



**Identifying obstacles preventing multi-use in offshore wind farms  
in relation to licencing in the Netherlands: Perspectives and possible solutions**

**Bachelor Thesis**

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Netherlands Enterprise Agency



**van hall  
larenstein**  
university of applied sciences

# **Identifying obstacles preventing multi-use in offshore wind farms in relation to licencing in the Netherlands: Perspectives and possible solutions**

## **Bachelor Thesis**

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## Preface

We would like to thank Nico Buytendijk on behalf of the Netherlands Enterprise Agency as well as the Community of Practice Multi Use 2030 for giving us the possibility to get insight in real-life public work and to contribute our share to the understanding and development of the future of the Dutch part of the North Sea.

Furthermore, we would like to thank Alwin van Beem and David Goldsborough, who have guided us during the entire process and gave valuable input to the understanding of our research topic. We really appreciate their help without which this whole project would not have been possible.

The past five month have been an intense period for both of us in which not only academic but also personal issues had to be mastered. It has been a great challenge to keep track of the red thread in a jungle of laws, acts and regulations, especially since we did this in three languages simultaneously. Nonetheless, we are proud and think we can say to ourselves: *Goed gedaan, well done, and gut gemacht!*

## Abstract

Increased spatial pressures on the marine environment asks for smart use of space in order to safeguard the achievement of environmental, social and economic objectives. Multi-use is seen as a new paradigm for space efficiency and might yield other benefits beyond that. Within the scope of their Policy Document on the North Sea, the Dutch government considers colocation of marine activities within offshore windfarms as a tool for space efficiency, however to date not much practical development has taken place. Licencing procedures play an important role in the realisation of this emerging concept, but rather than delivering access to opportunities the current regulatory system was anticipated to be unsuitable for multi-use assessment. By means of interviews relevant actors, both on behalf of applicants as well as competent authorities, were asked to share their perspectives. Contradicting the initial assumption that the licencing procedure constitutes a major obstacle for the realisation of multi-use, results indicate that underlying issues, partly influencing licencing procedures, are responsible. These issues relate to a lack of concrete objectives, non-existent funding schemes, financial shortfalls on behalf of entrepreneurs, missing visions on future developments, missing assessment framework for multi-use and scaling-up guidelines, uncertainty regarding user priority as well as problematic perceptions and communication issues. In order to propose solutions for these issues, criteria based on obstacles were developed. Selected countries i.e. Belgium, England, Scotland, Denmark and Germany were assessed for their approaches to multi-use as a mean of resolving national obstacles. Based on this analysis, a Dutch stakeholder meeting was organized in which the possible applicability of foreign approaches was discussed. Although it was assumed that national issues could be resolved by means of foreign approaches, results indicate that this is not the case. Reasons for this are that a variety of issues also occur in other countries and that diverging national characteristics e.g. environmental or administrative make their applicability in the Netherlands challenging or not feasible. This study concludes that the financial attractiveness of multi-use including value chains and sales market need to be addressed in order to create incentives for multi-use. Additionally, concrete objectives for non-wind sectors and their integration in cross-sectoral marine planning including long-term strategies have potential to support multi-use realisation. Furthermore, a regulatory framework for multi-use covering several issues such as secondary user allocation, negotiation facilitation between windfarm operator and secondary user, scaling-up as well as communicative aspects, offers the possibility of further streamlining the implementation of multi-use.

## Samenvatting

Verhoogde ruimtelijke druk op het mariene milieu vraagt om slim ruimtegebruik om zo het bereiken van ecologische, sociale en economische doelstellingen te waarborgen. Medegebruik wordt gezien als een nieuw paradigma voor ruimte-efficiëntie, dat daarbuiten nog andere voordelen kan opleveren. In het kader van de Beleidsnota Noordzee heeft de Nederlandse regering overwogen om colocatie van maritieme activiteiten in offshore windparken te beschouwen als een hulpmiddel voor ruimte-efficiëntie, maar tot op heden heeft er niet veel praktische ontwikkeling plaatsgevonden. Het verlenen van vergunningen speelt een belangrijke rol bij de totstandkoming van opkomende belangstelling van medegebruik. Het werd verwacht dat het huidige regelgevingssysteem niet geschikt is voor het beoordelen van medegebruik in plaats van toegang te bieden tot kansen. Door middel van interviews werden relevante actoren zowel namens de aanvragers als de bevoegde autoriteiten gevraagd om hun mening te geven. In tegenstelling tot de aanvankelijke veronderstelling dat de licentieprocedure een groot obstakel vormt voor de realisatie van medegebruik, wijzen de resultaten erop dat onderliggende problemen verantwoordelijk zijn, die deels invloed hebben op licentieprocedures. Deze kwesties hebben betrekking op: een gebrek aan concrete doelstellingen, niet-bestaande financieringsregelingen, financiële tekorten namens ondernemers, ontbrekende visie op toekomstige ontwikkelingen, een ontbrekend beoordelingskader voor medegebruik en opschaling, onzekerheid over gebruikersprioriteit en problematische percepties en communicatieve problemen. Om oplossingen voor deze problemen voor te stellen, zijn zoekcriteria op basis van de boven genoemde obstakels ontwikkeld. De geselecteerde landen België, Engeland, Schotland, Denemarken en Duitsland werden onderzocht op hun benaderingen van medegebruik als een middel om nationale obstakels op te lossen. Op basis van deze analyse werd een Nederlandse stakeholderbijeenkomst gehouden waarin de toepasbaarheid van buitenlandse benaderingen werd besproken. Hoewel werd aangenomen dat nationale problemen konden worden opgelost door middel van buitenlandse benaderingen, wijzen de resultaten erop dat dit niet het geval is. Redenen hiervoor zijn dat verschillende obstakels ook in andere landen voorkomen en dat uiteenlopende nationale milieu- of administratieve kenmerken hun toepasbaarheid in Nederland uitdagend of onmogelijk maken. Deze studie concludeert dat de financiële aantrekkelijkheid van medegebruik van offshore windparken, inclusief afzetmarkt, moet worden aangepakt om prikkels te creëren. Concrete doelstellingen voor niet-windsectoren en hun integratie in sector overschrijdende mariene planning, met inbegrip van langetermijnstrategieën, kunnen de realisatie van medegebruik ondersteunen. Bovendien biedt een regelgevingskader voor medegebruik dat verschillende kwesties bestrijkt, zoals toewijzing van secundaire gebruikers, facilitering van onderhandelingen tussen windmolenparkbeheerder en secundaire gebruiker, opschaling en communicatieve aspecten, de mogelijkheid om de implementatie van medegebruik verder te stroomlijnen.

# Executive Summary

## Achtergrond

De intensiteit en diversiteit van activiteiten op de Noordzee neemt al een aantal jaren steeds toe. Naast traditionele gebruikers komen er meer en meer innovatieve gebruikers bij wat zorgt voor verhoogt ruimtelijk druk. De Nederlandse Overheid heeft als ambitie om balans tussen hernieuwbare energie opwekking, veilige voedselproductie en natuur herstel te zoeken. Medegebruik binnen windparken wordt als een innovatieve aanpak gezien om dit te bereiken. Deze ambitie uit zich in de Beleidsnota Noordzee 2016-2021 maar er missen duidelijke stappen om dit doel op een optimale manier te bereiken. Zo ontbreekt onder meer in het huidige beleid een afwegingskader voor medegebruik in offshore windparken. Hieruit en vanwege signalen van buiten de overheid kwam de aanname naar voren dat het huidige vergunningverlening-proces de realisatie van medegebruik belemmert. Dit vraagt om stroomlijning om medegebruik te bevorderen en de gewenste Duurzame Blauwe Economie te stimuleren.

## Doel van deze studie

Het doel van deze studie was om belemmeringen in het huidige vergunningsverleningsproces voor medegebruik in offshore windparken in kaart te brengen. Gevondene knelpunten zijn achteraf met aanpakken van andere Noordzeelanden (België, Engeland, Schotland, Denemarken en Duitsland) vergeleken, om zo te kijken wat Nederland kan leren en toepassen om de belemmeringen op te lossen. De hoofdvraag- en bijbehorende deelvragen van deze studie waren:

Wat zijn de huidige obstakels in de Nederlandse vergunningprocedures met betrekking tot medegebruik in offshore windparken en hoe kunnen deze worden opgelost door middel van overeenkomstige benaderingen die de omliggende Noordzeelanden toepassen in hun vergunningprocedures?

- a.) Wat zijn de huidige obstakels in de Nederlandse vergunningprocedures met betrekking tot medegebruik in offshore windparken?
- b.) Welke overeenkomstige benaderingen passen geselecteerde omliggende Noordzeelanden toe in hun vergunningsprocedure?
- c.) Hoe kan Nederland overeenkomstige benaderingen toepassen om obstakels op te lossen?

## Methode data verzameling en data analyse

Om de obstakels in het huidige vergunningsverleningsproces aan te kunnen wijzen, zijn interviews met betrokkenen uit verschillende overheidsinstanties, de visserijsector en met onderzoekers gehouden. De gesprekken zijn opgenomen en getranscribeerd en vervolgens zijn uitspraken middels codes in groepen samengevat om de verzamelde data te kunnen vergelijken. De zo gevonden obstakels zijn beschreven (antwoord op deelvraag a) en vervolgens omgezet in zoekcriteria voor het onderzoek naar overeenkomstige benaderingen van geselecteerde landen: België, Engeland, Schotland, Denemarken en Duitsland. De bevindingen (antwoord op deelvraag b) werden bediscussieerd in een Nederlandse stakeholderbijeenkomst, waar deelnemers uit de interviews, een woordvoerder van een windenergiebedrijf en aanvullende vertegenwoordigers van bevoegde

gezagen aanwezig waren. Naast het bespreken van de voordelige toepasbaarheid van buitenlandse benaderingen werd verder ook invulling gegeven om nationale obstakels aan te pakken die tot realisatie van medegebruik zouden kunnen leiden. De stakeholderbijeenkomst werd gefilmd en opgenomen en vervolgens getranscribeerd. Kernconclusies werden geïdentificeerd door verschillende verklaringen van belanghebbenden te vergelijken en sub conclusies te formuleren (antwoord op deelvraag c). Alle bevindingen zijn vervolgens met behulp van literatuur bediscussieerd en antwoord is gegeven op de hoofdvraag.

### **Overzicht van bevindingen**

Uit dit onderzoek is gebleken, dat het bestaande beleid en procedures omtrent het vergunningsverleningsproces meer activiteiten toelaten dan aanvankelijk werd aangenomen. De gevondene obstakels zijn echter onderliggende problemen die deels invloed hebben op licentieprocedures en zo de realisatie van medegebruik in windparken belemmeren. Deze obstakels zijn:

- Afwezigheid van een duidelijke ambitie vanuit de overheid met betrekking tot natuurherstel en voedselproductie
- Ontbrekende visie op ontwikkeling op lange termijn, na de operationele fase van offshore windparks
- Gebrek aan financiële middelen van initiators om te voldoen aan wettelijke vereisten
- Ontbrekend beoordelingskader voor medegebruik activiteiten (ook m.b.t. gebruikersprioriteit)
- Noodzaak van goedkeuring door offshore windpark vergunninghouders vertraagt medegebruik
- Gebrek aan opschalingsrichtlijnen (van pilots naar grootschalige projecten)
- Problematische perceptie van het vergunningsverleningsproces door initiatiefnemers
- Problematische communicatie met aanvragers

Uit het literatuuronderzoek naar andere Noordzeelanden is gebleken dat aanbevelingen tot medegebruik en specifieke aquacultuurdoelen vaak in belangrijke beleidsdocumenten genoemd worden, maar economische prikkels missen. Geen informatie kon gevonden worden over visies voor de post-operationele fase van offshore windparken, financiële vereisten die nodig zijn om aan wettelijke vereisten te kunnen voldoen of over opschalingsrichtlijnen. Een feitelijk beoordelingskader voor medegebruik ontbreekt in alle onderzochte Noordzeelanden, maar in Denemarken en het Verenigd Koninkrijk worden wel aanwijzingen gegeven over de haalbaarheid van sector overschrijdende integratie van doelstellingen. Verder was het opvallend dat de integratie van aquacultuurvoorzieningen wordt gezien als een compensatiemaatregel voor het verlies van de visserij en dat de realisatie ervan moet worden overwogen tijdens de offshore windpark ontwikkeling in het Verenigd Koninkrijk. Literatuur wees ook erop dat het toewijzen van gebruiker specifieke zones mogelijk conflicten tussen verschillende sectoren kan verminderen en richtlijnen kan geven voor gebruikersprioriteiten. De nodige toestemmingsgoedkeuring door offshore windpark vergunninghouders blijkt medegebruik in alle onderzochte landen negatief te beïnvloeden. Ook de perceptie van de juridische omgeving leek overal onzeker te zijn. Duidelijke uitspraken over de perceptie van aanvragers en overheidsinstanties m.b.t. de communicatie met aanvragers kunnen niet worden gegeven.

Uit de stakeholder bijeenkomst is gebleken, dat de onderzochte Noordzeelanden vergelijkbare obstakels kennen als Nederland en waardevolle benaderingen daarom vrij schaars waren. Door het

hanteren van andere rechtsstelsels en door verschillende omgevingsomstandigheden is te toepasbaarheid en winstgegevenheid van overeenkomstige benaderingen beperkt dan wel onmogelijk. In de onderzochte Nordzeelanden en in Nederland ontbreken ook waardeketen voor medegebruik, wat leidt tot twijfelachtige winstgegevenheid voor medegebruik.

### **Beschrijving van elke aanbeveling**

Uit de deelconclusies en de stakeholderbijeenkomst is gebleken dat mogelijke verbeteringen voor geïdentificeerde belemmeringen kunnen liggen in de toepassing van de volgende aanbevelingen:

- Het ontwikkelen van duidelijke doelen voor niet wind-sectoren
- Het beschikbaar stellen van medegebruik-financieringsschema's voor initiatiefnemers
- Specifieke medegebruiks-gebieden toewijzen
- Het opnemen van secundaire activiteiten in de vroege offshore windpark ontwikkelfase
- Het ontwikkelen van een medegebruiks-protocol of stappenplan
- Het opstellen van een langetermijnvisie voor offshore windparken
- Het creëren van een 'one-stop-shop' voor aanvragers, inclusief uitgebreid overleg
- Het realiseren van pilots om de economische haalbaarheid te testen
- Het bijwerken en onderhouden van openbaar beschikbare informatie
- Het opzetten van een internationaal kennisuitwisselingsplatform voor medegebruik

## **Abbreviations**

|       |                                                      |
|-------|------------------------------------------------------|
| BNN   | Policy Document on the North Sea 2016 – 2021         |
| CoP   | Community of Practise Blue Innovation North Sea 2030 |
| EEZ   | Exclusive Economic Zone                              |
| EIA   | Environmental Impact Assessment                      |
| EU    | European Union                                       |
| ICZM  | Integrated Coastal Zone Management                   |
| MSPD  | Marine Spatial Planning Directive                    |
| MUSES | Multi-Use in European Seas                           |
| OWF   | Offshore Wind Farm(s)                                |
| OWFLH | Offshore Wind Farm Licence Holder                    |
| RWS   | Rijkswaterstaat                                      |
| SSNSC | Selected Surrounding North Sea Countries             |
| WNb   | Nature Conservation Act                              |

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# 1 Introduction

Around the globe and especially within Europe, the usage of the marine environment is undergoing a consistent increase in both type and intensity (Lukic, et al., 2018; Douvere F. , 2008; Douvere & Ehler, 2009). Historically, fisheries and transport have claimed the offshore environment, however increasing competition for space has become apparent since the discovery of fossil fuels, renewable energy, aquaculture as well as other types of anthropogenic activities, asking for regulatory government interference in terms of licencing (Douvere F. , 2008; Douvere & Ehler, 2009; Kannen, 2014). Within the last years, a trend towards fixed constructions for anthropogenic exploration activities has become evident (Lukic, et al., 2018) and being one of the most heavily used seas in the world, the North Sea is a prime example for this (Wassink, 2018; Kannen, 2014; Lotze, 2007). As a result of their spatiotemporal distribution, activities often exclude one another, often due to physical circumstances, technical and financial restraints but also due to policy regulations, leading to conflicts between traditional users (e.g. fisheries) and emerging industries (e.g. renewable energies) (Technopolis Group & Wageningen Research, 2019; Michler-Cieluch, Krause, & Buck, 2009). Recently, the construction of offshore wind farms (OWF) has claimed an increasing share of available North Sea space in which other activities have been excluded (Jongbloed, Van der Wal, & Lindeboom, 2014). Considering the emission reduction targets and implied development of OWF, competition for space is to increase even more (Coates, Kapasakali, Vincx, & Vanaverbeke, 2016). Additionally, the need for nature conservation has become an emerging requirement in the last decades and a need for further implementation and integration is inevitable (Kyriazi, Maes, & Degraer, 2016).

Use of ocean space by more than one user has been long apparent, especially when usage types are mobile, potential conflicts uncommon and the risk implied negligible (Lagerveld, Röckmann, & Scholl, 2014). As defined by the MUSES project (Multi-Use in European Seas) however, multi-use is the *“intentional joint use of resources in close geographic proximity. This can involve either a single user or multiple users. It is an umbrella term that covers a multitude of use combinations in the marine realm and represents a radical change from the concept of exclusive resource rights to the inclusive sharing of resources by one or more users”* (Schultz-Zehden, et al., 2018). The extent to which different maritime uses have a spatiotemporal connection can differ, also with regard to their functional dimensions. Generally speaking, activities can either share the same geographic location (*soft multi-use*) or utilize the same platforms and linked infrastructure (*hard multi-use*) (Schultz-Zehden, et al., 2018). Hence, the concept of multi-use does not merely refer to the utilization of the same installations but can also include shared activities of users (e.g. boat transfer or maintenance).

The Marine Spatial Planning Directive (MSPD) as well as the recommendation for Integrated Coastal Zone Management (ICZM) create a policy framework on a European level in which a holistic management approach is stipulated, however, the implementation has not taken place throughout Europe and overlapping activities asking for co-management are not sufficiently considered or promoted yet (Ministry of Infrastructure and Environment and Ministry of Economic Affairs, 2015; Jones, Lieberknecht, & Qiu, 2016). The existing policy frameworks guide member states regarding the planning of human activities within the marine environment, taking into account a multi-sector approach. The ever-increasing intensity of activities within the North Sea asks for a comprehensive *grand design*, taking into account the effect on the environment. To date, the management of human activities still underlies a rather single sectoral management approach in which the mutual impacts are not sufficiently researched and considered (Gazzola & Onyango, 2018).

In its Draft Roadmap for the blue bioeconomy, the European Commission recommends achieving multi-use of marine space in the medium term (Technopolis Group & Wageningen Research, 2019),

thus five to ten years (Chen, 2019), especially in highly pressured marine areas. It does not give guidance regarding clear steps on how to achieve this objective in an optimal manner (Technopolis Group & Wageningen Research, 2019). Furthermore, it acknowledges the fact that the increasing number of entrepreneurs and pilot projects interested in multi-use at sea pose opportunities for the realization of the blue bioeconomy as well as challenges for decision makers (Technopolis Group & Wageningen Research, 2019). The allocation of permissions regarding the execution of multi-use becomes increasingly complex, requiring harmonized procedures on national and regional levels (Technopolis Group & Wageningen Research, 2019). To date, European Union (EU) legislation lacks a uniform regulatory framework for multi-use as well as standardized procedures regarding licences whereby approaches differ per member state when it comes to the implementation of combined uses at sea (Douvere F. , 2008; Douvere & Ehler, 2009).

Dutch marine spatial policy stresses the need for space-efficient use, therefore both the EU as well as the Netherlands as a national entity acknowledge multi-use at sea as a new paradigm for effective usage of natural resources and emphasize social, economic and environmental benefits (Lagerveld, et al., 2014). The *Beleidsnota Noordzee 2016 – 2021* (BNN, Policy Document on the North Sea 2016 – 2021) elaborates on the Dutch North Sea policy and explicitly mentions that combined use of OWF with other functions should be stimulated, thus leading towards multi-use in the North Sea (Lagerveld, et al., 2014; Lazic, et al., 2017; Ministry of Infrastructure and Environment and Ministry of Economic Affairs, 2015). From May 2018 onwards, the Ministry of Infrastructure and Water management allows additional activities within OWF in terms of passage and recreational purposes by means of ships with a maximum length of 24 meters and in case of fixed construction, for aquaculture and other forms of renewable energy production in the wind parks *Egmond aan Zee*, *Prinses Amalia* and *Luchterduinen*, the fixed activities being subject to licences (De Minister van Infrastructuur en Waterstaat, 2018). Secondary activities must not impede activities of national priority in their assigned area (Appendix I) and therefore licence holders have an exclusive right for the exploration or exploitation for their specific activity, not for the overall use of relevant areas (Ministry of Infrastructure and Environment and Ministry of Economic Affairs, 2015). The BNN contains an assessment framework (Appendix II) regarding the permit allocation of single-use activities in the North Sea by means of five tests, but lacks a regulatory framework for multi-use activities in OWF. Furthermore it mentions that licencing procedures must address the balance with other users as well as effects on the environment (Minister van Economische Zaken, 2016).

Within the Netherlands, the potential and agenda setting for integrated usages is especially noticeable in regard to three types of usages (Figure 1): Renewable energy production, sustainable food production and nature recovery (Matthijssen, Dammers, & Elzenger, 2018). Those sectors are seen as the main contributors to the sustainable blue economy and therefore will shape the future of the Dutch part of the North Sea (Netherlands Environmental Assessment Agency, 2018). Foremost, the wind industry is the main driver for economic development within the North Sea and its contribution to renewable energy production is essential (EWEA, 2011). OWF are especially auspicious for their potential of integrating additional activities, most notably food production in

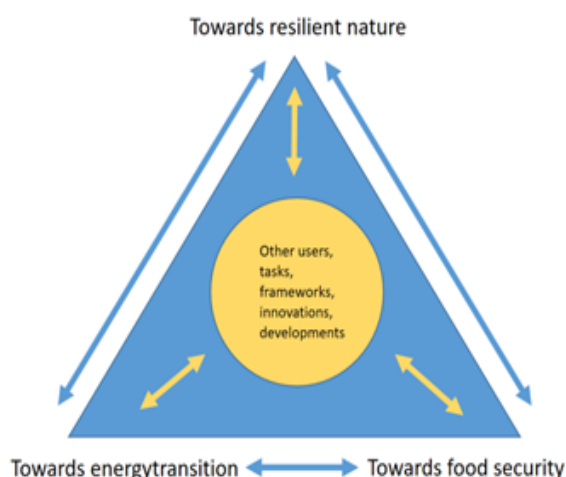


FIGURE 1: THREE TRANSITIONS AT SEA (MATTHIJSEN, DAMMERS, & ELZINGER, 2018)

terms of wild and cultivated seafood, integration of other renewable energy production facilities and nature recovery measures (Ashley, Mangi, & Rodwell, 2014). Increased demand for aquaculture production as well as cost reduction are seen as incentives for multi-use of OWF (Schultz-Zehden, et al., 2018).

Within the scope of the 2030 North Sea Strategy, the Community of Practice Multi Use North Sea 2030 (CoP) creates a national network for knowledge and experience exchange, aiming for multi-use at sea by means of its contribution to the sustainable blue economy (Noordzeeloket, n.d.a). Established by the Ministry of Agriculture, Nature and Food Quality and Netherlands Enterprise Agency (RVO), the CoP is a key player in driving three transitions at sea: Energy, food and nature (Noordzeeloket, n.d.a). An integrated approach towards sustainable and space efficient multi-use at sea including stakeholder engagement on behalf of representatives of the business sector, scientific institutions and NGO's are core elements.

## 1.1 Problem Description

Based on the preliminary determination of the research scope with the problem owner, the central assumption arose that obtaining licences for multi-use is complex and differs per sectoral activity, impeding the realization of comprehensive multi-use development in the Dutch part of the North Sea. As underlying regulations and policies pose a multitude of requirements, this especially accounts for the establishment of innovative projects contributing to the three transitions described above (Kafas, et al., 2018). In line with Schultz-Zehden, et al., 2018, legal and regulatory aspects within offshore wind energy production and combined additional usages display a major issue and are not yet fully understood. Regulatory affairs, for instance allocation of competency, have proven to be critical issues for multi-use development, especially for newly emerging industries such as wave energy generation (Michler-Cieluch & Krause, 2008; Stuiver, et al., 2016). Traditional procedures appear to not take the full array of interrelationships into account and demands of applicants are not met sufficiently (Stuiver, et al., 2016). These issues have been flagged by a variety of authors (Buck, Nevejan, Wille, Chambers, & Chopin, 2017; Depellegrin, et al., 2018; Technopolis Group & Wageningen Research, 2019; Kannen, 2014; Schultz-Zehden, et al., 2018).

Although the concept of multi-use is promoted by the Dutch government, the market is still immature and licences remain special requests resulting in longer consenting periods, as impacts on the environment depend on the ecological context of a project and varies according to different designs of multi-use (Pérez-Collazo, Greaves, & Iglesias, 2015; Stuiver, et al., 2016). Although a number of research projects has been established, the number of commercial operations in the real environment is still very limited (CORDIS, 2019; Noordzeeloket, n.d.a). So far, the Dutch approach to multi-use in practice is to not particularly oppose it, however secondary users have to apply for licences in order to get approval, therefore leaving it to entrepreneurs to take initiative (Söderqvist, et al., 2017; Stuiver, et al., 2016).

The existing assessment framework of the BNN does not appear to be particularly supportive of multi-use as the underlying principle is marked by a single sectorial approach as no cross-sectoral elements are included (Lagerveld, et al., 2014; Pérez-Collazo, et al., 2015; Stuiver, et al., 2016). With regards to windfarm establishment, legal and operational requirements for multi-use have not been included in windfarm site decisions, which are more elaborated in Appendix III (Minister van Economische Zaken en Klimaat, 2018). The existing tender procedures do not include secondary uses as a prerequisite, making subsequent licence inquiries on behalf of secondary users necessary (Wassink, 2018). Streamlining and unifying multi-use licencing procedures via standards and

guidelines might benefit achieving the desired blue bio-economy yet implementation has not taken place (Pérez-Collazo, et al., 2015).

## 1.2 Problem statement

In the Netherlands, current maritime licencing procedures impede the implementation of multi-use in offshore wind farms, forming an obstacle for innovative projects and entrepreneurs.

## 1.3 Research goal

This research aimed to identify possible solutions for Dutch licencing procedures regarding multi-use in offshore wind farms based on identified obstacles in the Dutch licencing procedures. The overall objective was to give advice to the Netherlands Enterprise Agency on behalf of the CoP regarding opportunities to facilitate increased multi-use development in relation to licencing.

## 1.4 Main research question

**What are current obstacles in Dutch licencing procedures regarding multi-use in offshore wind farms and how can they be resolved by means of corresponding approaches selected surrounding North Sea countries apply in their licencing procedures?**

### 1.4.1 Sub-questions

- a. **What are current obstacles in the Dutch licencing procedures regarding multi-use in offshore wind farms?**
- b. **Which corresponding approaches do selected surrounding North Sea countries apply in their licencing procedure?**
- c. **How can the Netherlands apply corresponding approaches in order to resolve obstacles?**

## 1.5 Reading guide

The following chapter, Methods, first defines the terminology used in the main- and sub-questions before elaborating on the scope of study. Then, information on the data collection and analysis used to conduct this study by answering sub questions a to c is provided.

The further structure of this thesis follows the order of the sub-questions. Chapter three focuses on sub-question a, by first describing the current Dutch licencing procedure for activities in OWFs, before describing identified obstacles in regards to the procedure. A sub-conclusion of sub-question a follows. Chapter four gives insight into corresponding approaches of selected surrounding North Sea countries (SSNSC) per identified obstacle. The following sub-conclusion therefore answers sub-question b. The applicability of the earlier described corresponding approaches of SSNSC in the Netherlands is discussed and then concluded in chapter five, which answers sub-question c.

The discussion in chapter six is subdivided into a discussion on the methods used to answer the main question and in a discussion on the actual findings. Here, a critical consideration on the outcome of the three sub-question takes place, in which findings are set into wider perspective.

The main research question is answered in the conclusion in chapter seven, by taking all sub-conclusions and the discussion into account. Following the conclusion, recommendations are given in chapter 8. References and Appendixes, which are supplementary information to the main chapters, are attached hereafter.

## 2 Methods

This chapter provides information on the methods that have been selected for this research. The used terminology is elaborated and discussed in 2.1 *Operationalizing*. Insight into the scope of research is provided in 2.2 *Study scope*. The methodology used to answer Sub-questions a - c is described in 2.3 – 2.5 and visualized below (Figure 2). Deviations from the initially proposed methodology are further elaborated in Appendix IV.

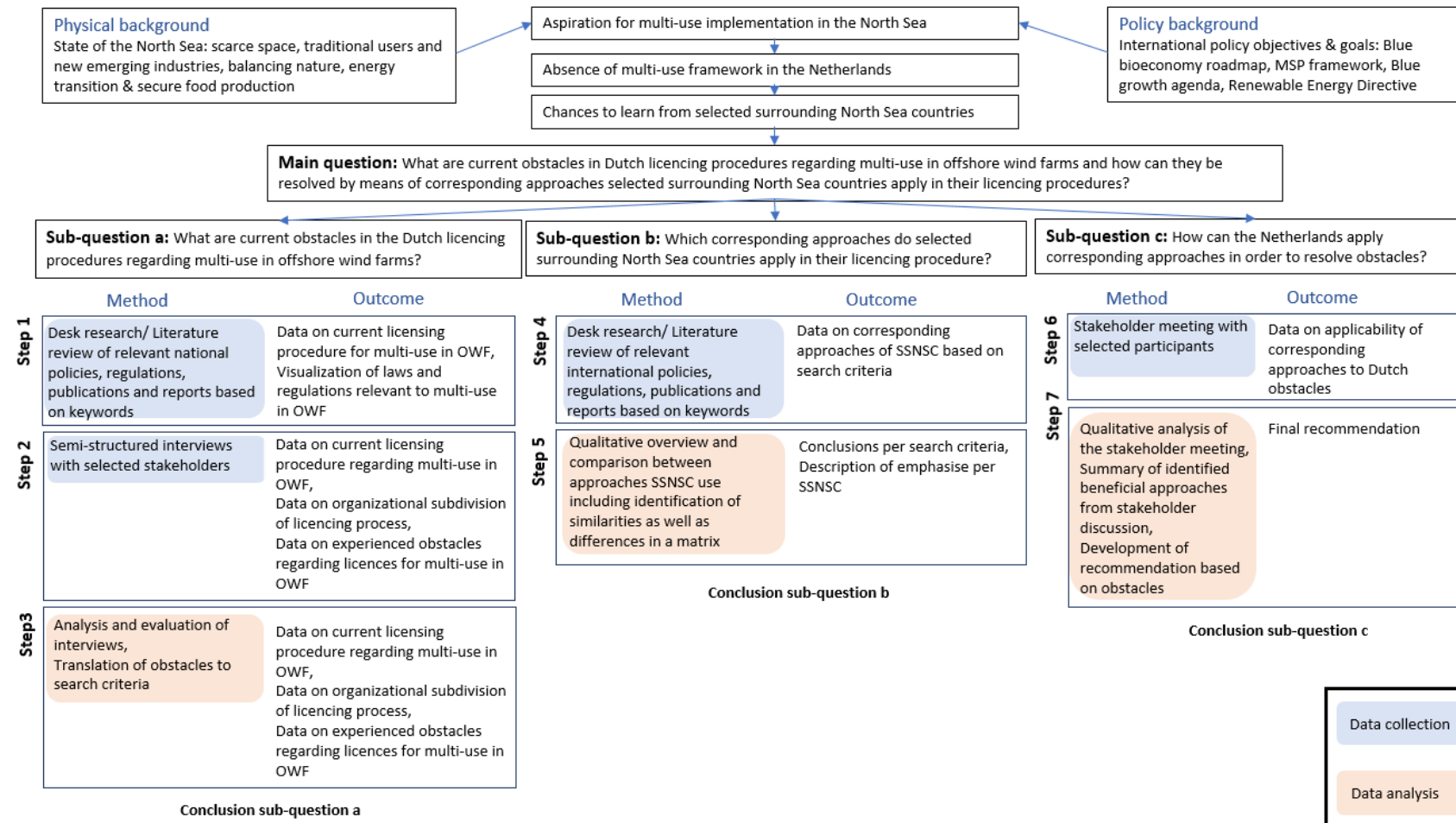


FIGURE 2: VISUALIZED METHODOLOGY

## 2.1 Operationalizing

Terminology used for sub-questions a, b and c are further operationalized and based on these definitions, supportive questions are formulated. Answering and concluding these supportive questions will answer the sub-questions. The conclusion of all three sub-questions will then answer the main research question.

- a. **Current obstacles** refers to processes, issues or incidents within the Dutch licencing procedure (as defined below) that hamper the processing and assessment of applications and thus the implementation of multi-use activities in offshore wind farms. The term obstacles includes both legal as well as administrative matters.

**Dutch licencing procedure** describes the process from application to granting a permit, which is undergone due to law and regulations by an applicant in order to implement a business, pilot or project in Dutch offshore wind farms. Competent authorities follow this procedure in order to assess applications.

**Multi-use in offshore wind farms** refers to one or several activities in the scope of nature conservation, energy transition and food production in offshore wind farms in the Dutch part of the North Sea.

### **Supportive questions for sub-question a:**

How does the Dutch licencing procedure regarding multi-use in offshore wind farms work?

- Which national laws, policies, regulations and licences apply?
- Which conditions regarding multi-use do Dutch tender procedures and wind farm site decisions (*Kavelbesluiten*) dictate?
- Which authorities have competency for the licencing?
- Which document(s)/ evidence is requested by authorities and must be submitted by the candidate?
- How much does the licence cost?
- What is the average time needed for approval?

What are obstacles within the licencing procedure?

- Where in the procedure do obstacles occur?
- What characterizes the obstacles?

- b. **Corresponding approaches** refers to findings within foreign licencing procedures, that are applicable to current obstacles in Dutch licencing procedures regarding multi-use in offshore wind farms.

**Selected surrounding North Sea countries (SSNSC)** refers to Belgium, England, Scotland, Denmark and Germany, as substantiated in chapter 2.2 *Study scope*.

### **Supportive questions for sub-question b:**

How do selected North Sea countries handle licencing procedures corresponding to where obstacles occur in the Netherlands?

What can the Netherlands learn from approaches of selected surrounding North Sea countries?

- c. **Apply** refers to ways forward or possible beneficial adaptations to the Dutch licencing procedure based on corresponding approaches in SSNSC and their resolving effect on national obstacles.

**Supportive questions for sub-question c**

Which of the approaches from sub-question b are beneficial for the resolution of identified national obstacles?

## 2.2 Study scope and substantiation



The focus of this study is on The Netherlands (NL), as well as on selected surrounding countries bordering the North Sea (figure 3), namely:

- Belgium (BE)
- United Kingdom (UK): England (ENG) and Scotland (SCO) (not shown on map separately)
- Denmark (DK)
- Germany (DE)

FIGURE 3: EXCLUSIVE ECONOMIC ZONES OF THE NORTH SEA (DE HAUWERE, 2018)

The selection of countries first was narrowed down to North Sea countries as their exclusive economic zones (EEZ) share, to a certain degree, similar environmental and socioeconomic characteristics, a vital prerequisite for similar types of multi-use combinations (Schultz-Zehden, et al., 2018). NL, DE, UK, BE, DK and France participate in the UNITED project (CORDIS, 2019), and based on advice of the CoP, participating countries were selected as multi-use sites are present. France has currently no multi-use sites, projects or pilots in place (Depellegrin, et al., 2018) and therefore will not be included in this research. As some multi-use sites are in English, other in Scottish waters, UK will be split up for this research. Norway has not been added to this research, as multi-use only takes place within the aqua- and mariculture sector (Kafas, et al., 2018) and potential areas for wind farms are still in a phase of designation (Buck et al, 2017).

The licencing procedures examined in this research concern offshore wind farms, as they are the key driver for multi-use activities in the Netherlands (Ministry of Infrastructure and Environment and Ministry of Economic Affairs, 2015). Licence requiring activities furthermore must contribute towards the realization of resilient nature, energy transition or food security, as described above and aspired by the problem owner. This way, the research benefits society, environment and the economy equally and is meeting the interests of all relevant parties, as the desired colocation of activities strives to be beneficial to all users alike. With respect to policy cycles, this research contributes to the evaluation of current regulatory affairs and gives input for future agenda setting.

Different North Sea usages and activities are listed below (table 1), out of which additional activities in offshore wind farms are selected for this research (marked *italic*). The licencing procedures regarding these activities in relation to OWF are taken into account in this research.

TABLE 1: DIFFERENT NORTH SEA ACTIVITIES AND SELECTED ACTIVITIES (ITALIC) (MINISTRY OF INFRASTRUCTURE AND ENVIRONMENT AND MINISTRY OF ECONOMIC AFFAIRS, 2015)

|                                 |                                             |
|---------------------------------|---------------------------------------------|
| <b>Energy</b>                   | Offshore wind farms                         |
|                                 | <i>Wave energy</i>                          |
|                                 | <i>Tidal energy</i>                         |
|                                 | Oil extraction                              |
|                                 | Gas extraction                              |
| <b>Food production</b>          | <i>Fish mariculture</i>                     |
|                                 | <i>Shellfish mariculture</i>                |
|                                 | <i>Seaweed mariculture</i>                  |
|                                 | <i>Integrated multi-trophic mariculture</i> |
|                                 | <i>Demersal fisheries</i>                   |
|                                 | <i>Pelagic fisheries</i>                    |
|                                 | <i>Passive Fisheries</i>                    |
| <b>Cables/ Pipelines</b>        | Communication cables                        |
|                                 | Electricity cables                          |
|                                 | Oil pipelines                               |
|                                 | Gas Pipelines                               |
| <b>Dumping</b>                  | Dumping                                     |
|                                 | Carbon Capture Storage (CCS)                |
| <b>Raw material extraction</b>  | Gravel extraction                           |
|                                 | Sand extraction                             |
| <b>Nature</b>                   | <i>Building with Nature</i>                 |
|                                 | <i>Marine Protected Areas (MPA)</i>         |
|                                 | <i>Natura2000</i>                           |
|                                 | <i>Nature recovery measures</i>             |
| <b>Shipping</b>                 | Shipping lanes                              |
|                                 | Dredging                                    |
| <b>Cultural Heritage</b>        | Ship wrecks                                 |
| <b>Tourism &amp; Recreation</b> | Beaches/ free Horizon                       |
|                                 | Water sports/ sailing                       |
| <b>Military</b>                 | Military areas                              |

## 2.3 Sub-question a

***What are current obstacles in the Dutch licencing procedures regarding multi-use in offshore wind farms?***

|               |                                                                                                                                                                                                                                                                                                                                                                 |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Step 1</b> | <b>Outcome:</b><br><br>Data on the current Dutch licencing procedures regarding multi-use in OWF<br><br>Visualization of laws and regulations relevant to multi-use in OWF<br><br><b>Method:</b><br><br>Desk research, i.e. review of relevant national laws, policies, regulations and licencing documents, reports, scientific publications based on keywords |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

The desk research focused on the following aspects, derived from operationalizing the sub-questions (as described in 1.4.2 *Operationalizing*):

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Selected aspects</b> | Applicable national policies, regulations and licences<br><br>Dictated conditions regarding multi-use derived from tender procedures and wind farm site decisions ( <i>Kavelbesluiten</i> )<br><br>Competent authorities for licencing<br><br>Documents / evidence an applicant has to submit to competent authorities<br><br>Costs of licence/ licencing procedure<br><br>Average time needed to complete licencing procedure/ for approval |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

The selection of relevant policy documents, reports and licence procedures for this thesis project is based on key words:

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Selected keywords</b> | Aquaculture licence, Combined activity, Co-usage, Co-existence, Fishery licence (pelagic, demersal, passive), Integrated multi trophic aquaculture (IMTA), (Maritime) licencing application, Mariculture licence, Mariculture fish, shellfish, seaweed, MPA designation, MPA multi-use, Marine spatial planning, Multi-use, Multi-use Action plan, Multiple use of marine space, Multi-use licencing procedures, Natura 2000 designation, North Sea (Strategy), Offshore Wind Farm licencing, Operational licence procedure, Operational permit procedure, Pilot project, Policy Document on the North Sea 2016 2021, Regulatory maritime policies, Sea use management, Spatial strategy or vision, Tender procedure, Tidal energy licence, Wave energy licence, Water Act, Windfarm Site Decisions |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

These key words have been identified during the pre-study. In case the listed key words led to further relevant terms, those additional key words were noted in an extra inventory (Appendix V), in order to be able to follow the used approach. Terms were considered in either English, Dutch or German.

Official information provided from the Dutch government to the public was used for this research. Google scholar and databases of universities, as well as official multi-use project websites and reports are used to obtain all other information to ensure the quality of this research. Findings from the desk research were taken over analogously, put together in sub-groups corresponding to different types of licences and cited using APA citation. Based on the detected data, results were composed in continuous text sections. Accordingly, a first visualisation of the regulatory environment relevant for multi-use in OWF was created (Appendix VI).

**Step 2**

**Outcome:**

Data on current Dutch licencing procedures regarding multi-use in OWF

Data on organizational subdivision of licencing process

Data on experienced obstacles regarding licences for multi-use in OWF

**Method:**

Semi-structured interviews with selected stakeholders

As a follow-up step, an interview blueprint (Appendix VII), interview guide (Appendix VIII) and interview set-up (Appendix IX) were developed. Based on literature findings, conceptual variables were developed which were used to create operational variables and ultimately interview questions. Semi-structured interviews were selected, which enabled asking supplementary questions and focusing on individual issues. The first part of the interview focused on data gaps identified in Step 1, so information stated by just one source could be verified, knowledge-gaps completed and information derived from the desk research expanded. Furthermore, they were used to collect information not mentioned in literature and to update information on current policies and regulations. Updating information was necessary and became evident during the pre-study of the research proposal. Information provided by *Noordzeeloket*, the official website on which the central government publishes information regarding North Sea affairs, showed names of ministries that have been merged and act under new names as well as outdated laws and regulations (Noordzeeloket, n. d.b). The second part of the interview focused on experienced obstacles. Literature findings from step 1 were used to develop variables and resulting generic questions, which is elaborated in Appendix VIII.

Interviews were conducted with parties having competence in granting licences or with applicants to multi-use licences. This way, both the perspective of applicants as well as of competent authorities were taken into account. Targeted interviewees were:

- policy makers, civil servants, advisors, other employees of competent authorities,
- business/ sector representatives,
- managers/ researchers from pilot-sites
- site managers (a local process facilitator responsible for carrying out the participatory design process)

A detailed list of contacted and participated parties can be found in Appendix X. Access to the contact information of relevant people was gained through information provided to the public via papers, project-descriptions and reports, or by means of the CoP and the problem owner. Interviewees were also asked about further relevant contacts, to enlarge the network. During the interviews, a first overview of policies, laws and procedures (Appendix VI) (Visualization of Step 1) relevant to the current licencing procedure was used which helped to identify data gaps as well as experienced obstacles. All interviews were recorded for subsequent analysis (Step 3).

### **Step 3**

#### **Outcome:**

Description of current Dutch licencing procedure

Description of obstacles in the Dutch licencing procedures

List of search criteria based on overall obstacles

#### **Method:**

Analysis and evaluation of interviews

Translation of obstacles to search criteria

All audio records from the interviews were transcribed word-for-word and analysed using MAXQDA, a software tool enabling coding interviews into segments regarding missing data on the current licencing process as well as experienced obstacles. As a basis for codes, the variables from step 2 were used and complemented with terms commonly mentioned by interviewees. Appendices VII and XI give further insight into the coding method as well as a list of derived codes. One document per code was created, resulting in 28 apart documents, including corresponding statements of interviewees. Accordingly, these were translated from Dutch to English and analogously taken over to the relevant parts of this thesis (chapter 3.1 and 3.2). Statements were used to complement data from step 1 as well as for the result section of sub question a. This was done through summarizing the statements according to the codes. The detected obstacles then were translated into search criteria (Appendix XII) for the research on selected surrounding North Sea countries, needed for sub-question b. The development of search criteria was carried out through translating an experienced obstacle.

#### **Example for the development of search criteria:**

|                                   |                                                                            |
|-----------------------------------|----------------------------------------------------------------------------|
| <b>Identified obstacle:</b>       | Problematic perception of process due to absent knowledge                  |
| <b>Developed search criteria:</b> | Perception of process by applicant                                         |
| <b>Delimitation:</b>              | Describes how the application process is perceived by applicant in (SSNSC) |

The results were then concluded to give answer to sub-question a.

## 2.4 Sub-question b

*Which corresponding approaches do selected surrounding North Sea countries apply in their licencing procedure?*

### Step 4

#### Outcome:

Data on corresponding approaches of SSNSC based on search criteria

#### Method:

Desk research, i.e. review of relevant international laws, policies, regulations and licencing documents, reports, scientific publications based on search criteria and keywords

For this step, the same conditions and parameters as in Step 1 are applied. The selection of relevant literature is based on key words identified in Step 1 and is complemented with terms derived from search criteria from step 3. The workload was divided between the authors: Levina covered Belgium and Germany whereas Michael covered Denmark, England and Scotland. Data was compiled per criteria and country using a matrix. Data from official policy documents and national acts were literally taken over, information from other scientific publications were taken over analogously. A shortened version of the matrix can be found in Appendix XIII.

### Step 5

#### Outcome:

Conclusions per search criteria

Description of emphasise per SSNSC

#### Method:

Qualitative overview and comparison between approaches SSNSC use including identification of similarities as well as differences in a matrix

Based on the data derived from step 4, information per criteria per country was compared, from which a sub conclusion per country and per criteria was developed. This was done using the matrix developed in step 4. The findings were used as a baseline for step 6 and 7.

## 2.5 Sub-question c

***How can the Netherlands apply beneficial approaches from selected surrounding North Sea countries?***

### **Step 6**

#### **Outcome:**

Data on applicability of corresponding approaches to Dutch obstacles

#### **Method:**

Stakeholder meeting with selected participants

As a next step, a stakeholder meeting was organized in which both detected obstacles as well as corresponding approaches of SSNSC were presented and discussed. A blueprint for this meeting can be found in Appendix XIV. Objective of the stakeholder meeting was to identify beneficial approaches for the Netherlands by means of an interdisciplinary consideration. A list of participated persons can be found in Appendix X. The individual obstacles were presented to stakeholders and elaborated using a power point presentation. Thereby, all stakeholders were provided with the most important finding of the interviews. This served as a basis for the subsequent discussion. As a next step, approaches of SSNSC were introduced, using a brief version of the matrix developed in step 4 and 5. Based on this, stakeholders were asked to express their opinion regarding possibly beneficial approaches. Participants were encouraged to discuss different approaches with each other. Per obstacle a conclusion was formulated. The meeting was recorded using a camera and a voice recorder for subsequent analysis and identification of beneficial approaches used for the recommendation section.

### **Step 7**

#### **Outcome:**

Final recommendation

#### **Method:**

Qualitative analysis of the stakeholder meeting

Summarizing identified resolving approaches from stakeholder discussion

Developing recommendation based on identified obstacles and input from stakeholder meeting

Subsequently, the recorded stakeholder meeting was transcribed word-by-word and core conclusions were identified by comparing different statements of stakeholders as well as formulating sub-conclusions. In combination with aspects derived from the discussion and conclusion, these sub-conclusions were used to formulate the recommendations for resolving obstacles.

### 3 Current obstacles in Dutch licencing procedures regarding multi-use in OWF

To describe detected obstacles in the Dutch licencing procedures regarding multi-use in OWFs, the first chapter consist of three parts, the first being a brief description of the current licences relevant including applicable laws and policies. This following sub-chapter 3.1, is supportive to offer a knowledge base to an extent that makes understanding the detected obstacles possible, but therefore has not the objective to describe it in the most detailed way. The Dutch names of relevant laws and policies have been retained, as some cannot be translated. A short description of them can be found in parentheses after the relevant term. A description of all detected obstacles is to be found in chapter 3.2, while the conclusion in chapter 3.3 gives answer to sub-question a. An overview, aiming to summarize the reproduced content can be found in Appendix XVI.

#### 3.1 Dutch licences for multi-use in OWFs

This chapter provides supporting information on the licenses relevant for this research.

##### 3.1.1 *Watervergunning*

For seabed disturbing initiatives, such as anchor activities for aquaculture, a *Watervergunning* (water licence based on the water act) has to be requested at *Rijkswaterstaat* (RWS), the executive organ of the Ministry of Infrastructure and Water Management (Waterwet, 2018). The BNN mentions that not all forms of innovative activities are permissible, even if they do not require a permit, as their assessment depends on the expected level of disturbance experienced by the OWFLH, the risk for legally protected ecological value, i.e. Natura 2000 and enforceability (Ministry of Infrastructure and Environment and Ministry of Economic Affairs, 2015). According to Desiree van der Vliet from RWS (personal communication, November 13<sup>th</sup> 2019), the integrated assessment framework of the *Waterwet* (water act) serves as basis for the permitting authority, together with the assessment framework of the BNN. According to article 6.5 *water wet* in conjunction with article 6.13 *Waterbesluit* (water decree), a *Watervergunning* (water licence) has to be inquired in case the initiative consist of a fixed construction over a longer period of time (Waterwet, 2018). Article 6.11 *Waterwet* (water act) dictates that a *Watervergunning* (water licence) can be denied if the activity is not compatible with the objectives mentioned in chapter 6 *Waterwet* (water act) (Waterwet, 2018). The assessment framework incorporates following essential elements, derived from article 2.1 *Waterwet* (water act):

- a) Guaranteeing water management safety; prevention and where necessary, limitation of floods and water scarcity
- b) Protection of the maritime environment of the North Sea; protection and improving the chemical and ecological quality of water systems and
- c) The effective / lawful use of the North Sea; fulfilment of social functions through water systems

The *Waterregeling* (water regulation) gives further specification of activities with subordinate importance (Waterregeling, 2020):

- Placing and storing structures for a maximum period of six months, building boards, material and equipment to perform a work or maintenance in, on, above, over or under a surface water body
- Placing fish traps and nets

### **Procedure *watervergunning***

According to Desiree van der Vliet from RWS (personal communication, November 13<sup>th</sup> 2019), the *Watervergunning* (water licence) is to be inquired via *Omgevingsloket online*, an online platform for licencing. Before the formal procedure for an inquiry begins, the applicant has the possibility for a preliminary informal meeting with the responsible authority *RWS Zee en Delta* (Sea and Delta) in which the applicant can retrieve information on which aspects need to be taken into consideration in the formal procedure and on which criteria it is assessed. The formal procedure starts once the responsible authority receives the application and is assessed within 6 weeks 4.1 of the *Algemene wet bestuursrecht* (General Administrative Law Act). According to § 6 *Waterregeling* (water regulation) article 6.18 and 6.19 the application requires the applicant to include following aspects in the application (Waterregeling, 2020):

- Personal information of the applicant
- Geographical indication of the location where the operation is being performed by means of a plan of site, map with a functional scale that is provided with a north arrow and on which the location of the location relative to the environment is indicated and photos
- A description of the nature, extent, reason and purpose of the intended action
- The period for which a licence is requested

Article 6.24 furthermore specifies that the following elements have to be included as well, given the activity takes place on a surface waterbody and linked safety zone (Waterregeling, 2020):

- a description of the intended action, stating how the *waterstaatswerk* (surface water body) or the associated protection zone will be used;
- an explanatory drawing with the design and dimensions of the work, or the route of the cable or pipe;
- a drilling plan in case a water management work is crossed by an horizontal directional drilling bore, and
- a stability calculation of the quay or flood defence.

Additionally to this, an activity taking place in the EEZ also needs to describe the following parts:

- the consequences for lawful use of the sea by third parties, and
- a set-up and installation plan, which discusses the maintenance of the work, safety guarantees, lighting measures, measures to prevent and limit disasters, and the manner in which removal of the installation will take place.

The application undergoes an assessment under the integrated assessment framework, as described above. The resultant *Ontwerpsbesluit* (draft decision) leads to a *Ontwerpsvergunning* (preliminary draft licence) which is published for six weeks for public opposition proceedings. Within two weeks,

the competent authority will process the reactions and formulate the definite licence. In case concerned parties do not agree with the final decision, they can formally appeal via the *Afdeeling Bestuursrechtspraak* (Administrative Law Division) of the *Raad van Staate* (Council of State). (Rijksoverheid, n.d.a)

Existing licences and associated rules can be altered, supplemented or further restricted by competent authorities. For instance, attachments may concern cover of liability for possible damage on the water system and their compensation or limitation (Waterwet, 2018). A licence may be withdrawn if not used for three consecutive years, is no longer considered permissible, or if a treaty or international agreement binding for the Netherlands requires this (Waterwet, 2018; Kavelbesluit V (innovatiekavel) windenergiegebied Borssele, 2017).

### 3.1.2 *Vergunning Wet Natuurbescherming*

According to Sander de Jong from RWS (personal communication, November 18<sup>th</sup> 2019), the *Wet Natuurbescherming* (WNb, Nature Conservation Act) displays another legal cornerstone of the licencing procedures if external effects on N2000 cannot be excluded in advance. The WNb applies to the entire Dutch EEZ and is valid since January 2017. It specifies that the Ministry of Agriculture, Nature and Food Quality is the competent authority for matters affecting national interests as well as areas outside of provincial jurisdiction. The main purpose of the *Vergunning Wet Natuurbescherming* (licence under the Nature Conservation Act) is to prove that a certain undertaking has no significant negative impact on conservation objectives of Natura2000 areas. §2.3 of the WNb specifies the assessment of plans, projects and other actions. It states that it is prohibited to perform activities without a licence that degrades the quality of the natural environment or significantly disrupts species for which the site is designated, as stated in the Natura2000 objectives. This includes the fact that also activities with only a remote geographic proximity can have potential negative impacts on Natura 2000 areas and species protected under Natura 2000 as well as linked conservation objectives (external effects). Besides a detailed description of the planned project, an appropriate assessment has to be part of the application as well. Both parts will be accessible to the public for consultation. According to Ron Ravestijn from the ministry of agriculture, nature and food quality (personal communication, November 13<sup>th</sup> 2019), the appropriate assessment requires certain aspects to be part of the substantiation, namely: Most recent data available, transparent manner of data obtained, information regarding field inventory, logical presentation of data. (Wet Natuurbescherming, 2020)

According to Ron Ravestijn (personal communication, November 13<sup>th</sup> 2019) the planned activity has to be described in detail containing:

- Geographic coordinates
- Objective of project
- Time period of activity
- Spatial impact of the activity
- Physical impact on: seafloor, groundwater, surface water and air
- Which activities will be conducted when
- Used methods for building
- Sort of materials used
- Transport of materials and staff

Furthermore, the applicant has to specify the impact on Natura2000 areas in terms of:

- The location of the project
- Possible impacts on the Natura2000 site
- Possible temporal and permanent impacts on the environment and its natural system

Necessary is also a description of the respective Natura2000 areas and their conservation objectives potentially influenced by these effects. To do so, investigations need to be undertaken to determine whether or not these effects are or will be significant. Also a motivated exclusion from the conservation objectives that are not affected and therefore do not need to be further investigate have to be included. Generally, this must be done per individual conservation objective. In some cases this can be done responsibly in functional groups (for example "non-breeding birds resting on the water") if it is certain that the effects are the same for all the species concerned.

In case a certain activity cannot be permitted, the ACD (*approach no, unless*) procedure is to be applicable, in which an activity can get a permit if:

- A      There are no alternatives to the project
- D      There is an overriding reason of major public interest
- C      Sufficient compensatory measures are being taken

#### **Procedure Vergunning WNb:**

The possibility for a preliminary informal meeting here exists too, again to inform applicants about requirements and assessment of proposed plans. A request for a permit or exemption will be decided within 13 weeks of the date of receipt (Wet Natuurbescherming, 2020). The application undergoes an assessment under the assessment framework from the Habitats- and Birds directive. According to Ron Ravestijn (personal communication, November 13<sup>th</sup> 2019) and chapter 2 WNb, the ministry LNV is competent authority for matters affecting the habitats directive, whereas chapter 3 WNb specifies that RVO is competent authority for species conservation. The competent authority may extend the period once by seven weeks. The applicant will be notified of this extension. Public opposition proceedings again take place once the *ontwerpsvergunning* (Draft decision) was issued. Processed reactions lead to the definite resolution, with the possibility for formal appeal via the *Raad van State* (Council of State ) for disagreeing parties. (Wet Natuurbescherming, 2020)

#### **EIA (Environmental Impact Assessment)**

The EIA itself is a decision making tool that gives environmental interests a place in the considerations, but is linked to the main procedure on the basis of which decision-making takes place (Rijkswaterstaat, n.d.), in this case, above described licence. The competent authority must determine itself how the procedure and contend will be implemented if requests are subject to compliance of the EIA directive, even though requirements follow the *Wet Milieubeheer* (Environmental Protection Act) (Rijkswaterstaat, n.d.). Examples for such customizing are guarantee of quality or handling of participation of civil society organizations. Implementation depends on purpose of the activity, involved authorities, social and special context, expected consequences and the degree of sensitivity at administrative and environmental level (Rijkswaterstaat, n.d.). Requirements in relation to public notifications and inspections must be met based on the *Algemene wet bestuursrecht* (General Administrative Law Act).

### 3.1.3 Visserijvergunning

#### Active fisheries

Within the *Beleidsregel instelling veiligheidszone windparken op zee* (Policy rules for setting a safety zone for offshore wind farms) the central government specifies that trawling activities (seabed disturbing) within the safety zone of an OWF are not allowed at this point as infield cables might get damaged. Licences therefore cannot be applied for. (Minister van Economische Zaken en Klimaat, 2018; De Minister van Infrastructuur en Waterstaat, 2018)

#### Passive fishing

According to Leo de Vrees from RWS (personal communication, November 14<sup>th</sup> 2019), different rules apply for passive fishery methods, however a licence under the *Waterwet* (Water act) has to be inquired nonetheless if seabed disturbing activities or permanent constructions take place. Currently, there is only one experimental passive fishing pilot present in the Dutch part of the North Sea, namely the Win-Wind project in Eneco's Prinses Amalia OWF. Due to its semi-permanent status, no *Watervergunning* (water licence) had to be inquired, instead a contract between the ministry of LNV and the Win-Wind consortium was developed in collaboration with RWS, de OWFLH and the coastguard (De Minister van Infrastructuur en Waterstaat, 2018) in which the operational requirements are specified (see Appendix XV). (Ministerie van Landbouw, Natuur en Voedselkwaliteit, 2019; Speksnijder, 2019; De Minister van Infrastructuur en Waterstaat, 2018).

#### Procedure:

If there are parties who do not agree with the intention of Win-Wind and the possibility of performing this experiment, they can go into formal appeal within 21 days. Parties that can demonstrate that they can perform the same experiment under the same conditions, a public inquiry for the execution of the experiment will be published and considered equally. If there is not inquiry for this within 21 days, Win-Wind will be awarded the opportunity to perform the above experiment. (Ministerie van Landbouw, Natuur en Voedselkwaliteit, 2019)

## 3.2 Detected obstacles

The interviews with selected persons available where conducted between November 12<sup>th</sup> and 18<sup>th</sup> 2019, both physically as well as via Skype. From six persons interviewed, four were government officials of which three where employed by RWS and one by the ministry LNV. Two persons representing RWS were legal advisors and one a licencing advisor. The ministry LNV was represented by a policy officer for nature permits. The fishing industry was represented by the director of VisNed. A licence applicant was represented by a researcher from Wageningen Marine Research.

### Sources Interview abbreviations (Appendix X)

|        |                                            |
|--------|--------------------------------------------|
| RWS1   | Senior advisor RWS                         |
| RWS2   | Advisor North Sea licence granting RWS     |
| RWS3   | Legal advisor North Sea affairs RWS        |
| VISNED | Director VisNed                            |
| WUR    | Marine ecologist / policy advisor          |
| LNv    | Policy officer Wet Natuurbescherming (LNv) |

All over, nine obstacles were identified during the interviews which are described below. The nine detected obstacles are:

- 1 Lack of objectives regarding other sectors
- 2 Missing vision of long-term development and post-operation phase
- 3 Lack of financial resources to ensure compliance with legal requirements
- 4 Missing assessment framework for multi-use
- 5 Ambiguity on behalf of the government concerning the user priority
- 6 Necessity of approval by OWF licence holders hinders multi-use
- 7 Lack of scaling-up-guidelines
- 8 Problematic perception of the process due to absent knowledge
- 9 Problematic communication with applicants

These obstacles are merely perceptions of people selected and interviewed. Further derivation of these statements and further meaning and interpretation are given in the discussion of this thesis (chapter 6).

### 3.2.1 Lack of objectives regarding other sectors

An underlying issue relating to the transition towards nature restoration, food production and other forms of renewable energy production is the diverging distribution of interest regarding national priorities on behalf of the government. Due to the fact that wind energy at sea is considered superordinate relative to other usage types, the execution of wind energy production must not be impeded by other users (LNv, RWS2, VISNED). From an multi-use initiator perspective this aggravates the licencing procedure when it comes to initiatives aiming for non-wind energy producing activities. An issue that was mentioned by VISNED is that as soon as other activities jeopardize wind energy production they are excluded from OWF which contradicts the overall ambition for multi-use. According to RWS2, multi-use currently concerns pilot-scale projects however an overall ambition for large-scale operations on behalf of the government is missing. The underlying premises is that a number of parties show interest in the potential of multi-use however facilitation and realization

incentives have not been developed yet (RWS1). To date, the introduction of projects remains pioneering work without financial support, in particular for other forms of renewable energy production as well as nature restoration. RWS2 remarks that political leadership in this emerging economy and the development of clear targets for the EEZ is missing, both for energy, food and nature as was done for wind at sea. RWS2 remarks the fact that current ambitions of wind energy expansion are at the expense of local nature. Offshore wind farm licence holders (OWFLH) are not required to incorporate much nature restoration ambitions and therefore often do not require secondary parties for the realization (RWS2). Equating other sectors through more balance could balance the decision making power between OWFLH and secondary users. Furthermore, RWS2 criticized the fact that restoration ambitions lack actual effect as their scale is simply too small.

### 3.2.2 Missing vision of long-term development and post-operation phase

An issue that was mentioned by RWS2 was the uncertainty that arises regarding the long-term development of secondary activities in OWF after expiry of the wind park licence. To date, the planned multi-use operations in OWF take place under the conditions of a primary activity, hence wind energy production, setting preconditions for third party exclusion e.g. natural resource extraction. The existence of secondary activities and their legal status thus is linked to the existence of OWFs. Especially the quality and effectiveness of nature recovery installations (e.g. artificial oyster banks) currently depends on the existence of OWF, however their condition becomes uncertain as soon as wind energy production stops and the licence holder becomes subject to clearance obligations, specified and stipulated in the wind park licence (RWS2). Former areas for wind energy might lose the benefit of being situated in a restricted zone and become exposed to other users of extracting industries, a potential factor of reducing the effectiveness. Furthermore, RWS2 remarked that marking measures (e.g. buoys) would become necessary however their financial coverage remains uncertain. The safeguarding of the quality and effectiveness should be a social responsibility in which the government may should take leadership (RWS2). This also accounts for the long-time investment attractiveness for entrepreneurs with the ambition to operate within a wind energy area after production stops.

### 3.2.3 Lack of financial resources to ensure compliance with legal requirements

Sufficient financial liquidity in order to meet legal requirements regarding safety is another issue that occurs according to RWS2, RWS1, and VISNED. RWS2 and RWS1 mentioned that especially small entrepreneurs cannot make appropriate financial resources available in order to ensure safe operations when it comes to safety provisions in terms of cable laying and buoys. The development of structures able to withstand harsh conditions in winter periods are an essential requirement and ask for investments. RWS1 further highlights the fact that rentable buoys are provided by RWS but the missing financial cover here plays an issue as well. In addition, the pilot initiator has to prove that sufficient financial means for clearance after the operation are at their disposal. Subsidies promoting the realisation of sustainable multi-use pilots have not been made available by RWS or other national entities and a reference to RVO was given (RWS1). Furthermore, RWS2 mentions that one of the predominant reasons for multi-use pilot initiation is the potential benefit entrepreneurs expect through already existing infrastructure. However, due to financial shortfall, pilots often do not have means of transport at their disposal and their business models are not prepared enough to meet standard criteria from RWS. RWS2 added that pilot business models are too much reliant on already existing structures and infrastructure (of the OWF) and scenarios for the post-production period are not taken into account, as discussed in the subchapter above.

All-over, financial incentives for multi-use in OWF are yet missing and value chains for emerging industries such as seaweed productions have not been developed and established yet (RWS1). According to RWS2, this is one of the most dominant aspects impeding the realisation of multi-use in OWF. VISNED agrees that when it comes to providing the OWF with trawling safe cabling/wiring. He mentioned that the cabling in OWF could be buried in the seafloor in order to ensure safe fishing operations however the financial revenue this could yield would not compensate for excessive investment needed for construction. Regarding food production in OWF, he refers to the shellfish sector in particular. According to him, the frequently mentioned opportunities of multi-use lack realistic revenue models and the already struck industry lacks financial resources for the realization of multi-use. He remarks that without economic drivers, innovation cannot take place and at that at the current stage the state does not address this issue sufficiently.

### 3.2.4 Missing assessment framework for multi-use

An issue that was identified during the interviews was the lack of framework on behalf of the government and executing organs which gives guidance on various aspects such as spatial issues. According to VISNED, the overall lack of an multi-use assessment framework manifests itself in little space for secondary activity operation, especially fisheries. He also indicates that current definitions regarding seabed disturbance have to be redefined for more appropriate decision making. Also, he stressed the need for early integration of multi-use in planning phase of OWF, although RWS3 remarks that those aspects are regulated afterwards via the *Watervergunning* (water licence) and the *Besluit van algemene strekking* (general decision). Due to legal reasons, multi-use cannot be included in the wind farm site decision. According to RWS1, the BNN 2016-2021 contains all essential elements however some connecting parts are missing. Supposedly, they are going to be included in the following version, which has been developed with stakeholder input also on behalf of members of the CoP. RWS3 remarked that currently the spatial component of the assessment framework is missing which is an underlying issue for allocating secondary user priority in OWF, as further discussed below. RWS3 remarks that this issue is covered via the *Waterwet* (water act) but optimal space allocation has not taken place yet.

### 3.2.5 Ambiguity on behalf of the government concerning the user priority

Currently there is no systematic approach on which user priorities are assessed (RWS1, RWS2, RWS3). Although there is a limited number of pilot initiators that are able to implement multi-use in OWF, the current approach seems to be “first come, first serve”. Both RWS2 and RWS3 remark that a zoning scheme could be supportive of these issues, however no such plans have been implemented to date as the limited number of applicants did not require such an approach. Such an assessment framework is a vital tool if two or more applicants have the same ambition regarding choice of location (RWS2), however it remains consideration to date. Also, there is no limit regarding when an areas capacity is utilized to the maximum degree, hence when no more initiatives can be allowed. RWS3 remarks that this is not an issue of current licencing but much more a question of policy. to a certain degree the topic is also sensitive as certain initiators are selected while others are rejected (WUR).

### 3.2.6 Necessity of approval by OWF licence holders hinders multi-use

Another issue that was identified was the fact that secondary users need approval from the OWF licence holder in order to operate within the OWF (RWS2). A distinction was made between activities touching the seafloor, activities in the water column and activities within the safety zone of 50 meters of a turbine and outside of it (see figure 4) (RWS2, RWS3). According to the interviewees (RWS2, RWS3), circumstances are easier to deal with if activities are on the seafloor as they do not impede passage lines of ships, necessary for maintenance of the OWF. Also, activities are preferable if outside the safety zone (RWS3, RWS2). According to RWS2 and RWS3, a preliminary consultation should take place with the primary user before a formal licence inquiry is submitted. According to RWS2, consent on behalf of the OWFLH is vital if secondary activities are to be performed within the safety zone. In the case of the reintroduction of European flat Oysters, the OWF licence holder himself was the initiator which simplified these issues (WUR).

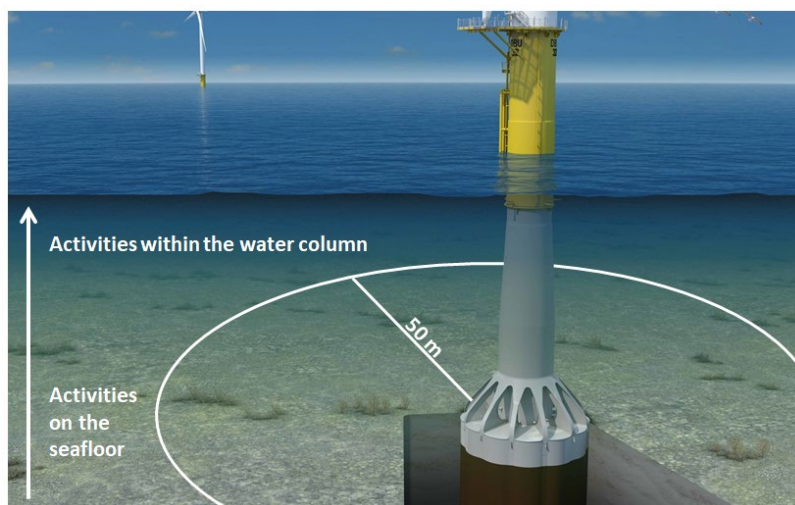


FIGURE 4: WIND TURBINE WITH SAFETY ZONE. ADAPTED FROM (VAN OORD, N.D.)

In case an activity is outside the safety zone and a *Watervergunning* (water licence) is inquired by an entrepreneur, the OWFLH can formally object the proposed plans within the scope of the draft version, which is open for public inspection for a period of six weeks. In the event of objections, they are being taken into account on behalf of *Rijkwaterstaat* and considered for the final decision (RWS2). RWS2 highlights the fact that OWFLH have disproportionately large influence on the decision making process, which complicate the implantation of multi-use. An appropriate framework for supporting these negotiations has not been made available by the government yet (RWS2, RWS3).

### 3.2.7 Lack of scaling-up-guidelines

RWS1 remarks the arising uncertainty when it comes to scaling-up small pilots as their impact on the environment and on other users proportionately increases, making an Environmental Impact Assessment (EIA) necessary. For many small-scale pilots it is not affordable to perform EIA's and often they are not required, however, this changes when it comes to upscaling the initiative. Initiators on the contrary require a certain assurance of future revenue streams as the pilot itself otherwise would be unprofitable. For the government on the other hand it is difficult to give realistic impact estimates and assure the initiative of granting future licences.

### 3.2.8 Problematic perception of the process due to absent knowledge

One impeding aspect of the licencing procedure that was mentioned frequently (3 out of 6) was the fact that the procedure as well as the actual permitting is perceived complex and obstructive by pilot initiators (RWS3, RWS2, RWS1). RWS2 mentioned that entrepreneurs have strong interest in the economic potential of multi-use however the legal conditions under which economic activities are permissible remain unclear to initiators, leading to displeased applicants and the fact the licencing procedure is perceived as difficult and an obstacle for the achievement of their business cases. Applying conditions need to be incorporated in project proposals however these aspects are considered insufficiently, especially when it comes to small-scale initiatives and their limited financial resources for legal advice (RWS2). This also applies for fishermen, who are unaware of the applied assessment criteria despite their ambition to operate in windfarms (VISNED). Consequently, pilot initiators seem to develop business cases which do not take the statutory requirements into account sufficiently. Furthermore, according to RWS3 and RWS2, it is unclear to initiators which authority is competent for matters in question and in some cases, e.g. passive fishing, which licences are mandatory as they fall under different legal frameworks e.g. *Waterwet* (water act). Admittedly, this is not only the case for applicants but also for government representatives concerned with multi-use but not directly involved with the licencing process (RWS3). According to RWS2, relevant information can be retrieved via *Noordzeeloket*, providing initiators with concerning details necessary for an application.

According to RWS3, the perception of the current licencing procedure is marked by a paradigm of legal impossibility. Pilot initiators experience the legal environment as restrictive rather than delivering asses to opportunities (RWS3). LNV mentioned that the potential for multi-use in OWF is much bigger than assumed by initiators and that licences under the WNb do not distinguish between single or multi use as the overall impact on N2000 is decisive for the permit and linked mitigation and compensation measures. Geographic overlap does not have influence on the assessment. According to RWS3, as long as infield cables, the scour protection as well as passage routes for OWF maintenance activity are not affected respectively impeded, the *Watervergunning* (water licence) can be issued.

This very perception of obstruction is considered as an obstacle itself as the applicants lack of knowledge can hinder issuing their own permit. RWS3 and RWS2 mentioned that with the current assessment framework licencing requests are processable and permissible. According to RWS2 and RWS3, complex agendas and the multi-interest character of the marine environment make licences an important tool to register and therefore protect activities at sea. RWS2 also remarks that there is a lack of understanding regarding the necessity of licences and their importance for human and natural well-being. According to RWS2 there is no need to complain regarding the complexity of the matter as preliminary informal meetings are offered to give guidance on the procedure, however the allocation of the competent authority seemingly is an issue for applicants.

### 3.2.9 Problematic communication with applicants

The communication of governmental institutions is linked to the perception applicants have on the licencing process. VISNED notes the lack of an one-stop-shop, responsible for licencing procedures concerning multi-use in OWF, and easy accessible points of contact for applicants. He also notes that

initiators lack guidance on behalf of the government and that the pillar structure the government makes valuable stakeholder input when it comes to policy development difficult to access (VISNED). Furthermore, he mentions that fishermen are not aware of on which criteria applications for multi-use are assessed. The fact that application disappear in an “administrative black box” was also mentioned as well as the demand for more transparency. The distance between assessed person and assessor should reduce in order to develop mutual understanding and to let applicants know where they are at (VISNED). WUR notes that requesting a preliminary consultation is an appropriate approach to inform applicants what is demanded and required in order to deliver an almost ready to pass version of the final application.

### 3.3 Sub-conclusion of sub-question a

This research aimed to identify national obstacles in the Dutch licencing procedure preventing multi-use in offshore wind farms in relation to licencing. Based on the outcome above, it can be concluded that according to interviewees the obstacles preventing multi-use realization predominantly cannot be found in the licencing procedure but much more in underlying issues, which have influence on the success of licencing applications and linked realization. Reasons for this will be explained in the discussion section. The results indicate that the existing regulations and licencing procedures allow for a larger scope of activities than initially presumed. The nine obstacles above are linked to the absence of concrete political agenda setting in relation to other sectors, financial issues on behalf of entrepreneurs, absence of a multi-use assessment framework and communicative issues.

## 4 Corresponding approaches of SSNSC

This chapter gives insight in which corresponding approaches SSNSC use and thereby answers sub-questions b. The corresponding approaches are based on the identified obstacles above and used for the stakeholder meeting as well as input for the recommendation. Conclusions per corresponding approach as well as per country were developed using a matrix (Appendix XIII).

### 4.1 Objectives of SSNSC regarding nature restoration, food & other forms of renewable energy production and national priorities

In regards to sector specific ambitions, objectives for the aquaculture sector are in place. In Belgium, the ambition is to increase the sustainable production from 700 tons to 1032 tons by 2022 as well as to introduce two new species to the market until 2022 (Vlaams Aquacultuur Platform, 2017). With a targeted increase of <50 tons to 1000 tons in 2020, Germany has similar targets in place (European Commission, n.d.). The German Marine Spatial Plan also mentions that aquaculture facilities preferably should be developed in combination with existing installations (Bundesministerium der Justiz und für Verbraucherschutz, 2009) and that OWF need to take fisheries and military defense interests into account (Syvret, et al., 2013). Germany has power specific objectives in place, namely the increase of offshore wind energy between 20.000 – 25.000 MW in 2030 (Bundesministerium der Justiz und für Verbraucherschutz, 2009). The Scottish National Marine Plan supports the industry's objective to increase sustainable aquaculture production to 210,000 tonnes; and shellfish to 13,000 tonnes by 2020 (The Scottish Government, 2015). Offshore wind energy production is seen as national priority throughout all SSNSC (The Scottish Government, 2015; Bundesministerium der Justiz und für Verbraucherschutz, 2009; Kafas, et al., 2018; HM Government, Northern Ireland Executive, Scottish Government, Welsh Assembly Government, 2011). Additionally, aquaculture is considered as a main driver for economic development and therefor given national priority in the UK (Syvret, et al., 2013).

When it comes to the mutual achievement of sector specific objectives, SSNSC employ similar approaches in regards to marine management: The Belgian marine spatial plan stipulates multiple use of ocean space in combination with maintaining ecosystem services and the support of social and economic interests (ARCADIS, 2018). Within the Belgian part of the North Sea, multiuse is considered as a new standard for spatial decision making through which various sectoral objectives are to be addressed (De Backer, 2017). Similarly, Denmark utilizes an integrated approach in which different objectives are achieved through the Act on Maritime Spatial Planning (Erhvervs- og Vækstministeriet, 2016). This act emphasizes the coexistence of relevant usage types in order to achieve more than one sectoral objective within the same geographic location. Within the German marine policy environment, multiple use of ocean space solely is defined as desirable (Bundesministerium der Justiz und für Verbraucherschutz, 2009). The UK Marine Policy Statement envisions the achievement of integrated objectives rather than sectoral objectives. In order to do so, co-existence of compatible activities within the same location is encouraged (HM Government, Northern Ireland Executive, Scottish Government, Welsh Assembly Government, 2011). This becomes evident in the consideration of artificial reef development in newly proposed OWF as a mean of cross-sectoral

marine planning (Syvret, et al., 2013) and in the considered integration of OWF and aquaculture as a mean of achieving two national priorities simultaneously (HM Government, Northern Ireland Executive, Scottish Government, Welsh Assembly Government, 2011). In contrast to the Netherlands, OWF development can take place in locations designated for their ecological value if the energy targets are considered to be overriding even though marine protected area space is reduced (Kyriazi, et al., 2016).

## 4.2 Vision of long-term-development and post-operation-phase

Regarding the long term development of OWF, data availability was rather scarce. Belgium's approach is to focus on economic benefits deriving from value chains linked to the dismantling process of OWF (Larsen J. N., 2019). Germany stipulates that if the dismantling process causes greater adverse impacts on the environment than its existence, disassembly must be avoided unless safety reasons require other measures to be taken (Bundesministerium der Justiz und für Verbraucherschutz, 2009). Until 2017, no commercial multi-use installation was observed in the Danish EEZ and therefore long-term strategies have not been developed yet (Karlson, Jørgensen, Andresen, & Lukic, 2017). The UK utilizes regional marine plans for both England and Scotland in which stakeholders can express their visions for future decision making, however concrete strategies are not included (Smith & Jentoft, 2017; HM Government, Northern Ireland Executive, Scottish Government, Welsh Assembly Government, 2011).

## 4.3 Financial requirements needed for an application (due to safety requirements)

Financial requirements needed due to legal requirements were not identified within the scope of this study as literature did not include any information regarding this.

## 4.4 Multi-use assessment framework

Denmark currently has no multi-use assessment framework in place (Stuiver, et al., 2016; North Sea Wind Power Hub, 2019). The current licencing is marked by sectoral management including a number of different regulations, acts and authorities, governing both different spatial zones as well as activities (Stuiver, et al., 2016). Based on the Act on Maritime Spatial Planning, measures are taken for the implementation of an integrated maritime spatial plan (European MSP Platform, 2019). Due to environmental concerns, obtaining licences for offshore aquaculture is currently challenging and in reality hardly takes place in the real environment (Stuiver, et al., 2016). A lack of regulatory support or incentives to promote cross-sectoral colocalization is present, also due to missing high level political interest in multi-use (Karlson, et al., 2017). Based on the Act on Maritime Spatial Planning, recognition for greater coordination between sectors has become apparent (European MSP Platform, 2019). The MSP is currently being developed by the Danish Maritime Authority and will consider the interests of all relevant sectors with a focus on economic growth (European MSP Platform, 2019).

In line with that, both the UK Marine Policy Statement as well as the Scottish National Marine Plan encourage proposals for new developments that will enable coexistence with other users, given these are compatible with other objectives (The Scottish Government, 2015). The emphasis lies on the encouragement of activities with a synergistic character, thereby leading to mutual benefits and prevention of user conflict in relation to spatial competition (The Scottish Government, 2015). Furthermore, current arrangements between sectors are not to be impeded by policy decision-making but rather be complemented where necessary (The Scottish Government, 2015). Integration of artificial reef structures within OWF are encouraged by both the UK and Scottish government (Syvret, et al., 2013). If renewable energy production is considered an overriding priority in relation to a marine protected area, renewable energy production might become priority even if protected space is traded off (Kyriazi, et al., 2016). According to the National Energy Policy Statement, the Energy Policy Statement specific to renewable energy developments and the Planning Act, new offshore energy development have to consider mitigation options that would include colocation of aquaculture as mean of fishery loss compensation (Department of Energy & Climatechange, 2011; Syvret, et al., 2013). These requirements stipulate to consider mitigation designs however no legal obligations results from not realizing these ambitions. Although there is no multi-use assessment framework or joint consent procedure in place, the Marine Policy Statement is a core element showing political will for the realization of multi-use developments in terms of co-existence (Depellegrin, et al., 2018; Syvret, et al., 2013). Regional marine plans play an important role in regional agenda setting and determination of desirable activities (HM Government, Northern Ireland Executive, Scottish Government, Welsh Assembly Government, 2011). The South Inshore and South Offshore Marine Plan *“enables efficient use of space, highlighting the need and opportunities for coexistence in areas with high concentrations of activity and clarifies where co-existence is not appropriate, and where activities should be avoided. Proposals that enhance access to, or within sustainable fishing or aquaculture sites should be supported”* (HM Government, 2018). Within this, stakeholder input is an important prerequisite in common determination of where multi-use is performable and where it should be avoided (HM Government, 2018).

Germany’s regulatory framework for offshore wind is comprehensive, while the framework for offshore aquaculture is considered weak and uncertain, as standards are missing and need to be developed. Missing definitions for concepts such as *“offshore”* or *“hazardous marine environmental impact”* lead to unclear application of policies and uncertainty of property rights and their legal status (Wever, Krause, & Buck, 2015). Obtaining licences for co-use from the OWFLH remains hypothetical and does not underlie a joint assessment framework. The process is considered to be fragmented and in need of simplification (Schupp & Buck, 2017). Mechanisms and frameworks to investigate the cumulative effects or benefits of shared use and assess the socio-economic benefits and effects are missing (Schupp & Buck, 2017).

No multi-use assessment framework was identified for Belgium, however rapid assessment of environmental impacts is possible, including three main categories of environmental impacts: physical, chemical or ecological (Douvere, Maes, Vanhulle, & Schrijvers, 2007). Compensatory measures are needed when impacts are predicted but no alternative solution is possible or in case of an overriding public interest (social or economic) (ARCADIS, 2018). Two requirements are set for aquaculture projects in OWF: approval of OWF operator needs to be obtained and the project needs to contribute to the reduction of eutrophication levels at the location. According to the latest MSP plan (2016-2020), aquaculture is only possible within two designated areas, both within OWF concessions (Buck, et al., 2017).

## 4.5 Ranking of suitability of secondary users

The Belgian MSP states that climate impacts are an important decision criteria in case two or more activities compete for the same zone (ARCADIS, 2018). An example for possible subordination of ecologic valuable areas in relation to OWF: The *Vlakte van de Raan* was accepted by the European Commission (EC) as a N2000 special area of conservation, but became 'de-designated' on national level, officially due to missing scientific evidence. Arguably this step was undertaken to not obstruct possible OWF developments. As the EC declined the national request, the *Vlakte van de Raan* SAC is still designated (Jones, et al., 2016).

In Germany, views on favourable uses and non-uses are conflicting (Wever, et al., 2015).

Within the Danish Act on MSP, the planned approach is to create two designation categories, respectively zones: a general usage zone as well as a reserved development zone. Any zone that is expected to be utilized by any of the major using sectors will be classified as reserved development zones. Until the reserved development zone is actually put into practice therefore becoming an existing development zone, the area is considered as a general use zone (European MSP Platform, 2019).

In the UK, the national marine plan is the central instrument for identifying areas and locations where additional activities are permissible and achievable in relation to other objectives (The Scottish Government, 2015). In Scotland, sector specific preferential usage zones are identified and designated within the scope of regional marine plans including considerations of priorities, potential impacts, cumulative effects, scenarios and robust consultation. (The Scottish Government, 2015). The South Inshore and South Offshore Marine Plan "*clarifies where co-existence is not appropriate, and where activities should be avoided*" and "*enables communication and negotiation where co-existence is an option, so impacts can be mitigated or minimised.*" (HM Government, 2018)

## 4.6 Necessity of consent approval from OWFLH

In Belgium, consent approval of the OWFLH is an essential prerequisite for multi-use integration (Buck, et al., 2017). Property rights in the German EEZ are vague and lead to legal uncertainty (Wever, et al., 2015). OWFLH have priority rights over other users within their assigned priority areas as to the German MSP. These priority areas protect construction, operating and maintenance activities against other users (Schupp & Buck, 2017), which means that use that is not compatible with wind energy generation is not permitted in the priority areas for OWF (Bundesministerium der Justiz und für Verbraucherschutz, 2009). The OWF industry therefore is reluctant with regard to shared use, most stakeholders see no need to compromise the security that these rights guarantee them. OWF actors have an absolute veto-right for all activities within their priority areas and some use this to impose barriers (Schupp & Buck, 2017). In the UK, OWFLH are required to investigate mitigation designs "*to enhance potential medium and long-term positive benefits to the fishing industry*" (Department of Energy & Climatechange, 2011; Syvret, et al., 2013).

## 4.7 Availability of scaling-up guidelines

No scaling-up guidelines were identified in SSNSC within the scope of this study.

## 4.8 Perception of Process

Stakeholders experience uncertainty around legal aspects, as the applicability of laws and regulations in the German EEZ is unclear (Wever, et al., 2015). Legal frameworks regarding marine aquaculture (for example the applicability of the Marine Facilities Ordinance or the Federal Fisheries Law) is considered *'far from clear, weak and fragmented'*. This also accounts for any combined-usage (Wever, et al., 2015). In both Scotland and the England, a degree of uncertainty between different stakeholders about the actual rights and jurisdiction over licencing of marine aquaculture both within and outside wind farms has been observed (Syvret, et al., 2013), however compared to obtaining licences in the UK Celtic Sea and Pentland Firth and Orkney, Belgium is interpreted to be more strict (Kyriazi, et al., 2016).

## 4.9 Communication between applicants and competent authority

In Scotland, advice on the applicable laws and processes for offshore renewable energy projects is made available by Marine Scotland, which simultaneously is the competent authority for marine licencing (Jeffrey & Sedgwick, 2011). Availability of a licencing guide (The Scottish Government, 2015), including an elaboration on the need for licences, which authority is competent, and an explanation of the process and an explanation of which aspects are assessed (The Scottish Government, 2011). No data regarding this aspect was identified for other SSNSC.

#### 4.10 Sub-conclusion of sub-question b

The section above aimed to identify corresponding approaches of SSNSC in relation to identified obstacles in the Netherlands. Multi-use is frequently mentioned in key policy documents, however it appears that the focus lies on overall encouragement of multi-use rather than a prerequisite for new economic developments. Although all SSNSC have aquaculture specific targets in place, no financial incentives in regards to multi-use were identified. In conclusion it appears that the post-operation phase is an issue that has not been addressed in any of the SSNSC. Financial requirements needed due to legal requirements were not identified. An actual multi-use assessment framework is missing in all of the SSNSC however key policy documents, especially in the Denmark and the UK give guidance on what is worth achievable in the context of cross-sectoral integration and overall achievement of objectives. Furthermore, it appeared striking that integration of aquaculture facilities is seen as a compensation measure for fishery loss and its realization has to be considered during OW development in the UK. It appears that assigning user-specific zones in the context of spatial planning can reduce conflicts between different sectors and give guidance on user priority on specific locations. Consent approval by the OWFLH appears to be an issue in all of the SSNSC influencing multi-use development. No scaling-up guidelines were identified within the scope of this research. Due to the novelty of the multi-use concept, the perception of the legal environment and its applicability in different zones appears to be uncertain throughout all SSNSC. No clear statements regarding the communication with applicant can be made as only data regarding Scotland was identified in which guidance on the licencing process is made available via a single authority. Although SSNSC employ different approaches, a number of aspects occurring in the Netherlands are also apparent.

## 5 The applicability of corresponding approaches in the Netherlands

This chapter gives insight into the findings from the held stakeholder meeting in which the applicability of corresponding approaches from SSNSC was discussed and thereby sub-question c is answered. Further points of attention that came up during the meeting are included as well.

|                            |                                                  |
|----------------------------|--------------------------------------------------|
| Michael Walter (MW)        | Student                                          |
| Levina Steinkönig (LS)     | Student                                          |
| Nico Buytendijk (NB)       | Opdrachtgever, RVO                               |
| Sander de Jong (SJ)        | Senioradviseur Vergunningsverlening Z&D, RWS     |
| Desiree van der Vliet (DV) | Juridisch Adviseur Noordseezaken, RWS            |
| Jaap van der Sneppen (JS)  | Adviseur Vergunningen WNb, RVO                   |
| Marcel Rozemeijer (MR)     | Projectleider WinWind en Researcher, WUR         |
| Joël Meggelaars (JM)       | Sr. Regulatory Affairs & Stakeholder Mgr, Ørsted |

### 5.1 Lack of objectives regarding other sectors

As identified during the meeting, the majority of ambitions regarding food production, nature conservation as well as renewable energy production appear to be similar to the ones present in the Netherlands. Stakeholders agreed that the common objectives derived from the EU play a role in this and ambitions alone without financial incentives will not lead to actual multi-use development. According to SJ, the approach to multi-use currently is being forced as a mean of space efficient use however no other incentives than that are present. He mentioned that is essential to record whether or not multi-use of OWF is really intended or desirable at the current stage from a governmental perspective. JS highlighted that different morphological characteristics and space availability, especially in the UK, lead to different possible outcomes in terms of the urgency of realization and that approaches therefore are not necessarily adoptable in the Netherlands. Especially the diverging process of OWF development in the UK involves different participatory processes, which, due to central government assignment and tender procedures, are not present in the Netherlands.

It became evident that ambitions regarding other sectors are perceived to be of importance, yet the objectives for wind energy must not be impeded in any way. According to DV, nearby political decisions supporting extensive aquaculture development are not likely. SJ agrees with that and does not expect innovative decisions similar to the ones taken in relation to wind energy development to happen, due to a lack of urgency. NB highlighted that roadmaps for nature recovery and marine food production are to be developed by LNV in the nearby future.

Further attention was pointed on a more national scale, in particular in regard to the requirements the *Wet windenergie op zee* imposes. DV stressed that at the time a high-political decision on behalf of the ministry of economic affairs decided against the adoption of comprehensive multi-use requirements in tender procedures for OWF. This decision was made in order to ensure low as possible acquisition costs for OWF and thereby maintaining low prices for offshore energy. SJ pointed out that this also is the reason for the easily met requirements for nature-inclusive constructions or nature recovery measures, especially since nature is difficult to appreciate in terms of monetary value.

In case of a clear government approval in favour of multi-use, specific prescriptions of prerequisites for OWF could benefit the development of business cases of OWF operators, as risk-profiles could then be included right from the start and would influence OWF-operators less. JM explained that the offshore wind sectors attitude towards multi-use may be more progressive if multi-use activities would be linked with other national programs as opposed to the current scenario, where risks increase without subsidies or clear marked demands. Linking ambitions or activities with one another, such as OWE and hydrogen production, is seen as an opportunity to develop healthy business cases. JS points out that operation of OWF is currently purely driven by economic aspects and so major financial institutions should also be included in order to contribute to sustainable developments, since capital does heavily influence multi-use prospects.

The influence of any ambitions was also discussed in the meeting. SJ mentioned that ambitions that are as clearly set as the ones for OWE may lead to higher costs for OWE and, being national priority, this should be considered. Keeping OWE as interesting as it is currently may be difficult once ambitions for other sectors are set side by side. He further highlighted the need for clear steps on how to operate and achieve set goals.

## 5.2 Missing vision of long-term development and post-operation phase

No clear visions regarding the long-term development of OWF areas at post-operation phase are developed in SSNSC, however JS pointed out that Denmark already has experience in the decommissioning of OWF. Denmark's experiences and research on the topic may therefore be basis for policy developments in Germany, Belgium and the Netherlands. SJ highlights that in order to maintain nature recovery measures it is essential to ensure that restrictions that are in place during the operational phase of OWF stay in place once OWFs are decommissioned. One of the key questions therefore is if such an approach is considered worth the effort, as the development of OWF was pushed in contrary to other sectors. Maintaining the status of a site can involve fishery restrictions or permanent reservations, marking the site with buoys as well as monitoring, asking for clear arrangements and responsibilities. Due to the fact that many OWF sites potentially will be repowered, JM mentions integrated solutions as the way forward. Another approach which could lead to a positive environmental impact would be to leave space free of human activities, which was mentioned by JS. Furthermore, the scour protection was discussed, especially the arising question whether or not it has to be removed. SJ mentioned that these aspects shall be subject to social cost-benefits analyses. Overall it was concluded that clear arrangements during the operational phase are essential in order to keep sites attractive for both business initiators as well nature recovery measures. According to MR, these arrangements have not been made yet and upcoming political decisions should consider these aspects.

## 5.3 Lack of financial resources to ensure compliance with legal requirements

Approaches of other SSNSC could not be compared for this obstacle. Concerning subsidies, JS, DV and NB agree that buoys and other legal requirements are necessary parts of a business's infrastructure

and therefore part of the entire project, and as such can be included in the application for subsidies. The granting of subsidies is a national or European choice, and therefore this obstacle is linked to national ambitions, according to NB. JS suggests that initiatives that tackle food production, since being stimulated by the EUs agenda, also have the possibility to apply for EU-subsidies. Therefore, financial resources are available, but need to be made available. NB adds that initiators must be pointed at the right ones to apply to and mentions RVO as competent authority for this. JS also points out that an overall picture needs to be mapped out for initiators, in which costs for a specific project at a specific place are evident.

With regard to financial support from the government, however, it should also be considered that entrepreneurs or projects on the verge of being profitable should not be supported limitless, as market forces should not be influenced that way. SJ mentions that initiatives simply have not a suitable business model or they are not paying off within a time frame of 20 years. MR proposes a widening of the given time frame of 20 years, but due to uncertainty regarding the conservation status of species, JS considers this to be an unlikely option.

## 5.4 Missing assessment framework for multi-use

In regards to the missing assessment framework, no corresponding approaches were applied from SSNSC. SJ concludes that the problems SSNSC have are recognizable, to which DV agrees. She adds that SSNSC are currently developing regulating assessment themselves, and that more European stimulation may come up in the future. Furthermore, she mentions that the current regulatory systems is able to assess secondary activities. Also, the upcoming *Omgevingswet* was pinpointed as a policy development which might can resolve ambiguity.

## 5.5 Ambiguity on behalf of the government concerning the user priority

As no clear regulations are published by SSNSC, The Netherlands cannot adapt a corresponding approach on this issue. Also the discussion during the stakeholder meeting regarding this point did not reveal possible solutions. DV summarized that at present, a manner of first come, first serve is practiced if activities exclude one another.

## 5.6 Necessity of approval by OWFLH hinder multi-use

Even if OWF operators have lead when it comes to the choice of cooperating initiatives, OWFLH have no veto-right and do not decide which activities at sea are allowed, JM stated when discussing this issue during the stakeholder meeting. Initiators that are not chosen for cooperation to fulfil the conditions prescribed for OWF still have the possibility to apply for a licence via the common way, thus the *watervergunning* and the *WNB vergunning*. DV points out that OWFLH can also opt for a combination of activities to fulfil conditions, but have no obligation to do so, to which SJ adds that incentives for such a choice are missing. In comparison to the findings regarding corresponding approaches of SSNSC, no lessons could be learned.

## 5.7 Lack of scaling-up guidelines

An important issue discussed in this context was the existing unclarity regarding the timeframe and significance of effects as of which a EIA has to be conducted by an initiator, once the pilot shows to be viable (SJ). To carry out an EIA, MR proposes subsidies as a way forward, to which JS agrees. He also mentions that an EIA calculation should already be included in the business case, as initiators should prepare for a possible scale-up. This would allow to estimate costs right from the beginning. However, being unable to scale-up is also part of the entrepreneurial risk in his opinion. In relation to this obstacle, no corresponding approaches were identified for SSNSC within the scope of this study.

## 5.8 Problematic perception of the process due to absent knowledge

Although no lessons could be learned from corresponding approaches of SSNSC, NB mentions that it is important to know due to which reasons applicants perceive the licencing process as problematic. JS mentions that the one-stop-shop the website of the *Omgevingswet* 2021 will offer, may guide applicants sufficiently and that also maintenance of current websites, such as *Noordzeeloket* and *Helpdesk water* is of importance. MR highlights that it is important for applicants to be able to identify competent authorities and that an overview or table could help achieving this. Although initiators have their own responsibility to do research beforehand, not all initiators know what to expect (NB). Further research is needed to identify the reasons due to which initiators perceive the process as problematic, before competent authorities can decide on further steps.

## 5.9 Problematic communication with applicants

This identified obstacle could not be discussed during the stakeholder meeting due to time restrictions.

## 5.10 Additional findings derived from the stakeholder meeting

Stakeholders agreed that there is a need to ascertain commonly accepted and available space for multi-use development. Perceptions on this differ, which is connected to uncertainty around applying risks in OWF and associated acceptable safety zones. As safety zones may be enlarged due to technical developments, no clear answer can be given yet, making further assessments and also round table discussions with OWFLH necessary. SJ mentioned that issues around spatial planning even appear within OWF, as additional activities can also exclude one another.

## 5.11 Conclusion of sub-question c

It became evident that a variety of issues regarding successful multi-use development are also present in SSNSC and that therefore valuable approaches in relation to obstacles in the Netherlands were rather scarce, also due to the fact that SSNSC deal with similar circumstances and issues. Furthermore, SSNSC deal with different legal systems as well as environmental conditions to due to which the applicability in the Netherlands is challengeable. Missing value chains resulting in questionable multi-use profitability are also present. Although ambitions regarding cross-sectoral are present, stakeholders did not acknowledge these as particularly supportive in multi-use development and that the approaches in key-policy document seem similar to the ones in the Netherlands. Nonetheless, pursuing points of discussion detected in the meeting were incorporated in the discussion and recommendation section below as they appeared equally important in regards to the overall importance of the issue.

## 6 Discussion

This chapter is subdivided in a discussion on the methodology (6.1) and a discussion on the findings (6.2). The content of the discussion is included in the formulation of the overall conclusion.

### 6.1 Discussion on Methods

Limitations of this research occurred at several places, which limits the significance to a certain degree. Although a variety of stakeholders were targeted for the interviews, four out of six interviewees attributed to competent authorities, which restricts the viewpoint on the issue to a rather unilateral one. Foremost, perspectives of OWFLH are not taken into account during the identification of obstacles, as contacted potential interviewees did not respond and therefore not participate in the interviews. In addition the OWFLH were not assumed to play a major role in the licencing of additional activities, however, as described above, consent to secondary activities is vital and a prerequisite for activities in close geographic proximity. With respect to applicants, two out of six interviewees can be assigned to have spoken on behalf of secondary users (VISNED and WUR), therefore the full array of their perspectives have not been taken into account. Representatives on behalf of other forms of renewable energy production as well as aquaculture were not included, given the fact that these emerging industries are still in their infancy and actual pilots within Dutch OWF have not been introduced yet. However, the data obtained via interviews and the stakeholder meeting can be assessed as reliable, since interviewees and participants could share real life experiences from the work field.

Interviewee's opinions were not taken into account as speaking on behalf of an entire organization or department, therefore remain personal opinions based on their field of expertise. Other or additional obstacles remain unknown and potentially would have been identified if other experts would have participated in the study. The thesis does not state which obstacle should be resolved first or is most hindering multi-use realization. Notable is, that some interviewees selected for this research (e.g. on behalf of the Noordzeeboederij) did not respond to invitations or were not willing to participate. Reasons for this might be versatile however assuming that the realization of multi-use is of importance for selected parties, this appears peculiar and may be a point of future attention.

Regarding the literature review of relevant official policy documents and website, gaps in public accessible information were encountered as details regarding exact steps competent authorities undertake in order to grant licences were missing. This influenced the preparation of the interviews, as questions otherwise may have been more detailed, leading to further insights. The question-sequence of the interviews changed due to the flow of the interview. Some questions were not relevant anymore multiple same statements but follow-up questions were added, which allowed for expanded conversations that led to additional information. With respect to expertise, the authors lack academic background in legal sciences, which made detailed understanding of acts challenging. Given the fact that the majority of data regarding the current licencing procedure was retrieved via different laws, a great share of working hours were used to get familiar with legal terminology.

In regards to sub question b, the most prominent limitations occurred due to time restrictions. The initial ambition to comprehensively analyze foreign licencing procedures including interviews was not feasible, therefore some important beneficial approaches might not have been identified in the scope of this study. Appendix IV gives insight in all changes made regarding the methodology. Literature encountered mainly focuses on OWF in combination with aquaculture, in some cases on OWF and

other forms of renewable energy production as these are the most promising multi-use combinations in the North Sea. In Germany, extensive knowledge on technical and physical aspects of offshore activities available, which became evident in available literature. Therefore the absence of multi-use in practice was considered remarkable. As for active fishing, no licences can or have to be inquired (England, Scotland, Denmark), issues with licencing in this regard therefore were not evaluated. Multiuse is still in its infancy and research has been focusing on technical feasibility, environmental issues and socioeconomic benefits rather than licencing issues or the policy context, however prospective research should emphasis on this. In retrospect, it remains questionable how useful a comparison with SSNSC was since identified obstacles ask for a national approach.

In relation to sub question c, the time frame for the stakeholder meeting was relatively short, as there was merely time to discuss the last two obstacles (perception of process & communication with applicants). All things considered, the meeting was marked by a very interdisciplinary character and a variety of discussion concerning all aspects of multi-use. Due to the interconnectedness of obstacles and vast experiences and knowledge of stakeholders, guiding the meeting by means of a more structured discussion that focused on solutions based on foreign approaches was not achieved, even after multiple attempts and reminders of the goal of the meeting. On the other hand, it was precisely this fact that made it clear how engaged the participants were in the discussions around multi-use and further recommendations could be formulated on basis of made statements.

## 6.2 Discussion on Content

This research including the problem frame is based on the preceding assumption that a variety of issues regarding the licencing procedure inhibit the realization of multi-use on a national level. Although a variety of issues were identified, the study demonstrates that these can only partly be linked to the licencing and linked procedures. In line with other authors, data suggests that underlying issues regarding governmental objectives as well as initiators prerequisites need to be addressed in order to resolve obstacles and realize multi-use (Depellegrin, et al., 2018). Although the issue of a missing assessment framework for the implementation of multi-use has been flagged, impeding impacts on the actual acquisition of a licence per se were not validated. In this regard, non-included spatial components regarding user allocation currently displays an issue which needs to be addressed in future policy developments (Schultz-Zehden, et al., 2018). Allocating possible licences within predetermined usage zones, taking into account environmental factors, societal objectives and user concerns might reveal solutions for this (Krause & Stead, 2017). In line with Schultz-Zehden, et al., 2018 and Christie, Smyth, Barnes, & Elliott, 2014 prospective multi-use developments appear to be less complex if they are included during the OWF development process as part of tender procedures, yet long-term investment security by means of appropriate supportive licencing and policies are crucial as well (Jansen, et al., 2016).

Furthermore, deficiencies in the existing regulatory environment, including its pillar structure, have frequently been identified as obstructive when it comes to cross-sectoral developments in the marine environment (Depellegrin, et al., 2018; Krause & Stead, 2017; Jones, et al., 2016). Rather than using an integrated approach, sectoral objectives, particularly marine renewable energy development appear to be the main driver for marine planning, not taking secondary activities into account sufficiently and thereby impeding cross-sectoral existences (Jones, et al., 2016). Other North Sea countries have acknowledged the need for colocation of compatible activities in key policy documents, however different types of activities as well as diverging environmental conditions as well as space availability challenge the applicability in the Netherlands.

The study highlights that pilot initiators lack both financial resources for compliance with legal requirements as well as economic incentives for multi-use, an issue that has been flagged by other authors also on an international level (Schultz-Zehden, et al., 2018; Corbin, Holmyard, & Lindell, 2017; Stuiver, et al., 2016; Depellegrin, et al., 2018), especially for offshore aquaculture (Shainee, Ellingsen, Leira, & Fredheim, 2013; Sulaiman, et al., 2013; Krause & Stead, 2017; Guillen, et al., 2019). Although both future needs and economic potential for both seaweed and mussel offshore production have been indicated (Klijnstra, Xiaolong, Van Der Putten, & Röckmann, 2017), the economic feasibility remains uncertain and depends on financial benefits and operational synergies with the OWFLH. Despite both national and international objectives for increased production of aquaculture including European subsidies (€1.72 billion over the period 2014–2020 through the European Maritime and Fisheries Fund) are in place, contradictions in national and EU policy lead to an overall lack of growth in the aquaculture sector and therefore also in combination with OWF (Guillen, et al., 2019). Due to its small-scale character and high competition in combination with high acquisition- and operations costs, the European aquaculture industry lacks sufficient knowledge exchange and technology development driving innovation regarding multi-use integration (STECF, 2016). Providing funding for selected projects has been identified as vital in order to address this issue and balance competition from international market pressures (Guillen, et al., 2019). Especially Mussel production, vital to overall Dutch aquaculture production, has stagnated in the last two decades (Kamermans, Soma, & van den Burg, 2016; Guillen, et al., 2019) and public funding is essential if the EU's Blue Growth targets are to be met (Guillen, et al., 2019). In accordance with Stuiver, et al., 2016, the results indicate that clear ambitions regarding nature restoration, food production and other forms of renewable energy production could balance offshore activities, however appropriate means for funding are nonetheless essential (Guillen, et al., 2019). Other North Sea countries have equated sectoral objectives within their national agendas, yet comprehensive multi-use development in practise is not perceptible. Reasons for this, likewise can be found in missing value chains and economic benefits. Opposing the initial assumption that the licencing procedure is a major obstruction to the overall multi-use success, the above mentioned issues appear to be the real obstacles.

In line with Stuiver, et al., 2016, possible physical risks were found to make OWFLH reluctant to multi-use development and business cases hard to scale up (Van den Burg, et al., 2017). State intervention, especially facilitation of negotiations between OWFLH and secondary users in terms of a legal framework in the Netherlands but also internationally is missing, which could stimulate increased multi-use implementation. The fact that initiative for multi-use is left to the market does not seem to stimulate the realization to an allegedly desired degree, which has been identified by other authors (Stuiver, et al., 2016).

Data suggests that the long-term effectiveness of nature restoration efforts within OWF highly depend on arrangements for the post operation phase, yet relevant measures have not been taken, both nationally and internationally. Without such measures, the effectiveness of nature restoration efforts is highly questionable. In order to protect newly created ecological value, legal protection is vital (Schultz-Zehden, et al., 2018). In relation to commercial pilots, business plans seem to lack long term strategies for the post operation phase, however conducted interviews did not take entrepreneurs into account, leaving their perspectives regarding long-term strategies unexplored. Long-term strategies, both on behalf of the government as well as initiators are essential in order to safeguard long-term success and effectiveness (De Vrees, 2019). The study demonstrates a link between the missing vision of long-term development and the current lack of ambition as increased efforts could facilitate future security when it comes to the effectiveness of current efforts and investments, which is considered as vital for the EU's integrated maritime policy (Douvere F. , 2008).

With respect to financial resources of pilot initiators, which are needed for safety provisions required in licences, appropriate multi-use funding schemes are missing in order to support pilots with financial means to cover incurred costs. This also accounts for pilots contributing to the ambitions mentioned in the North Sea 2030 strategic agenda, an issue that occurs throughout Europe (Schultz-Zehden, et al., 2018).

The perception of the licencing procedure has been proven to be marked by a negative attitude, however it remains worthy of discussion whether it is the duty of the government or the pilot initiator to be aware of the legal environment and its requirements and if this is the only reason leading to the problematic perception. Due to the novelty of this new paradigm, foreign regulatory systems appear to be similarly complex and not suitable for multi-use developments. If the legal environment would be simplified for purposes of faster economic activity development it remains questionable if environmental and human safety remains ensured sufficiently. Ultimately, it remains a matter of individual perspective whether or not the licencing procedures is perceived as obstructive.

According to interviewees, the upcoming version of the Policy Document on the North Sea (part of the National Water Plan 2022-2027) will be more specific and provides guidance on how to deal with requests for shared use in OWFs. One interviewee mentioned that commonly criticized aspects will be addressed through this, however its remains unknown whether or not this will be perceived as sufficient by applicants and facilitate multi-use development. Foremost, the assessment of user priority as well as the facilitating role regarding negotiations with OWFLH need to be addressed, an issue that has been flagged by MUSES (Schultz-Zehden, et al., 2018). In line with Wright, et al., 2016 and Wright, 2016, the consent on behalf of OWFLH need to be addressed both in future research as well as in political agendas.

## 7 Conclusion

This thesis aimed to identify current obstacles in Dutch licencing procedures regarding multi-use in offshore wind farms and how they can be resolved by means of corresponding approaches of selected surrounding North Sea countries. Conclusively speaking, a number of aspects prevent comprehensive multi-use development, yet reasons for this predominantly cannot be found in the licencing procedures but much more in underlying issues. Due to the recent evolvement of the multi-use concept as well as different spatial, environmental and political circumstances, beneficial foreign approaches were perceived to be rather scarce. National issues ask for tailor made solutions, if in the context of increasing spatial pressures multi-use is seen as a resolution of user-user and environment-user conflicts. The success of comprehensive multi-use implementation in the Dutch part of the North Sea is dependent on high-political willingness and declaration to support these developments, both regulatory and financially. To date, a number of issues preventing these developments were identified: An important issue is the lack of ambition concerning concrete target setting regarding nature restoration, food production and other forms of renewable energy production. The superiority of wind energy production occupies the distribution of importance when it comes to affairs in the EEZ and other emerging sectors lack state support regarding the establishment of equitable conditions. This is reflected in the unclear status of nature restauration and other activities after the operation phase of OWF challenging long-term effectiveness of investments. SSNSC have not developed appropriate visions or strategies regarding this issues yet either. Although SSNSC do have more concrete objectives regarding other sectors in place, a particular beneficial effect on multi-us cannot be noticed. Particularly for aquaculture, concrete national target settings are in place in SSNSC, yet no economic incentives were identified which would drive these ambitions. Space efficient use of marine space and cross-sectoral integration is stressed throughout all SSNSC as well as the Netherlands, although the emphasis lies on *promotion*, *encouragement* and *desirability*. Cross-sectoral objectives are included in foreign policy documents which may facilitate future multi-use developments, yet the novelty of the multi-use concept challenges existing regulatory systems whereby adoptions to the Dutch system do not necessarily yield any benefits.

This study finds the successful realization of multi-use dependent on the consent of OWFLHs. A regulatory framework for negotiations between the primary and secondary user is missing, impeding access to OWF and making licences dependent on the consent of OWFLH. In conclusion it appears that state interference lacks in order to facilitate negotiations between secondary users and OWFLHs. This aspect of the research found the overall resistance of OWFLH a contributor to the impediment of permissions, hence hindering multi-use development. Reluctance to secondary users is also perceptible in SSNSC, hence foreign approaches are not particularly valuable in this regard. Allocating secondary user zones within OWF in spatial planning as well as integration in an early development stage can resolve these conflicts and enable coordinated multi-use implementation. This also accounts for the user priority and suitability of secondary users, an issue that might play a prospective role, especially in relation to spatial planning.

Further issues appeared in terms of upscaling of pilots and the uncertainty that arises with increasing environmental impact and linked likelihood for non-approval of undertakings. Repeatedly, colocating different activities within close proximity brings new challenges with it which need to be addressed in the context of local circumstances due to which foreign approaches might not match the existing system in the Netherlands.

The results indicate that a lack of available financial resources make compliance with legal requirements in terms of safeguarding multi-use zones (e.g. by marking areas with buoys) challenging for pilot initiators. The findings state that financial constraints are a major obstacle for initiators, whilst the development of value chains derived from multi-use activities has not been sufficiently addressed either. This study finds this not to be of relevance when it comes to licencing aspects however the lack of financial incentives displays an underlying problem in the economic attractiveness of multi-use activities. Addressing the long-term effectiveness of current investments when it comes to nature restoration and commercial pilots is essential in order to stimulate current developments. This is currently not the case in both political decisions as well as business plans. Foreign approaches did not appear to offer any kind of answer in regards to these aspects, however missing value chains display a critical issue as well. Conclusively, if multi-use activities cannot cope with highly competitive market conditions, a collective dialogue should determine whether or not multi-use is worth achieving, and if so, what measures should be taken in order to do so.

Next to this, the study found the overall perception on the licencing procedure to be obstructive and marked by a lack of understanding. The predominant reason for this was identified as absent knowledge, however financial resources for legal guidance play a role as well. Initiators seem to be unaware of relevant licences and competent authorities, but also the necessity of licences and their beneficial effects on maintaining human and natural safety may not be understood enough by initiators. Understanding why exactly the licencing procedure is perceived problematic asks for further research. The study, however, found this issue linked to the communication with applicants, which is perceived as problematic by initiators as well. SSNSC including their initiators appear to face similar issues regarding the applicability of existing regulatory frameworks in relation to innovative designs. In conclusion it appears that SSNSC in many ways face similar issues in relation to financial incentives, interactions between secondary users and OWFLH as well as a sectoral regulatory environment. Adopting foreign approaches in the Netherlands in order to obtain beneficial changes is challengeable.

## 8 Recommendation

The recommendations listed in this chapter came forward from insights of the stakeholder meeting that was held to answer sub-question c and are not arranged in a particular order. It is also not further specified who should possibly take the lead when tackling the listed points.

### **Develop clear targets for non-wind sectors**

In order to equate the access of other sectors to OWF, a first step is to acknowledge the importance of those on a high political level, especially within the scope of the ambitions mentioned in the Strategic Agenda North Sea 2030. By doing so, other sectors can be assigned political importance, which ultimately will be of benefit to multi-use developments. This will also enable a stable and predictable environment, which can be considered crucial for initiators. An important tool in achieving this is the development of roadmaps for usage specific integration e.g. aquaculture and OWF. Objectives could benefit from including clear steps on how to achieve them. When establishing ambitions for other relevant sectors, the far-reaching consequences of those ambitions should be estimated and considered as well, especially in regards to effects on the production of offshore wind energy.

### **Make funding schemes available**

If, due to political or societal choices, particular multi-use activities are perceived to be of overall value to society, appropriate funding schemes should be made available in order to simulate these developments. This should also account for the conduction of EIAs, allowing pilot initiators to include possible scaling-up into their business cases. Funding schemes have reference to both the creation of national funding schemes as well pointing out EU subsidies relevant to multi-use combinations. Furthermore, other forms of financial incentive creation play a crucial role in making multi-use combinations financially viable. Special attention should be given to the creation of local value chains and markets, supporting this. The availability of funding schemes and subsidies needs to be communicated to entrepreneurs that are not aware of which financial resources may be unlocked for their businesses.

### **Assign specific multi-use areas within the scope of spatial planning**

Within the scope of spatial planning and as a result of developed targets, usage specific zones within OWF should be developed, taking into account political agenda setting, environmental conditions, socio-economic interests as well as points of societal desire. By doing so, particular zones within OWF can be assigned to specific usage types, acting as a framework for secondary user identification and integration. Furthermore, this should act as a baseline of identifying available space within OWF, taking into account safety distances and shipping lanes. Even though most multi-use combinations are not at a fully commercial level yet, knowledge gained from pilot implementation should give input on future strategic policies in this regard. Investor interest may be increased once development is less uncertain due to assigned areas. Taking into account best practice approaches in regards to stakeholder involvement in decision making is a crucial element which urgently should be addressed.

### **Include secondary activities in an early development phase of OWF**

In order to avoid or limit conflicts between OWF operators and other users, early integration of secondary activities in OWF construction plans is vital. Not only can this act as a mean of conflict resolution but also enables OWF developers to take requirements of other users into account, especially in regards to the development of healthy business cases. Furthermore, cross-sectoral licencing can be included at this stage, thereby avoiding many of the otherwise occurring issues.

### **Create a multi-use protocol/ roadmap**

Since multi-use licencing currently remains a case to case decision, a protocol or multi-use roadmap for both competent authorities as well as initiators could help to streamline current approaches and prepare applicants for the eventual course of events. Aspects such as the preliminary consultation and the facilitation of negotiations on behalf of governmental institutions in relation to the OWF operator and secondary users should be included. By facilitating sessions in which OWFLH and initiators can discuss conditions and possible arrangements for co-existence, a balance between both may be achieved.

### **Establish a long-term vision of OWF**

For the establishment of long-term effectiveness of investments, especially when it comes to nature restauration measures, a strategic vision in regards to future development in OWF is vital. Such a vision should include considerations for continuous monitoring, safeguarding or reservation of sites in question. As such a long-term vision will influence different sectors, discussions with relevant stakeholders need to take place, so that different interests, viewpoints and ideas can be shared and included in considerations.

### **Create a one-stop-shop for applicants including comprehensive consultation**

In order to facilitate more streamlined procedures in regards to multi-use licencing, a one-stop-shop should be implemented. This should tackle communicative issues, most notably legal guidance on behalf of appropriate authorities. Pilot initiators require this in order to ensure compliance with legal requirements in their business cases. Actual inquiries for multi-use licences should be handled by a single authority, to avoid confusion on the part of the requesting party. Notable is that is may be tackled by the introduction of the *omgevingswet* in 2021.

### **Create pilots to test economic feasibility**

Pilots under real conditions regarding policies and financial support should be held for different multi-use combinations, as the execution of today's pilots are permitted due to exemptions. Full-on pilots should be performed, that especially look at legal bottlenecks to see how scaling-up pilots within existing regulations is possible, while looking at operationalization within pilots. The real working environment should be tested to see where the main constraints arise in terms of legal and financial restrictions and difficulties. As increasing anthropogenic activities within one specific area could also make the assessment of cumulative effects necessary, especially in regards to potential environmental impacts, this is another aspect that could be tested using pilots that aim for real life

conditions. Approaches that allow and adopt learning by implementing could be beneficial to facilitate operational pilots on market size that are able to demonstrate the safety of combining activities while being profitable.

#### **Update and maintain available information**

Enabling clear communication from competent authorities to the public may help to avoid confusion on side of the initiators in an early stage of orienting and preparing themselves for an application. Therefore, websites need to be checked for correctness of displayed information on a regular basis. Including flow-charts of the actual licencing processes could help creating better understanding.

#### **Establish international knowledge exchange platform concerning multi-use**

Both authorities as well as entrepreneurs may benefit from international shared knowledge and experience concerning multi-use developments. This also accounts for experiences in dealing with EIAs of multi-use activities and surrounding regulations. A more and more harmonized policy environment across Europe, based on same definitions and requirements, may be of advantage for multi-use implementations and could promote collaborations.

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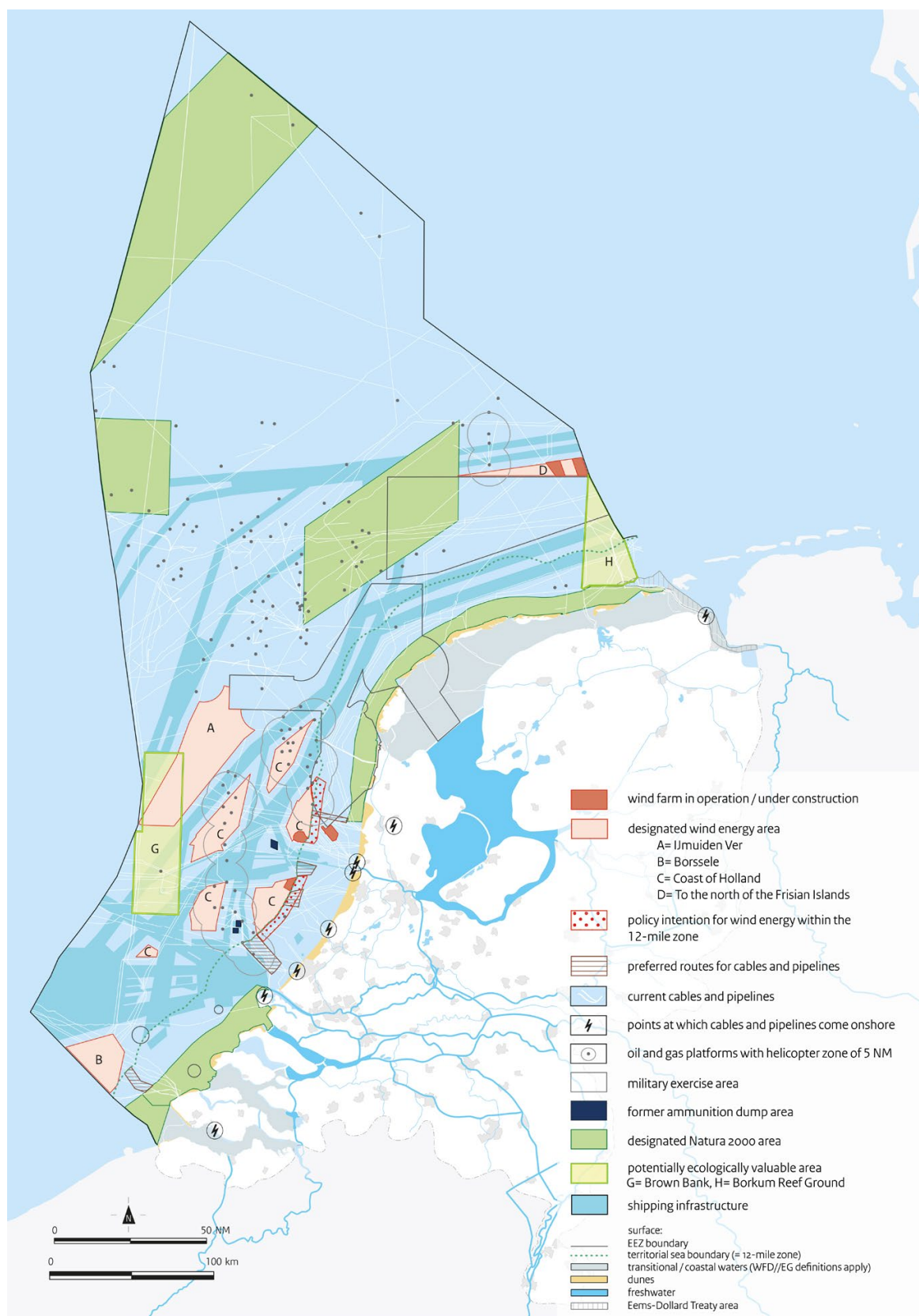
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## Appendix I - Integrated maritime spatial policy map



## Appendix II - Assessment framework for maritime activities (BNN)

### Test 1 Definition of spatial claim & application of precautionary principle

- Spatial claim
- Ecosystem approach and precautionary principle
- Effects of existing and new activities



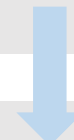
### Test 2 Location choice & assessment of space / time use

- Experience value
  - Multiple use of space
  - Coordination of activities of national importance
  - Alternatives
  - Preservation of archaeological and cultural-historical values
  - Term of the permit
  - Delete objects
- ➔ **If significant effects appear, continue with test 3. Otherwise decide permit yes (incl. conditions) or no.**



### Test 3 Utility & necessity

- Demonstrate national interest
  - Substantiation, possibly CBA
  - Overriding reasons of overriding public interest in regards to the Nature Protection Act
- ➔ **If activity is permitted, follow test 4.**



### Test 4 Mitigation

- Mitigating measures in mitigation plan in regards to the Nature Protection Act
- ➔ **If mitigation plan is sufficiently substantiated, test 5 will follow.**



### Test 5 Compensation of effects

- Compensation statement in compensation plan for Natura 2000 sites in regards to the Nature Protection Act

Adapted from: (Ministry of Infrastructure and Environment and Ministry of Economic Affairs, 2015)

## Appendix III - Current wind farm status and establishment process

Areas for wind energy at sea in the Dutch part of the North Sea are designated in the Policy document on the North Sea (Ministry of Infrastructure and Environment and Ministry of Economic Affairs, 2015). So far, six areas for wind energy at sea have been designated: Borssele, Hollandse Kust Zuid including Luchterduinen, Hollandse Kust Noord including Prinses Amalia and Egmond aan zee, Hollandse Kust west, IJmuiden Ver and Ten Noorden van de Waddeneilanden including Gemini (Rijksoverheid, n.d.b). Within this, the locations of possible OWF are determined and simultaneously the construction and operation of OWF outside of these areas forbidden (Kafas, et al., 2018).

In order to give site specific requirements needed for the development of individual OWF, the minister of Economic Affairs and Climate Policy (EZK) in collaboration with the minister of Infrastructure and Water Management (I&W) commissions wind farm site decisions, which are developed by RWS (Kafas, et al., 2018). According to the *Wet windenergie op zee* the ministers EZK and I&W simultaneously are the initiators of this procedure (Eerste Kamer der Staten Generaal, 2014). The uniform public preparation procedure of the General Administrative Law Act (*algemene wet bestuursrecht*) applies to the adoption of wind farm site decisions (Eerste Kamer der Staten Generaal, 2014). According to the *wet windenergie op zee*, the preparation of wind farm site decisions must include an assessment of various aspects such as fulfilment of societal functions, possible effects on third parties, the ecological impact, financial aspects as well as efficient connection (Minister van Economische Zaken en Klimaat, 2018). Besides site specific information regarding environmental characteristics needed for tender procedures, the wind farm site decisions also include site specific rules for building and operating, used as knowledge base in tender procedures (Netherlands Enterprise Agency, 2016). Due to the fact that a multi-use framework has not been established yet, multi-use is not included as a prerequisite in wind farm site decisions, however the requirements are included in the *besluiten tot vaststelling van de veiligheidszone*, applying to all operational parks except Gemini as surveillance and enforcement costs are high and due to its location far offshore the need for multi-use is low (Minister van Economische Zaken en Klimaat, 2018; Wassink, 2018). General rules for the construction and operation of OWF are outlined in the water decree (Netherlands Enterprise Agency, 2016).

In order to assess possible negative impacts on the local environment, the government is required to perform an Environmental Impact Assessment (EIA). Thereby, OWF licence holders are not required to perform EIA themselves (Kafas, et al., 2018; Wassink, 2018). Before the EIA can be conducted, a memorandum on scope and detailing (*Notitie Reikwijdte en Detailniveau*) has to be developed in which the central government makes the procedure of the EIA transparent and tangible. The memorandum on scope and detailing includes a description of possible alternatives as well as relevant environmental aspects, which are relevant for the decision making process (Wassink, 2018). After these formal procedures terminates, the tender procedures in which windfarm licence holder are determined can start. The licence holder with the most favourable bid wins the tender procedure and is awarded with the licence.

Projects regarding nature recovery have been focusing on the reintroduction of European flat oyster (*Ostrea Edulis*). Pilots for this have been introduced in Luchterduinen and Gemini and are subject to a permit under the WNb as significant negative impacts on N2000 objectives might occur. The N2000 areas (Borkum-Riffgrund, Noordzeekustzone) are located outside of the pilots sides however external effects might occur. The pilot licence was requested by the windpark licence holder (Luchterduinen: Eneco, Gemini: Gemini windpark) in collaboration with Wereld Natuur Fonds (WNF). Within the scope of the licence inquiry, an appropriate assessment was commissioned and conducted by Bureau

Waardenburg, a private research and advisory bureau for ecology and landscape. Within the appropriate assessment, the project plan undergoes tests described in the WNb, with focus on the effect of objectives regarding species conservation (birds, habitats and other species). Also the cumulative effects, i.e. the effect the reintroduction of oysters in combination with other projects has needs to be evaluated and if necessary, mitigation measures limiting the negative impacts have to be introduced in order to compensate for eventual damage. Both licences have been granted by the ministry of LNV. (Ministerie van Landbouw, Natuur en Voedselkwaliteit, 2018; Van der Have, 2018)

In Borssele I and II, tubular structures were granted to the windfarm licence holder Ørsted as a mean of creating a fish shelter for Atlantic cod (*Gadus morhua*) under the *Waterwet*. The difference to the reintroduction is that no species is actively being introduced but a permanent construction on the seafloor is established. (Minister van Infrastructuur en Waterstaat, 2019)

## Appendix IV – Methods overview and substantiation of made choices

The assumption of licencing procedures concerning multi-use in OWF being complex had to be verified before looking for resolving approaches in other countries. Therefore it was necessary to become familiar with applying laws and regulations before identifying which issues are occurring and where exactly in the process these issues arise. Not all previously raised supportive-questions needed to be answered to map out the process. It was also not necessary to use the initially planned country (see figure 5) profiles to map out differences in procedures per selected activity, as the same licences apply to a multitude of activities.

|                  |                                                                    | Selected additional activities within OWF in the Netherlands                                                              |             |                  |                       |                     |      |                    |                   |                   |                      |     |                                                       |
|------------------|--------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-------------|------------------|-----------------------|---------------------|------|--------------------|-------------------|-------------------|----------------------|-----|-------------------------------------------------------|
|                  |                                                                    | Tidal Energy                                                                                                              | Wave Energy | Mariculture Fish | Mariculture Shellfish | Mariculture Seaweed | IMTA | Demersal fisheries | Pelagic fisheries | Passive fisheries | Building with Nature | MPA | Obstacle per selected aspect                          |
| Selected Aspects | Conditions derived from tender procedure / wind farm site decision | <div>Step 1 &amp; step 3</div> <div>Step 3</div> <div>Basis for search criteria in sub-question b</div> <div>Step 3</div> |             |                  |                       |                     |      |                    |                   |                   |                      |     | <div>Step 3</div> <div>Answer to sub-question a</div> |
|                  | Applicable national policies and regulations                       |                                                                                                                           |             |                  |                       |                     |      |                    |                   |                   |                      |     |                                                       |
|                  | Responsible authorities                                            |                                                                                                                           |             |                  |                       |                     |      |                    |                   |                   |                      |     |                                                       |
|                  | Structure of responsible authorities                               |                                                                                                                           |             |                  |                       |                     |      |                    |                   |                   |                      |     |                                                       |
|                  | Requested documents / evidence                                     |                                                                                                                           |             |                  |                       |                     |      |                    |                   |                   |                      |     |                                                       |
|                  | Costs of licensing                                                 |                                                                                                                           |             |                  |                       |                     |      |                    |                   |                   |                      |     |                                                       |
|                  | Average time for approval                                          |                                                                                                                           |             |                  |                       |                     |      |                    |                   |                   |                      |     |                                                       |
|                  | Other (additional aspects)                                         |                                                                                                                           |             |                  |                       |                     |      |                    |                   |                   |                      |     |                                                       |
|                  | Concluded obstacle per selected secondary activity                 |                                                                                                                           |             |                  |                       |                     |      |                    |                   |                   |                      |     |                                                       |
|                  |                                                                    |                                                                                                                           |             |                  |                       |                     |      |                    |                   |                   |                      |     |                                                       |

FIGURE 5: INITIALLY PLANNED COUNTRY PROFILE

Interviews were held with representatives on behalf of different sectors and governmental institutions in addition to conducting a literature study to answer sub-question a.

Identified obstacles concerned underlying issues influencing the licencing procedure, but since there currently is no knowledge exchange platform concerning multi-use licencing in other North Sea countries (given the novelty of multi-use), potential beneficial approaches might lay in foreign experiences, however, key lessons remain unknown, asking for a comparable analyses. In order to make the investigation of approaches of SSNSC comprehensible and to set a clear focus, search criteria were formulated out of the identified national obstacles. In the initial planning of this project, additional interviews were planned along with literature study, to gather information on the search criteria, in order to learn from experiences and viewpoints on the matter. This step had to be left out due to time constraints, since gathering information on the national licencing procedure regarding multi-use applications was complex in addition to the fact that identifying the national obstacles took a relatively long time compared to the project duration. This led to the choice of using just the literature study to acquire an overview of foreign approaches. Conclusions derived from this literature study were used to answer sub-question b.

The conclusions of sub-question b were then used as starting point of an open discussion for an stakeholder meeting held with former interviewees as well as representatives of governmental institutions and respective economic sectors. A blueprint of the meeting can be found in Appendix XIV. The goal of the meeting was to detect possible solutions, functioning as the basis for the formulation of recommendations regarding the streamlining of the licencing procedure and the way forward to implement multi-use in OWF. As it became evident that the identified obstacles are not likely to be resolved via foreign comparison, but rather via national choices and steps forward, sub-

question c is answered on basis of statements derived from the meeting concerning such choices and steps.

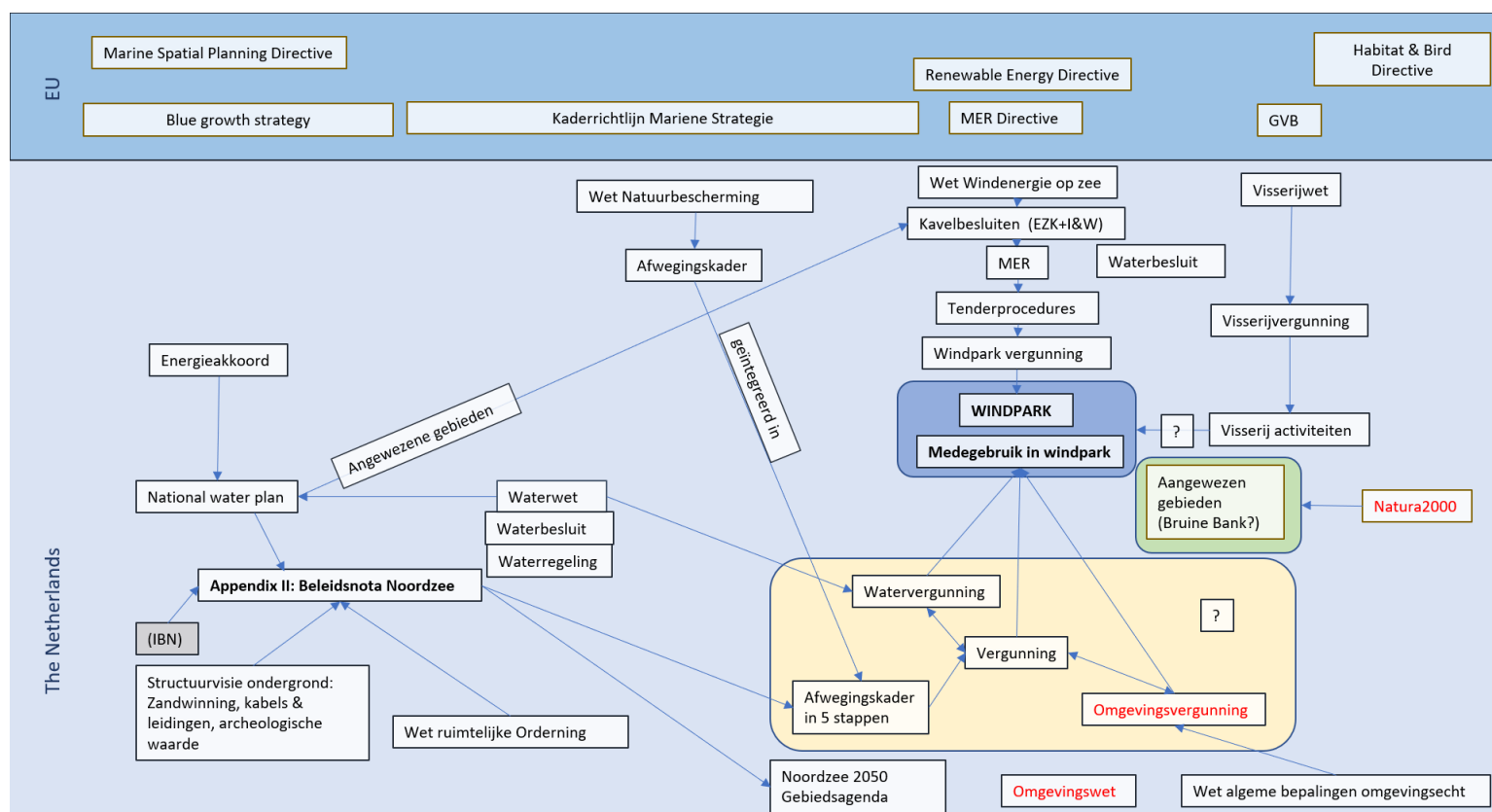
The conclusions of all three sub-questions were then merged in order to give answer to the main research question. The methods used to write this thesis are explained more detailed in chapter 2: Methods.

## Appendix V – Inventory of key words

Pre-planned key-words are marked **bold**. Key-words are used per SSNSC in English, Dutch and German.

**Aquaculture licence**, Blue bio-economy, Current use of MPA's, **Combined activity**, **Co-usage**, **Co-existence**, Colocation, EEZ, EIA, **Fishery licence (pelagic, demersal, passive)**, Inclusion of activities, **Integrated multi trophic aquaculture (IMTA)**, **Licencing application/ procedure**, **Mariculture (fish/ seaweed/ shellfish)**, **Mariculture licence**, Marine development plan(s), Marine licencing, Marine plan/ strategy, Marine policy/ roadmap, Marine resources, **Marine spatial planning (MSP)**, **MPA designation**, **MPA multi-use**, **Multi-use (action plan)**, Multi-use (offshore) aquaculture/ mariculture, Multi-use energy, **Multi-use licencing procedures**, Multi-use sites, Multi-use subsidies, **Multiple use of marine space**, National marine plan, National North Sea policy, **Natura 2000 designation**, **North Sea (Strategy)**, Offshore multi-use, Offshore tidal energy, Offshore wave energy, **Offshore Wind energy/ farm/ industry**, **Offshore wind licencing**, Offshore wind safety zone, **Operational licence/ permit procedure**, Part of the North Sea (per country), Permitting North Sea activities, **Pilot project**, **Policy Document on the North Sea (per country)**, **Regulatory maritime policies**, Renewable energy at Sea, **Sea (use) management**, **Spatial strategy or vision**, **Tender procedure**, **Tidal energy licence**, Vision North Sea (short-term + long-term), **Wave energy licence**, **Water Act**, **Windfarm Site Decisions**

## Appendix VI – First overview of applicable laws and policies



## Appendix VII - Interview blueprint

### Goal of the interviews

The interviews aimed for additional information on the current Dutch licencing procedures regarding multi-use activities in OWF, thereby supplement data gaps identified during literature research (methods: step1). The second aim was to examine experienced obstacles in the licencing procedures preventing multi-use realization in OWF in the Netherlands. Therefore, the interviews aimed to answer the first sub-question: *What are current obstacles in the Dutch licencing procedures regarding multi-use in offshore wind farms?*

### Research population

The research population consisted of relevant actors regarding the licencing procedures of additional activities within Dutch OWF. These are: Members of competent governmental institutions and authorities, representatives on behalf of entrepreneurs and the respective economic sectors.

### Interviewees

The interviewees acted as both informants regarding knowledge gaps identified during step 1 as well as respondents in regards to experienced obstacles (step 3). A detailed list of members of the CoP was inquired, yet not to be shared due to privacy reasons. Therefore, interviewees were selected based on public information online and based on recommendations on behalf of the problem owner. A list of the interviewees can be found in Appendix X.

### Inventory of main practical constraints and implications

Accessibility of interviewees, privacy issues as well as language were the main constraints linked to the interviews. Uncertainty arose whether or not interviewees on behalf of governmental institutions would wish to talk to students about sensitive topics such as obstacles in national licencing procedures. Furthermore, confidentiality of contents had to be discussed with each individual interviewee as the final report is available to the public. Also the language of communication was considered as a possible issue as involved parties were Dutch, however the interviews were proposed in English.

### Orientation on questionnaire mode:

The interview were held via telephone or Skype, with the authors being at VHL University of Applied Sciences in Leeuwarden, The Netherlands. In case the interviewee wished to meet up in person, the visiting address of the Dutch Enterprise Agency in The Hague (Prinses Beatrixlaan 2, 2595 AL, The Hague) was proposed as a location to conduct the interview. Furthermore, the interviews were also conducted at a requested location.

### Attachments Used

The first version of the visualization of the current regulatory environment was used in the interviews in order to confirm or complement data.

### Required analysis

All held interviews were audio-recorded and then transcribed word-by-word. Inductive and deductive coding were both applied in order to analyse the transcribed interviews. The inductive codes refer to data collected during the interviews (i.e. frequently or additionally mentioned terms that generated codes). Furthermore, the above mentioned aspects were used for deductive coding. The software-program MAXQDA was used to subdivide and code the interviews into segments. The summary of such a segment functioned as description of identified obstacles.

## **Confidentially**

Interviewees were asked consent about audio-recording the entire conversation. Furthermore, they were informed that made statements (without mentioning names) would function as basis to answer sub-question a of this research, to which all interviewees agreed.

## Appendix VIII - Interview guide

### Pre-interview small talk

Before the initial start of the interview, some sentences and questions will help to create an open and warm atmosphere. This phase will also be used to get to know the interviewee a bit, in particular his/her role and task in regard to licencing procedures.

### Information needs

**1** Licencing procedure: supplementing knowledge gaps (from step 1) to describe the administrative and legal structure of licencing procedures regarding multi-use in OWF

- Knowledge

**2** Obstacles in licencing procedure: identifying (experienced) obstacles regarding the licencing procedures of multi-use in OWF

- Opinion
- Experiences
- Attitude
- Knowledge

### Variables, Questions & Aspects

| Conceptual variables | Operational variables (also called raw variables or indicators) | Interview questions                                                                       | Aspects/ Possible expected outcome of question                                                                                                                                                                            |
|----------------------|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Communication        | Interdepartmental                                               | How does the interdepartmental communication regarding multi-use applications look like?  | Mutual knowledge what associates are working on, Reporting to other departments, Type of communication (meetings, presentations, email)                                                                                   |
|                      | Inner departmental                                              | How does the inner departmental communication regarding multi-use applications look like? | Mutual knowledge what associates are working on, Reporting to supervisors, Type of communication (meetings, presentations, email)                                                                                         |
|                      | With applicants                                                 | What does the communication with applicants look like?                                    | Response time, Complete answers to questions, Applicants understand who is competent, Applicants are aware of time frames, Applicants confidentiality in procedure, Applicants are being updated on status of application |
| Structure            | Hierarchy                                                       | Which hierarchy is handled for the licencing procedure?                                   | Employees are aware of their role within the process, The hierarchy is helpful for the procedure<br>It is clear who works for whom, who prepares what for whom                                                            |
|                      | Transparency                                                    | How transparent is the process of gaining/ handing out licences?                          | Applicants know what is happening beforehand, Conditions are clear<br>Applicants have trust their application is being handled well, (from Cambridge dictionary: trust, fair , hones)                                     |

|                   |                                                                                         |                                                                                                                                                                                                       |                                                                                                                                                     |
|-------------------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | Allocation of competence                                                                | What does the allocation of competence regarding licencing procedures look like?                                                                                                                      | Allocation is clear/ unclear<br>It is clear who works for whom, who prepares what for whom, Allocation is functional                                |
| <b>Finance</b>    | Workload (per individual)                                                               | What is the workload for multi-use applications?                                                                                                                                                      | Workload is manageable, Enough people are at place, Enough expertise is at place                                                                    |
|                   | Costs of licence                                                                        | How much does it cost an applicant to gain a licence?                                                                                                                                                 | Costs of licences promote multi-use                                                                                                                 |
| <b>Policy</b>     | Influence of current policies                                                           | How do current policies influence the licencing procedure?                                                                                                                                            | Support of current policies regarding multi-use in OWF, Identifying gaps in current policy landscape                                                |
|                   | National priorities                                                                     | The energy transition is regarded as a national priority, whereas nature protection and mariculture are not. How does this influence licencing procedures regarding multi-use in offshore wind farms? | Effect of prioritizing a sector/ activity                                                                                                           |
|                   | Degree of Support / benefit of current Laws / regulations / decrees regarding multi-use | How is multi-use in offshore wind farms supported through current laws/regulations/decrees?                                                                                                           | Identifying gaps in current policy landscape                                                                                                        |
|                   | Predictability of changes                                                               | How predictable are changes of policies regarding multi-use licence?<br><br>And<br><br>How does this influence the licencing procedure?                                                               | Experienced or expected effects of policy changes on the successful realization of multi-use project                                                |
| <b>Assessment</b> | Handling of missing/ unclear scientific evidence regarding EIAs                         | How does the sometimes unclear scientific evidence regarding EIAs influence licencing procedures?                                                                                                     | Assessment of cases is clear/unclear, enough knowledge to decide on applications is (not) available                                                 |
|                   | Quality and extent of evidence / information                                            | To which extent and in which quality does an applicant have to hand in evidence/information for the assessment?                                                                                       | Number of documents, Calling in consultancy firms, consistency in demanded documents                                                                |
|                   | Documents/ Evidence an applicant has to submit to competent authorities                 | How does the assessment of documents/ evidence an applicant has to submit to competent authorities look like?                                                                                         | Steps are clear/ unclear, Every application is assessed the same way, The same people are involved in the assessment (consistency of working group) |
|                   | Time needed to complete licencing procedure/ for approval                               | What is the time needed to complete the procedures around multi-use licencing?                                                                                                                        | Time frame is clear, The processing time does not exceed the given time frame                                                                       |

### **Formats for answering and note-taking**

Open questions without field coding

Audio-recording

### **Instructions for asking the questions**

- Introduce topic
- Making sure interviewee understood what is asked
- Elaborate if needed
- Ask follow-up questions
- Change order of questions if theme is brought up earlier by interviewee, but also return to where the last question was

**Order of questions** is described in the Interview setup hereafter

**Introduction, conclusion and layout** added in the Interview setup hereafter

### **Technical Variables:**

- **Time and date of the interview** determined together with interviewee via email/ call
- **Absence/ presence of a fourth person** no fourth person will be present, only if desired by interviewee
- **Location of the interview** RVO building in either Utrecht or The Hague if not decided otherwise
- **Age of the interviewers** both 25
- **Gender of the interviewers** male and female
- **Interviewers names** Levina Steinkönig and Michael Walter
- **Interviewee name and respondent number** not stated because of confidentiality agreements

### **Post interview small talk**

Time was considered to make room for a smooth derivation of the interview. This phase often is considered to be valuable, as interviewees may bring up new findings in this phase (Corbin, et al., 2017).

## Appendix IX - Interview setup (question-sequence)

All interviews were held in Dutch, therefore the question-sequence was prepared in Dutch too and looked as follows:

| Interview gedeelte                                                  | Nr | Vraag/ Actie                                                                                                                                                                                                                                                                                                       | Notitie |
|---------------------------------------------------------------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| <b>Pre-interview small talk en Introductie</b>                      |    | Hoi/ Goede middag!<br>Kunt u ons goed verstaan? Prima, wij ook.<br>Zullen wij het gesprek formeel houden of mogen wij tutoyeren?                                                                                                                                                                                   |         |
|                                                                     |    | Wij zouden het interview graag opnemen om het achteraf beter te kunnen verwerken. Ga jij hiermee akkoord?                                                                                                                                                                                                          |         |
|                                                                     |    | <b>START AUDIO-RECORDING</b>                                                                                                                                                                                                                                                                                       |         |
|                                                                     |    | Wij zijn dus Levina Steinkönig en Michael Walter en bezig met ons afstudeeropdracht voor RVO en de Community of Practise Blue Innovation North Sea 2030.                                                                                                                                                           |         |
|                                                                     |    | Dit interview voeren wij om al gevondene informative m.b.t. vergunningsverlening voor medegebruik in offshore wind parken aan te vullen en te controleren, maar ook om mogelijke verbeterpunten in het vergunningsverleningsproces in kaart te brengen.<br>Is het doel van dit interview duidelijk voor jou? Mooi. |         |
|                                                                     |    | Natuurlijk is het absoluut in orde vragen niet te beantwoorden.<br>Mogen wij de overige vragen per e-mail naar jou sturen voor het geval dat wij niet klaar zijn binnen de tijdstip?                                                                                                                               |         |
|                                                                     |    | Heb jij nog vragen voordat we beginnen?<br>Oké, dus laten we beginnen.                                                                                                                                                                                                                                             |         |
|                                                                     |    | Wij hoorden dat jij als _____FUNCTIE_____ werkzaam bent voor _____INSTANTIE_____. Kun jij je rol m.b.t. het vergunningsverleningsproces in het kort toelichten?                                                                                                                                                    |         |
|                                                                     |    | Heb jij ooit een aanvraag op medegebruik in windparken verwerkt?<br>OF<br>Heb jij ooit een aanvraag ingediend voor een medegebruik project?                                                                                                                                                                        |         |
|                                                                     |    |                                                                                                                                                                                                                                                                                                                    |         |
| <b>Overgang naar het volgende thema: Knowledge gaps from Step 1</b> |    | De volgende reeks vragen helpt ons om invulling te geven op missende informatie en om vragen die tijdens onze literatuurstudie op zijn gekomen te beantwoorden. Misschien kun jij ons helpen.                                                                                                                      |         |
| <b>Knowledge-gaps from Step 1</b>                                   | 1  | Wij hebben een overzicht van relevante beleidsstukken en hun onderlinge samenhang gecreëerd. (Heeft u die ontvangen? Prima.) Met welke beleidstukken komt u tijdens u werk in contact?                                                                                                                             |         |
|                                                                     |    | <b>Mark relevant fields on Scheme (see Appendix VI)</b>                                                                                                                                                                                                                                                            |         |
|                                                                     | 2  | Klopt ons schema zo ver?<br>Zijn er relevante stukken voor de vergunningsverlening van medegebruik in windparken die missen?                                                                                                                                                                                       |         |
|                                                                     | 3  | Wij vroegen ons af wat de samenhang is tussen het afwegingskader uit de beleidsnota Noordzee en de watervergunning of omgevingsvergunning. Heeft u hier kennis over? (Wel ook in kader van de vergunningsverlening voor medegebruik in OWF)                                                                        |         |
|                                                                     | 4  | Hoe gaat de ingang van de nieuwe omgevingswet het huidige vergunningsverleningsproces beïnvloeden? (Wat wordt vervangt en wat blijft bestaan?)                                                                                                                                                                     |         |

|                                                        |    |                                                                                                                                                                                                                                                                                                                                                    |  |
|--------------------------------------------------------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                                                        | 5  | Verschilt het vergunningsverleningsproces voor medegebruik in windparken afhankelijk van de soort activiteit? Denk hierbij aan andere vormen van duurzame energieproductie, maricultuur of passieve visserij.<br><br>EN<br><br>Wie precies verleent de vergunningen binnen jouw instantie?                                                         |  |
|                                                        | 6  | Wat is de rol van IDON in de vergunningsverleningsprocedures? Heeft u kennis hierover?                                                                                                                                                                                                                                                             |  |
|                                                        | 7  | Nog zijn windparken in Natura 2000 gebieden in Nederland niet toegestaan. Zijn er andere vormen van medegebruik van windparken die natuurherstel beogen en zo ja, zijn deze vergunning plichtig?                                                                                                                                                   |  |
|                                                        | 8  | Denkt u dat in de toekomst windparken in Natura 2000 gebieden wel toegestaan kunnen worden en als ja, hoe zit dat in elkaar m.b.t. beleidsstukken en het vergunningsverleningsproces?                                                                                                                                                              |  |
|                                                        |    |                                                                                                                                                                                                                                                                                                                                                    |  |
| <b>Overgang naar het volgende thema: Communication</b> |    | Om te kijken waar het Nederlandse vergunningsverleningsproces verbeterd kan worden hebben wij een reeks vragen ontwikkeld per verschillend onderwerp. Dit zal ons helpen om de procedure in kaart te brengen vanuit zowel juridisch als organisatorisch perspectief. De eerste reeks vragen betreft de communicatie rond de vergunningsprocedures. |  |
|                                                        |    |                                                                                                                                                                                                                                                                                                                                                    |  |
| <b>Communication</b>                                   | 9  | Hoe stemmen ministeries onderling met elkaar af?<br>EN<br>Wat zou binnen de interdepartementale communicatie met betrekking tot medegebruik applicaties verbeterd kunnen worden?                                                                                                                                                                   |  |
|                                                        | 10 | Wat zou binnen de interne afdelingscommunicatie met betrekking tot medegebruik applicaties verbeterd kunnen worden?                                                                                                                                                                                                                                |  |
|                                                        | 11 | Hoe zou de communicatie met aanvragers verbeterd kunnen worden?                                                                                                                                                                                                                                                                                    |  |
|                                                        | 12 | Denk jij dat de beslissingsprocedures begrijpelijk zijn voor aanvragers?                                                                                                                                                                                                                                                                           |  |
|                                                        |    |                                                                                                                                                                                                                                                                                                                                                    |  |
| <b>Overgang naar het volgende thema: Structure</b>     |    | De volgende reeks vragen gaat over de structuur van het vergunningsverleningsproces.                                                                                                                                                                                                                                                               |  |
| <b>Structure</b>                                       | 13 | Kent het vergunningsverleningsproces een bepaalde volg orde/hiërarchie?                                                                                                                                                                                                                                                                            |  |
|                                                        | 14 | Zijn de toetsingscriteria voor aanvragers duidelijk?                                                                                                                                                                                                                                                                                               |  |
|                                                        | 15 | Kunnen aanvragers vervolgen waar in het proces zich hun aanvraag bevindt? (Een soort track and trace systeem?)                                                                                                                                                                                                                                     |  |
|                                                        | 16 | Wie is voor welk onderdeel van de vergunningsverlening verantwoordelijk?                                                                                                                                                                                                                                                                           |  |
|                                                        |    |                                                                                                                                                                                                                                                                                                                                                    |  |
| <b>Overgang naar het volgende thema: Finance</b>       |    | Vervolgens willen wij graag werklast en financiering van vergunningsverleningsprocessen beter in kaart brengen. Hierover gaan de volgende vragen:                                                                                                                                                                                                  |  |
| <b>Finance</b>                                         | 17 | Is er voldoende capaciteit (f.t.e.) voor het afwerken van aanvragen?                                                                                                                                                                                                                                                                               |  |
|                                                        | 18 | Waar heb jij binnen jou verantwoordelijkheidsgebied de meeste tijd voor nodig, en waarom?                                                                                                                                                                                                                                                          |  |
|                                                        | 19 | Hoeveel kost het een aanvrager om een vergunning te verkrijgen? EN                                                                                                                                                                                                                                                                                 |  |

|                                                     |    |                                                                                                                                                                                                                                                                                                                                                              |                                                                   |
|-----------------------------------------------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
|                                                     |    | hoe is dit verdeelt?                                                                                                                                                                                                                                                                                                                                         |                                                                   |
|                                                     | 20 | Wordt ook expertise ingehuurd?                                                                                                                                                                                                                                                                                                                               |                                                                   |
| <b>Overgang naar het volgende thema: Policy</b>     |    | De volgende vragen draaien om het beleid dat op invloed is op het vergunningsverleningsproces.                                                                                                                                                                                                                                                               |                                                                   |
| <b>Policy</b>                                       | 21 | In hoeverre is het huidige beleid voldoende samenhangend?                                                                                                                                                                                                                                                                                                    | M.b.t. stimulering medegebruik                                    |
|                                                     | 22 | Hoe zou het huidige proces optimaliseert kunnen worden?                                                                                                                                                                                                                                                                                                      |                                                                   |
|                                                     |    | Voldoet het huidige toetsingskader?                                                                                                                                                                                                                                                                                                                          | Vergunningen worden gegeven op basis van wetten, niet van beleid. |
|                                                     | 23 | Hoe wordt meervoudig gebruik in offshore windparken opgenomen in beleidsvernieuwingen?                                                                                                                                                                                                                                                                       |                                                                   |
|                                                     | 24 | De energietransitie wordt als een nationale prioriteit beschouwd, terwijl natuurbescherming en voedselproductie dat niet zijn. Hoe beïnvloedt dit vergunningverleningsproces met betrekking tot medegebruik in offshore windparken?                                                                                                                          |                                                                   |
|                                                     | 25 | Hoe wordt medegebruik in windparken op zee ondersteund door de huidige wetten / voorschriften / besluiten?                                                                                                                                                                                                                                                   |                                                                   |
|                                                     | 26 | Is het beleid met betrekking tot medegebruik vergunningen voldoende constant?<br><b>En</b><br>Hoe beïnvloedt dit de aanvragen?                                                                                                                                                                                                                               |                                                                   |
| <b>Overgang naar het volgende thema: Assessment</b> |    | Wij hebben ook een aantal vragen voorbereidt, die over de beoordeling van aanvragen gaan.                                                                                                                                                                                                                                                                    |                                                                   |
| <b>Assessment</b>                                   | 27 | Hoe kan worden beoordeelt of de onderbouwing van natuureffecten klopt?<br><b>EN</b><br>Hoe wordt dit gedaan?                                                                                                                                                                                                                                                 | Vooral aan LNV                                                    |
|                                                     | 28 | In welke mate en in welke kwaliteit moet een aanvrager bewijs / informatie voor de beoordeling inleveren?                                                                                                                                                                                                                                                    |                                                                   |
|                                                     | 29 | Komt het kader van vergunningsverlening voldoende tegenmoet aan de doelstellingen van het beleid om medegebruik te bevoordelen?                                                                                                                                                                                                                              | Bekijk het bestuursrecht: termijnen voor vergunningen aanvragen   |
|                                                     |    |                                                                                                                                                                                                                                                                                                                                                              |                                                                   |
| <b>Afsluiting van het interview</b>                 | 30 | Ten slotte: Is er iets dat je als een obstakel ziet, maar denkt dat het niet aan de orde is gekomen in ons gesprek?                                                                                                                                                                                                                                          |                                                                   |
|                                                     |    | Dit was de laatste vraag van het interview                                                                                                                                                                                                                                                                                                                   |                                                                   |
|                                                     |    | Vervolgens gaan wij het vergunningsverleningsproces ook in andere Noordzeelanden onderzoeken en hopen van hun te kunnen leren. En gedeelte van ons afstudeerproject is ook om te kijken hoe zulke 'lessons learned' in Nederland toegepast kunnen worden. Zou u hiervoor begin januari nogmaals met ons willen spreken?<br>Wij zullen u op de hoogte houden. |                                                                   |
|                                                     |    | Heel erg bedankt dat je de tijd hebt genomen om met ons te praten, je hebt ons veel geholpen. Wij stellen dit erg op prijs.                                                                                                                                                                                                                                  |                                                                   |
|                                                     |    |                                                                                                                                                                                                                                                                                                                                                              |                                                                   |

|                           |  |                                                                                             |  |
|---------------------------|--|---------------------------------------------------------------------------------------------|--|
| Post-interview small talk |  | Is er iets dat je aan het onderwerp wilt toevoegen?                                         |  |
|                           |  | Hoe ziet de rest van je dag eruit? We hopen dat je een fijne voortzetting van je week hebt. |  |
|                           |  | <b>STOP AUDIO RECORDING</b>                                                                 |  |

## Appendix X - Interviewees & Participants stakeholder meeting

| Competent authority/<br>Organization           | Position/ Function                                       | Abbreviation | participation<br>interview | interview location<br>& date | interview-<br>mode | participation<br>stakeholder<br>meeting |
|------------------------------------------------|----------------------------------------------------------|--------------|----------------------------|------------------------------|--------------------|-----------------------------------------|
| <b>RWS</b>                                     | Senior advisor                                           | (RWS1)       | Yes                        | VHL*                         | Skype              | No                                      |
| <b>RWS</b>                                     | Advisor North Sea<br>licence granting                    | (RWS2)       | Yes                        | RVO Utrecht,                 | Meeting            | Yes                                     |
| <b>RWS</b>                                     | Legal advisor North<br>Sea affairs                       | (RWS3)       | Yes                        | RVO Den Haag                 | Meeting            | Yes                                     |
| <b>RWS</b>                                     | Passage and shared<br>use in OWF                         |              | No                         |                              |                    | No                                      |
| <b>RWS</b>                                     | OWF site decisions                                       |              | No                         |                              |                    | No                                      |
| <b>RWS</b>                                     | Advisor                                                  |              | No                         |                              |                    | No                                      |
| <b>RVO</b>                                     | Program manager NZ                                       |              | No                         |                              |                    | Yes                                     |
| <b>RVO</b>                                     | Advisor Wet<br>Natuurbescherming<br>(Species protection) |              | No                         |                              |                    | Yes                                     |
| <b>RVO</b>                                     | Fisheries licences                                       |              | No                         |                              |                    | No                                      |
| <b>RVO</b>                                     | Species protection                                       |              | No                         |                              |                    | No                                      |
| <b>VisNed</b>                                  | Director                                                 | (VISNED)     | Yes                        | RVO Den Haag                 | Meeting            | No                                      |
| <b>WUR</b>                                     | Marine ecologist /<br>policy advisor                     | (WUR)        | Yes                        | Den Haag                     | Telephone          | Yes                                     |
| <b>LNV</b>                                     | Policy officer Wet<br>Natuurbescherming                  | (LNV)        | Yes                        | RVO Den Haag                 | Meeting            | No                                      |
| <b>Noordzeeboederij</b>                        | Technology and<br>Production                             |              | No                         |                              |                    | No                                      |
| <b>TKI Wind op Zee</b>                         | Project manager                                          |              | No                         |                              |                    | No                                      |
| <b>TKI Wind op Zee</b>                         | Strategic advisor                                        |              | No                         |                              |                    | No                                      |
| <b>Ørsted</b>                                  | Sr. Regulatory Affairs &<br>Stakeholder Mgr              |              | No                         |                              |                    | Yes                                     |
| <b>NWEA</b>                                    | CoP NZ2030 member                                        |              | No                         |                              |                    | No                                      |
| <b>Visserbond/<br/>Vissen voor de<br/>Wind</b> | Project manager                                          |              | No                         |                              |                    | No                                      |
| <b>S.Pro</b>                                   | Maritime Policy and<br>Planning Consultant               |              | No                         |                              |                    | No                                      |

\*VHL = Van Hall Larenstein University of Applied Sciences

## Appendix XI – Codes derived from interview transcriptions

- Description procedure
- Development of multiuse
- Communication with applicants
- Interdepartmental communication
- Intern communication
- No mayor obstacles
- Obstacle agreement from wind park operator
- Obstacle estimations of risk and security
- Obstacle finance and reality check
- Obstacle goals unclear
- Obstacle missing framework and perception
- Obstacle national priorities
- Obstacle scaling
- Obstacle unclear to applicants
- Obstacle user priority in wind park
- Energy
- Explanation of role
- Extra information on zones and planning
- Food
- Kavelbesluit
- M.e.r.
- N2000
- Nature
- Nationaal water plan and BNN
- Omgevingswet
- Waterbesluit
- Waterwet
- Wet Natuurbescherming

## Appendix XII – Search criteria for sub-question b

| <b>Selected aspect</b>                                                                     | <b>Identified obstacle</b>                                               | <b>Developed search criteria (for selected surrounding North Sea countries, SSNSC)</b> | <b>Delimitation and short description for search criteria</b>                                                                                                   |
|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Responsible authority                                                                      | Lack of goals/ ambition regarding nature restoration and food production | Goals / ambition regarding nature restoration and food production                      | Examines which objectives SSNSC regarding nature restoration/food production have in place<br><br>Examines national priorities in the EEZ                       |
| Responsible authority<br>Other (applicant)                                                 | Missing vision of long-term development and post-operation phase         | Vision of long-term development and post-operation phase                               | Describes how SSNSC (the government or applicants) envision the long-term development and post operation phase                                                  |
| Other (applicant)                                                                          | Lack of financial resources to ensure compliance with legal requirements | Financial resources of applicant to ensure compliance with requirements                | Describes the financial requirements needed for an application (due to safety requirements) and if applicants have sufficient financial resources to cover them |
| Responsible authority<br>Applicable national policies and regulations                      | Missing assessment framework for multi-use                               | Availability of assessment framework for multi-use                                     | Describes whether or not a multi-use assessment framework is in place and if there is, what it includes                                                         |
| Responsible authority<br>Applicable national policies and regulations                      | Ambiguity on behalf of the government regarding user priority            | Approach on behalf of the government regarding user priority                           | Describes how SSNSC rank applicants for suitability for multi-use                                                                                               |
| Responsible authority<br>Applicable national policies and regulations<br>Other (applicant) | Necessity of approval by OWF licence holders hinders multi-use           | Consent dependency relationship between OWFLH and applicant                            | Describes whether or not applicant need consent of OFLH in order to operate                                                                                     |
| Responsible authority<br>Applicable national policies and regulations                      | Lack of scaling-up-guidelines                                            | Availability of scaling-up-guidelines                                                  | Describes the availability of scaling-up guidelines                                                                                                             |

|                                                                                    |                                                               |                                         |                                                                        |
|------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------|------------------------------------------------------------------------|
| Other (applicant)                                                                  | Problematic perception of the process due to absent knowledge | Perception of the process by applicants | Describes how the application process is perceived by applicant        |
| Responsible authority<br>Structure of responsible authorities<br>Other (applicant) | Problematic communication with applicants                     | Communication with applicants           | Describes the communication between applicants and competent authority |

## Appendix XIII – Corresponding approaches of SSNSC

| Criteria                                                                                                                                                             | Belgium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Germany                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Denmark                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Scotland                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | England                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Conclusion per Criteria                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Objectives of SSNSC regarding nature restoration, food production &amp; other forms of renewable energy</b><br><br><b>National priorities of SSNSC in the EEZ</b> | <p>Objective for the aquaculture sector : from 700 tons to 1032 tons sustainable production in 2022 (=210% increase), as well as two new sorts on the market until 2022 (Vlaams Aquacultuur Platform, 2017)</p> <p>238 km<sup>2</sup> (=7%) of the Belgian Part of the North Sea devoted to renewable energy production in form of OWF under the MSP from March 2014 (Kafas, et al., 2018).</p> <p>Within the Belgian MSP key objectives until 2050 are mentioned:</p> <ul style="list-style-type: none"> <li>- Naturalness (ecosystem services shall not be compromised)</li> <li>- Supporting social and economic interests</li> <li>- Multiple use of space</li> </ul> | <p>Objective for marine fish farming: from &lt;50 tons to 1000 tons in 2020 (European Commission, n.d.). The German MSP also mentions that aquaculture facilities preferably should be developed in combination with existing installations (Bundesministerium der Justiz und für Verbraucherschutz, 2009). OWF need to take fisheries and military defense interests into account (Syvret, et al., 2013).</p> <p>Multiple use of the space is desirable (Bundesministerium der Justiz und für Verbraucherschutz, 2009).</p> <p>Objective for offshore wind: 20 000 – 25 000 MW until 2030. This includes the</p> | <p>Act on maritime spatial planning:</p> <p><i>“The Minister for Business and Growth shall, when implementing maritime spatial planning, take account of economic, social and environmental conditions as well as safety aspects to support sustainable development and growth in the maritime sector, applying an ecosystem-based approach, and to promote the coexistence of various relevant activities and uses. In order to achieve the goals stipulated above, maritime spatial planning shall aim to contribute to sustainable development of</i></p> <ol style="list-style-type: none"> <li><i>1) the energy sector at sea;</i></li> <li><i>2) maritime transport;</i></li> <li><i>3) fishing and aqua culture;</i></li> <li><i>4) the extraction of raw</i></li> </ol> | <p>Scotland’s National Marine Plan:</p> <p><i>“With due regard to the marine environment and carrying capacity, support for the industry’s target to grow marine production sustainably to 210,000 tonnes; and shellfish to 13,000 tonnes sustainably by 2020.”</i> (The Scottish Government, 2015)</p> <p>Objective is to increase the contribution of offshore renewable energy to renewable energy generation, to increase the opportunities for economic development, investment and employment; and reduce adverse effects on people, other sectors and the environment (Onyango &amp; Papaioannu,</p> | <p>The UK Marine Policy Statement:</p> <p>Aims for <i>“achieving integration between different objectives, and enable the co-existence of compatible activities.</i></p> <p><i>Both aquaculture and renewable energy are identified as priority activities within Marine Plans. Colocation is encouraged where possible.”</i> (HM Government, Northern Ireland Executive, Scottish Government, Welsh Assembly Government, 2011)</p> <p>Direct encouragement for artificial reefs within offshore wind farms. <i>“Inclusion of artificial reef structures at offshore wind farm sites</i></p> | <p><b>Terms that are frequently mentioned in regards to co-existence are “desirable” “promotion” and “encouragement”</b></p> <p><b>Concrete ambitions regarding aquaculture production are in place however no incentives are present.</b></p> <p><b>All SSNSC do stress space efficient use of the marine area and put the emphasize on cross-sectoral integration</b></p> <p><b>In contrast to NL, the UK also considers AC production as a</b></p> |

| Criteria                                                                                                                                                             | Belgium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Germany                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Denmark                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Scotland                                                                                                                                                                                                                                                                                                                                                                                                                                           | England                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Conclusion per Criteria                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Objectives of SSNSC regarding nature restoration, food production &amp; other forms of renewable energy</b><br><br><b>National priorities of SSNSC in the EEZ</b> | <p>- Knowledge collection and exchange<br/>These objectives are translated into concrete objectives for the 2020-2026 planning period in the following draft MRP (ARCADIS, 2018).</p> <p>Multiuse is mentioned as the norm for spatial use in the Belgian part of the North Sea by 2050, in order to achieve well-considered use of four-dimensional space of the sea, transnational cooperation (also in terms of science), economic added values, healthy ecosystems and ecosystem-functions and best possible coordination between land and sea interactions. Goal: sustaining the sea for following generations and counteracting potential threats early (De Backer, 2017).</p> | <p>Baltic Sea (Bundesministerium der Justiz und für Verbraucherschutz, 2009).</p> <p>The Federal Agency for Nature Conservation Marine Nature Conservation Directorates: “work focuses and objectives” are:</p> <ul style="list-style-type: none"> <li>- Protection of endangered species and habitats / conservation of marine biodiversity,</li> <li>- Effective management (overall and of protected areas)</li> <li>- Creation of a network of marine protected areas</li> <li>- Avoiding or reducing the negative effects of human activities on the marine natural environment,</li> <li>- Achieve sustainable fishing</li> <li>- Achieving good environmental status of the marine environment,</li> <li>- Extensive monitoring of German sea areas,</li> </ul> | <p><i>materials from the sea; and 5) the preservation, protection and improvement of the environment, including resilience to the consequences of climate change.</i></p> <p><i>In order to promote sustainable uses of the maritime space, account shall be taken of the coexistence between existing and future activities and uses as well as interests when drawing up the maritime spatial plan.”</i> (Erhvervs- og Vækstministeriet, 2016)</p> <p>Vision to increase the Aquaculture output with 25% in the period 2014-2020 (Stuiver, et al., 2016)</p> | <p>2017)</p> <p>Both aquaculture and renewable energy are identified as priority activities within Marine Plans. Colocation is encouraged where possible. (Syvret, et al., 2013)</p> <p>Policy statement list “<i>both renewable energy such as offshore wind farms and aquaculture in general as priority activities. This requires renewables and aquaculture to be given precedence in spatial decision making.</i>” (Syvret, et al., 2013)</p> | <p><i>should be considered further in the context of marine planning.”</i> (Syvret, et al., 2013)</p> <p>If renewable energy production is considered an overriding priority in relation to a marine protected area, renewable energy production might become priority even if MPA space is traded off. (Kyriazi, et al., 2016)</p> <p>Policy statement list “<i>both renewable energy such as offshore wind farms and aquaculture in general as priority activities. This requires renewables and aquaculture to be given precedence in spatial decision making.</i>” (Syvret, et al., 2013)</p> <p>South Inshore and South Offshore Marine Plan: “<i>To encourage effective</i></p> | <p><b>national priority.</b></p> <p><b>This study did not identify objectives regarding other forms of renewable energy production in SSNSC.</b></p> |

| Criteria                                                                                                                                                             | Belgium                                                                                                                                                                                  | Germany                                                                                                                                                                                                                                                                                                               | Denmark                                                                                                                                                                                                                                                                              | Scotland                                                                                                                                                                                                                                                                                          | England                                                                                                                                                                                                                    | Conclusion per Criteria                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Objectives of SSNSC regarding nature restoration, food production &amp; other forms of renewable energy</b><br><br><b>National priorities of SSNSC in the EEZ</b> |                                                                                                                                                                                          | <p>- Example species and habitat conservation measures,</p> <p>- Ecosystem approach in marine spatial planning (von Nordheim , Krause , Merck , &amp; Boedeker , 2018).</p> <p>Further/ more precise objectives and steps forward were not identified.</p>                                                            |                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                   | <i>use of space to support existing, and future sustainable economic activity through co-existence, mitigation of conflicts and minimisation of development footprints.”</i><br>(HM Government, 2018)                      |                                                                                                                                                                                                                                        |
| <b>Vision of long-term-development and post-operation-phase</b>                                                                                                      | <i>No information derived</i><br>(Notable is Belgium’s effort to develop/gain knowledge, experience, a supply chain and policies regarding the dismantling of OWF (Larsen J. N., 2019).) | Currently there is no framework for future uses for the post-operation phase as the German MSP works under the premise that all anthropogenic structures will be removed after their assigned lifespan. OWF and nature restauration however is seen as potential reuse for existing structures (Schupp & Buck, 2017). | <p>Until September 2017, no commercial multi-use was observed in the real environment (Karlson, et al., 2017).</p> <p>Lack of high level political focus on multi-use. (Karlson, et al., 2017)</p> <p>Fishermen have returned after the decommissioning of Middelgrunden OWF and</p> | Implementation of Scotland's National Marine Plan on regional level via marine planning partnerships (MPPs) stakeholder engagement where “ <i>local stakeholders and planners, with scientific support, develop plans tailored to their coastal and inshore region.</i> ” (Smith & Jentoft, 2017) | Implementation of the Marine Policy Statement via regional marine plans in which stakeholder express their future ideas. (HM Government, Northern Ireland Executive, Scottish Government, Welsh Assembly Government, 2011) | <b>All things considered, no clear visions for the post-operation phase were identified. Germany has some policies regarding environmental standards in place which could support nature restoration and minimize adverse impacts.</b> |

| Criteria                                                                             | Belgium                 | Germany                                                                                                                                                                                                                                                                                  | Denmark                                                                                  | Scotland                | England                 | Conclusion per Criteria                                                                                                                                                                                          |
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|                                                                                      |                         | If the dismantling of OWF causes greater adverse environmental effects than the existence of certain structures, disassembly must be partially or completely avoided (unless necessary for safety reasons or traffic)<br>(Bundesministerium der Justiz und für Verbraucherschutz, 2009). | the site is profitable for them. (Larsen, Soerensen, Christiansen, Naef, & Vølund, 2005) |                         |                         | <b>Belgium's approach is to focus on economic benefits deriving from dismantling OWF. Approaches derived from UK regional marine plans might be beneficial with respect to the development of common vision.</b> |
| <b>Financial requirements needed for an application (due to safety requirements)</b> | No information derived. | Multiuse is not stimulated via economic incentives on a national level (Schupp & Buck, 2017).<br><br>No further information on financial aspects and multiuse derived.                                                                                                                   | No information derived.                                                                  | No information derived. | No information derived. | <b>In relation to this criteria, no corresponding approaches were identified within the scope of this study.</b>                                                                                                 |

| Criteria                              | Belgium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Germany                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Denmark                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Scotland                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | England                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Conclusion per Criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| <b>Multi-use assessment framework</b> | <p>No multi-use assessment framework derived.</p> <p>Rapid assessment of environmental impacts is possible: Three main categories of environmental impacts are set: physical, chemical or ecological.</p> <p>An impact index describes the extent of impact per use (via qualitative scores). The intensity of each use is mapped out and again categorized to develop intensity maps. The impact table together with the intensity maps form the basis of environmental impact-maps (Douvere, et al., 2007).</p> <p>Assessment of environmental impacts on Natura2000-sites (via area conservation objectives) is conducted under the Habitats Directive.</p> | <p>Germany's regulatory framework for offshore wind is comprehensive, while the framework for offshore aquaculture is considered weak and uncertain, as standards need to be developed (Wever, et al., 2015).</p> <p>Missing definitions for concepts such as "offshore" or "hazardous marine environmental impact" lead to unclear application of policies and uncertainty of property rights/ legal status. This is an obstacle for potential investors. Obtaining licences for co-use from the OWFLH remains hypothetical (Wever, et al., 2015).</p> <p>There is no joint authorization process for aquaculture activities in OWF. Permits are carried out case-by-case. This approach is considered</p> | <p>No multi-use assessment framework in place (Stuiver, et al., 2016; North Sea Wind Power Hub, 2019)</p> <p>Obtaining an aquaculture licence is challenging (Stuiver, et al., 2016)</p> <p>For the development and establishment of OWF projects, three licences are required, which are granted by the Danish Energy Agency. (Stuiver, et al., 2016)</p> <p>Sectoral management by different authorities, laws and regulations, depending on distance to shore. Challenging to work together to achieve common objectives. (Stuiver, et al., 2016)</p> <p>Maritime activities are regulated via a number of sectoral acts, (marine environment protection act,</p> | <p><i>“Proposals which enable coexistence with other development sectors and activities within the Scottish marine area are encouraged in planning and decision making processes, when consistent with policies and objectives of this Plan.”</i> (The Scottish Government, 2015)</p> <p>Approach is to encourage development proposals which <i>“bring together activities which are compatible or synergistic in one location, to make good use of space, i.e. those which involve or allow co-existence, taking account of temporal and spatial issues.”</i> (The Scottish Government, 2015)</p> <p><i>“Marine planning should not impede existing agreements between sectors and should seek to</i></p> | <p>The Marine Policy Statement also explicitly mentions that Marine Plans <i>“could encourage co-existence of multiple use”</i>. Co-existence of marine activities is frequently mentioned in the UK Marine Policy Statement. (Depellegrin, et al., 2018)</p> <p>Additionally to marine spatial planning policy the licencing process under the Planning Act 2008 provides the OWF industry with requirements to consider actions such as integration of aquaculture facilities as a mitigation option. (Syvret, et al., 2013)</p> <p>Based on the UK's policy guidance currently there is only direct encouragement for colocation of artificial reefs in combination</p> | <p><b>This study did not</b> identify the presence of a multi-use assessment framework in all SSNSC.</p> <p><b>UK encourages coexistence-proposals in decision making, particularly in regard to artificial reef development in OWF as well as the provision to the OW industry to consider the integration of AC facilities as a compensation measure. No concrete targets and/or incentives were identified. Regional marine plans might display an important tool in developing and implementing regional objectives</b></p> |

| Criteria                       | Belgium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Germany                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Denmark                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Scotland                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | England                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Conclusion per Criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| Multi-use assessment framework | <p>Compensatory measures are needed when impacts are predicted but no alternative solution is possible or in case of an overriding public interest (social or economic) (ARCADIS, 2018).</p> <p>Two requirements are set for aquaculture projects in OWF: approval of OWF operator needs to be obtained and the project needs to contribute to the reduction of eutrophication levels at the location. According to the latest MSP plan (2016-2020), aquaculture is only possible within two designated areas, both within OWF concessions (Buck, et al., 2017).</p> | <p>fragmented and needs simplification (Schupp &amp; Buck, 2017).</p> <p>Fisheries activities in OWF are integrated into existing health and safety concepts, but remains complex and is issued on a case-by-case basis (Schupp &amp; Buck, 2017).</p> <p>Mechanisms and frameworks to investigate the cumulative effects or benefits of shared use and assess the socio-economic benefits and effects are missing. These are needed to guide policy makers (Schupp &amp; Buck, 2017).</p> | <p>the raw materials act, the subsoil act, the continental shelf act, the electricity supply act, the harbour act, the act on safety at sea and the fishery act). Based on the Act on Maritime Spatial Planning, measures are made for the implementation of an integrated maritime spatial plan. (European MSP Platform, 2019)</p> <p>Recognition of greater coordination between sectors regarding authorities regulating these via the Act on Maritime Spatial Planning. (European MSP Platform, 2019)</p> <p><i>“Sectors to be included in the future maritime spatial plan include: the energy sector, maritime transport, infrastructure, fishing and aquaculture, the extraction of raw materials and the preservation, protection and improvement of the</i></p> | <p><i>complement such arrangements where they exist.”</i> (The Scottish Government, 2015)</p> <p>Maritime plan areas for decision making are in place. (The Scottish Government, 2015)</p> <p>Based on the UK’s policy guidance currently there is only direct encouragement for colocation of artificial reefs in combination with OWF. (Syvret, et al., 2013)</p> <p>Both the overarching Energy National Policy Statement and the Energy Policy Statement specific to renewable energy developments include the encouragement to consider mitigation options that would include colocation of aquaculture.</p> <p>The Infrastructure</p> | <p>with OWF. (Syvret, et al., 2013)</p> <p>Maritime plan areas for decision making are in place. (HM Government, Northern Ireland Executive, Scottish Government, Welsh Assembly Government, 2011)</p> <p>The South Inshore and South Offshore Marine Plan <i>“enables efficient use of space, highlighting the need and opportunities for coexistence in areas with high concentrations of activity and clarifies where co-existence is not appropriate, and where activities should be avoided. Proposals that enhance access to, or within sustainable fishing or aquaculture sites should be supported.”</i> (HM</p> | <p><b>including valuable stakeholder needs. Marine plans are utilized to identify where coexistence is appropriate and where it should be avoided.</b></p> <p><b>Belgium’s rapid EIA procedure might enable faster MU development. Also, the Belgian MSP gives guidance on the development of AC in OWF (contribute to eutrophication reduction).</b></p> <p><b>Germany stresses the encouragement of MU in the beginning of decision-making.</b></p> <p><b>Denmark’s approach to synchronize consent</b></p> |

| Criteria                       | Belgium | Germany | Denmark                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Scotland                                                                                                                                                                                                                                                  | England                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Conclusion per Criteria                                                                                                                                                                                                                                                                         |
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| Multi-use assessment framework |         |         | <p><i>environment, including resilience to the consequences of climate change. Economic growth is a strong focus for the maritime spatial planning of the Danish marine waters.</i>" (European MSP Platform, 2019)</p> <p>The Danish Maritime Authority (DMA) is currently developing a plan that takes all sectors of interest into account. (European MSP Platform, 2019)</p> <p>Lack of regulatory support or incentives to promote cross-sectoral co-localization (Karlson, et al., 2017).</p> <p>Establishment of a one-stop shop for wave energy projects licences following the procedures for OWF. Approval is based on a project's location, the results of an environmental impact assessment and</p> | <p>Planning Commission should take into account: its potential adverse impacts, including <i>"any long-term and cumulative adverse impacts, as well as any measures to avoid, reduce or compensate for any adverse impact"</i> (Syvret, et al., 2013)</p> | <p>Government, 2018)</p> <p>Both the overarching Energy National Policy Statement and the Energy Policy Statement specific to renewable energy developments include the encouragement to consider mitigation options that would include colocation of aquaculture.</p> <p>The Infrastructure Planning Commission should take into account: its potential adverse impacts, including <i>"any long-term and cumulative adverse impacts, as well as any measures to avoid, reduce or compensate for any adverse impact"</i> (Syvret, et al., 2013)</p> <p>No joint consent procedure for multiple uses of wind farm areas</p> | <p><b>procedures for wave energy development with wind energy development might display a simplification of licencing procedures, however with respect to the regulatory environment, the branching of competence between authorities might not contribute to increased MU development.</b></p> |

| Criteria                                  | Belgium                                                                                                                                                                                                                                                                                                                                                                                                                                        | Germany                                                                                                                            | Denmark                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Scotland                                                                                                                                                                                                                                                                                                                                                                                                                                   | England                                                                                                                                                                                                                                                                                                                                                                                                           | Conclusion per Criteria                                                                                                                                                                                                                                                                                                                      |
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| Multi-use assessment framework            |                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                    | plans for decommissioning (The Executive Committee of Ocean Energy Systems, 2013)                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                            | has been implemented. (Syvret, et al., 2013)<br><br>Consent for offshore aquaculture take considerably longer with respect to onshore development. (Krause & Stead, 2017)                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                              |
| Ranking of suitability of secondary users | <p>The Belgian MSP states that climate impacts are an important decision criteria in case two or more activities compete for the same zone (ARCADIS, 2018).</p> <p>An example for possible subordination of nature to OWF:<br/>The <i>Vlakte van de Raan</i> was accepted by the EC as N2000 (SAC) area, but became ‘de-designated’ on national level, officially due to missing scientific evidence. Arguably this step was undertaken to</p> | <p>Views on favourable uses (or non-uses) are conflicting (Wever, et al., 2015).</p> <p><i>No further information derived.</i></p> | <p>The proposed model that is being reviewed consists of two designation categories (or zones as described in the model):</p> <ul style="list-style-type: none"> <li>• a general use zone,</li> <li>• a reserved development zone.</li> </ul> <p>Any areas that are expected in the future to be put in use by any of the previously mentioned six main sectors will be categorized as reserved development zones. Until the reserved development zone is actually put to use and</p> | <p><i>“Marine planners and decision makers should consider proposals for sustainable development of test and demonstration for offshore wind and marine renewable energy development on a case-by-case basis where sites are identified. This preference should be taken into account by marine planners and decision makers if alternative development or use of these areas is being considered”</i> (The Scottish Government, 2015)</p> | <p><i>“The Marine Plan should identify areas of constraint and locations where a range of activities may be accommodated.”</i> (HM Government, Northern Ireland Executive, Scottish Government, Welsh Assembly Government, 2011)</p> <p>The South Inshore and South Offshore Marine Plan <i>“clarifies where co-existence is not appropriate, and where activities should be avoided”</i> and <i>“enables</i></p> | <p><b>Belgium’s approach to rank secondary users according to their climate impact might display an suitable tool for assessment.</b></p> <p><b>Within the German EEZ, conflicts arose in regards to favourable usage and non-usage zones.</b></p> <p><b>Denmark follows this approach as the upcoming MSP is to include general and</b></p> |

| Criteria                                  | Belgium                                                                                                                                                       | Germany | Denmark                                                                                                                 | Scotland                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | England                                                                                                                                | Conclusion per Criteria                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| Ranking of suitability of secondary users | not obstruct possible OWF developments. As the EC declined the national request, the <i>Vlakte van de Raan</i> SAC is still designated (Jones, et al., 2016). |         | therefore becomes an existing development zone, the area functions as a general use zone. (European MSP Platform, 2019) | <p><i>“The Marine Plan should identify areas of constraint and locations where a range of activities may be accommodated.”</i> (HM Government, Northern Ireland Executive, Scottish Government, Welsh Assembly Government, 2011)</p> <p>Identification of preferential usage zones to specific sectors in the regional marine plans including exercises to determine potential interaction, understanding of constraints through Regional Locational Guidance, considerations of priorities, potential impacts, cumulative effects, scenarios and robust consultation. (The Scottish Government, 2015)</p> | <i>communication and negotiation where co-existence is an option, so impacts can be mitigated or minimised.”</i> (HM Government, 2018) | <p><b>reserved development usage zones which in serve as important tool for users allocation.</b></p> <p><b>Also within the UK, marine plans are utilized to identify where coexistence is appropriate and where it should be avoided, however it does not particularly refer to individual usage types. Furthermore, impacts are to be minimized via the facilitation of communication and negotiations where co-existence is an option.</b></p> |

| Criteria                                               | Belgium                                                                                                                                                                                                                      | Germany                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Denmark                                       | Scotland                                                                                                                                                                                           | England                                                                                                                                                                                                                       | Conclusion per Criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| <p><b>Necessity of consent approval from OWFLH</b></p> | <p>Requirements are set for aquaculture projects in OWF: approval of OWF operator needs to be obtained</p> <p><i>No information on necessity of OWFLH approval for other types of activities derived via quick-scan.</i></p> | <p>Property rights in the German EEZ are vague and lead to legal uncertainty (Wever, et al., 2015).</p> <p>OWFLH have priority rights over other users within their assigned priority areas as to the German MSP. These priority areas protect construction, operating and maintenance activities against other users (Schupp &amp; Buck, 2017), <i>which means that</i> use that is not compatible with wind energy generation is not permitted in the priority areas for OWF (Bundesministerium der Justiz und für Verbraucherschutz, 2009). The OWF industry therefore is reluctant with regard to shared use, most stakeholders see no need to compromise the security that these rights guarantee them. OWF actors have an absolute veto-right for all</p> | <p><i>No further information derived.</i></p> | <p>Licencing and consenting powers – without which no developments can go ahead – will also remain central with the Marine Scotland Licencing and Operations Team. (Smith &amp; Jentoft, 2017)</p> | <p>OFELH’s required to investigate mitigation designs “<i>to enhance potential medium and long-term positive benefits to the fishing industry</i>” (Department of Energy &amp; Climatechange, 2011; Syvret, et al., 2013)</p> | <p><b>In Germany, OWFLH have priority right within their assigned zones. No guidance on consent from OWFLH. The Offshore wind industry is perceived to be reluctant to shared usage activities.</b></p> <p><b>In the UK, a requirement for the investigation of mitigation design is present, however no strict guidance is given.</b></p> <p><b>In Belgium, consent of the OWFLH regarding AC development is required.</b></p> <p><b>No relevant information for Demark and</b></p> |
| <p><b>Necessity of consent approval from</b></p>       |                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                               |                                                                                                                                                                                                    |                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Criteria                                     | Belgium                                                                                                                                              | Germany                                                                                                                                                                                                                                                             | Denmark                        | Scotland                                                                                                                                                                                      | England                                                                                                                                                                                       | Conclusion per Criteria                                                                                                                                                                                                                               |
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| <b>OWFLH</b>                                 |                                                                                                                                                      | activities within their priority areas and some use this to impose barriers. Others are willing to investigate further possibilities (Schupp & Buck, 2017).                                                                                                         |                                |                                                                                                                                                                                               |                                                                                                                                                                                               | <b>Scotland was retrieved.</b>                                                                                                                                                                                                                        |
| <b>Availability of scaling-up guidelines</b> | <i>No information derived.</i>                                                                                                                       | <i>No information derived.</i>                                                                                                                                                                                                                                      | <i>No information derived.</i> | <i>No information derived.</i>                                                                                                                                                                | <i>No information derived.</i>                                                                                                                                                                | <b>In relation to this criteria, no lessons learned were identified within the scope of this study</b>                                                                                                                                                |
| <b>Perception of Process</b>                 | Compared to obtaining licences in the UK Celtic Sea and Pentland Firth and Orkney, Belgium is interpreted to be more strict (Kyriazi, et al., 2016). | Stakeholders experience uncertainty around legal aspects, as the applicability of laws and regulations in the German EEZ is unclear (Wever, et al., 2015).                                                                                                          | <i>No information derived.</i> | Degree of uncertainty between different stakeholders about the actual rights and jurisdiction over licencing of marine aquaculture both within and outside wind farms. (Syvret, et al., 2013) | Degree of uncertainty between different stakeholders about the actual rights and jurisdiction over licencing of marine aquaculture both within and outside wind farms. (Syvret, et al., 2013) | <b>Belgium's licencing environment appears to be strict in comparison with the UK. In Germany as well as the UK uncertainty regarding the applicability of individual laws and regulations in different zones of distance to shore were observed.</b> |
| <b>Perception of Process</b>                 | <i>No further information on the perception of the process derived via quick-scan.</i>                                                               | Legal frameworks regarding marine aquaculture (for example the applicability of the Marine Facilities Ordinance or the Federal Fisheries Law) is considered 'far from clear, weak and fragmented'. This also accounts for any combined-usage (Wever, et al., 2015). |                                |                                                                                                                                                                                               |                                                                                                                                                                                               |                                                                                                                                                                                                                                                       |

| Criteria                                                        | Belgium                                                                                           | Germany                                                                                                 | Denmark                                                                                        | Scotland                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | England                                                                                    | Conclusion per Criteria                                                                                                                                                                                                        |
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|                                                                 |                                                                                                   |                                                                                                         |                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                            | Multiuse seems to rise questions and uncertainties on legal aspects in Germany and UK                                                                                                                                          |
| <b>Communication between applicants and competent authority</b> | <i>No information derived.</i>                                                                    | <i>No information derived.</i>                                                                          | <i>No information derived.</i>                                                                 | <p>In Scotland, advice on the applicable laws and processes for offshore renewable energy projects is readily available through a single authority, Marine Scotland (Jeffrey &amp; Sedgwick, 2011)</p> <p>Availability of a licencing guide (The Scottish Government, 2015), including an elaboration on the need for licences, which authority is competent, and an explanation of the process and an explanation of what is assessed (The Scottish Government, 2011)</p> | <i>No information derived.</i>                                                             | <p><b>With respect to this obstacle, only a Scottish approach was identified. Marine Scotland appears to stress good communication of applicable laws and has a single competent authority (Marine Scotland) in place.</b></p> |
| <b>Emphasis per SSNSC</b>                                       | <b>Besides the Belgian objective for aquaculture (which includes land-based cultivations) and</b> | <b>Germany's objectives (except for marine fish farming) are formulated vague and no clear steps to</b> | <b>Although Denmark has sector-specific objectives regarding sustainable development (e.g.</b> | <b>Scotland has concrete targets regarding aquaculture and renewable in place which</b>                                                                                                                                                                                                                                                                                                                                                                                    | <b>In key policy documents co-existence is encouraged as a tool to achieve sustainable</b> | <b>Conclusion of Sub-question b in chapter 4.10</b>                                                                                                                                                                            |

| Criteria | Belgium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Germany                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Denmark                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Scotland                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | England                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Conclusion per Criteria |
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|          | <p>their objective for offshore wind, no clear goals are set. Neither are concrete steps to reach BSN overall objectives. Other forms of renewable energy production are not mentioned in policy documents. Multiuse is recognized as way forward to integrate new uses into MSP, which may help future developments of supporting policies. A vision for the post-operation-phase of OWF is not yet developed/ shared. A MU framework is not in place, but EIAs can be carried out rapidly via impact-maps. Climate impact is seen as criteria to decide on user priority for co-existence-applications. However, nature(-recovery) seems to be subordinate to the development of OWF. Aquaculture within OWF</p> | <p>achieve set goals are mentioned in national policies. A vision for the post-operation-phase of OWF is not yet developed, but a certain amount of freedom in the dismantling of structures in favour of natural development is mentioned, provided this is compatible with safety and shipping. Germanys aquaculture framework is considered weak, and a framework for multiuse does not exist. Applications are handled case-by-case, but missing definitions for key-concepts cause legal uncertainties. There are conflicting views on the user-priority. OWFLH have priority in their assigned areas and to a great deal reacts reluctant in regards to shared use. Stakeholders experience uncertainty regarding licencing.</p> | <p>renewable energy production and aquaculture) and a legal framework supporting multi-use, more specifically coexistence in place, no MU development has been realized. Reasons for this can be found in the complex distribution of competence between authorities as well as a multitude of regulations, lacking support and/or incentives to promote colocalization. Also, concrete target setting and incentives have not been identified. Cross-sectoral integration in decision-making to date is not present. With the Act on Maritime Spatial planning, the Danish government has recognized the need for further integration and stresses colocation as mean of multilateral objective attainment. As of 2021 implementation is to</p> | <p>are considered national priorities and might be supportive in the realization of MU. Coexistence is included in key policy documents however to date only encouragement for implementation an no concrete incentives are present. National energy policy documents stress that new development activities should consider aquaculture as a mitigation measure to achieve fishery compensation, which supports MU development. The regional marine plans focus on the identification of preferential usage zones for specific sectors which might play a vital role in MU allocation. A degree of uncertainty has been observed on behalf of stakeholders when it</p> | <p>economic development within the scope of space-efficient use. Both renewable energy and aquaculture production are identified as national priorities, with emphasis on the integration between different objectives. Although colocation of activities is encouraged were possible, no concrete incentives were identified. Striking is that OWF can be realized in MPA's if the objectives are considered overriding in respect to the MPA objectives. The Planning Act 2008 serves as an important legal anchoring for providing the MRE industry with requirements to consider aquaculture as a mean of mitigation and compensation.</p> |                         |

| Criteria | Belgium                                                                                                                                                                                                                                                                                                                                                                                                                    | Germany                                                                                                                                                      | Denmark                                                                                                                                                               | Scotland                                                                                                                                                                                                                          | England                                                                                                                                                                                                                                                                                                               | Conclusion per Criteria |
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|          | <p>is only allowed if OWF do not experience disturbance and if the aquaculture improves eutrophication-levels at the site. Belgian licencing procedures are regarded to be strict.</p> <p>No data regarding visions on long-term-developments &amp; post-operation phase of sites, financial requirements needed for a licence-application, scaling-up-guidelines or the communication with applicants was identified.</p> | <p>No data regarding financial requirements needed for a licence-application, scaling-up-guidelines or the communication with applicants was identified.</p> | <p>be included in the MSP.</p> <p>No data regarding financial requirements, consent approval, scaling up guidelines, perception and communication was identified.</p> | <p>comes to the legal environment and licencing procedures, however guidance on licencing is made available by the Marine Scotland.</p> <p>No data regarding scaling up guidelines and financial requirements was identified.</p> | <p>Although there is no MU framework in place, MU licencing within the current legal system has taken place however significant delays due to uncertainties were experienced. As well as in Scotland, a degree of uncertain regarding the legal environment for MU legislation among stakeholders was identified.</p> |                         |

## Appendix XIV – Stakeholder meeting blueprint

### **Goal of the meeting**

The meeting aimed to discuss the identified national obstacles (chapter 3.2) in an open discussion to jointly detect possible solutions. This discussion aimed to be the basis for the formulation of recommendations regarding the streamlining of licencing procedures. Furthermore, the meeting allows for additional input concerning steps forwards regarding a streamlined licencing procedure.

Therefore, the meeting aimed to (partly) answer the third sub-question: How can the Netherlands apply corresponding approaches in order to resolve obstacles?

### **Participants**

Participants consisted of relevant actors regarding the licencing procedures of additional activities within Dutch OWF. These are: Associates of competent governmental institutions and authorities, representatives on behalf of entrepreneurs and the respective economic sectors. Former (potential) interviewees were invited, as well as participants proposed on behalf of the problem owner. A list of the participants can be found in Appendix X.

### **Role of participants**

The participants both acted as informants regarding possible solutions based on information detected via the literature study of SSNSC, as well as in regards to their applicability in the Netherlands.

### **Inventory of main practical constraints and implications**

Accessibility of participants, privacy issues as well as language were the main constraints linked to the stakeholder meeting. Uncertainty arose whether or not participants would have time in the short time frame available, and whether or not participants were willing to share information about sensitive topics regarding national licencing procedures and their own viewpoints and experiences with multi-use. Furthermore, confidentiality of contents had to be discussed with each participant as the final report is available to the public. Also the language of communication was regarded as a possible issue as involved parties were Dutch, whereas this is not the native language of the authors.

### **Organizational orientation of the meeting**

The stakeholder meeting was held on January 8<sup>th</sup> 2020 in a conference room at the visiting address of the Netherlands Enterprise Agency (RVO) in The Hague (Prinses Beatrixlaan 2, 2595 AL, The Hague) between 11:00am and 01:00pm. A presentation was held by the authors to which participants gave input.

### **Preparations**

Invitations to the stakeholder meeting were sent together with a date picker and an explanation of the goal of the meeting on December 9<sup>th</sup> 2019 via email. The date most participants were available was then chosen to be the date of the stakeholder meeting. This was communicated to the participants a week after the initial invitation. A reminder email (chosen date, place, time and goal of the meeting) was sent on January 5<sup>th</sup> 2020 together with an overview of the detected obstacles in the attachments, allowing participants to prepare for the open discussion. Further preparation included the reservation of a suitable meeting room and ordering the provided lunch, coffee & tea, undertaken by the problem owner.

**Guide/ Program:****Stakeholder meeting**

Wednesday, January 8<sup>th</sup> 2020, RVO The Hague (11:00am – 13:00pm)

|                |                                                                                                                                                                                                                            |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>11:00am</b> | <b><i>Introduction-round</i></b>                                                                                                                                                                                           |
| <b>11:05am</b> | <b><i>Introduction of Agenda &amp; Meeting's goal</i></b><br><b><i>Introduction of Identified obstacles</i></b><br><b><i>Introduction of structure of presentation</i></b><br><b><i>Answering beforehand-questions</i></b> |
| <b>11:15am</b> | <b><i>Open discussion on obstacles</i></b>                                                                                                                                                                                 |
| <b>12:00am</b> | <b><i>Lunch break</i></b>                                                                                                                                                                                                  |
| <b>12:10am</b> | <b><i>Open discussion on obstacles (continuation)</i></b>                                                                                                                                                                  |
| <b>01:00pm</b> | <b><i>Wrap-up</i></b>                                                                                                                                                                                                      |

**Required analysis**

The stakeholder meeting was audio-recorded and filmed to ensure correct transcription, which was done a week after the meeting took place. Inductive coding was applied in order to analyse the transcribed interviews. Frequent statements, or statements agreed to by (a part of) the participants will generate codes. Per code, information was summarized to give input to the formulation of recommendations for RVO that are the outcome of this thesis.

**Confidentially**

Participants were asked consent about the meeting being filmed and audio-recorded. Furthermore, they were informed that made statements would function as basis for the formulation of recommendations to RVO, to which they agreed.



## Experiment passieve visserij in windpark op zee, Ministerie van Landbouw, Natuur en Voedselkwaliteit

### Voornemen

Op basis van de beleidsnota Noordzee 2016-2021<sup>1</sup> is doorvaart voor schepen tot 24m en visserij met een hengel in operationele windparken onder voorwaarden toegestaan. Deze voorwaarden zijn vastgelegd in de Beleidsregel instellen veiligheidszone windparken op zee (Stcrt. 2018, 22588, hierna: beleidsregel). In artikel 4 van deze beleidsregel is tevens de mogelijkheid gecreëerd een experiment uit te voeren met passieve visserij in windparken, met als doel te onderzoeken of passieve visserij in windparken haalbaar is en veilig uitgevoerd kan worden.

Meervoudig ruimtegebruik van de Noordzee is een belangrijk doel van het rijksbeleid. Met het experiment wil het Ministerie van LNV ervaring opdoen om te bepalen of en hoe passieve visserij in de nieuwe windparken mogelijk gemaakt kan worden. De Minister van LNV is voornemens om één partij de mogelijkheid te geven onderzoek te doen naar de mogelijkheden voor passieve visserij op krabben en kreeften met manden en korven in een operationeel windpark voor de Hollandse kust. Doel van dit experiment is na te gaan of deze vorm van visserij economisch haalbaar, ecologisch wenselijk en praktisch en veilig uitvoerbaar is.

Er is op dit moment ruimte voor één experiment met een onderzoeksdoel. In de afgelopen periode zijn enkele initiatieven gedeeld met het Ministerie van LNV. Het project van het consortium Win-Wind voldoet het beste aan de onderzoeksvragen en de voorwaarden. De Minister van LNV is daarom voornemens het consortium Win-Wind de mogelijkheid te geven een experiment met manden en korven uit te voeren binnen een operationeel windpark.

### Voorwaarden

Naast de voorwaarden uit artikel 3 lid 1 sub a t/m e van de beleidsregel, gelden voor het experiment aanvullende voorwaarden die zijn opgesteld door het Ministerie van LNV, in samenspraak met Rijkswaterstaat Zee & Delta, de Kustwacht en de windparkexploitant.

De aanvullende voorwaarden voor het experiment zijn:

- het experiment wordt alleen uitgevoerd met manden en korven;
- de bodem mag wel geraakt worden maar, op grond van in visserijbeleid gebruikelijke terminologie, niet beroerd;
- er worden in de experimentele periode geen mariene organismen onttrokken uit de veiligheidszone van het windpark;
- het experiment is voor eigen rekening en risico van de initiatiefnemer;

- de infield cables, en het onderhoud hieraan, mogen geen effecten ondervinden van het experiment;
- het vaartuig dat wordt ingezet voor de uitvoering van het experiment dient te zijn aangemeld bij de Kustwacht Nederland;
- activiteiten in het windpark dienen met de windparkexploitant te worden afgestemd;
- na afloop van het experiment wordt aan de Minister van LNV een rapportage over de resultaten van het project gestuurd. In deze rapportage wordt – waar nodig op wetenschappelijk onderbouwde wijze – ingegaan op de resultaten t.a.v. de volgende onderzoeksvragen:
  - het veilig manoeuvreren binnen een bestaand windpark;
  - het veilig uitzetten van manden en korven binnen een bestaand windpark;
  - de ecologische toestand van de Europese Kreeft en Noordzeekrab binnen een operationeel windpark;
  - de economische haalbaarheid van passieve visserij met manden en korven in een operationeel windpark.
- Het experiment mag gedurende twee vaarseizoenen worden uitgevoerd en moet uiterlijk zijn afgerond per 1 oktober 2021. Na het eerste seizoen wordt een korte tussentijdse rapportage opgesteld over de voornaamste bevindingen.
- De initiatiefnemer stelt een plan op voor het betrekken van windparkexploitant, vissers en andere stakeholders bij het experiment en stemt het plan hiervoor af met de Minister van LNV.

## Procedure

Indien er partijen zijn die het niet eens zijn met het voornemen om het consortium Win-Wind de mogelijkheid te geven dit experiment uit te voeren, dan kunnen zij dit uiterlijk 21 dagen na de dag van publicatie van dit voornemen in de Staatscourant, gemotiveerd kenbaar maken. Wanneer één of meer partijen gemotiveerd kenbaar en aannemelijk kunnen maken dat zij zelf het experiment willen en kunnen uitvoeren onder bovengenoemde voorwaarden, zal er een openbare uitvraag worden gepubliceerd voor de uitvoering van het experiment.

Wanneer niet binnen 21 dagen na de dag van publicatie van dit voornemen in de Staatscourant is gebleken dat ook andere partijen het experiment willen uitvoeren, wordt het consortium Win-Wind de mogelijkheid gegeven het experiment uit te voeren.

U kunt uw reactie indienen bij het Ministerie van LNV, t.a.v. team visserijbeleid, Postbus 20401, 2500 EK Den Haag.

## Vervolg

Met de partij die de gelegenheid krijgt om het experiment uit te voeren worden in een overeenkomst nadere afspraken vastgelegd over de uitvoering van het experiment.

## Appendix XVI – Overview of Dutch licencing procedure and relevant laws & policies

### Vergunningsverleningsproces voor medegebruik in offshore windparken

