of this act, which to encourage the generation of electricity from renewable energy sources through the establishment of state-designated energy parks, as well as improving the synergy with other societal interests in land use.⁵¹ The designation of energy parks according to Chapter 2 Article 3 of the bill means that energy parks be designated by the Minister for Cities and Rural Areas, subject to local municipality council permission, with the intention of establishing turbines and related infrastructure.⁵² This approach can be argued that the creation of energy parks represents a major public interest that should be prioritized over other application and protection interests. In response to this, Danish Municipalities view favourably the desire to expedite the green transition and guarantee the achievement of both national and European objectives through the acceleration of renewable energy growth and the enhancement of the framework conditions of energy parks and renewable energy parks.⁵³

3.1.3 Tender Procedure

Danish Energy Policy and Regulation has started to give offshore wind power development more and more attention, especially since the Tendering procedure was introduced in 2004. The introduction of the tendering procedure for wind turbines in Denmark was made official as part of the Electricity Reform Agreement.⁵⁴ A

⁴⁸ Consolidated Act No. 1791 of September 2, 2021, Chapter 10 §72.

⁴⁹ *Ibid*, Chapter 2 §21(5).

⁵⁰ Proposal of Act on State-Designated Energy Parks, Lovforslag nr. L 166, 2024.

⁵¹ *Ibid*, Chapter 1§1.

⁵² *Ibid*, Chapter 2§3.

⁵³ Aabenra Kommune, 'Høringssvar', Document no. 23/7605, 2024 and Aalborg Stift, 'Høringssvar', Document no. 2024-4711, 2024.

⁵⁴ Act amending the Electricity Supply Act, LBK no. 151 of March 10th 2003.

predetermined sum, effectively a feed-in tariff for future output equal to 50,000 full load hours is guaranteed to the enterprises that win the opening bids.⁵⁵ This offshore wind strategy has increased the capacity of wind power, resulting in the development of two large offshore wind farms namely Horns Rev II and Nysted II.

The political agreements of the Danish Parliament serve as the foundation for tenders for large-scale offshore wind projects. The announcement of the tenders takes place in the EU Official Journal of Tenders. Article 23 of the RE Act governs the permit acquired by developers through the tender procedure; ‘in the case of a tender, the permit is given to the entity who wins the tender. The Minister for Climate, Energy and Supply can specify special circumstances that are emphasized when deciding on the bids received.’⁵⁶ All of the processes of tendering are handled by the Danish Energy Agency (DEA). Additionally, the clause in RE Act article 23 paragraph 2 expressly states that the bid terms may include a condition on payment that requires the winning bidder to either comply with the requirements of the tender contract or to withdraw from the bid.⁵⁷ The background for this provision is that the winning in connection with Rødsand II tender project⁵⁸ where the tender project withdrew suddenly from the project, therefore the provision regarding condition on payment is then stated under the RE Act.

Prior to bid submission, as previously mentioned pre-investigation phase such as Environmental Impact Assessment is a crucial step. In the tendering process, by a directive from the Minister of Energy, Utilities and Climate, Energinet conducts the pre-investigation. Thus, before the final bids are made, a fully agreed EIA is in place. The objective of this is to enable tenderers to provide competitive and qualified bids. The successful bidder shall reimburse Energinet for pre-investigations and EIA preparation expenditures. As mentioned prior in Article 23 of the RE Act, a permit to construct and operate the tendered offshore wind farm then will be given to the tender winner. As we can see through this process, the Danish Energy Agency is responsible for encouraging the submission and assessment of bids, as well as granting permits to the winning bidders. By ensuring uniformity in the implementation of regulatory requirements, this centralized authority simplifies the administrative processes of the deployment of offshore wind farms in Denmark. A dedication to expediting project permitting and development procedures in line with the objectives and principles of the EU Directive for Renewable Energy 2023/2413 (RED III) is apparent in the Danish offshore wind tender procedure.

3.1.4 Open-Door Procedure

The Open-door procedure allows project developer to an unsolicited preliminary investigation permit, that is, without holding a formal bidding round.⁵⁹ A little bit

⁵⁵ Petersson Maria and Söderholm Patrik, ‘Reforming Wind Power Planning and Policy: Experiences from the Nordic Countries’, DICE Report 4/2011, Pp 55.

⁵⁶ Consolidated Act No. 1791 of September 2, 2021, Chapter 3 § 27.

⁵⁷ *Ibid*, Chapter 3 §23 (2).

⁵⁸ See Danish Energy Agency, ‘Rødsand II Offshore Wind Farm Reopen for Tenders’, <<https://ens.dk/en/press/rodsand-ii-offshore-wind-farm-reopen-tenders>> accessed on 12 April 2024

⁵⁹ Danish Energy Agency, ‘Procedures and Permits for Offshore Wind Parks’, < <https://ens.dk/en/our-responsibilities/offshore-wind-power/offshore-procedures->

different than the tendering procedure, project developer initiates the process to set up an offshore wind farm through the open-door procedure. An unsolicited application for a license to conduct preliminary investigations in the designated area must be submitted by the project developer. This includes a description of the project, expected scope of the preliminary studies, size and number of turbines, and the project's geographical limitations.⁶⁰

Theoretically, this procedure increases competition in the industry and may be interpreted as a government initiative to assist the rapidly expanding industry. However, in reality, last year in 2023 the government rejected 24 proposals to install offshore wind turbines without further review.⁶¹ The Danish Government decided to put a pause on the open-door procedure due to a concern about a possible infringement of EU State Aid Law. According to Article 107 TFEU, Member States are not allowed to provide state aid in any manner that stifles competition on the EU internal market.⁶² A lack of fair market access and transparency may arise from the Open-Door Procedure's lack of a competitive bidding procedure, which could benefit some developers over others. In the context of offshore wind development, a special treatment as well as potential market distortion are raised by the Open-Door Procedure's lack of a competitive bidding procedure. Without competitive tendering, incumbents or organisations with political influence may benefit from a lack of transparency and equitable access to projects for all developers. The legal text is unclear on whether the Danish Energy Agency must make received applications public. However, the special remarks to L 503/2008 make it quite evident that such obligation does not exist.⁶³ The absence of transparency and equal access to projects for all developers may result in exaggerated project costs since there may be no competitive pressure on developers to provide the most economical solutions.

The recent case of T-364/20 Denmark v Commission highlights the importance of adhering to EU State Aid Law and fair competition principles in national support schemes for renewable energy projects, particularly in light of the concerns raised regarding the Open-Door Procedure's compliance with Article 107 TFEU. The case originated from several complaints that the Commission received in 2014 and 2015. The complaint that started the investigation claimed that Denmark had given state aid to firms participating in the Fehmarn project that was both unlawful and incompatible with the market. The ruling emphasized the complex nature of the funding. The Fehmarn Strait Project's financing was contingent upon two factors. First, the project planning may not have qualified as state aid because Femern had acted as a public authority. Second, these actions would be consistent with the internal market regardless of the outcome.⁶⁴ However, the final judgment of this case

[permits#:~:text=In%20the%20open%2Ddoor%20procedure,investigations%20in%20the%20given%20area.>](#), accessed on 12 April 2024.

⁶⁰ Danish Energy Agency, 'Procedures and Permits for Offshore Wind Parks', < [⁶¹ Baltic Wind, 'The Open Door Scheme', 12th June 2023, < <https://balticwind.eu/the-open-door-scheme-a-huge-failure-by-the-government/>>, accessed on 12 April 2024.](https://ens.dk/en/our-responsibilities/offshore-wind-power/offshore-procedures-permits#:~:text=In%20the%20open%2Ddoor%20procedure,investigations%20in%20the%20given%20area.>, accessed on 12 April 2024.</p></div><div data-bbox=)

⁶² Consolidated version of the Treaty on the Functioning of the European Union, OJ C 115, Article 107.

⁶³ Act no. 503 of 17/06/2008.

⁶⁴ Case T-364/20, *Kingdom of Denmark v Commission* [2024] ECLI:EU: T:2024:125, paras 5.

decides that according to Article 107 (1) TFEU, the financial injections and a mix of state guarantees and loans in favour of Femern, which Denmark at least partially implemented and executed illegally, qualify as a state aid. Based on Article 197 (3) (b) TFEU, these measures are deemed compatible with the internal market after being modified and outlined in the updated notification that followed the opening decision.⁶⁵

Another case that supports the controversy in the Open-Door Procedure would be the Thor Wind Farm tender which was completed in December 2021. The procurement produced a winning bid for subsidies that was negative for the first time. This sparked concerns that combining an Open-Door Procedure where no concession was requested with a tender system where developers must pay a concession fee would be against EU State Aid Law. More precisely, it was debated whether the Open-Door Procedure's developers can be considered as receiving state aid or not through the absence of concession payment in the procedure.⁶⁶ For these two major reasons, in March 2023, the Open-Door scheme's application processing was placed on administrative hold. Following this, the Open-Door Procedure was permanently suspended in December 2023.

3.2 Permitting Process in Sweden

Each new wind farm must go through two different permitting processes in Sweden: i) Environmental Permit and ii) Concession Permit. An environmental permit is needed to develop the wind farm, and a concession permit is needed to connect it to the grid. This thesis will focus on the environmental permit for developing offshore wind farms in Sweden. This permit application process includes several consultations and approval from different stakeholder and government bodies in Sweden, including: The Swedish Armed Forces, environmental delegations of County Administrative Boards, the Swedish Energy Markets Inspectorate, and the Swedish Mapping, Cadastral and Land Registration Authority.⁶⁷ The legal process to develop a wind farm is the same on land as it is within the Swedish territorial sea. Chapter 9 of the Environmental Code (*Sw. Miljöbalken*) requires environmental permits, while Chapter 11 requires permits for water activities.

3.2.1 Permit Obligation and Environmentally Hazardous Activities

Chapter 9 of the Swedish Environmental Code governs offshore wind generation in Sweden, which is considered an environmentally hazardous activity. Several obligations and requirements that must be fulfilled for an activity to qualify as environmentally hazardous are listed in 9 Chapter 1 § 3 of the Environmental Code. For offshore wind activity, the third paragraph is relevant; 'any use of land, buildings or structures that may cause a detriment to the surroundings due to noise, vibration, light, ionizing or non-ionizing radiation or similar impact.'⁶⁸ As is the case with other

⁶⁵Case T-364/20, *Kingdom of Denmark v Commission* [2024] ECLI:EU: T:2024:125, paras 26.

⁶⁶ Inquiry Commission on Offshore Wind Power, 'Regulations and procedures for offshore wind power in Denmark, Finland, Germany, and the United Kingdom' [2024], pp. 19.

⁶⁷ Swedish Wind Energy Association, 'Roadmap 2040', 2021, pp. 13.

⁶⁸ Swedish Environmental Code (*Sw. Miljöbalk*), 1998:808, 9 Chapter 1 § 3.

energy-producing activities, wind power poses a risk to the environment due to its disruptive effects on the surrounding area, including noise. Chapter 9 is further supplemented with the provisions in Chapters 2 and 3-4 of the Environmental Code. Above all, the Environmental Assessment Regulation (*Sw. miljöprövningsförfordning*), which supplements the Environmental Code in determining what activities require a permit or notification, serves as the rationale for classifying an activity as environmentally hazardous, so-called duty to notify A, B, or C operations.⁶⁹ According to the Environmental Assessment Regulation, wind power industry constitutes notification duty B and C. Control over the planned project, including its location and design is the aim of duty B, which is subject to a permit. It also gives the responsible party the ability to refuse an intended project at an early stage. Consequently, locations that are evidently unsuitable may be eliminated early on in the process, which can reduce the operator's expenses. The County Administrative Board is where the permit examination for B activity is conducted. However, this is not the case because the environmentally hazardous operations occur in conjunction with water operations, even though the majority of commercial offshore wind farms only meet the requirements for B activity and the permitting process should therefore take place at the County Administrative Board. Due to this conjunction with water operations, the Land and Environment Court (*Sw. Mark- och miljödomstolar*) also examined the permit application.

3.2.2 Permit Obligation for Water Activities

Chapter 11 of the Swedish Environmental Code regulates water activity or operations, which include various activities related to water areas, such as building infrastructure and filling or piling in a water area.⁷⁰ Section 9 of this chapter specifies that the water activity is subject to a permit which will be further examined in the Environmental Assessment Regulation. The water operations include not only the construction or operation of the offshore wind turbines but also the laying of undersea cables required to link the plants to the electrical grid, which is subject to another permit. A general exemption to the permit is found in Sections 11 and 12 of Chapter 11, which provides that a permit is not required for operations that manifestly do not jeopardize private or public interests by affecting water conditions.⁷¹ The use and quality of the water area are just as important as the water's depth or location when it comes to the situation. However, in the case of offshore wind turbines, this exemption does not apply because they are always subject to a permit. Due to the very tight relationship between environmentally hazardous and water activities for offshore wind power, there is also an opportunity to have the permit for water activities tested in a consolidated procedure according to Chapter 21, Section 3 of the Environmental Code. This streamlines the procedure and requires that all the business' permits be tested by the Land and Environment Court using a single method. If a permit is granted, it is then granted for operations that include water and environmentally hazardous activities.

⁶⁹ Environmental Assessment Regulation (*Sw. miljöprövningsförfordning*), 2013:251, 21 Chapter §13.

⁷⁰ Swedish Environmental Code (*Sw. Miljöbalk*), 1998:808, 11 Chapter 2§.

⁷¹ *ibid*, 11 Chapter 12§.

3.2.3 Municipal Veto

The Swedish Environmental Code grants municipalities the exclusive authority or veto power to approve or reject new wind projects in Chapter 16 Section 4 of the Swedish Environmental Code. The municipal veto was intended to encourage the growth of wind power in Sweden by streamlining and expediting the approval procedure.⁷² However, there was not the expected simplicity. Contrary to its initial aims, it has delayed the duration and complicated the permitting process. For instance, the case *Statkraft Vind AB v. Västerviks Kommun*⁷³ illustrates the problem with municipal veto in Sweden. In the Västervik municipality of Tribbhult, Statkraft's planned wind farm was denied by the Land and Environment Supreme Court of Sweden in August 2023.⁷⁴ The judgment was made after the municipality withdrew its earlier consent for the wind farm with up to 16 wind turbines. As a result, the court decided that the permit could not be given. The ruling comes after a drawn-out Tribbhult development process, for which Statkraft submitted a proposal back in 2014. There have been several revisions to the project and reviews on multiple occasions. The proposal was twice authorized by the Västervik municipal council, however, in 2021 the Council decided to withdraw its approval. Following the election of a new party majority in Västervik in 2022, the municipal council opted to exercise its veto power. The Land and Environment Supreme Court demonstrates the flaws in the municipal wind power veto by turning down the permit application for the Tribbhult wind farm.⁷⁵ A significant increase in the production of energy requires a legally sound, reliable, and effective permitting mechanism. When the demand for increased power generation without government subsidies is stronger than ever, the fact that a municipality can change its mind at any point along the process is concerning. In response to this, on the 24th of August 2023, over ten law firms submitted an open letter to the Swedish Wind Association (*Sw. Svensk Vindenergi*) that wind projects be 'put on an equal footing'⁷⁶ with other developments that require permits or licenses in order to uphold the norms of legal certainty.

Chapter 16 section 4 of the Swedish Environmental Code states 'Permits and exemptions must not conflict with detailed development plans or area regulations adopted pursuant to the Planning and Building Act (1987:10). Nevertheless, minor departures may be allowed if they are not contrary to the purpose of the plan or the rules.'⁷⁷ This means that government permission for wind power projects is mandatory, however, it can only be granted if the local municipality has shown approval for the project. Naturally, municipalities ought to be involved in the development of wind power. Municipalities can still supervise the placement of wind

⁷² Swedish Wind Energy Association, 'Roadmap 2040: Wind power combating climate change and improving competitiveness', January 2021, Pp.17.

⁷³ Case No. M 5427-22. *Statkraft Vind AB v. Västerviks Kommun*.

⁷⁴ Tidningen Energi, 'det kommunala vetot mot vindkraft måste bli rättssäkert', 6th September 2023, <<https://www.energi.se/artiklar/2023/september-2023/det-kommunala-vetot-mot-vindkraft-maste-bli-rattssakert/#:~:text=En%20ny%20dom%20från%20Mark.kommunernas%20vetorätt%20bör%20överses%20över>> accessed on 12 April 2024.

⁷⁵ The Land and Environment Court (*sw. Mark och Miljööverdomstolens*) Judgment on 11 August 2023, Case no. 5427-22.

⁷⁶ Renewes Ltd, 'Swedish lawyers urge change to wind permitting rules', 24 August 2023, <<https://renews.biz/87680/swedish-lawyers-urge-change-to-wind-permitting-rules/>>, accessed on 12 April 2024

⁷⁷ Swedish Environmental Code (*Sw. Miljöbalk*), 1998:808, 16 Chapter 4§.

power even in the absence of a veto by acting as a central authority throughout the permit application process. In regard to this, recently the Swedish Ministry of Climate and Business designated a special investigator to look into the requirements for repealing the clause included in Chapter 16 section 4 of the Swedish Environmental Code due to the increasing amount of criticism they have received. Under SOU 2021:53, the government has pointed to a legally secure procedure, not only regarding how municipalities apply for the verification, but also regarding the legal uncertainty arising from the decisions being made without formal requirement, which can be reclaimed by the municipality and cannot be appealed by the operator.⁷⁸ This report led to the bill proposal 2021/22:210 on Early Municipal Position on Wind Power which was intended to amend Chapter 16 section 4 of the Environmental Code and further clarify the municipality's stand on wind power. Unfortunately, the Riksdag rejected the proposal.⁷⁹

From the case above, the municipal veto power is contradicted with the revised Renewable Energy Directive's demands for streamlined and expedited permitting processes in Europe. The municipality veto power here is incompatible with the impartiality and objectivity principles that guide public sector decision-making. Particularly in an election year, as presented in the case above, developers of offshore wind face a great deal of uncertainty due to the clause of Chapter 16 section 4's extreme unpredictability.

3.2.4 The Swedish Armed Forces

The Swedish Armed Forces have opposed the installation of 3,128 wind turbines (89%) between 2017 and 2022.⁸⁰ That translates to a 180-200 TWh potential power generation. The legal basis for a veto power of the Swedish Armed Forces lies in Chapter 3 Section 9 of the Swedish Environmental Code 'Areas that are of national interest because they are needed for total defence installations shall be protected against measures that can make the creation or utilization of the facilities significantly more difficult.'⁸¹ In connection with this, The Management of Land and Water Areas Regulation⁸² (*Sw. Hushållning med mark och vattenområden 1998:896*) assigns responsibility for current territories that are considered regions with a special national interest to the Swedish Armed Forces. The usage of water areas that they determine to be the most appropriate is reported in both onshore and offshore marine plans, and the reports serve as a recommendation for judgments for a permit to carry out various operations. That being said, regardless of whether the wind farm is built inside the territorial sea or the economic zone, the interests of total defence must have precedence in the case of a conflict of interest.⁸³ In the event that

⁷⁸ SOU 2021:53, 'A legally secure wind power trial (sw. En rättssäker vindkraftsprövning)', pp. 36.

⁷⁹ Svensk Vindenergi, 'En kommun kan ändra sig om vindkraft när som helst- nu måste lagen ändras', 23 Augustus 2023, <<https://svenskvindenergi.org/debattinlagg/en-kommun-kan-andra-sig-om-vindkraft-nar-som-helst-nu-maste-lagen-andras>>, accessed on 13 April 2024.

⁸⁰ Baltic Wind, 'Swedish armed forces should facilitate wind power expansion', 18th July 2022, <<https://balticwind.eu/swea-swedish-armed-forces-should-facilitate-wind-power-expansion/#:~:text=Since%202017%2C%20Swedish%20armed%20forces,%2C%20reads%20SWEA's%20position%20statement.>>>, accessed on 13 April 2024.

⁸¹ Swedish Environmental Code (*Sw. Miljöbalk*), 1998:808, 3 Chapter 9§.

⁸² The Management of Land and Water Areas Regulation (*Sw. Hushållning med mark och vattenområden*) 1998:896, §2a.

⁸³ Swedish Environmental Code (*Sw. Miljöbalk*), 1998:808, 3 Chapter 10§.

this circumstance (conflict of interest between national interest and total defence interest) emerges over the course of a permit process, The Land and Environmental Courts is required under Chapter 21 section 7 of the Environmental Code to declare its opinion on the subject and then turn it over to the government for a review.⁸⁴

The issue of conflict of interest is also being addressed in the adopted marine plans by the Swedish Sea and Water Authority (*sw. havs och vattenmyndigheten*), designating zones for both defence and wind power development. There it is stated that ‘there are good technical conditions for offshore wind power in Sweden’s sea areas, however, conflicting interests mean that the full potential of offshore wind power cannot be fully exploited.’⁸⁵ It is also emphasized that throughout the course of the maritime planning process, energy extraction and defence interests have shown to be conflicting goals in a number of regions, most notably in the Baltic Sea planning area.⁸⁶ Based on the Environmental Code provision in Chapter 3 section 10, when two conflicting national interests are considered, priority must be given to the defence interest.⁸⁷ In regard to this, both the government and the Swedish Sea and Water Authority have acknowledged the conflict of interest and the importance of the Swedish Armed Forces, and they both advocate for improved cohabitation.⁸⁸

In addressing this conflict of interest and possible solution for the coexistence of both the energy interest and national defence interest, the matter was looked at and investigated by the Total Defence Research Institute (*Sw. Totalförsvarets Forskningsintitut*) in 2022.⁸⁹ The report outlined some primary issues with the coexistence, such as low-flying zones, obstacle lights on wind turbines, and technical systems used by the armed forces.⁹⁰ For low-flying zones, as per Chapter 3 section 9 of the Environmental Code, the areas are deemed significant and are exempt from national interests, meaning that protection is only necessary when it becomes appropriate. The Energy Agency states that while wind power development is technically feasible in certain regions, the areas under permit review are essentially given the same status as a national interest.⁹¹ In the event that a permit is nevertheless issued in spite of this, the requirement for obstacle lights on wind turbines may come into play as a compensating measure. Wind turbines have lights that assist in navigation in low light or the dark. On the other hand, because of the threats associated with national security, the armed forces believe that this is not a proper scenario. The Total Defence Research Institute and the Swedish Armed Forces concluded the report by stating that the main source of the conflict between wind power and the Swedish Armed Forces is that wind turbines have an impact on both the equipment and operations of the Swedish Armed Forces, making it more difficult for the military to carry out its mission and wind power frequently needs to be located in the same geographic areas where the military has interests or conducts

⁸⁴ Swedish Environmental Code (*Sw. Miljöbalk*), 1998:808, 21 Chapter 7§.

⁸⁵ Havs och vattenmyndigheten, ‘*Havsplaner för Bottniska viken, Östersjön och Västerhavet*’, 2022, pp. 137.

⁸⁶ *Ibid*, pp. 46.

⁸⁷ Swedish Environmental Code (*Sw. Miljöbalk*), 1998:808, 3 Chapter 10§.

⁸⁸ Havs och vattenmyndigheten, ‘*Havsplaner för Bottniska viken, Östersjön och Västerhavet*’, 2022, pp. 46.

⁸⁹ Totalförsvarets Forskningsintitut, ‘*Possibilities for coexistence between the Swedish Armed Forces and Wind Power Expansion*’, FOI-R—5293—SE, 2022.

⁹⁰ *Ibid*, pp. 29-38.

⁹¹ *Ibid*, pp. 34.

operations.⁹² One factor contributing to the problem is the inadequacy of the wind power planning process in identifying wind power suitable places where the Swedish Armed Forces do not oppose such use. There are other barriers to discussing potential adjustments and exchanging information about the reasons for the Swedish Armed Forces' rejection of the companies' application. All in all, this creates a problem for the wind power businesses and makes the permit procedure unpredictable and ineffective.

Based on Riksdag's investigative service report on The Swedish Armed Forces' environmental effect (dnr 2015:704), it is stated that there is not enough information available to do an environmental study of the authority's environmental impact. The climate and vulnerability analysis conducted by the Swedish Armed Forces which will determine whether the Armed Forces will approve or reject an offshore wind project is unfortunately shrouded in secrecy which is regulated in Chapter 15 section 2 of the Publicity and Privacy Act.⁹³ While there could be valid justifications for this, it also complicates evaluating the authority's evaluation of its own environmental assessment in order to reach an approval or rejection decision. This becomes a conflict of interest when some of the sites that the Energy Agency identified as national interests for wind farming are removed from the current ocean plans due to national defence concerns. From the number of percentages presented above, the veto power of the Swedish armed forces could constitute as an unpredictable permit process.

3.2.5 Streamlined with the EU objectives?

According to Swedish Wind Energy, the average time for permitting process of offshore wind farms in Sweden takes around 8-10 years.⁹⁴ The primary obstacles for the growth of offshore wind farm industry in Sweden is the unpredictable permitting process as shown above. Although some of the requirements in Sweden's permitting process particularly within environmental protection and project assessments met with the Renewable Energy Directive 2023/2413's criteria, however the fragmented permit process in place now is incompatible with the Directive's objective. Particularly in article 16 of the directive which stipulates that permits must be obtained in no more than two years and that there must be a single point of contact with the Member States.⁹⁵ Currently, as mentioned above, the developer of offshore wind projects may keep in contact and pursue cases and consultations with many different authorities. Additionally, the set time limit for the permit is not adhered to either. A deeper analysis of how the regulatory frameworks for offshore wind permit in Sweden streamlined with the EU objectives will be represented in chapter 4.2

⁹² Totalförsvarets Forskningsinstitut, '*Possibilities for coexistence between the Swedish Armed Forces and Wind Power Expansion*', FOI-R—5293—SE, 2022, pp. 29.

⁹³ Publicity and Privacy Act (*Sw. Offentlighets och sekretesslag*), 2009:400, Chapter 15 §2.

⁹⁴ Swedish Wind Energy Association, '*Statistic and Forecast Q4 2023 Report*', 9th February 2024.

⁹⁵ Directive (EU) 2023/2413 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 Directive 98/70/EC as regard to the promotion of energy from renewable sources [2023] OJ L 2023/2413, article 16(3) & article 16a.

3.3 Key Factors Affecting the Permit Process

Based on the analysis made in both Chapter 3.1 and 3.2, key point takeaways of the factors affecting the permitting structure and process in both Denmark and Sweden is presented below:

| | Stakeholders Involved in the Permitting Approval | Permit Process | Permit Process Time | Number of Approved Projects* | Main Legal Framework | Legal Barriers** |
|-----------|---|--|--|------------------------------------|----------------------------|--|
| DK | Danish Energy Agency | All permit (pre-investigation, construction, and electricity production) from Tendering process is authorised by the Danish Energy Agency | 2-3 years in average for the tendering procedure ⁹⁶ | 5 tendering projects ⁹⁷ | Promotion of Renewable Act | Open-door procedure |
| SE | i) County Administrative Board, ii) Swedish Environmental Protection Agency, iii) Swedish Armed Forces, iv) Land and Environmental Court | i) Permit from Municipality (according to Planning and Building Act), ii) Permit from local County Administrative Board (according to Environmental Code) | 7-10 years ⁹⁸ | 3 projects ⁹⁹ | Environmental Code | i) Municipal Veto, ii) Veto by the Swedish Armed Forces |

*Based on the latest governmental publication in the last 3 years ** Based on the analysis made in chapter 3.1 and 3.2

Figure 2 Key factors affecting permit process in Denmark and Sweden

A variety of factors affect the offshore wind industry in Denmark and Sweden, which in turn affects how offshore wind projects grow and develop by influencing the permitting process. Gaining an understanding of these fundamental factors is essential for evaluating the efficiency and streamlining of the permitting procedure in EU Member States in addition to pinpointing areas in need of development. All

⁹⁶ Danish Energy Agency, 'New Offshore Wind Tenders in Denmark', 2020, pp. 20.

⁹⁷ Danish Energy Agency, 'Ongoing Offshore Wind Tenders' <<https://ens.dk/en/our-responsibilities/offshore-wind-power/ongoing-offshore-wind-tenders>>, accessed on 30th April 2024.

⁹⁸ European Commission, 'The Swedish Wind Energy Association', 21 September 2020, <https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12553-Regles-de-IUE-en-matiere-denergies-renouvelables-reexamen/F554224_fr>, accessed on 30th April 2024.

⁹⁹ Regeringskansliet, 'Havsaserad Vindkraft', 7 March 2024, <<https://www.regeringen.se/regeringens-politik/miljo-och-klimat/havsaserad-vindkraft/>>, accessed on 30th April 2024.

permits and licenses for offshore wind projects in Denmark are authorized by the Danish Energy Agency. Efficient decision-making and regulatory scrutiny through this ‘one-stop shop’ mechanism is provided by this simplified strategy. Sweden on the other hand, includes several governmental bodies in the permitting process. Multiple agencies’ involvement complicates the permitting process and lengthens the time it takes to get an approval. From this stakeholder’s involvement factor, Denmark is exercising a centralized approach while Sweden is exercising decentralised approach. In connection with this, factor number three which is the permit process time is the implication of factor number one and two. Due to the centralised and streamlined permitting procedure in Denmark, the average time for the overall permit process only takes about two to three years. Sweden on the other hand, has a more drawn-out permission procedure that might take seven to ten years to finish. On to the next factor, which is the legal barrier. In Denmark, the Open-Door procedure which permits direct negotiation and submission to Danish authorities without a competitive bidding process presents legal challenges for Denmark. As previously mentioned in Chapter 3.1.4, the Open-Door procedure can cause issues with market distortion and competition. Due to this possible infringement, the Danish government chose to discontinue the Open-Door procedure. Though this decision has resulted in some projects being delayed and raised some criticism from offshore wind developers and companies, this decision is believed to be for a better, more transparent, and non-hindering the competition in offshore wind industry. In Sweden, legal barriers that hinder development projects of offshore wind include the ability of municipalities to veto decisions and the ability of the Swedish Armed Forces to do the same. Permitting procedures for offshore wind projects get complicated and delayed by these legal barriers. Because these two factors are still remaining a challenge that the offshore wind industries face, the next chapter of this paper will compare these legal barriers factor in the two countries to finally find how Denmark and Sweden permitting structure aligns with the EU Green Deal objectives.

4 Issues of the National Permit Process and Alignment with the EU Law

4.1 Comparison of the Barriers affecting the Permit Process

4.1.1 The Municipality Involvement Differences

Municipal involvement is essential in creating regulatory frameworks and project implementation strategies related to offshore wind energy development. As demonstrated in Chapter 3, the engagement of municipalities can also be viewed as one of the barriers affecting the offshore wind farm permit process. Therefore, this chapter will present a comparison of municipalities’ involvement in the permitting process for offshore wind projects in Denmark and Sweden.

Recent legislative developments highlight Denmark's generally positive approach to municipal involvement in offshore wind projects. The proposal of Act on State-Designated Energy Parks, nr. L 166, 2024 received positive feedback from municipal council representative,¹⁰⁰ emphasizing the crucial role that municipalities take in collaborating together with the Ministry for Cities and Rural Areas to initiate green energy parks. Although Municipalities in Denmark have the right to voice their objections to offshore wind park permits,¹⁰¹ as regulated under Article 22b of the Renewable Energy Act, this right is less potent than it is in Sweden. As previously mentioned in Chapter 3, it is crucial to note that the Minister of Energy, Utilities, and Climate are subject to review the objection from municipality council.¹⁰² The completion of certain requirements specified in the Renewable Energy Act is a prerequisite for the Minister's decision regarding the issue of permits. Therefore, Municipal objection does not automatically prevent the issuance of permits.

On the other hand, in Sweden, the involvement of municipalities in offshore wind permits has posed serious obstacles to project development. The ability of municipalities to object permit applications has become a significant barrier that has complicated the permitting process for offshore wind projects in Sweden, as presented by case law¹⁰³ mentioned in Chapter 3. The municipal right to veto was implemented with the intention of expediting the spread of wind power by reducing approval procedures; nonetheless, this has resulted in unanticipated challenges. The Environmental Code's Chapter 16 section 4 provides the legal base for municipal veto in Sweden. This provision has drawn criticism from a range of groups, including offshore wind companies, lawyers, and the Wind Energy Association. Legislative barriers have been met in attempts to resolve issues with municipal veto, such as the bill proposal 2021/22:210 on Early Municipal Position on Wind Power. Unfortunately, the bill's rejection by Riksdag maintains the current situation, in which municipal opposition continues to be a major barrier to Sweden's offshore wind energy industry's growth.

4.1.2 Differences between Danish and Swedish Armed Forces Role

This chapter compares the involvement of the Armed Forces in the two countries and delves into the roles played by the Danish Armed Forces and Swedish Armed Forces in the structure of offshore wind permits procedures. As the previous chapter 3.2.4 has shown, the Swedish Armed Forces made a considerable impact on the permit approval process in Sweden due to conflict of interest. Therefore, this comparative study will clarify the differences in regulatory frameworks and how they affect the development of offshore wind projects in the two countries.

The Danish Armed Forces' interests are affirmed in comprehensive plans, similar to how the Swedish system does in the legally binding Overview of National Interests in Municipal Planning (*Dk. Oversigt over nationale interesser*).¹⁰⁴ The Armed Forces can monitor incoming permit applications using this instrument, which

¹⁰⁰ Aabenra Kommune, 'Høringssvar', Case no. 23/7605, 2024.

¹⁰¹ Consolidated Act No. 1791 of September 2, 2021, Chapter 3 § 22b.

¹⁰² Consolidated Act No. 1791 of September 2, 2021, Chapter 3 § 22b (3).

¹⁰³ Case No. M 5427-22. *Statkraft Vind AB v. Västerviks Kommun*.

¹⁰⁴ Plan og Landdistriktsstyrelsen, 'Oversigt over nationale interesser I kommuneplanlægning', July 2023.

forbids wind turbines from interfering with radar systems, and determine whether this interferes with the defence's ability to operate. Additionally, it is advised for the municipalities to include the Armed Forces prior to the start of preparation, if at all feasible. The military forces do not decide on their own what really qualifies as national interests, instead, Danish authorities and current ministers make this determination.¹⁰⁵ And on the case of energy supply national interests, the authorities will be the Danish Energy Agency. Additionally, in cases when conflicts of interest emerge and cannot be settled, the Minister of Business and Industry has the ultimate decision on whose interest should take precedence. Additionally, in the tendering procedure, once a project developer wins the bidding, the permit process only needs to be completed. There will only be one point of contact the project developer has to communicate with, which is the Danish Energy Agency. As a result, other relevant authorities are thus consulted via the Danish Energy Agency.

In comparison, it is worth noting that under Swedish law, the Swedish Armed Forces have the authority to choose which sectors should be considered national interests. Additionally, there is no established process for challenging these decisions¹⁰⁶ as previously discussed in chapter 3.2.4. Thus, it can be argued that a closer coexistence of the interests is not facilitated by the Swedish Armed Forces' lack of incentive to combine the defence and wind power interests under Swedish law. Additionally, Danish law handles permit applications differently than Swedish law does. The project is evaluated twice, the first to see whether there is a possibility of issues. A more thorough technical investigation of the effect on the defence force's system is conducted if this can be shown. Usually, the Danish Armed Forces select a company to conduct this investigation. The process ends with a risk and vulnerability analysis. If it appears that the impact is unacceptable, the armed forces typically submit proposals for measures, this may be related to technical upgrades or other compensatory measures that the operator pays for.¹⁰⁷ Thus, it can be argued that the Danish Armed Forces have a more neutral view of offshore wind power as something to work and plan from. Additionally, there appears to be greater flexibility and opportunity for offshore wind companies or developers to address any issues or find a remedy that arises from the defence purposes.

4.1.3 Societal Differences

The compensation rules which contribute as one of the factors affecting public perception of the expansion of offshore wind in a country also look different in Denmark and Sweden. As previously mentioned in Chapter 3.1.2, in Danish law, the government offers The Co-Ownership and Guarantee Fund Scheme under its Renewable Energy Act. Municipalities in Denmark have a financial incentive to allow wind power to be established within their municipal limits since Danish law allows municipalities to receive subsidies for installing wind turbines.¹⁰⁸ Additionally, under the Co-Ownership Scheme, Danish individuals are legally

¹⁰⁵ Plan og Landdistriktsstyrelsen, 'Oversigt over nationale interesser I kommuneplanlægning', july 2023, pp. 7.

¹⁰⁶ Swedish Environmental Code (*Sw. Miljöbalk*), 1998:808, 3 Chapter 10§.

¹⁰⁷ Totalförsvarets Forskningsinstitut, 'Possibilities for coexistence between the Swedish Armed Forces and Wind Power Expansion', FOI-R—5293—SE, 2022, pp 60.

¹⁰⁸ Consolidated Act No. 1791 of September 2, 2021, Chapter 2 §13.

entitled to purchase at least 20 percent of the wind turbines.¹⁰⁹ This gives the local population an opportunity to contribute to the generation of energy locally, which can also lead to raising acceptance of the effects that wind turbines have on the environment. This is quite distinct from how Swedish law is now structured. However, under SOU 2021:53 and in the Prop. 2021/22:210 the then Swedish government acknowledge the need to investigate the national rules for municipal funding. The government report highlighted the point stating that ‘to compensate people whose surroundings are impacted by wind power development, a mechanism of financial compensation to municipalities should be developed.’¹¹⁰ As of today, the Swedish Environmental Code has no provisions on economic compensation for municipalities nor resident owner in the area. It only addresses claims for damages¹¹¹ and the possibility of combining conditions with a permit decision to make up for public interest infringement¹¹² which is covered under Chapter 31-32 and Chapter 16 Section 9 § 3. Moreover, the current unregulated frameworks may suggest the local community representative’s ability to negotiate effectively will determine how much financial compensation the local community may receive, which seems like an improper arrangement. The joint plan of the Swedish Energy Agency and the Environmental Protection Agency for a sustainable growth of wind power also mentions the need to bolster wind power’s local incentives and recommends more research on the subject. Long-term financial compensation to local communities and municipalities impacted by wind power is a significant factor in the industry’s sustained growth.¹¹³ Additionally, it may help foster a more favourable perception within the community, which would make both a possible approval process and the permit process more efficient.

4.2 Alignment with the EU Objectives

As previously mentioned in the Introduction chapter, a consensus has been achieved among the European Institutions regarding stricter demands on expanding renewable energy. This resulted in the amended versions of the Renewable Energy Directive (RED III) 2023/2413. Under this directive, the mandated target for renewable energy in total energy consumption shall reach 42% by 2030.¹¹⁴ Article 16(a) of the RED III establishes timeframes for permit-granting procedures in areas where renewable energy is being expedited, with an emphasis on efficiency.¹¹⁵ It specifically mentioned ‘in the case of offshore renewable energy projects, the permit-granting procedure shall not exceed two years, where duly justified on the ground of extraordinary circumstances, Member States may extend the period by up to six months’.¹¹⁶ In addition to this, under Article 16 paragraph 3, the Directive also

¹⁰⁹ *Ibid*, Chapter 2 § 6a.

¹¹⁰ SOU 2021:53, ‘*A legally secure wind power trial (sw. En rättsäker vindkraftsprövning)*’, pp. 121.

¹¹¹ Swedish Environmental Code (*Sw. Miljöbalk*), 1998:808, Chapter 31 & 32.

¹¹² Swedish Environmental Code (*Sw. Miljöbalk*), 1998:808, Chapter 16 § 9 (3).

¹¹³ SOU 2021:53, ‘*A legally secure wind power trial (sw. En rättsäker vindkraftsprövning)*’, pp. 125.

¹¹⁴ Directive (EU) 2023/2413 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 Directive 98/70/EC as regard to the promotion of energy from renewable energy sources [2023] OJ L 2023/2413, article 3.

¹¹⁵ *Ibid*, article 16 a.

¹¹⁶ Directive (EU) 2023/2413 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 Directive 98/70/EC as regard to the promotion of energy from renewable energy sources [2023] OJ L 2023/2413, article 16a.

promotes the creation of a single point of contact for permit application in the Member States also known as a One-Stop Shop concept.¹¹⁷

Denmark has demonstrated its commitment to following the Directive's guidelines by designating the Danish Energy Agency as the single point of contact for handling permit-related issues during its tendering procedure, as previously discussed in Chapter 3. The burden on developers is reduced by this simplified method, which directs other authorities with permit-related problems to communicate only with the Energy Agency and not with developers directly. As the table in Chapter 3.3 illustrates, the offshore wind industry's approval time has been greatly accelerated by the adoption of this One-Stop Shop mechanism in Denmark's offshore wind permitting process. By contrast, the regulatory framework for offshore wind permit in Sweden has a decentralized approach, requiring wind developers to interact with several authorities and applying for permits simultaneously. Delays and inefficiencies resulted from this disjointed procedure. Furthermore, adherence to set time limits is lacking in Sweden, as presented in the table under Chapter 3.3. These differences in how permit procedures are handled in Denmark and Sweden highlight how crucial centralized coordination or one-stop-shop mechanism is to accelerating permit process and creating an atmosphere that is favourable to offshore wind growth and to pursue the renewable energy target that the European Union is aiming for at.

Additionally, public participation initiatives are also being suggested and promoted in Renewable Energy Directive 2023/2413 under article 15d. It specifically mentions 'Member States shall promote public acceptance of renewable energy projects by means of direct and indirect participation of local communities in those projects.'¹¹⁸ Denmark has initiated proactive measure to enable the involvement of local communities in offshore wind projects. Municipal council representatives in Denmark also have expressed positive attitudes with the government's proposed bill of State-Designated Energy Parks,¹¹⁹ which highlights the cooperation between municipalities and relevant ministries. Furthermore, municipalities and individuals are entitled to financial incentives to participate in wind power projects under Denmark's Co-Ownership and Guarantee Fund Scheme, which is codified in its Renewable Energy Act. In this way, Denmark facilitates the direct and indirect involvement of local communities in its renewable energy programs. In contrast, the substantial barriers presented by municipality veto rights in Sweden make it difficult for Sweden to encourage public participation for offshore wind projects. Although it recognizes the need for investigation into national rules for municipal funding and the need of compensating communities affected by wind power development, Sweden's current regulatory framework does not contain any specific provisions for the direct and indirect participation of local communities in renewable energy projects. The lack of programs such as Denmark's Co-Ownership Scheme restricts community participation options and might make offshore wind efforts less acceptable to the general public in Sweden. While attempts have been made to support local incentives and suggest more investigations on the topic, Sweden's current framework fall short of the proactive measures adopted by Denmark. While

¹¹⁷ *Ibid*, article 16(3).

¹¹⁸ *Ibid*, article 15d para 2.

¹¹⁹ Proposal of Act on State-Designated Energy Parks, Lovforslag nr. L 166, 2024.

both Denmark and Sweden strive to encourage public support and participation in renewable energy projects in accordance with article 15d of the EU Renewable Energy Directive 2023/2413, Denmark takes a more comprehensive approach to promoting community participation due to its proactive engagement with municipalities and financial incentives.

4.3 The Need for a Way Forward

The sea is a significant area for many different interests. Sweden's coastline is among the longest in Europe, and its water conditions are ideal for offshore wind generation, yet the law regulating this is still underdeveloped.¹²⁰ The establishment of offshore wind power highlights the necessity for a thorough examination of the laws and regulations governing maritime usage. Given the fact that the proposed bill pertaining to a change in municipality veto was rejected, it should be reasonable to state that, notwithstanding prior revisions in the law addressing the municipality major influence, the risk that this barriers in getting a permit for offshore wind will continue to be the case is still big. As a suggestion, it is recommended that the legislator in Sweden be persuaded to carry out further research or investigation into a previous implementation of the municipal veto, additionally taking into account the entitlement to the right for compensation. This paper also suggested that municipalities and individuals who will be affected by the installation of wind power projects be compensated. As an alternative, the Danish law's option to purchase a share of wind turbines for individuals who live in a residence that will be impacted by the offshore wind project¹²¹ is a compelling and modern feature that aims to increase the development of offshore wind power, increase public and local participation, and consequently improve the environment.

In addition, further research needs to be done on the incentives available to the Swedish Armed Forces to cooperate with offshore wind power in particular. Further research may be necessary to determine if the designation of areas of interest by the Armed Forces as national interests, to the extent that it appears to have done so, truly reflects the desire of the legislature. Furthermore, lawmakers must facilitate communication between the Swedish Armed Forces and the offshore wind developers while maintaining the confidentiality of defence secrecy. Danish law has the potential to offer intriguing solutions, including those pertaining to the conduct of the examination and the assignment of appropriate authority to a third party for the purpose of looking into alternative placements.¹²² Moreover, in accordance with Swedish national law, the Armed Forces themselves designate the areas of interest.¹²³ An alternative to this could be the chance to have a court determine whether the Armed Forces' designated areas of interest are reasonable in the event that there are significant ramifications for climate impact, just like in Danish law.¹²⁴

¹²⁰ Naturvårdsverket, *Legal prerequisites for offshore wind power*, Report no. 7028, 2022, pp.85.

¹²¹ Consolidated Act No. 1791 of September 2, 2021, Chapter 2 §6(a).

¹²² Plan og Landdistriktsstyrelsen, *Oversigt over nationale interesser I kommuneplanlægning*, july 2023.

¹²³ The Management of Land and Water Areas Regulation (Sw. *Hushållning med mark och vattenområden*) 1998:896, §2a.

¹²⁴ Plan og Landdistriktsstyrelsen, *Oversigt over nationale interesser I kommuneplanlægning*, july 2023, pp. 7.

The alternatives suggest some adjustments, but it is most likely necessary to make a significant change in order to live up to the requirements set by EU law. Above all, meeting the deadline for the permit procedure¹²⁵ which includes the suggested one-stop-shop mechanism is crucial. This may be especially important in order to create a permitting procedure that is both legally secure and more effective.

5 Conclusion

Understanding which laws and permits that applies in the context of offshore wind power is challenging due to the fragmented and complex nature of the regulatory framework around this process. A permit process can be lengthy and challenging, in part due to the intricate environmental evaluation that needs to be completed and the unremarkably inefficient permission process itself. This thesis contributed to clarifying the complex element of permitting structures in two European Union Member States, Denmark, and Sweden, and to assess the alignment of their regulatory frameworks with the objectives outlined in the EU Renewable Energy Directive 2023/2413. In answering the research question, RQ1 ‘How do the permitting processes for offshore wind projects in Denmark and Sweden compare in terms of their alignment with the European Green Deal objectives?’, Denmark emerges as a proactive adherent to EU Green Deal objectives. Noteworthy initiatives have been done, such as the one-stop-shop mechanism by the Danish Energy Agency, alongside expedited permit issuance averaging 2-3 years as mentioned in Chapter 3.3. Additionally, Denmark has put public participation initiatives into action, such as the Co-Ownership and Guarantee Fund Scheme under the Renewable Energy Act, and the proposed bill for the State-designated Energy Park. On the other hand, Sweden’s regulatory framework for governing offshore wind permit projects must be improved to better meet the objectives of the EU Green Deal. The previous chapter 4.3 has outlined recommendations for adjustments. For RQ2, ‘What factors contribute to differences in streamlining across these countries?’ has been answered in chapter 3.3, notably the differences in national law regulating the extent of municipality right to object to an offshore wind project, and conflict of interest by the national armed forces. This leads us to a deeper question, are conflicts of interest involving the Armed Forces and the Municipality sufficiently ensuring environmental consideration? Future research and legislative action will determine how this is to be accomplished.

It is crucial to establish an effective permitting mechanism with legal certainty in countries such as Denmark and Sweden that have significant potential for producing offshore wind renewable energy. Effective regulatory frameworks are essential for fostering the development of the offshore wind sector which is essentially a great source for enabling the realization of renewable energy targets. Given the urgent need for a transition towards sustainable energy sources to mitigate climate change,

¹²⁵ Directive (EU) 2023/2413 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 Directive 98/70/EC as regard to the promotion of energy from renewable energy sources [2023] OJ L 2023/2413, article 16(a).

streamlined permitting processes are essential. One way to utilize plentiful, renewable energy sources and lessen dependency on fossil fuels is through the deployment of offshore wind farms. By supporting the growth of this rapidly expanding industry, countries could significantly contribute to reaching renewable energy targets and furthering the objectives specified in the European Green Deal. However, creating conducive regulatory frameworks with effective permitting procedures is necessary for achieving offshore wind energy's full potential. Permitting delays and inefficiencies can obstruct project development, discourage investment, and limit the achievement of renewable energy targets. Consequently, it is critical for legislators to prioritize the optimization of permitting procedures by ensuring that it is transparent, predictable, and aligned with the larger sustainability goals.

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