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Policy integration and stakeholder involvement

*The case of offshore wind energy planning in the
English and Lower Saxon EEZ*



Master Thesis

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Abstract

Offshore wind energy production, one key driver within the energy transition towards renewable energies, can be considered as the trigger for the development of the concept of marine spatial planning (MSP). The increasing number of space-consuming windfarms in Exclusive Economic Zones (EEZs) collide with other ecological or economic interests. This clash of interests in the spatially limited scope of the EEZ, results in an increasing complexity for planning processes in the marine realm. MSP is considered as a tool for overcoming the increasing complexity with the potential to induce a balanced and sustainable planning process of marine interests. Policy integration and stakeholder involvement represent fundamental assets of a successful MSP process. The application of policy integration and stakeholder involvement within the English and Lower Saxon planning regime is of great interest since they are part of the two world leading planning systems in offshore wind energy production (UK, Germany).

By appointing a single planning authority for conducting MSP in the English territorial waters a high level of policy integration is being achieved in England, characterized by institutional and functional coordination. Due to a rather sectoral than coordinated planning approach the Lower Saxon planning approach is still lacking integrative attributes. The involvement of stakeholders within the planning process of offshore windfarms is more emphasized in England than in Lower Saxony. However, the strong political bias towards the offshore wind energy sector impedes a substantive participation of affected stakeholders in both planning approaches, resulting in only minor opportunities for interference. Both planning regimes are characterized by a distinct implementation gap, failing at translating the theoretical objectives into practice.

The findings of the conducted analysis suggest that the increasing complexity of the planning process of offshore windfarms requires more coherent and coordinated planning approaches. A comprehensive MSP approach, build on tailor-made policy integration and stakeholder involvement concepts which are adjusted to the specific context of the present planning regime, represents the essential planning approach to safeguard a sustainable exploitation of the marine realm in the future.

Key words: Offshore windfarm planning, policy integration, stakeholder involvement, marine spatial planning (MSP), England, Lower Saxony, Exclusive Economic Zone

List of acronyms

BSH	<i>Federal Maritime and Hydrographic Agency</i>
EEZ	<i>Exclusive Economic Zone</i>
EU	<i>European Union</i>
GW	<i>Giga watt</i>
MCAA	<i>Marine Coastal Access Act</i>
MDS	<i>Most different systems design approach</i>
MMO	<i>Marine Management Organization</i>
MPS	<i>Marine Policy Statement</i>
MSP	<i>Marine spatial planning</i>
MW	<i>Mega watt</i>
NIMBY	<i>Not in my backyard effect</i>
OSPAR	<i>Convention for the Protection of the Marine Environment of the North-East Atlantic</i>
RE	<i>Renewable energies</i>
UK	<i>United Kingdom</i>
UNCLOS	<i>United Nations Convention on the Law of the Sea</i>
UNESCO	<i>United Nations Educational, Scientific and Cultural Organization</i>

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1 Introduction

1.1 The shift towards offshore wind energy production

Energy provision based on fossil fuels is finite. An orientation towards the generation of energy independent from fossil fuels is inevitably (Zhang et al., 2017). Within this reorientation energy generated from renewable sources is gaining momentum (Zhang et al., 2017). In order to promote the transition towards renewable energy (RE) sources, the European Union (EU) adopted the Renewable Energy Directive in 2009, setting the target that 20% of the total energy needs within the EU should be covered by RE sources by the year 2020 (European Parliament, 2009). Within this transition the offshore windfarm sector is advised a key role (Department of Energy & Climate Change, 2009).

However, the offshore wind energy (OWE) sector represents a highly contested field (Kaldellis & Kapsali, 2013). Due to its offshore character, the NIMBY-effect on offshore windfarms is lower compared to onshore farms, nevertheless it represents a topic of high political and ecological sensitivity. Competing exploitation interests, political claims as well as ecological concerns demand an integrative approach of structuring the planning process of offshore windfarms (Klain, 2016). This claim for policy integration in the OWE sector, including the necessity for participation represents the central focus of this study.

Meijers & Stead (2004) highlight the cross-cutting nature of policy integration by defining it as “the management of cross-cutting issues in policy-making that transcend the boundaries of established policy fields, which often do not correspond to the institutional responsibilities of individual departments” (p. 1). Furthermore, Bolleyer (2011) claims that cooperation and coordination are necessary conditions to create the desired interdependency between two or more policy domains. This conception is in accordance with Tosun & Lang (2017) who define policy integration as a rather empirical phenomenon which is based on the “collaboration of actors from two or more policy domains” (p. 1). Due to the increasing fragmented character of the OWE sector, it becomes apparent that integration is not attainable without cooperation among different stakeholders (Heeres et al., 2012; Tosun & Lang, 2017). This leads to the claim that appropriate stakeholder involvement represents a crucial factor for policy integration (Tosun & Lang, 2017).

Considering these theoretical claims one question is predominant: How to apply policy integration and stakeholder involvement in practice to boost the progressing transition towards RE and does the facilitating effect, claimed by theory, vindicate.

The central focus of this study is the contribution of policy integration and stakeholder involvement, with special focus on the OWE sector in England and Germany, the two leading countries in offshore wind power generation in the EU. A contrasting juxtaposition of both countries, including significant attributes in regard to OWE, is provided in Table 1. Considering devolved legislations regarding offshore windfarm planning in both countries, the present study will focus on England (UK) and Lower Saxony (Germany) as case studies to ensure a significant and meaningful analysis.

1.2 Integration and participation - Offshore wind energy in the UK and in Germany

The transition towards a reliable and environmental friendly energy system, hence reducing the dependence on fossil fuels, is considered to be a major challenge of the 21st century (Peimani, 2011; Wagner, 2008). However, the challenge cannot be tackled by one country alone, it requires collaboration, including integration and stakeholder involvement. Therefore, the EU took action by establishing an overarching policy about the production of RE in the EU, known as the Renewable Energy Directive, which came into force in 2009. According to the Directive, 20% of the European Unions' energy needs should be covered by RE sources by 2020.

Offshore wind energy production in the UK

The national target, which the UK was assigned by the EU, demands that by 2020 15% of the total energy consumption in the UK should be generated from RE sources. In retrospect, in 2005 this share amounted to 1.5% (Department of Energy & Climate Change, 2009). To promote the progress, a sub-target for the British OWE sector was set: Generating at least 10% of the country's electricity supply through OWE by 2020.

Currently, the UK represents the world leader in OWE production with a total capacity of over 6,8 GW, generated by 31 windfarms that have been fully commissioned by December 2017 (cf. Figure 1). The aspiration of achieving a total capacity of 30 GW by 2030, conveys the key role of the OWE sector (Pineda, 2018).

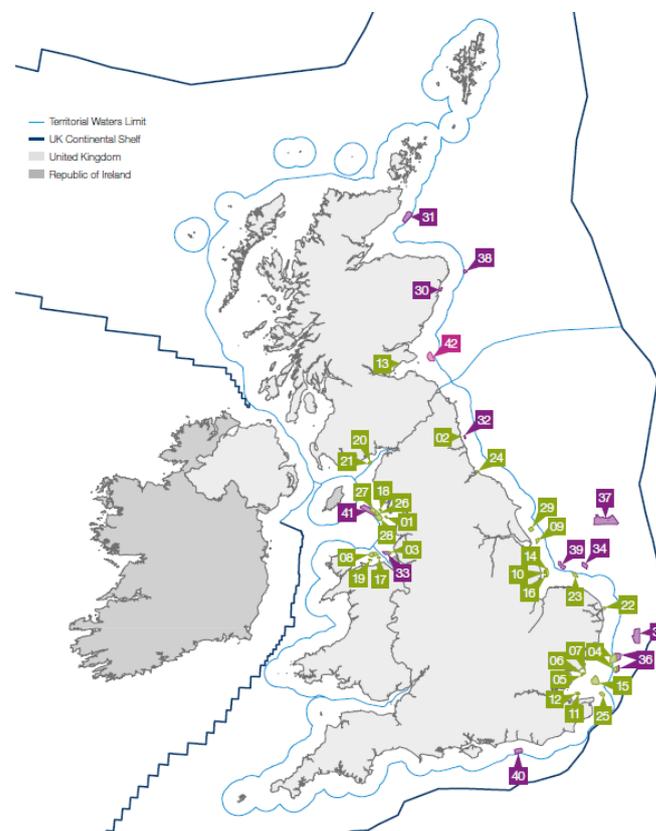


Figure 1: Location of offshore windfarms in the EEZ of the UK (status as of December 2016). Annotation: Green = Operational, Purple = Under construction, Pink = Government support on offer. (Source: The Crown Estate, 2017).

Generally speaking, energy is a devolved matter in the UK. Devolved administrations in England, Wales, Scotland and Northern Ireland are advised by the UK Government to develop strategies to meet the overall RE targets (Department of Energy & Climate Change, 2009). Thus, local authorities are granted the ability to interpret national policies and develop plans for specific areas independently. This results in a complex system of different legislations concerning the authorization, certification and licensing procedures of offshore windfarms. Furthermore, the number of stakeholders involved in the process is continuously increasing (Interviewee 4, 2018). Table 1 provides a summary of all significant numbers and facts regarding the OWE sector in the UK.

Offshore wind energy production in Germany

In 2005 the share of energy generated from RE sources amounted to 5,8% in Germany. Based on this factor, the EU determined the national 2020 target for Germany at 18% (Bundesamt für Wirtschaft und Energie, 2009).

At the moment, Germany represents the second strongest generator in OWE, only overtrumped by the UK. By the end of December 2017, the German total capacity of OWE were estimated at 5,4 GW (6,8 GW in the UK). The German OWE sector covers over 1100 connected turbines, installed in 23 different windfarms in the North and Baltic Sea (Pineda, 2018; cf. figure 2). However, the contribution of the windfarms in the Baltic Sea can be regarded as marginal (0,7 GW), in contrast windfarms in the North Sea generate up to 4,7 GW (Deutsche WindGuard GmbH, 2017). The total Germany capacity of offshore windfarms is expected to increase to 20 GW until 2030 (Pineda, 2018).

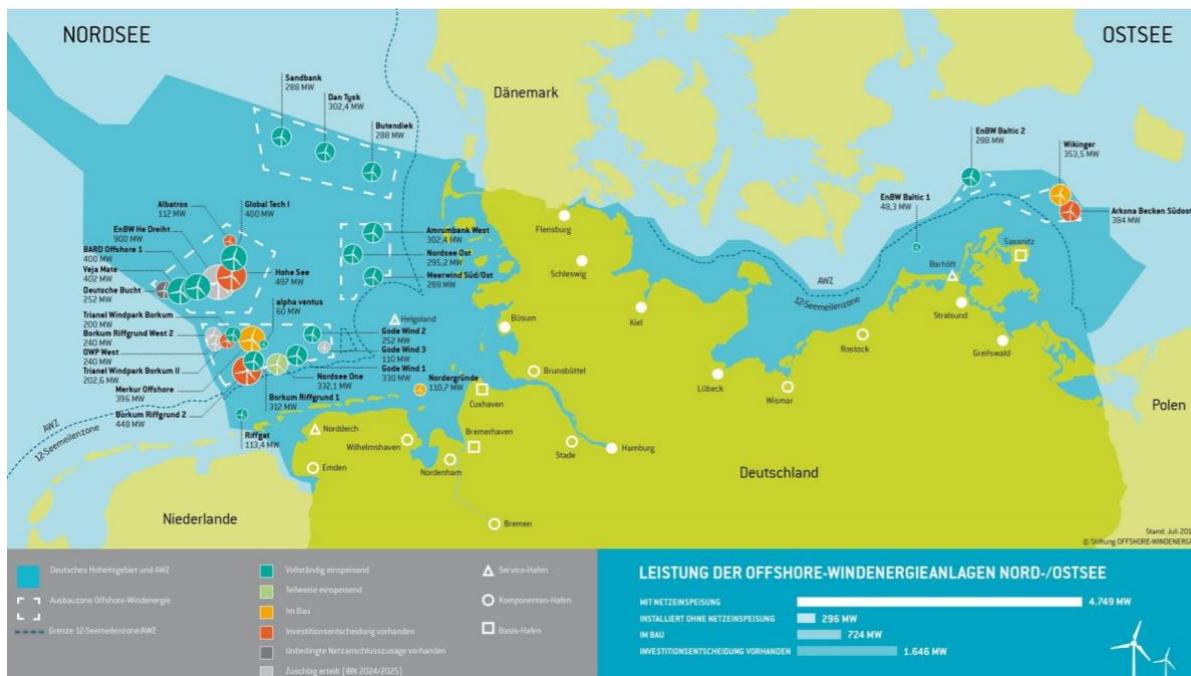


Figure 2: Location of offshore windfarms in the EEZ of Germany (status as of June 2017). Annotation: Green = Operational, Orange = Under construction, Grey = Planned. (Bundesamt für Wirtschaft und Energie, 2009).

Similar to the UK, also in Germany the OWE sector is given special attention in regard to meeting the target of 2020. In 2005, the contribution of OWE to the total amount of energy generated from wind energy equaled 0%. However, by 2010 (one year after the Renewable Energy Directive came into force) the percentage rose to 0.3% and 4,7% in 2016, respectively (Pineda, 2018).

Like the devolved matter in the UK, the federal system in Germany influences the planning process of offshore windfarms. The federal states represent the highest level of jurisdiction in regard to OWE. However, formulating specific legislations concerning the authorization, certification and licensing procedures of offshore windfarms is the responsibility of the regional and local governments. Thus, the German federal system contributes to an increasing complexity of the planning process of offshore windfarms, both in regard to policies as well as to the number of stakeholders involved in the process (Bundesamt für Wirtschaft und Energie, 2009). Table 1 provides a summary of all significant numbers and facts regarding the German OWE sector.

Table 1: Comparison of significant attributes in the context of OWE production in the UK and Germany. (Author, 2018).

Attribute	UK	Germany
National 2020 target – RE sector	15% ¹ (1.5% in 2005) ¹	18% ² (5.8% in 2005) ²
National 2020 target – OWE sector	10% ³ (15% in 2016) ³	9% ² (4,7% in 2016) ²
Total offshore capacity (in GW, Dec. 2017)	6.8 ⁴	5.4 ⁴
Aspired total offshore capacity by 2030 (in GW)	30 ⁴	20 ⁴
Number of operating windfarms (Dec. 2017)	31 ⁴	23 ⁴
Institutional setting	Devolved system ¹	Federal system ⁵

The distinct differences in regard to the institutional setting (a devolved system in England and a federal system in Lower Saxony) represent one of the reasons for choosing England and Lower Saxony as cases of interest for this study. For a thorough explanation of the case selection see section 3.1.2.

1.3 The research problem, relevance and objective

Taking the increasing complexity of the OWE sector into consideration the degree of integration between different policy sectors and stakeholders gains increasing attention (European Parliament, 2014).

¹ Department of Energy & Climate Change (2009). National Renewable Energy Action Plan for the United Kingdom. 1 - 160.

² Bundesamt für Wirtschaft und Energie (2009). Nationaler Aktionsplan für erneuerbare Energie gemäß der Richtlinie 2009/28/EG zur Förderung der Nutzung von Energie aus erneuerbaren Quellen.

³ The Crown Estate (2017). Offshore wind operational report.

⁴ Pineda, I. (2018). Offshore Wind in Europe - Key trends and statistics 2017.

⁵ Deutsche WindGuard GmbH (2017). Status des Offshore-Windenergieausbaus in Deutschland.

The traditional sectoral, single-issue planning approach, neglecting the need for integration, is considered as too inefficient and inappropriate to tackle the upcoming challenges for planning in the marine realm (Portman, 2011; Agardy et al., 2011). An impact assessment of the EU's Marine Strategy Directive of 2002 conducted in 2005 pointed at the still prevailing lack of an overall, integrated policy for marine protection. Measures aiming at the reduction of pressures and impacts on the marine environment were still developed in a sector-specific manner "resulting in a patchwork of policies legislation, programs, and action plans at national, regional, European, and international levels, with little coordination between them" (Portman, 2011, p. 2193) and thereby not rarely curtailing each other.

Hence, a call among policy-makers for a more proactive, integrative and comprehensive approach to manage uses at sea to ensure and promote the Europe 2020 Strategy was the result (Portman, 2011; European Parliament, 2014). The concept of marine spatial planning (MSP) defined by the UNESCO as a "public process of analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives that are usually specified through a political process" (Ehler & Douvère, 2009, p.18) emerged. Based on this definition, MSP is understood as a cross-cutting tool, enabling public authorities and stakeholders to coordinate existing and future marine uses, through science-based, multi-stakeholder decision-making (European Parliament, 2014). The integrative as well as participatory character of MSP is highlighted by Ehler & Douvère (2009). MSP is expected to facilitate the sustainable development of the sea and contribute to the effective management of marine activities in a sustainable manner by providing a framework for consistent, transparent, sustainable and evidence-based decision-making (European Parliament, 2014).

However, a successful translation of MSP as an integrative and participatory tool into practice is lacking in many cases (Brennan et al., 2014; Kidd & Ellis, 2012). According to Ehler & Douvère (2009) as well as the European Parliament (2014), MSP builds on the integration principle, implying the vertical as well as horizontal integration among different sectoral and institutional compartments and policies to create complementary and mutually reinforcing decisions and actions. However, this principle is rarely applied in practice. Ehler (2012) claims that the absence of integration within the MSP process results from the lack of authority, information or expertise, which would be necessary to replace single-sector management strategies. Drawing on this claim, Mitchell (2005) and Innes & Booher (2004) state that stakeholder involvement can be seen as a crucial driver for increasing integration within the MSP process, hence overcoming its shortcomings in practice.

Considering the increasing complications in balancing the planning process of the highly contested marine realm, it is expected that MSP represents a suitable planning approach to overcome the increasing complexity of the OWE sector, at least considered from the theoretical background (cf. section 2.3).

However, as explained above the contribution of MSP towards a more integrative and participatory decision-making process is marginal in many cases. Following this shortfall of MSP in practice, the question arises of how England and Lower Saxony make use of policy integration and stakeholder involvement to avoid impeding effects. Moreover, how do they overcome the deficits of MSP in practice to successfully address the increasing complexity.

Hence, the *objective* of this study is: to identify how policy integration and stakeholder involvement are being utilized during the process of MSP in the context of offshore windfarm planning in England and Lower Saxony. A study conducted by Spijkerboer (2015), identified several deficits of the Dutch MSP practice in regard to offshore windfarms. Therefore, one *additional objective* of this study is: to present improvement proposals to overcome these shortcomings in order to enhance the Dutch performance in regard to OWE production.

1.4 Presentation of research question

The aim of this study is to analyze how policy integration and stakeholder involvement are being applied to the planning process of offshore windfarms in England and Lower Saxony. Based on these findings the primary research question will be answered:

How is policy integration and stakeholder involvement contributing to the planning process of offshore windfarms in England and Lower Saxony?

To adequately answer the primary research question five secondary research questions have been formulated:

- 1) What is policy integration and stakeholder involvement and what do they mean to achieve in the application of MSP in offshore windfarm planning?
- 2) How is policy integration being applied to the planning process of offshore windfarms in England and Lower Saxony?
- 3) What is the role of stakeholder involvement in the planning process of offshore windfarms in England and Lower Saxony?
- 4) What are the similarities as well as differences between the planning approaches in England and Lower Saxony for achieving policy integration and stakeholder involvement in the offshore wind energy sector?
- 5) How can policy integration and stakeholder involvement contribute to the identification of crucial factors for achieving a better integrated MSP process of offshore windfarms in the Dutch context?

The theoretical framework elaborated in chapter 2 provides a review of relevant literature regarding policy integration and stakeholder involvement, as well as how these concepts relate to MSP. Chapter 2 concludes with a conceptual model, which will guide the analysis of policy integration and stakeholder involvement in the planning process of offshore windfarms in England and Lower Saxony. Chapter 3 subsequently discusses the applied methodology. Following this, chapter 4 presents the results of this study, followed by a discussion and reflection in chapter 5. In the conclusion (chapter 6), the primary research question will be answered and recommendations for further research will be provided.

2 Theoretical framework

A theoretical framework is provided to embed and position this research in current debates not only of policy integration per se but also within other concepts such as stakeholder involvement and MSP. This leads to a better understanding of the interrelation between policy integration and stakeholder involvement in regard to the planning process of offshore windfarms. This chapter concludes with a conceptual model, which will serve as a basis for the analysis of policy integration and stakeholder involvement in the planning process of offshore windfarms in England and Lower Saxony.

2.1 Policy integration: a fuzzy concept addressing complexity

Considering the on-going debate about the shift towards RE as a result of the limited nature of fossil fuels as well as its contribution to climate change, the concept of policy integration is given special attention. This is the case especially in the fields of natural resource management, integrated water resource management or integrated coastal zone management (Tosun & Lang, 2017; Schoeman et al., 2014; Portman et al., 2012). However, due to the limited scope of this study the focus is solely on the role of policy integration from the natural resource management perspective.

The concept of policy integration

The term policy integration as such is no novelty, it emerged already during the 1980s but was more clearly shaped during the 1990s by several international governmental organizations. After conducting extensive literature research regarding the concept of policy integration it becomes apparent that policy integration is conceived very differently among scholars and that not a single ultimate definition for policy integration exists. By drawing on different definitions given by different authors (Bolleyer, 2011; DESA, 2015; Meijers & Stead, 2004; Tosun & Lang, 2017) the attempt is made to provide an extensive conceptualization of the term policy integration.

Following Tosun & Lang (2017), policy integration resulted from the notion of top-down policy making “in which actors are expected to be aware of policies, cross-sectorial implications and exhibit a willingness to engage in integration” (p. 559). Solving a given policy problem and/or improve the quality of the resource management outcome can be seen as major drivers of policy integration (Tosun & Lang, 2017). According to DESA (2015), policy integration can be understood as a concept which intends to identify synergies and trade-offs between policies.

Meijers & Stead (2004) claim that the process of policy integration can either take place between different sectoral departments and/or professions in public authorities, hence called horizontal integration, between different sectors of the government (vertical integration), or between a mixture of both. Furthermore, they highlight the cross-cutting nature of policy integration by defining policy integration as “the management of cross-cutting issues in policy-making that transcend the boundaries of established policy fields, which often do not correspond to the institutional responsibilities of individual departments” (p.1).

After conceptualizing policy integration, it is still left unanswered what exactly an integrated policy from a non-integrated policy distinguishes. To answer this question the definition of Underdal (1980) will be adduced. Underdal (1980) defines an integrated policy as one where: “all significant consequences of policy decisions are recognized as decision premises, where policy options are evaluated on the basis of their effects on some aggregate measure of utility, and where the different policy elements are in accord with each other” (p. 162). Based on this definition Meijers & Stead (2004, p.2) defined three characteristics for an integrated policy:

- *Comprehensiveness*
Recognizing a broader scope of policy consequences in terms of time, space, actors issues;
- *Aggregation*
Minimal extent to which policy alternatives are evaluated from an overall perspective;
- *Consistency*
Minimal extent to which a policy penetrates all policy levels and all government agencies.

Policy integration in the context of increasing institutional interdependency

After gaining an idea about how to conceptualize policy integration the question about its driving forces arises. There is one simple answer to this question with extensive consequences for the society of the 21st century (Roo & Silva, 2010; DESA, 2015): Increasing complexity. For instance globalization, decentralization of decision-making, greater emphasis on public participation or the acknowledgement of the interrelatedness of environmental, economic, social, and political aspects of resource uses represent developments which consequently resulted in a higher degree of complexity in the field of natural resource management (Meijers & Stead, 2004; Bellamy et al., 1999).

These ongoing progresses can be regarded as the main driving forces for policy integration. Tackle approaches based on multi-level governance and a multi-sectoral perspective, hence focusing on integration, is assumed to be the most appropriate approach to avoid chronic policy underperformance (DESA, 2015; Meijers & Stead, 2004).

Recognizing the interdependencies of natural, political and social systems resulted in the emergence of “wicked problems” (Rittel & Webber, 1973, p. 1) which can be characterized by interconnectedness, complicatedness, uncertainty and/or ambiguity and represents a major challenge for the management of resources, especially in the marine realm (Bellamy & Johnson, 2000; Bellamy et al., 1999). However, the “traditional rational” (Bellamy & Johnson, 2000, p. 267) resource management approaches have been identified as being responsible for ad-hoc decision-making and “piecemeal action” aimed at only treating symptoms of environmental problems, thus failing in addressing the emerging wicked problems of interconnections, complexities, multiple perspectives, multiple uses and the resulting cross-cutting externalities (Bellamy & Johnson, 2000; Bellamy et al., 1999; Margerum & Born, 2005).

Odum (1986) argues that these wicked problems must be addressed from a comprehensive and holistic point of view since ecosystems represent interactive systems with few components that can be viewed in isolation and few problems that can be reduced to simple elements. This resolution resulted in a call for a more holistic and integrative natural resource management approach, based on coordination and collaboration, to ensure sustainable development and maintenance of environmental qualities (Bellamy & Johnson, 2000; Bellamy et al., 1999; Mitchell, 2005).

Recognizing the complexity and uncertainty in human and natural system interactions due to the increasing level of institutional interdependency as well as the need for a long-term perspective sat the foundation for policy integration (Bellamy & Johnson, 2000; Margerum & Born, 2005). Hence, policy integration is regarded as the response to the prescriptive, sector-based resource management, which has been largely reactive, disjointed and ineffective in facilitating a more sustainable resource management approach (Margerum, 1999). Policy integration is aspired to increase the effectiveness of policies through the creation of synergies between different policy sectors. Hence, tackle the arising wicked problems connected to an increasing institutional interdependency in the field of natural resource management (Bollig & Schwieger, 2014).

Besides institutional interdependency, functional interdependency is affecting the performance of integration as well (Heeres, 2017). In order to conceptualize both phenomena the terms interdependency and interrelatedness can be used interchangeably. For the purpose of consistency, the term interdependency will be used in the remainder of this study, always implying the notion of interrelatedness as well.

The emphasis of this study is on the consequences of increasing institutional as well as functional interdependency since these predominantly affect the level of integration and stakeholder involvement within natural resource management (Bollig & Schwieger, 2014; Heeres, 2017). However, the diversification of the physical sphere, more precisely the content, cannot be neglected for these purposes. The physical sphere is interwoven with and affecting both foci, institutional and functional interdependency (Kumar, 2007).

2.2 Stakeholder involvement: participation against complexity

During the last decades, an extensive amount of literature has been accumulated focusing on the topic of stakeholder participation in decision-making and the role of collaboration (Healey, 1992; 1996; 1997; Innes, 1995; Innes & Booher, 1999; Forester, 1989; Woltjer, 2004). Freeman (1984) provides an extensively used definition of stakeholders by characterizing them as “any group or individual who can affect or is affected by the achievement of the organization's objectives”. Within literature different terms like stakeholder involvement, stakeholder engagement or public participation emerge, all implying the participation of affected stakeholders in a decision-making process (Pomeroy & Douvere, 2008). For clarification, throughout the remainder of this study stakeholder involvement will be used.

An active involvement of stakeholders right from the beginning and throughout the decision-making process has been identified as one essential element of any successful decision-making

process in an increasingly complex context, like resource management (Pahl-Wostl, 2009). As Baker et al. (2003) point out “wider and more meaningful involvement can bring benefits to stakeholders, to the plan, to communities and the region as a whole” (p. 36). According to Mitchell (2005) coordination as well as collaboration denote the two most important components for achieving a successful policy integration. Thus, the decision-making process for resource managers becomes aggravated due to the increasingly complex context. Following this notion, the importance of the interrelation between the different stakeholders involved in the policy integration process becomes apparent.

Several scholars, like Innes & Booher (2004) or Heeres et al. (2012), identified a direct correlation between the increasing level of integration and the increasing number of actors involved in the planning process. Heeres et al. (2012) argue that an increasing complexity of the planning issue, as given in the case of resource management, requires an intense stakeholder involvement and collaboration which takes all different interests of affected stakeholders into account, consequently resulting in a higher level of integration. Innes & Booher (2004) came to similar conclusions addressing the decision-making process in the field of resource management. They argue that the restricted traditional forms of stakeholder involvement, such as public hearings, reviews and comment procedures are insufficient in achieving a sufficient level of integration. Moreover, they result in dissatisfaction among the public, exclusion or low attendance. They argue for the necessity of a communicative turn in resource management (Gopnik et al., 2012).

Figure 3 visualizes the correlation between institutional and functional interdependency, whereas institutional interdependency is referring to the involvement of stakeholder in the planning process and functional interdependency is referring to the relationship between the different stakeholders as well as the level of policy integration. For clarification, resource management, including the planning process of offshore windfarms, is currently to be located in the second quadrant. The positioning can be explained by the findings of Ehler & Douvère (2009). According to them, the planning process of offshore windfarms is facing an increasing number of stakeholders, resulting in an increasing institutional interdependency. But simultaneously, the planning process of offshore windfarms is still characterized by a sectoral planning approach (minor functional interdependency), due to the shortcomings of the current MSP approaches (Ehler & Douvère, 2009). The aspiration of this study is to identify crucial factors or conditions for policy integration and stakeholder involvement to transform the planning process of offshore windfarms into the first quadrant (cf. section 1.4).

Thus, stakeholder involvement, more precisely the alienation from rational prescriptive planning approaches and the turn towards more communicative and comprehensive planning approaches represents a crucial step towards an effective integration (of policy and stakeholder) in resource management (Innes & Booher, 2004).

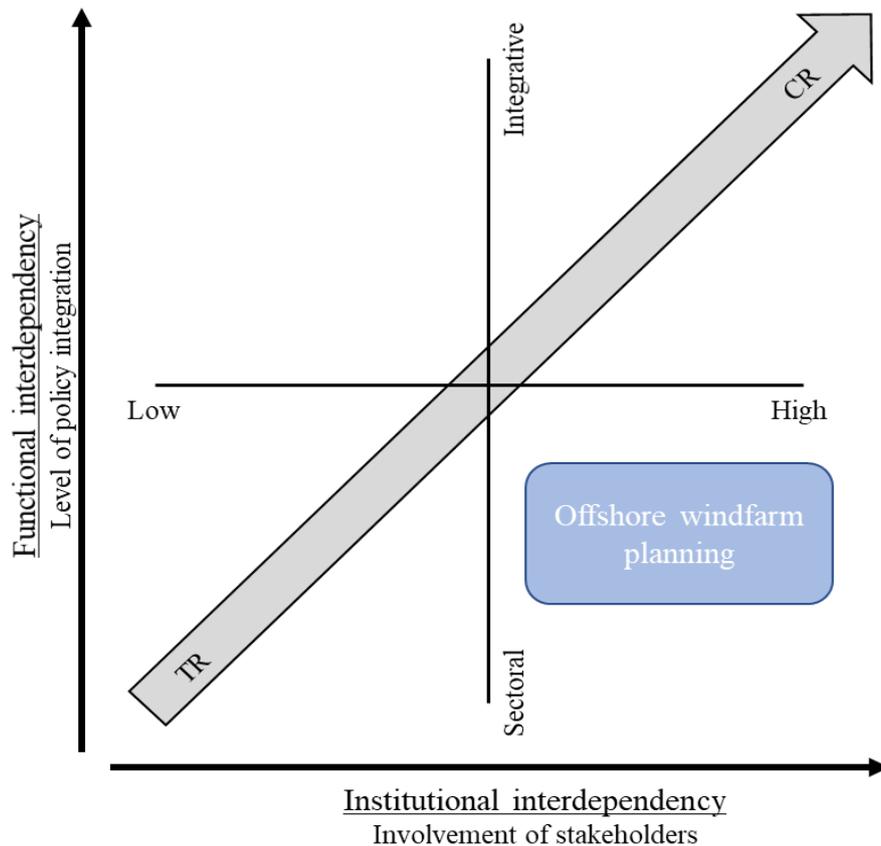


Figure 3: Positioning of the currently conducted offshore windfarm planning approaches in the spectrum of different planning approaches. The positioning is based on the level of functional (sectoral approach) and institutional (moderate stakeholder involvement) interdependency. Annotation: TR = traditional, rational planning approaches, CR = communicative, integrative planning approaches (modified after Heeres et al. (2012)).

2.3 MSP – a panacea for complexity in offshore wind energy generation?

Reasons for the increasing complexity in planning the marine realm

Marine ecosystems, waters and resources are subject to significant (anthropogenic) pressures all over the world (Brennan et al., 2014). Human activities, namely the intensified exploitation of marine resources, but also climate change effects, natural hazards and increasing marine pollution result in an ongoing deterioration of environmental status, loss of marine biodiversity and degradation of ecosystem services (Portman, 2011; Zhang et al., 2017). Advanced technologies as well as newly developed materials allows the exploitation of the marine environment to an extent which was never imaginable nor feasible in the past. This development results in an rapidly increasing demand for maritime space for different often colliding purposes, such as installations of windfarms, maritime shipping or ecosystem and biodiversity conservation which becomes more problematic from year to year (Portman, 2011; Portman et al., 2009).

Simultaneously to the diversification and intensification of uses of ecosystem services (increasing functional interdependency), the number of stakeholders involved in these processes increased rapidly as well (increasing institutional interdependency), resulting in an enormously growing potential for competition and conflicts (Portman, 2011; Zhang et al., 2017).

Assets of MSP

The United Nations Educational, Scientific and Cultural Organization (UNESCO) defines the concept of MSP as a “public process of analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives that are usually specified through a political process” (UNESCO, 2018).

Based on this definition, MSP is understood as a cross-cutting policy framework enabling public authorities and stakeholders to coordinate existing and future ocean uses through science-based, multi-stakeholder decision-making (Nutters & Silva, 2012). Furthermore, MSP is understood as a tool to balance demands for development with the need to protect marine ecosystems, and to achieve social and economic objectives in a sustainable way (Tatenhove, 2017).

According to Ehler & Douvere (2009, p.18) MSP is based on several characteristics:

- *Participatory*
stakeholders are actively involved in the process;
- *Integrated*
across sectors and agencies, and among levels of government;
- *Area-based*;
- *Adaptive*
capable of learning from experiences;
- *Strategic and anticipatory*
focused on the long-term;
- *Ecosystem-based*
balancing ecological, economic, and social goals and objectives toward sustainable development.

Applying MSP to the OWE sector

The increasing importance of the OWE sector, triggered by the transition towards RE, results in an increasing complexity of the sector. Two factors can be identified as most driving forces for the increasing complexity (Tatenhove, 2017; 2013).

Firstly, the number of stakeholders involved in or affected by the planning process of offshore windfarms is increasing, resulting in higher institutional interdependency (Bates, 2016; Todt et al., 2011). Various investors, specialized project developers, governmental authorities as well as the common public expect to be involved in the planning process of offshore windfarms, resulting in a complex set of interests and motives resulting not seldomly in an intensified potential for possible conflicts (Todt et al., 2011). Due to its strong focus on comprehensive participation, MSP is anticipated to provide a feasible way to solve these conflicts, hence acknowledging the increasing functional interdependency within the planning process of offshore windfarms (Zhang et al., 2017).

Secondly, the increasing institutional fragmentation is aggravating the complexity of the OWE sector, not seldomly resulting in institutional ambiguity, implying the mismatch between the institutional settings (Tatenhove, 2017). In Europe, many documents of different types and with different legal forces and jurisdictional values exist and regulate maritime activities (such as UNCLOS, OSPAR). The different phases of the planning process of offshore windfarms are all addressed in different, sometimes overlapping regulations. Whereas international or European regulations mainly influence the location and procedural rules for offshore windfarms, national legal frameworks guide specific planning decisions (Jacques et al., 2011). The devolved/federal legislation in the UK and in Germany represent a paragon for increasing institutional fragmentation on a regional/local scale.

Drawing from the conclusions of section 2.1 and 2.2 the importance of public participation as well as policy integration in regard to institutional and functional interdependency, hence a shift towards transboundary marine spatial planning, cannot be underestimated (Tatenhove, 2017). Thus, the focus of this study is on how policy integration and stakeholder involvement contribute the planning process of offshore windfarms in England and Lower Saxony to acknowledge the increasing institutional and functional interdependency within the OWE sector.

2.3.1 Policy integration in MSP

As already pointed out in section 2.1 policy integration represents a crucial requirement for an effective MSP process. A study conducted in 2005 to assess the impact of the EU Marine Strategy Directive of 2002 detected an overall lack of integrated policies for marine protection (Portman, 2011). This lack can be partially attributed to the current neglect of the increasing functional interdependency within the OWE sector (Ehler & Douvère, 2009; Tanaka, 2004). Despite the recommendations of the EU, laws and policies aimed at regulating the exploitation of marine and coastal resources continue to be organized in a sectoral manner, neglecting the increasing functional interdependency (Portman, 2011; Tanaka, 2004). According to Portman (2011), the MSP process is characterized by a “patchwork of policies legislation, programs, and action plans at national, regional, European, and international levels” (Portman, 2011, p. 2193), lacking any coordination and acknowledgement of functional interdependency. Multiple agency involvement and jurisdictional redundancy is amplifying the “patchwork” character (Portman, 2011).

Already four decades ago, Underdal (1980) pressed for a more integrative resource management approach for marine ecosystems. However, the question why integration is given so much attention, especially in the marine realm, remains.

As Levin et al. (2009) point out, marine ecosystems do not have sharp boundaries, instead they are interrelated. Moreover, they blend into each other with components interacting at multiple scales. Any jurisdictional administrative lines determined by distance from shore or depth, are human constructs, completely neglecting the ecological interaction between marine species, their life cycle needs and the ecological conditions of the physical area surrounding them (Tatenhove, 2017). Acknowledging the functional interdependencies between natural and

physical systems represents a crucial step towards sustainable development in the marine system (Tatenhove, 2017).

However, these aspiration contradicts with the “piecemeal approach” of the traditional sector-based planning approaches (Agardy et al., 2011; Brennan et al., 2014). Thus, policy-makers are calling for a comprehensive, proactive planning approach, acknowledging the interdependencies between systems to bring about greater resource protection (Biermann et al., 2009; Weinstein et al., 2007). Hence, MSP, if applied in a truly integrative manner, is expected to facilitate the sustainable development of the sea and contribute to the effective management of marine activities in a sustainable manner by providing a framework for consistent, transparent, sustainable and evidence-based decision-making (Tosun & Lang, 2017).

2.3.2 Stakeholder involvement in MSP

Despite the fact, that most research on stakeholder involvement has been done in the context of terrestrial spatial planning, the recognition of stakeholders as being “vital to effective, legitimate planning” (Gopnik et al., 2012, p. 1141) is also increasing in the marine realm of policy-making (Edelenbos, 2012; Edelenbos & Teisman, 2013). Especially due to the emergence of the concept of MSP, the importance of stakeholder involvement gained attention. Stakeholder involvement is considered as one of the key characteristics of a successful MSP process to acknowledge the increasing institutional interdependency (Ehler & Douvère, 2009). But what are the fundamental perceptions of stakeholder involvement, which justify its essential role within the MSP process?

Since MSP aspires to achieve multiple social, economic and ecological objectives, stakeholders can be regarded as “the heart” of the MSP process (Ehler & Douvère, 2009; Pomeroy & Douvère, 2008). Based on the definition of stakeholders given by Freeman (1984), for the purpose of this study stakeholders are defined as any organization or institution, which is affected by the planning process of offshore windfarms in England or Lower Saxony, such as nature conservation associations or the shipping and fishing industry. By defining the objectives and the spatial measures of the MSP process, stakeholders are advised a central role in the decision-making process, which makes the process a “matter of societal choice” (Pomeroy & Douvère, 2008, p. 822). The importance of stakeholder involvement within the MSP process is underpinned by the interdependency between the marine ecosystem resources and its users (Pomeroy & Douvère, 2008).

However, Brennan et al. (2014) identified a strong democratic deficit within the application of stakeholder involvement during the MSP process. According to them, MSP fails in many cases to sufficiently “engage vulnerable stakeholders in its decision-making processes” (Brennan et al., 2014, p. 364). Kidd & Ellis (2012) claim that, unlike terrestrial spatial planning, which shifted from the modernist planning paradigm to the post-modernist planning paradigm, emphasizing stakeholder involvement and normative judgement, in practice MSP is still strongly focused on the modernist planning paradigm, neglecting stakeholder involvement. This deficit serves as the motivation for this study to identify suitable configurations under which the process of careful stakeholder involvement during the MSP process can be improved.

To ensure an effective and efficient involvement of stakeholders throughout the MSP process three questions need to be considered (Pomeroy & Douvere, 2008):

- *Who* should be involved?
- *When* should stakeholders be involved?
- *How* should stakeholders be involved?

These questions represent the guideline for the analysis of stakeholder involvement in the MSP process of offshore windfarms in England and Lower Saxony, which will be presented in chapter 4.

Who should be involved?

The key challenge for a successful MSP process represents the question of *who* are the stakeholders that are entitled to take part in discussions and management. Due to the complex nature of marine environments and its many uses, the involved stakeholders need to be well-balanced, “not too many so as to complicate and slow down the process and not too few so as to leave out some key stakeholders” (Pomeroy & Douvere, 2008, p. 819). Hence the identification of key stakeholders represents a crucial but also challenging task. Ehler & Douvere (2009) as well as Pentz (2012) suggest the application of a stakeholder analysis to identify all necessary stakeholders for a specific MSP process. Stakeholder analysis represents a comprehensive method which allows the identification and description of stakeholders, their interrelationships as well as current and (potential) future interests and objectives (Ramirez, 1999). Common examples of stakeholders, which can be identified through a stakeholder analysis are for instance nature conservation associations or the fishing and shipping industry.

When should stakeholders be involved?

Following the question of who should be involved in the MSP process the next step is to identify the most appropriate point of time for involvement. Ehler & Douvere (2009) state that “Not all stakeholders need to be involved all of the time. Different stakeholder groups, with varying levels of interest and entitlement, can take part in different steps of the MSP process” (p. 46). Following Gilliland & Laffoley (2008), stakeholder involvement should be early, often and sustained throughout the process. Pomeroy & Douvere (2008), in accordance with the findings of the MSPP Consortium (2006), identified four phases within the MSP process in which stakeholder involvement is inevitable. A detailed description of the four phases is given in section 2.4.

How should stakeholders be involved?

The last question, which needs to be addressed in order to ensure a successful application of MSP to the planning process regards the way in which stakeholders should be involved in the process.

Different types of stakeholder involvement are discussed in the literature, ranging from non-participation to real participation (Woltjer, 2004). In between these two extreme forms of

involvement, different levels of participation are possible (Woltjer, 2004; cf. Table 2). An extensive overview about the implication of each level is provided in section 2.4. Especially for the OWE sector, whose role has been redefined in the undergoing transition towards RE and is now confronted with a network of stakeholders and regulations/policies of rapidly increasing complexity, MSP with its integrative as well as participatory nature represents a suitable approach to overcome this complexity, at least from the theoretical perspective (Jacques et al., 2011).

How these theoretical notions of MSP are being applied in practice is the central question of this study. Therefore, the next section will introduce strategies to analyze policy integration and stakeholder involvement in the MSP process. These strategies will be applied to analyze the contribution of policy integration and stakeholder involvement in the planning process of offshore windfarms in England and Lower Saxony (cf. chapter 4).

2.4 Analyzing the contribution of policy integration in the MSP process

Portman (2011) presents an useful integration evaluation framework, which allows a comprehensive analysis of the integrative nature of different MSP processes (cf. Figure 4). As auxiliary means, Portman (2011) identified two dimensions which are important for the boundary demarcation of MSP, namely scale and scope. These dimensions allow for a judgement regarding the level of integration. The scale of a particular MSP process relates to the institutional interdependency of the planning process in question, whereas the scope is referring to the functional interdependency. Particular interest of this evaluation framework are marine-policy approaches such as MSP processes that balance development with conservation at varying spatial scales with differences in scope.

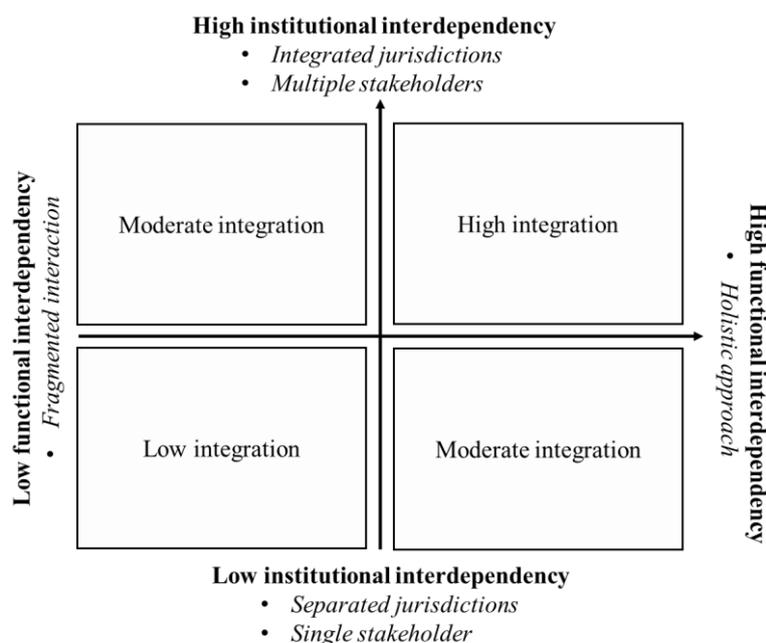


Figure 4: Integration evaluation framework applied for analyzing the degree of integration within the planning process of offshore windfarms. Annotation: X-axis = Functional interdependency (scope), Y-axis = Institutional interdependency (scale). The criteria for the evaluation appear in italics (modified after Portman (2011) and Heeres (2017)).

The evaluation framework is based on a quadrants analysis. For the analysis the determination of several criteria related to either scale or scope, ranging between both extremes represents a prerequisite. Based on these criteria the particular MSP process will be located within the quadrants, according to their degree of scope (x-axis) and scale (y-axis) (cf. Figure 4). For a detailed explanation of the criteria for both dimensions see Portman (2011). The result of the quadrant analysis is a determination of the level of policy integration of the MSP process in question. Generally speaking, one can conclude that a broad scope is necessary to ensure an integrative MSP process. However, this simplification does not apply to the scale dimension. Portman (2011) recommends to apply scales that are “neither too big to see local concerns nor too local to see the big picture”, hence encompassing “areas at varying scales” (p. 2194). The application of this framework helps to operationalize policy integration. However, Portman (2011) recommends to underpin these operationalizations with experiences made through real-world cases.

Heeres (2017) and Portman (2011) argue that the increasing institutional as well as functional interdependency call for the highest possible level of integration. According to Portman (2011), aspiring as much integration as possible represents a crucial step towards significantly improving the planning efforts in the highly contested context of MSP. However, the highest possible level of integration is always context-specific (Portman, 2011).

2.5 Analyzing the contribution of stakeholder involvement in the MSP process

Apart from identifying the contribution of policy integration, the analysis of the role of stakeholder involvement within the planning process of offshore windfarms is central to this study. Ehler & Douvère (2009), based on Bouamrane (2006) and Pomeroy & Douvère (2008) provide auxiliary tools for analyzing stakeholder involvement. As already mentioned in section 2.3.2, the questions *who* should be involved as well as *when* and *how* to involve stakeholders most efficiently are central for the analysis of stakeholder involvement in the MSP processes (Pomeroy & Douvère, 2008).

Who should be involved?

Resulting from the complexity of the marine ecosystem and the diversity of connected usages, the identification of key stakeholders for the planning process represents a highly challenging task, which can be simplified by the application of a stakeholder analysis. Detailed explanations of stakeholder analysis and guidelines for the execution of these analysis is provided by Reed (2008), Reed et al. (2009) and Pentz (2012). Due to the limited scope of this study and the fact that the degree of stakeholder involvement throughout the planning process is central to the present study, this study uses Reed (2008), Reed et al. (2009) and Pentz (2012) as a starting point to answer the *who* to involve question and provides a more extensive explanation for the analysis of *when* and *how* to involve stakeholders.

When should stakeholders be involved?

After successfully applying a stakeholder analysis and identifying all stakeholders who are entitled to participate in the planning process the next step is to identify the most appropriate point of time for the involvement. Pomeroy & Douvere (2008), in accordance with the findings of the MSPP Consortium (2006), identified four phases within the planning process in which stakeholder involvement is inevitable (cf. Figure 5). Results from Ehler & Douvere (2009) and Gopnik et al. (2012) underpin the notion:

- *The plan development phase:*
Stakeholders should be involved in the setting of priorities, objectives, and the purpose of the plan. Their contribution is helpful for the identification and raking of management problems, needs, and opportunities. The greater the participation during this step, the greater the stakeholder acceptance and legitimacy of the final plan.
- *The plan selection phase:*
All stakeholders should be engaged in the analysis, evaluation and selection of the plan alternatives and the consequences of different approaches. The more participatory the process analysis and evaluation, the greater the stakeholder acceptance and legitimacy of the plan. Group discussions, problem trees and preference ranking are helpful tools within this phase to promote an exchange of information and understanding among stakeholders. This process should be guided by a trained planner.
- *The plan implementation phase:*
Stakeholders can be involved through a community-based approach to enforce the application of the plan. Prerequisite for a successful community-based approach is the informing of the stakeholders about the benefits of taking action. Based on this knowledge, it is more likely that the stakeholders will take part in the enforcement, or at least it encourages compliance. However, the government is required to ensure that community-based enforcement units are trained and operational, with adequate equipment.
- *The plan evaluation phase:*
All stakeholders should be consulted for a deeper analysis of results and outcomes and for determining the level of achievement of objectives and the impact of the plan. Meetings to discuss plan results and general evaluation sessions should be open to all involved stakeholders.



Figure 5: Four crucial phases for stakeholder involvement during the planning process. (Author, 2018).

In summary, it can be stated that openness and transparency throughout the complete planning process needs to be guaranteed to ensure an active participation. However, distinctions between the different steps of the process and the importance of the stakeholders need to be made. (Gopnik et al., 2012)

How should stakeholders be involved?

As already addressed in section 2.3.2 different types of participation, characterized by different degrees of stakeholder involvement are possible within the planning process. These different types of participation are determining the interactive character of the applied governance approach during the planning process (Edelenbos, 2016). From the theoretical perspective, participation and active stakeholder involvement is considered as a means for leading to more informed and effective policies (Wehn et al., 2015). However, in many cases the applied participatory approaches cannot live up to these aspirations (Wehn et al., 2015; Edelenbos & Klijn, 2005). This weakness is strongly related to the differences in the degree of the applied stakeholder involvement approach (Edelenbos, 2016).

For clarification, several attempts were made to develop an extensive typology of participation. The most known example represents Arnstein (1969) *ladder of participation*, including eight different levels of participation (Woltjer, 2004; cf. Table 2). For the purpose of simplification the analysis of participation conducted in this study is based on the categorization of these eight levels into three main categories, as presented by Arnstein (1969). Arnstein (1969) grouped the eight different levels of participation into three main categories of participation, namely real participation, symbolic participation and non-participation (cf. Table 2).

The highest level of participation, *real participation*, is reached when the stakeholders “have the opportunity to discuss and debate a plan, or even have collaborative decision-making power” (Woltjer, 2004, p. 41).

Symbolic participation, implies that the “planning agency creates an opportunity for individual [stakeholder] to hear of a planning issue or submit an oral or written reaction” (Woltjer, 2004, p. 41).

If the real objective of the participation process “is not to enable people to participate in planning or conducting programs, but to enable powerholders to educate or cure the participants” (Arnstein, 1969, p. 217), the level of *non-participation* is reached.

Table 2: The ladder of participation. (Modified after Arnstein (1969)).

Levels of participation	Categorization
Citizen control	Real participation
Delegated power	
Partnership	
Placation	Symbolic participation
Consultation	
Informing	
Therapy	Non-participation
Manipulation	

By aiming at *real participation* for all legitimately involved stakeholders the potential for an interactive governance approach, resulting in effective policies, can be increased (Edelenbos, 2016). However, Ehler & Douvère (2009) point out that caution needs to be applied during the analysis of the degree of participation. They claim that it is common for certain stakeholders to use a term that indicates a high level of public participation to describe practices that, in reality, are very limited. An explanation on how this study is dealing with this potential deception is given in chapter 5.

2.6 Conceptual model

To indicate the relationship all aspects of the literature and theory described above are combined in the conceptual model, depicted in Figure 6.

Based on the literature review, it was established that MSP represents a framework for guiding the planning process of offshore windfarms away from traditional, prescriptive and sector-based planning approaches towards more integrative and comprehensive approaches (Innes & Booher, 2004; Portman, 2011). Policy integration and stakeholder involvement are regarded as the main contributors to this shift, facilitated by the four additional characteristics (colored in light grey) of a MSP process, namely area-based, strategic, adaptive, ecosystem based (Ehler & Douvère, 2009). This already gives a partial answer to the first sub-question asking *what policy integration and stakeholder involvement is and what do they mean to achieve*. Section 2.1 and 2.2, provide a more detailed answer to sub-question 1.

Due to the fact that the main research question guiding this study involves the contribution of both policy integration and stakeholder involvement to the planning process of offshore windfarms, two concepts for the analysis of both indicators build up the body of the conceptual model. The increasing number of stakeholders involved in the planning process of offshore windfarms represents the link between both analyzing tools. The increasing institutional as well as functional interdependency, influences the integrative as well as participatory character of the planning process of offshore windfarms.

As indicated in Figure 6, the analysis of the degree of policy integration (colored in yellow) is based on a quadrant analysis, addressing the scope as well as the scale of the planning process. This analysis tool will be applied in order to answer sub-question 2 *how and to which degree is policy integration being applied to the planning process of offshore windfarms in England and Lower Saxony?*.

The analysis of the stakeholder involvement in regard to the planning process of offshore windfarms will require a three-step approach, addressing the questions *who, when* and *how* about stakeholder involvement (sub-question 3):

1) *Who* should be involved?

A stakeholder analysis to identify and classify all key stakeholders of the planning process. These results represent the foundation for the following two steps.

2) *When* should the key stakeholders be involved?

As describes in section 2.4 the planning process of offshore windfarms can be divided into four phases in which stakeholder involvement is crucial. However, these phases do not represent a closed process, moreover does it represent an iterative process.

3) *How* should the key stakeholders be involved?

The analysis of the degree of participation is based on a spider chart, implying the different levels of participation as described in section 2.4.

By making use of the spider chart for the analysis of stakeholder involvement, the degree of participation for each key stakeholder (resulting from the stakeholder analysis) can be estimated for each phase within the planning process, respectively. To visualize which step within the stakeholder involvement analysis corresponds to which of the three questions, different colors were applied (*who* – salmon-colored, *when* – beige-colored, *how* – green).

By applying this method to the planning process of offshore windfarms in England and Lower Saxony, the foundation for answering sub-question four and five is established.

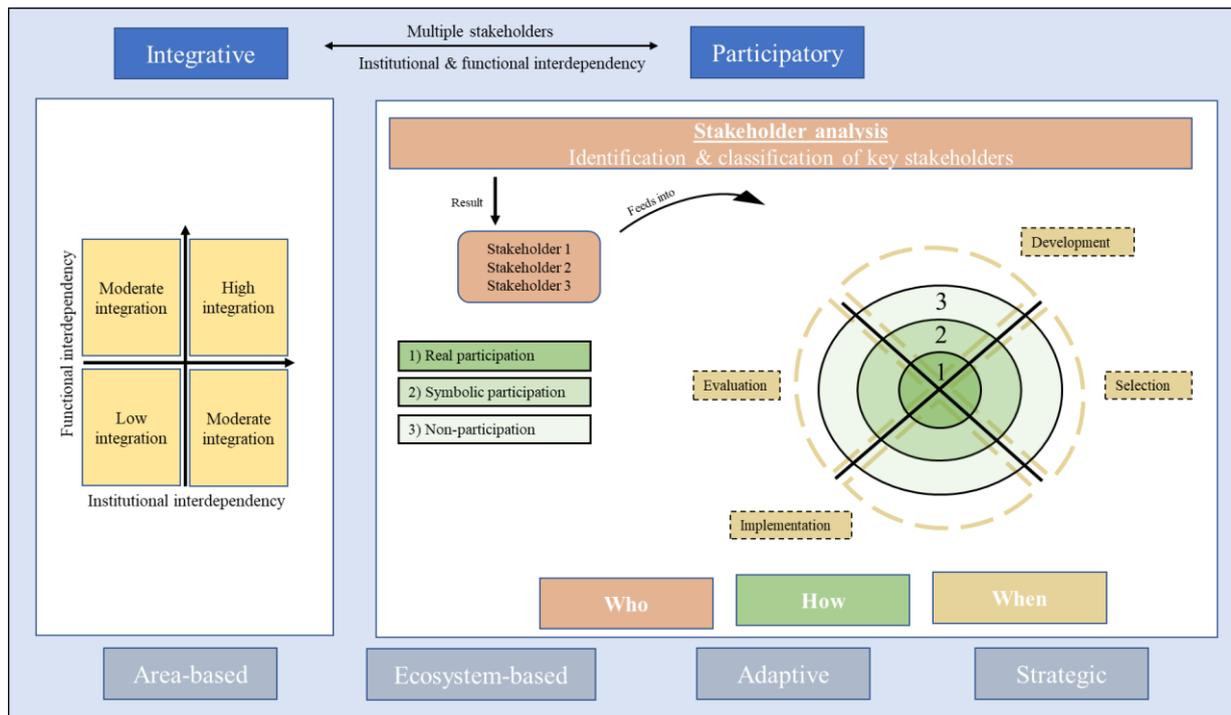


Figure 6: Conceptual model for analyzing the degree of policy integration and stakeholder involvement in the planning process of offshore windfarms in England and Lower Saxony. (Author, 2018).

3 Methodology

This chapter will discuss the data collection methodologies applied in this study. The study is based on qualitative as well as comparative research, combining secondary data analysis through policy document analysis with semi-structured interviews. First, the two types of research will be explained, followed by an explication of the methods of data collection. Subsequently, the method of data-analysis is presented followed by an explanation of how this methodology will be reflected upon in the result chapter.

3.1 Research types

3.1.1 Qualitative research

The main difference to quantitative analysis is the fact that qualitative research builds on words and language instead of numbers or numerical data (Taylor et al., 2015). By focussing on reasons behind certain behaviour, qualitative research provides an in-depth understanding of the behaviour of (Taylor et al., 2015; Kothari, 2004). Walby & Luscombe (2016) identify rich rigor, credibility, and resonance as important criteria to increase the quality of quantitative research. However, it is necessary to mention that the generated results are neither generalizable nor universally applicable under any conditions (O'Leary, 2004).

3.1.2 Comparative research

This study makes use of a comparative research strategy to identify similarities and differences in the contribution of policy integration and stakeholder involvement in offshore windfarm planning in England and Lower Saxony. Lipjhardt (1975) defines comparative research as an analysis of a small number of cases, entailing at least two observations, yet too few to permit the application of conventional statistical analysis. Comparative research is concerned with “concept-formation by bringing into focus suggestive similarities and contrasts among cases. Comparison is routinely used in testing hypotheses, and it can contribute to the inductive discovery of new hypotheses and to theory-building.” (Collier, 1993, p. 105). Due to the fact that OWE generation and the application of MSP is no isolated, national-bound process, rather an integrative boundary-crossing approach, a cross-case national research method for analyzing the role of policy integration and stakeholder involvement in the planning process of offshore windfarm has been identified as appropriate for this study (Hantrais, 2010).

The reason for choosing the UK and Germany as the context for this study are twofold. Firstly, England and Germany represent the two world-leading nations in regard to the generation of OWE, which obviously increases their attractiveness for examination (Pineda, 2018). By analyzing the application of policy integration and stakeholder involvement, it is aspired to identify the underlying causes for the countries' success in generating OWE (Tosun & Lang, 2017). Secondly, by choosing the UK and Germany, a most different systems design approach (MDS) is pursued (Meckstroht, 1975). By applying a MDS approach the focus is on “eliminating irrelevant system factors” (Przeworski & Teune, 1970, p.35), “by formulating statements that are valid regardless of the systems within which observations are made,”

(Przeworski & Teune, 1970, p. 39). The diverging institutional setting in both countries, the devolved Anglo-Saxon planning system of the UK on the one side and the federal planning system adopted in Germany on the other, represents the second underlying reason for choosing the UK and Germany as interesting areas of study.

However, the analysis on a national level would exceed the scope of this study. According to O'Leary (2004) concentrating on a certain context or specific set of cases is favorable since it reduces effort and costs, hence making studies do-able. Additionally, due to the devolved (UK) and federal (Germany) systems, it was decided to limit the analysis to one of the four British countries and one German federal state, respectively. The selection of England and Lower Saxony as cases for the comparative analysis is attributed to the fact that they represent the country/federal state holding the biggest share of windfarms in their country, respectively (Deutsche WindGuard GmbH, 2017; The Crown Estate, 2017).

3.2 Methods of data collection

The aim of this study is to analyze the contribution of policy integration and stakeholder involvement to the planning process of offshore windfarms. This analysis is based on the categorization of policy integration and participation, based on several criteria, which are exhaustively explained in section 2.4. These categorizations require an interpretative policy analysis to study the development, content and application of policies, organizational documents and acts (Yanow, 1996). According to Yanow (2007), data for interpretative policy analysis is usually gathered using methods including interviewing, reading and/or observation. The data for this study was collected using a mixed method approach, which combined the analysis of policy documents regarding the planning process of offshore windfarms in England and Lower Saxony, with reflection through semi-structured interviews. By conducting the analysis for England and Lower Saxony, respectively, the foundation for a comparison was established.

3.2.1 Document analysis

Document analysis is used to gather context and background information which can be useful for finding potential impediments or support (O'Leary, 2004). The main focus of document analysis is on analyzing what is in the document and how is it used to achieve a goal (Prior, 2004). Document analysis are never fixed and static but need to be seen as situated products (Owen, 2014).

The analysis of policy documents was chosen since these documents were produced by the policy-makers themselves, presenting the results of the preceding negotiation process and can provide additional information, which are not illuminated in interviews for instance. Policy documents can therefore be seen as "social facts" (Atkinson & Coffey, 1997, p. 47). However, policy documents might spare information or only present the bright side of the story (Bowen, 2009).

According to O'Leary (2004), the process of textual analysis includes a number of steps before the actual analysis starts, namely gathering of texts, accessing texts, organizing collected texts, reviewing the credibility and thereby the evidence they present including background data about who produced the text and when. Since this research examined published policy documents, which are available through government websites, accessing documents was no problem.

Attributing to the vast variety of documents which are related to planning process of offshore windfarms in both countries, a mixed-scanning approach as introduced by Etzioni (1967) was chosen to identify the most important and contributing documents. The mixed-scanning strategy combines elements of detailed (rationalist) examination with a more truncated (incremental) approach (Etzioni, 1967). Initially, several documents relating to the topic of offshore windfarm planning were broadly scanned to estimate the extent of their fruitful contribution to the purpose of this study. Subsequently, the documents that were considered as most contributing were examined and coded in detail.

As a result of the mixed-scanning approach, ten documents were identified as essential for the document analysis. Table 3 and

Table 4 provide an overview about the analyzed documents. Although some policy documents are available in English, all documents were assessed in the original language [English, German] to avoid confusion with regards to terminology in the coding process. All documents have been identified during online research. However, all of them have also been mentioned by the interviewees, which ensures their relevance.

For the purpose of accuracy, attention was paid to always use the most recent version of the documents under study. In the case of England this implies that the documents under study date back to the years 2008 until 2015, they have not been updated since. The East Inshore and East Offshore Marine Plan has been identified as the most fruitful Marine Plan since it includes the area with the highest number of windfarms and can be considered as the most comprehensively developed Marine Plan for the English country.

Table 3: Documents used for the analysis of the MSP process in England. (Author, 2018).

Year	Type	Name	Responsible institutional body
2008	Act	Planning Act	Parliament of the United Kingdom
2009	Act	Marine and Coastal Access Act	Parliament of the United Kingdom
2011	Statutory guidance	UK Marine Policy Statement (MPS)	Her Majesty's Government Northern Ireland Executive Scottish Government Welsh Assembly Government
2011	Act	Localism Act	Parliament of the United Kingdom
2015	Strategic plan	East Inshore and East Offshore Marine Plans	Department for Environment, Food and Rural Affairs

The document analysis for Lower Saxony is based on four strategic plans and once act. The Raumordnungskonzept Küste was finalized in 2006. An update of this version is currently being conducted, but not completed in time for being used in this study. The Raumordnungsplan für die deutsche Ausschließliche Wirtschaftszone in der Nordsee was released in 2009, and has not been updated since. In 2017, new versions of the Landes-Raumordnungsprogramm Niedersachsen, the Niedersächsische Raumordnungsgesetz and the Bundesfachplan Offshore were published. These updated versions were used for the document analysis of this study.

Table 4: Documents used for the analysis of the MSP process in Lower Saxony. (Author, 2018).

Year	Type	Name	Responsible institutional body
2006	Strategic plan	Raumordnungskonzept Küste (ROKK)	Niedersächsisches Ministerium für Ernährung, Landwirtschaft und Verbraucherschutz
2009	Strategic plan	Raumordnungsplan für die deutsche ausschließliche Wirtschaftszone in der Nordsee	Bundesministerium für Verkehr, Bau und Stadtentwicklung
2017	Strategic plan	Landes-Raumordnungsprogramm Niedersachsen (LRÖP)	Niedersächsisches Ministerium für Ernährung, Landwirtschaft und Verbraucherschutz
2017	Act	Niedersächsische Raumordnungsgesetz (NROG)	Niedersächsisches Ministerium für Ernährung, Landwirtschaft und Verbraucherschutz
2017	Strategic plan	Bundesfachplan Offshore (BFO-N) für die deutsche ausschließliche Wirtschaftszone der Nordsee 2016/2017	Bundesamt für Schifffahrt und Hydrographie (BSH)

Ten additional documents were identified as relating to the topic (cf. Table 5). However, due to the limited scope of this study these documents were only broadly scanned. The broad scan of these documents supplements the insight retrieved from the detailed analysis of the documents listed in Table 3 and

Table 4. All additional documents were broadly scanned in their most recent version.

Table 5: Documents related to the planning process of offshore windfarms. (Author, 2018).

	Year	Type	Name	Responsible institutional body
England	2011	Policy paper	The marine planning system for England	Department for Environment, Food and Rural Affairs
	2011	Statutory guidance	Localism Act 2011: Overview	Department for Communities and Local Government
	2011	Policy paper	National Policy Statement for Renewable Energy Infrastructure (EN-3)	Department of Energy and Climate Change
	2012	Policy paper	National Planning Policy Framework	Department for Communities and Local Government
Lower Saxony	2002	Strategic plan	Strategie der Bundesregierung zur Windenergienutzung auf See	Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit
	2006	Strategic plan	Nationale Strategie für ein integriertes Küstenzonenmanagement	Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit
	2008	Strategic plan	Nationale Strategie für die nachhaltige Nutzung und den Schutz der Meere	Bundesministerium für Verkehr, Bau und Stadtentwicklung
	2011	Strategic plan	Entwicklungsplan Meer	Bundesministerium für Verkehr, Bau und Stadtentwicklung
	2017	Act	Windenergie-auf-See-Gesetz (Wind-See-Gesetz)	Bundesministeriums der Justiz und für Verbraucherschutz
	2017	Act	Seeanlagengesetz (SeeAnlG)	Bundesministeriums der Justiz und für Verbraucherschutz

3.2.2 Semi-structured interviews

To complement the document analysis semi-structured interviews were conducted to gain qualitative, case specific information about the story “untold” in the policy documents. The advantage of semi-structured interviews lies in its flexibility due to the usage of open-end questions which allow room for further questions or clarifications (Di-Cicco-Bloom & Crabtree, 2006; O’Leary, 2004). At the same time, it can be ensured that certain, predefined topics are incorporated in the same manner for all interviewees and that the predefined aspects from theory are covered.

The selection of appropriate interviewees is crucial (O’Leary, 2004). The guideline for the selection of suitable interviewees represents Portman (2011) plea for balanced representation of stakeholders. Portman (2011) argues that it is necessary to apply scales that are “neither too big to see local concerns nor too local to see the big picture” (p. 2194). By choosing the interviewees (listed in Table 6), a maximum balance between the different interests regarding the planning process of offshore windfarms was aspired. Therefore, the selection process was driven by the attempt to include interviewees from both levels of government (national and regional planning authorities), from the industry sector and independent experts, for both cases of interest (England, Lower Saxony) respectively. As depict in Table 6 the aspiration of a balanced list of interviewees could be met.

Table 6: Overview of interviewees, their functions, code and time of the interviews. (Author, 2018).

	Organization	Function	Role	Date and Medium	Code
England	The Crown Estate	National planning authority	Marine Policy and Planning Manager	27.04.2018 – Skype	Interviewee 4
	Marine Management Organisation (MMO)	Regional planning authority	Delivery Manager and Marine Planner	11.05.2018 – Telephone	Interviewee 9
	Planning Inspectorate	Regional planning authority	EIA and Land Rights Manager	10.05.2018 – Telephone	Interviewee 10
Lower Saxony	Bundesamt für Schifffahrt und Hydrologie (BSH)	National planning authority	Department for spatial planning	16.05.2018 – Telephone	Interviewee 8
	Bundesamt für Schifffahrt und Hydrologie (BSH)	National planning authority	Head of preliminary investigation department	16.04.2018 – Telephone	Interviewee 1
	Amt für regionale Landesentwicklung Weser-Ems	Regional planning authority	Regional development department	20.04.2018 – Face-to-face interview	Interviewee 2
	Niedersächsisches Ministerium für Ernährung, Landwirtschaft und Verbraucherschutz	Regional planning authority	Head of MSP department	30.04.2018 – Telephone	Interviewee 5
	EWE OSS	German industry sector	Head of technical department	23.04.2018 – Questionnaire	Interviewee 6
Independent	University of Oldenburg	Expert on MSP, especially in Germany	Involved in NorthSEE	26.04.2018 – Face-to-face interview	Interviewee 3
	Helmholtz-Zentrum Geesthacht	Expert on MSP, especially in the UK	Involved in TEPA, European MSP Platform	07.05.2018 – Telephone	Interviewee 7

After selecting potential interviewees, contact was made by calling gatekeepers, sending inquiries via E-mail and through snowballing. As already explained above the interviews were semi-structured, using open question. The interview guides are attached in appendix II. If necessary, more detailed questions arising from the document analysis were added. After obtaining permission from the interviewee, the interviews were recorded. Subsequently, the transcription of the interviews was coded (cf. section 3.3.1). If required by the interviewee the parts of the interview used in this study were summarized and was send to them for verification.

Due to time constraints, the participant of the industry sector was not able to physically meet or to conduct a telephone/Skype interview. Instead, the questions of the interview guide were transferred into a questionnaire (cf. appendix II). The questions were formulated in a clear and

comprehensible way, if necessary supplemented with additional information, to avoid any misunderstanding. The questionnaire was sent to the participants via E-mail. The filled in questionnaire was sent back via E-mail by the participant and the answers were analyzed using the same codes as for the policy documents and the interviews.

3.3 Methods of data analysis

3.3.1 Coding

Both the document analysis and analysis of interview data were executed using coding. Coding is essential as it structures the gathered data according to themes and facilitates answering the research questions (O'Leary, 2004). According to Saldaña (2009) a code is a “summative, salient essence-capturing” (Saldaña, 2009, p.3) word, aiming to retrieve all necessary information, in order to fully address the research questions that frame the study and to limit the amount of data (Drisko & Maschi, 2015; Kothari, 2004). In order to organize the coding process and provide a systematic overview of the citations for the different codes, the software program *Atlast.ti* was used (O'Leary, 2010).

Based on the literature and theory elaborated in chapter 2, a code book, as suggested by Saldaña (2009), for analyzing the contribution of policy integration and stakeholder involvement in the planning process of offshore windfarms was developed and has constantly been updated during the coding process. The code book with definitions for the codes can be found in appendix I. The documents were investigated according to the same codes as the interviews.

3.4 Quality of obtained data

In order to give legitimacy and credibility to the present study it is essential to assure the quality of the obtained data (O'Leary, 2004; Flick, 2009).

Credibility of qualitative research can be achieved by pursuing objectivity, methodological consistency, accountability and authenticity of the collected data (O'Leary, 2004). However, how these credibility criteria are fulfilled depends on the researcher (O'Leary, 2004). In the following, it is described how credibility was being achieved for this study.

Objectivity is deemed as impossible and self-reflection or reflection through outside positioned people is used. In this study, it was acknowledged that certain research interest exist, the influence of these and how they were dealt with is elaborated on in chapter 5.

Methodological consistency was addressed by being consistent, systematic and well documented throughout the complete research procedure. For instance, the process of content analysis is documented in this chapter and the used codes for analysis are disclosed.

Accountability was attained by being open and transparent about the research process, as is *inter alia* done in this chapter, to make the research auditable, comprehensible and reproducible. The interview guides and codes can be found in appendix I and II.

Authenticity was provided by a precise and reflexive performance of research. Similarly, to the consistency, authenticity was achieved by working systematically and well-documented and by theoretically discussing the findings. Being transparent, traceable, consistent and self-reflective were the main means to achieve a good quality of data analysis and research.

3.5 Ethical considerations

By applying the principle of ethical behavior during the process of data acquisition for this study, the necessity of ethical considerations was acknowledged. The principle constitutes of justice, beneficence, non-maleficence (Hay, 2010). Consent, confidentiality, cultural awareness, and dissemination of results and feedback to participants, were identified as crucial prerequisite of ethically correct conducted research and represent the ethical characteristics of this study (Hay, 2010).

However, the application of ethical considerations are most important in the context of interviews (Clifford et al., 2010). By asking the participants for permission for recording the conversations, asking permission for transcribing the interviews and asking permission for using their quotes in the research the rights of the interviewees were exhaustively acknowledged. Before and after the interviews, the interviewees were notified of the fact that their information and statements are treated scientific and ethically correct. The interviewees were informed about the opportunity to withdraw themselves or their statements from this study at any time. Furthermore, the interviewees were offered the opportunity to receive a transcript of the interview to verify or correct their given statements. All of this was done as anonymity and confidentiality are two serious ethical aspects (Longhurst, 2010).

Considering the above mentioned ethical as well as accountability aspirations, which are guiding this study it can be state that this study is conducted from a position of neutrality. Even though the author of this study is familiar with the language and the jargon of the interviewees she can be considered as a neutral “positionality” (Bourke, 2014, p. 1) to the topic of policy integration and stakeholder involvement in the planning process of offshore windfarms in England and Lower Saxony.

4 Analysis of policy integration and stakeholder involvement

In this chapter, the conceptual model for the analysis of policy integration and stakeholder involvement, as developed in chapter 2 (cf. Figure 6), is applied to the planning process of offshore windfarms in the English and the Lower Saxon EEZ. The analysis is based on findings retrieved from extensive policy document review as well as insight gained from interviews with involved stakeholders. By analyzing the planning approach conducted in both cases, the two sub-questions (2) *How is policy integration being applied to the planning process of offshore windfarms in England and Lower Saxony?* and (3) *What is the role of stakeholder involvement in the planning process of offshore windfarms in England and Lower Saxony?* can be answered.

4.1 Offshore windfarm planning in the English EEZ

The enactment of the 2008 Planning Act (HM Parliament, 2008b) and the 2009 Marine and Coastal Access Act (MCAA), represent a “milestone in environmental regulation” (Ritchie & Ellis, 2010, p.1) which is understood as the inception of MSP in England, resulting in “more integrated and coherent [...] marine legislations” (Interviewee 4, 2018). Both Acts provided a new legal framework for the planning process of offshore windfarms (Gibson & Howsam, 2010).

The main characteristic of the new planning approach is that it extends the broad principles of terrestrial spatial planning to the English offshore waters, drawing on terrestrial spatial planning procedures (spatial zoning approach, marine plan-making process) and rationales (develop ‘a sense of place’, participatory approaches) (Ritchie & Ellis, 2010; Gazzola et al., 2015). Following the new planning paradigm, more attention is given to the need for communication and stakeholder involvement (Kidd & Ellis, 2012).

According to the MCAA, the Crown Estate owns the entire sea bed out to the 12 nm territorial limit, including the rights to explore and utilize the natural resources of the UK continental shelf (excluding oil, gas and coal). The 2004 Energy Act vested rights to the Crown Estate to license the generation of RE on the continental shelf within the EEZ (e.g. award lease agreements to offshore windfarms). (DEFRA, 2011)

The MCAA required the establishment of a Marine Management Organisation (MMO), an executive non-departmental public body. The Secretary of State appointed the MMO as the statutory body to undertake MSP in England. Being the marine authority, the MMO’s tasks are to draw up Marine Plans as well as to grant Marine Licenses. In regard to OWE, the MMO is responsible for consenting projects with a capacity of less than 100MW. (DEFRA, 2011)

Projects exceeding a capacity of 100 MW require the consent of the Planning Inspectorate (Interviewee 4). The Planning Inspectorate sends a recommendation to the Secretary of State whether to approve the application or not. Even though the Secretary of State has delegated most of the functions to the MMO, it will take the final decision within the consenting process (Interviewee 10, 2018).

Not only the number of authorities involved in the planning process of offshore windfarms in England has been streamlined following the MCAA, also the permission process itself has been

rationalized (Gibson & Howsam, 2010). Before a developer is granted the right to start with the construction of an offshore windfarm, the application has to pass three steps (The Crown Estate, 2016).

- *Step 1 – Agreement for lease*
 - Crown Estate grants a developer an option over an area of seabed
 - Crown Estate formulates statutory consents (conditions) for granting the lease
- *Step 2 – Statutory consenting process*
 - Statutory consents
 - Strategic environmental assessment
 - Statutorily required technical and environmental studies
 - Statutorily required consultation with relevant stakeholders
 - Consent
 - Projects > 100MW require consent of the Planning Inspectorate
 - Projects < 100MW require consent of the MMO
 - Secretary of State takes final decision
- *Step 3 – Lease*
 - If all statutory consents are satisfied, the Crown Estate is obliged to grant a lease of the seabed to the developer.

Figure 7 depicts the different steps of the permission process of offshore windfarms in the English EEZ. During the statutory consenting process (step 2) the MCAA legally requires the developer to conduct consultations with all relevant stakeholders, which will be approved and published by the Secretary of State. Hence, step 2 represents the step of interest for the analysis of stakeholder involvement (cf. section 4.1.2).

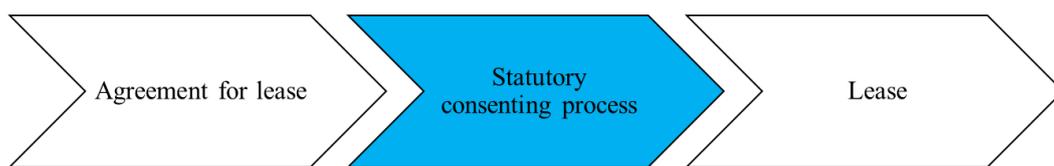


Figure 7: Permission process for the installation of offshore windfarms in the English EEZ. Annotation: Step 2 represents the step of interest for the analysis of stakeholder involvement. (Author, 2018).

4.1.1 Analysis of policy integration in the English EEZ

Complexity of the OWE sector in the English EEZ

In section 2.3.1 it has been argued that the OWE sector is characterized by an increasing institutional as well as functional interdependency due to an increasing complexity. The findings made based on extensive policy document analysis supplemented by conducted interviews suggest that the British offshore windfarm sector represents no exception from this trend. The planning process of offshore windfarms in English waters is guided by a multitude of different policy documents, facilitating the advancing complexity.

First of all, the National Planning Policy Framework sets out the Government's planning policies for England and how these are expected to be applied, hence building the foundation of the English planning system (Department for Communities and Local Government, 2012). The framework aims to make planning less complex and draws special attention to the involvement of local planning authorities (Ritchie, 2014).

The MCAA established the legal basis for a marine planning system in England, representing the main legislation for offshore windfarm planning (Gazzola et al., 2015). The MCAA introduced a number of innovative measures, for instance the establishment of the MMO (Kidd & Ellis, 2012). Moreover, the MCAA, requires the developer to complete Statement of Public Participation, acknowledging the collaborative character of MSP (MMO, 2013).

Guided by the terrestrial spatial planning approach, the MCAA required the introduction of a Marine Policy Statement (MPS) and several Marine Plans (Kidd & Ellis, 2012). The MPS, which was published in 2011 provides "the overarching national framework for marine planning" (Interviewee 9, 2018) within which the Marine Plans will be developed (HM Government, 2011). The MPS sets objectives for consistent and streamlined decision-making, representing a point of reference for the planning process of offshore windfarms. The framework is considered as the key component and cornerstone of the marine planning system in England (DEFRA, 2011).

Marine Plans, which are to be developed by the MMO, interpret the policies of the MPS and set out how these will be implemented at the sub-national level (DEFRA, 2011). The plans provide area-specific policies and spatial guidance, thus provide certainty and clarity for developers as well as information for other stakeholders. The MPS, together with the Marine Plans, underpin the new MSP system in England.

The National Policy Statement for Renewable Energy Infrastructure (EN-3), published in 2011, represents the last policy document, which directly affects the planning process of offshore windfarms in England. The EN-3 provides information on the leasing and consenting process and serves as the "primary decision-making framework" (Interviewee 10) in relation to offshore windfarms.

Acknowledging the strong relation between the different policy documents as well as the various institutions, which are involved, such as the Crown Estate, the MMO and the Planning Inspectorate, the increasing need for institutional coordination within the planning process of offshore windfarms in England becomes apparent.

However, the planning process is not only facing an increasing need for institutional coordination. Several different actors operating or fulfilling different functions within the British EEZ can be identified. The different functions range from OWE generation, nature conservation over shipping to the exploitation of additional natural resources (cf. Figure 8). Due to this increasing number of different stakeholders with different interests for and functions within the British EEZ, the need for functional coordination is growing as well. Technological advances and the increasing demand for resources result in a complex actor network of competing marine activities and designations. According to DEFRA (2011) England's marine areas are becoming increasingly crowded with industries such as windfarms, shipping or

fishing, competing for space with each other and with nature. Figure 8 depicts the accumulation of competing interests for the British waters.

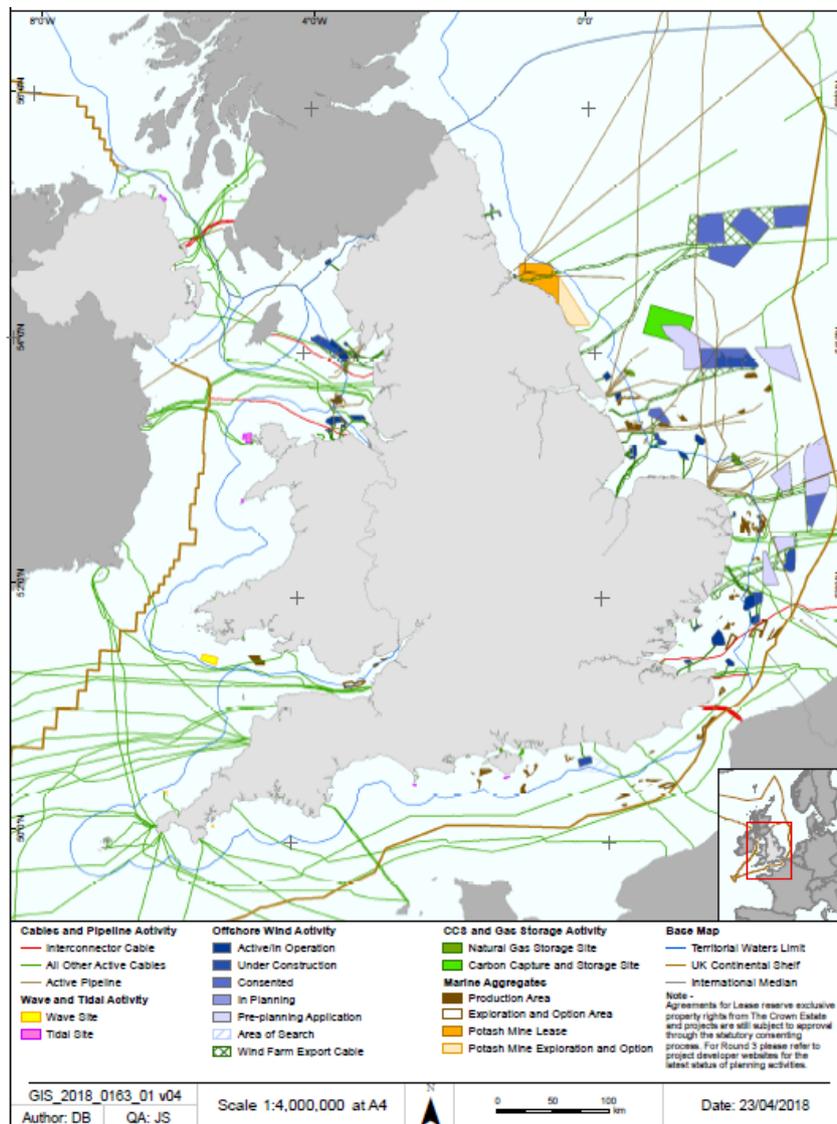


Figure 8: Display of the different sea uses in the British waters. (The Crown Estate, 2018).

The emergence of the OWE sector in the English EEZ intensified the competition among marine users. Due to the immense scale of offshore windfarms, the installation affects and sometimes even precludes other forms of sea uses. The result is a high degree of incompatibility between the different uses. Thus, intensifying the need for functional coordination. A detailed description of all stakeholders which are competing in the EEZ with the OWE sector is given in section 4.1.2.

It can be stated that the increasing complexity of the different policy documents affecting the planning process of offshore windfarms as well as the intertwined network of competing stakeholders in the English EEZ lead to an increase in institutional as well as functional interdependency.

Following these findings the remaining part of this chapter intends to analyze the degree of policy integration applied to the planning process of offshore windfarms in the English EEZ, considering both institutional as well as functional coordination. The analysis is based on a juxtaposition of the theoretical aspirations, provided mainly in policy documents, with the experience made by involved stakeholders in practice, obtained through interviews and additional literature review.

Institutional interdependency

In order to analyze the level of institutional interdependency in the planning process of offshore windfarms in the English EEZ, it can be questioned whether the different policies affecting this planning process are coherent and coordinated?

The MPS contains several principles which specifically address the need for consistency between the different policies (HM Government, 2011).

Principle 1 states that planning should be “conducted in a manner that meets requirements under [...] EU legislation and is consistent with our obligations under international law” (HM Government, 2011, p. 14), hence acknowledging the need for consistency beyond international administrative borders of England.

Principle 2 focuses on consistency within the UK borders by stating that planning should be “conducted in a way that takes into account all of the relevant UK Administrations’ policy objectives affecting the marine area” (HM Government, 2011, p. 12). This principle implies that all decisions need to be taken consistently with national priorities. Furthermore, applications for offshore windfarms need to be consistent with the EN-3. The MMO “will determine applications in accordance with the MPS and any applicable Marine Plans, unless relevant considerations indicate otherwise” (Parliament, 2011, p. 1), “any decisions must be compliant with relevant legislation and regulations” (HM Government, 2014, p. 35).

These two principles represent the two major guidelines for achieving a sufficient level of policy integration within the planning process of offshore windfarms. However, by only stating generic ambitions they lack specific instructions for the planning approach. Thus, the implementation of these obviously general principles into practice is of great interest and will be further analyzed in the remainder of this section.

Additionally to the aspirations of achieving the highest possible level of consistency between the international and national policies regarding offshore windfarm planning, the English MSP system is characterized by a high ambition of achieving consistency between MSP and terrestrial spatial planning (HM Government, 2014). Terrestrial spatial planning presented the foundation for the establishment of MSP in England (Ritchie & Ellis, 2010). According to Interviewee 9, the English terrestrial spatial planning approach is considered as highly successful, especially in terms of policy integration and stakeholder involvement. Based on these favorable experiences, the MSP approach should build on the terrestrial spatial planning approach in order to ensure successful policy integration and stakeholder involvement within the planning of the marine realm. Thus, “the MMO should act to facilitate the process of land-sea policy integration, both through the legislative provisions of the [Marine Coastal Access]

Act and the development and implementation of Marine Plans. To the greatest reasonable extent, Marine Plans should try to build on and reinforce existing terrestrial policies rather than add to or otherwise complicate them” (DEFRA, 2011, p. 77). Hence, from a theoretical point of view the English offshore windfarm planning process is characterized by an ambitious level of institutional interdependency, mainly based on consistency.

Based on the insight gained through interviews as well as additional literature review, the degree of coherence and consistency achieved in practice can be estimated. The enactment of the MCAA, especially the introduction of the MPS, resulted in a new “plan-led system” (HM Government, 2011, p. 7) since it requires the development of Marine Plans for all eleven marine plan areas. These Marine Plans provide a long-term vision (20 years) for the marine plan area and are to be revised every three years. Furthermore, the MCAA introduced a new more streamlined consenting process for offshore windfarms with one single planning authority (MMO) and specific timeframe and decision guidelines, which results in “greater consistency in procedures” (Gibson & Howsam, 2010, p. 28), “greater coherence in policy” (HM Government, 2011, p. 7) and “much more integrated and coherent” (Interviewee 4) outcomes. By streamlining the consenting process “consistency, integrity and uniformity” (Gibson & Howsam, 2010, p. 13) is achieved since fragmentation is being reduced.

The MPS as the “overarching national framework for marine planning” (Interviewee 9) substituted or supplement different policy documents at the local, regional and national level. Local Plans developed by the local planning authorities and regional zoning plans were substituted. Furthermore, the 2008 Planning Act was supplemented by the MPS. This replacement/auxiliary results in a “straight-forward” (Interviewee 10) process, which provides “fundamental consistency” (Interviewee 10) with “very interlinked policies” (Interviewee 9). Interviewee 9 stated that not only does the MPS aim at consistency between the English legislation, by “coherently integrated the EU marine law into English law”, consistency between international policies is achieved as well.

Additionally, Interviewee 4 and Interviewee 7 mentioned the appointment of the MMO as the single consenting authority for offshore windfarms as beneficial, because it facilitates a “streamlined and timely consenting process of offshore windfarms” (Interviewee 7). Since the MMO has “the overview of all sectors” (Interviewee 4) the decisions result in more coherent plans (Gibson & Howsam, 2010).

The statement of Interviewee 9 “consistency is the key aspects to marine planning in England” reveals the high institutional coordination within the planning process of offshore windfarms in England, even in practice.

Functional interdependency

In order to analyze the degree of functional interdependency it can be questioned whether the planning process of offshore windfarms in the English EEZ is characterized by a fragmented or a holistic approach of interaction?

Based on the findings retrieved from policy document analysis, the English planning approach for offshore windfarms is characterized by a strong integrated and cross-cutting interaction

approach (HM Government, 2014). At least that is what has been stated on paper. How these ambitions are met in practice is of great interest for this study and will be further analyzed at the end of this section.

The MPS formulates the key principle guiding the interaction approach by stating that “The UK marine plan authorities are committed to cross border co-operation” (HM Government, 2011, p. 8), which implies the crossing of several administrative borders. First of all, to acknowledge the devolved administrations in the UK, the MMO is required to “ensure that marine planning operates smoothly and consistently across the administrative boundaries between England, Wales, Scotland and Northern Ireland” (DEFRA, 2011, p. 19). But also international borders are taken into account by stating that “Co-ordination will also be needed with other countries sharing the same regional seas” (HM Government, 2011, p. 8). Considering these principles formulated in the MPS, a theoretical foundation for a holistic planning approach, resulting in a high functional coordination, is provided.

As stated by Interviewee 9 and Interviewee 10, the relationship between the key planning authorities in England (MMO, Crown Estate, Planning Inspectorate) in practice is “really good” and “quite close”. They “work very closely together [...] to see how we can make life easier for everyone.” (Interviewee 9). Following the statement of Interviewee 10, a high level of functional coordination is being achieved since they not only communicate with the key bodies but also “meet with other consultees”. Thus, the different functions which collide in the British EEZ work closely together and are able to generate synergies and mutual dependences, which illustrates the high functional coordination within the OWE sector.

However, several interviewees addressed different flaws of the English planning process, which reveal that the theoretical cross-border planning approach cannot be completely translated into practice. Even though the MPS requires a joint-up approach between the devolved administration “each administration has their own separate provisions for their territorial marine waters” (Ritchie, 2014, p. 667). In England the MMO is responsible for the development of Marine Plan, whereas the Welsh Assembly Government and the Northern Ireland Assembly are responsible for developing for Marine Plans for their territorial waters, respectively. Scotland implemented a completely different legislation with the Marine Scotland Act 2010, overriding all legislations applying to the rest of the UK (Ritchie, 2014). Hence the application of the MPS is taking “quite distinctive paths in each of the four national jurisdictions in the UK⁶” (Kidd & Ellis, 2012, p. 60). This devolution results in four different planning approaches, impeding successful collaboration. Especially the Scottish planning system, which neglects the possibilities for synchronization by strongly diverging from the English, Welsh and Northern Irish planning approaches represents one major obstacle for functional coordination. Thus, this devolution clearly disagrees with a holistic planning approach.

⁶ For clarification see Kidd & Ellis (2012) “in England, marine planning powers have been assigned to a newly established non-departmental public body the MMO, in Scotland they fall to Marine Scotland, a Directorate of the Scottish Government which brings together the functions and resources of the previous Marine Directorate, the Fisheries Research Services (Marine Scotland Science) and the Scottish Fisheries Protection Agency (Marine Scotland Compliance), in Wales, they fall to a small Marine Team, which is part of the Department of Environment and Sustainability within the Welsh Assembly Government, while the Strategic Planning Operations Division of the Department of Environment (NI) will be responsible for development and implementation of Northern Ireland’s marine plan” (p. 60).

Furthermore, the grid connection of offshore windfarms reveals another restriction to the holistic interaction approach aspired in the MPS. As stated by Interviewee 5 “there is no holistic, strategic approach to planning issues for development of the supply industry“. Deviating from the approach applied in other countries, the English law does not require the appointment of one single provider who is responsible for a thorough and reasonable grid connection between all windfarms in the English EEZ. As explained in section 4.2.1 the Niedersächsische Raumordnungsgesetz requires this designation in Lower Saxony, allowing for a coordinated grid connection in the Lower Saxon EEZ. However, in England the windfarm developer is responsible for the grid connection, resulting in a sectoral approach with uncoordinated network of cables, due to the insufficient communication among the different developers.

Reality of policy integration

Resulting from the juxtaposition of the theoretical aspirations with the degree of institutional and functional interdependency achieved in practice, the degree of policy integration for the planning process of offshore windfarms in the English EEZ can be assessed.

The question whether the different policies affecting this planning process are coherent and coordinated can be affirmed. The enactment of the MCAA resulted in a streamlined planning process in practice. The paradigm of achieving consistency is successfully acknowledged by appointing the MMO as the single planning authority, allowing a consistent approach to consenting (DEFRA, 2011; Interviewee 7, 2018). Considering these developments, initiated by the MCAA, the planning approach for offshore windfarms in England can be considered of achieving a high degree of institutional interdependency.

The MPS frames a holistic interaction approach as the theoretical objective for functional coordination. However, the strong coordination between the key authorities is impeded by a flawed coordination between the devolved administrations and a fragmented grid connection. Potential benefits from connecting different windfarms in a reasonable and sustainable manner to each other instead of constructing a new grid connection for each new windfarm are mostly neglected. This uncoordinated approach only allows for a high-to-moderate degree of functional interdependency in practice.

Based on these findings the planning process of offshore windfarms in the English EEZ is to be positioned at a high level of integration (cf. Figure 9).

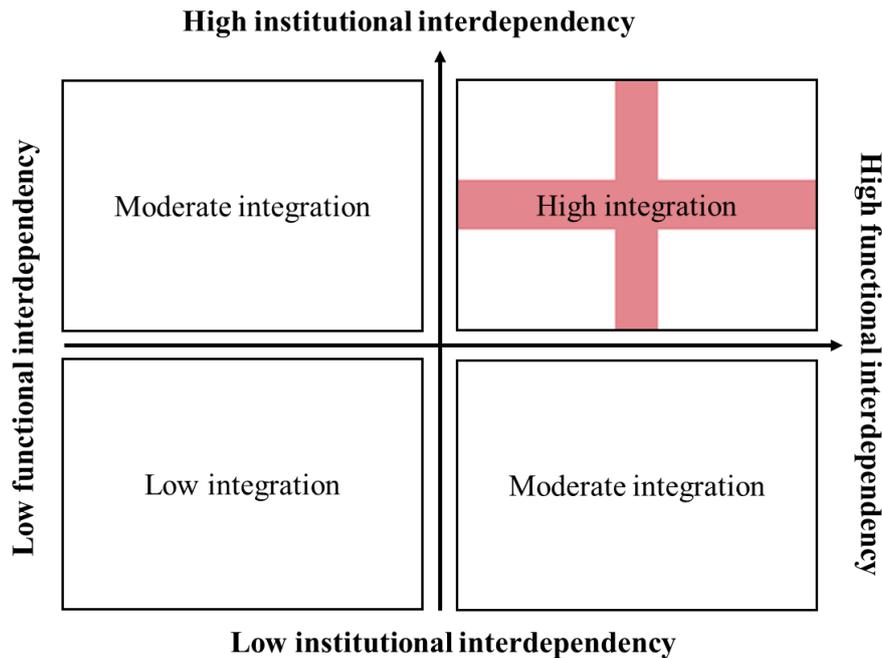


Figure 9: Degree of policy integration within the planning process of offshore windfarms in the English EEZ. (Author 2018).

4.1.2 Analysis of stakeholder involvement in the English EEZ

The analysis of stakeholder involvement is guided by the three questions of *who*, *when* and *how* to involve stakeholders in the planning process. These questions are extensively explained in section 2.5.

Theoretical aspirations of stakeholder involvement

Within the following section the theoretical aspirations regarding stakeholder involvement in the planning process of offshore windfarms in the English EEZ are outlined. The findings are based on the analysis of relevant policy documents as well as on interviews with the responsible planning authorities. By comparing the theoretical ambitions with the experiences made by involved stakeholders in practice, the degree of involvement can be analyzed.

Who is involved?

The MCAA defines a stakeholder in the marine planning process as any “interested person”, implying “any person appearing to the MMO to be interested in or affected by policies proposed in the Marine Plan, as well as members of the general public” (DEFRA, 2011, p. 51).

The English EEZ represents a congested area including several different users representing different interests (cf. Figure 8). The construction of offshore windfarm affects, overlaps or contradicts with these competing interests in the EEZ. Following the MCAA, all these different stakeholders are to be involved in the planning process of offshore windfarms in England. (MMO, 2013)

Four stakeholder (groups) can be identified as primary stakeholders for the planning process, since they are directly affected by the construction of offshore windfarms (cf. Table 7) (Parliament, 2011).

The interests of the *general public and local planning authorities* need to be taken into account throughout the planning process, as stated in the MCAA. The MMO is required to closely “engage with local stakeholders” (MMO, 2013, p. 1) to “seek to resolve the numerous conflicts” (MMO, 2013, p. 8) and acknowledge the “real benefits to the development and implementation” (MMO, 2013, p. 8) which the engagement of these groups has to offer. By engaging the general public and local planning authorities from an early stage on and offering miscellaneous opportunities for these stakeholders to actively shape the direction of the planning process (e.g. through discussion rounds, public hearings), the MMO was able to prevent the emergence of irresolvable conflicts between the different stakeholders in the past (Interviewee 9).

Different *marine conservation groups* or *NGOs* are to be involved in the planning process to represent the marine environment (Interviewee 4). The construction of offshore windfarms affects the biodiversity of the English EEZ, including temporary disturbance during the construction phase (underwater noise), direct loss of habitat or adverse effects on spawning, nursery or feeding grounds (Parliament, 2011).

Shipping and navigation associations need to be considered throughout the planning process of offshore windfarms as well, to avoid any risks to navigational safety or interference with existing shipping lanes (Parliament, 2011).

The *fishing industry* will be affected by the construction and operation of offshore windfarms as well. Commercial fishery activity such as trawling and long-lining may be hindered but also potential fishing grounds can be reduced (Parliament, 2011).

Additionally to those four primary stakeholders, several secondary stakeholders can be identified. Their involvement within the planning process is always context-specific, such as the oil and gas industry, the department for culture and heritage preservation, terrestrial planning authorities⁷ or bordering administrations⁸. (Parliament, 2011)

Table 7: Involved stakeholders in the planning process of offshore windfarms in the English EEZ. (Author, 2018).

Primary stakeholder	General public, local planning authorities
	Marine conservation groups and NGOs
	Shipping and navigation associations
	Fishing industry and associations
Secondary stakeholder	Oil and gas industry
	Department for cultural and heritage preservation
	Terrestrial planning authorities
	Bordering administrations

⁷ Environment Agency, Natural England, JNCC, English Heritage

⁸ Marine Scotland, Welsh Government and Northern Ireland or international bordering nations

When to involve?

The main paradigm which guides stakeholder involvement within the planning process of offshore windfarms in the English EEZ is early engagement. The National Planning Policy Framework as well as the MPS state that stakeholders should be consulted as early in the marine plan-making process as reasonably possible (HM Government, 2014). The National Planning Policy Framework states that “Early engagement has significant potential to improve the efficiency and effectiveness of the planning application system for all parties”. Extensive pre-application discussions enable “better coordination between public and private resources and improved outcomes for the community” (Department for Communities and Local Government, 2012, p. 45).

However, the Localism Act expands this claim by declaring that early involvement of stakeholders does not signify a lack of stakeholder engagement through the rest of the process (DEFRA, 2011). According to Interviewee 9 “stakeholder engagement is a day-to-day activity”. This represents a great challenge for the MMO, associated with immense effort and costs. Acknowledging the increasing complexity resulting in a more work-intensive process of stakeholder involvement, the MMO increase the number of directly employed staff members within the last six years from 250 to 299 (MMO, 2011; 2017).

During the statutory consenting process (step 2, cf. Figure 7) for an offshore windfarm in the English EEZ, the MMO is required to prepare a Statement of Public Participation. For the drawing up of this statement, the developer is required to contact and engage with each person/group which is considered as a stakeholder by the MMO. Even though stakeholder involvement is aspired to happen throughout the complete planning process, the phase of drawing up the Statement of Public Participation represents the most important phase for stakeholder involvement. (DEFRA, 2011)

How to involve?

During the planning process, the stakeholders are granted several different options for engaging and expressing their interests/concerns.

The MMO is required to safeguard an involvement process “at the appropriate time using effective engagement methods and allowing sufficient time for meaningful consultation” (MMO, 2013, p. 1). However, no clarifications are provided explaining what “effective engagement methods” at the “appropriate time” do imply, leaving room for interpretation on the side of the MMO. The MMO publishes relevant documents on their website and across a network of coastal offices. In order to update the stakeholders on the current planning progress, they offer electronic newsletters, printed newsletters, mailing list, web updates as well as online consultations. Furthermore, the MMO organizes workshops, meetings and public drop-in sessions as discussion forums. Additionally to participating in these discussion rounds, the stakeholders are invited to make comments in writing via E-mail or letter. (MMO, 2013)

By providing this broad range of opportunities of engagement, the MMO tries to “take into account the differences between stakeholders and stakeholder groups and that some methods of engagement may not be appropriate for all” (MMO, 2013, p. 10).

Considering the findings presented above the theoretical aspirations regarding stakeholder involvement in the planning process of offshore windfarms in England can be described as a rather “fair, transparent” process during which “all affected stakeholders will have an opportunity to get involved” (Ritchie, 2014, p. 673), representing “absolutely really a key to the planning process” (Interviewee 9). Interviewee 10 stated that nobody “could accuse the planning process of underselling the importance of stakeholder involvement. The accusation is sometimes even the opposite...”.

Reality of stakeholder involvement

The previous sections described the theoretical aspirations for stakeholder involvement in the planning process of offshore windfarms in the English EEZ. However, based on insight gathered through interviews with affected stakeholders and additional literature review the application of these ambitions to practice can be analyzed. The analysis will focus solely on the four primary stakeholders, identified in the section above (cf. Table 7).

The National Planning Policy Framework as well as the MPS emphasize the need for early stakeholder involvement. This ambition is not fully met in practice. The planning process of offshore windfarms in England is characterized by three subsequent steps (cf. Figure 7), whereas the need for stakeholder involvement is completely neglected in the first step and only acknowledged during the consenting process. In order to fully acknowledge the ambition of involving stakeholders as early as possible, opportunities for engagement during the first step need to be created. As Interviewee 10 describes it, the actual planning process applied in England is characterized by a “huge emphasis on engagement and consultation”, the MMO is “open to letting anyone get involved in marine planning, if they have something worth-while to contribute” (Interviewee 9).

However, the planning process of offshore windfarms in the English EEZ is characterized by a strong bias towards OWE, resulting in an unbalanced stakeholder involvement and deviating from the theoretical ambitions. One interviewee consulted by Brennan et al. (2014) stated that “the windfarm industry seem to have a bit of a free reign, [...] they have priority.” (p. 363). Additionally, he claimed that the “windfarm industry was much more actively engaged in consultation exercises and working groups than were the fishing industries” (p. 361). Also, the lobbying capacity of the OWE sector is much stronger, overriding marine conservation groups or NGOs.

Even though the shipping industry is considered as primary stakeholder, their active engagement in the planning process is marginal. According to an interviewee consulted by Gibson & Howsam (2010) this might be caused by the lack of consideration of this stakeholder in the past. A sufficient recognition of the shipping and navigation aspects has been neglected for quite some time, leaving a feeling of apathy, resulting in a retreat of the sector from the planning process. As stated by Gibson & Howsam (2010) the shipping industry does not have any influence on the planning process of offshore windfarms in England anymore.

Local communities and planning authorities find that they do not get a proper hearing (Interviewee 9). Furthermore, the planning process of offshore windfarms did not give members of the public enough influence on decisions. Too often, power was exercised by people who

were not directly affected by the decisions that were being taken, resulting in a low interest (Jay, 2008).

Based on the finding presented above, the different primary stakeholders involved in the planning process of offshore windfarms in the English EEZ can be ascribed different degrees of participation, as depicted in Figure 10. The positioning is based on the three-step analysis as part of the conceptual model developed in chapter 2.

The analysis revealed that four different stakeholders can be considered as primary stakeholders to the planning process of offshore windfarms in England, namely the general public and local authorities, marine conservation groups, the shipping industry and the fishing industry. The involvement of these four stakeholders is restricted to the statutory consenting process (step 2). According to the interviews held with members of the different sectors, their degree of involvement is only marginal (non-participation). The strong OWE sector is overriding all other primary stakeholders.

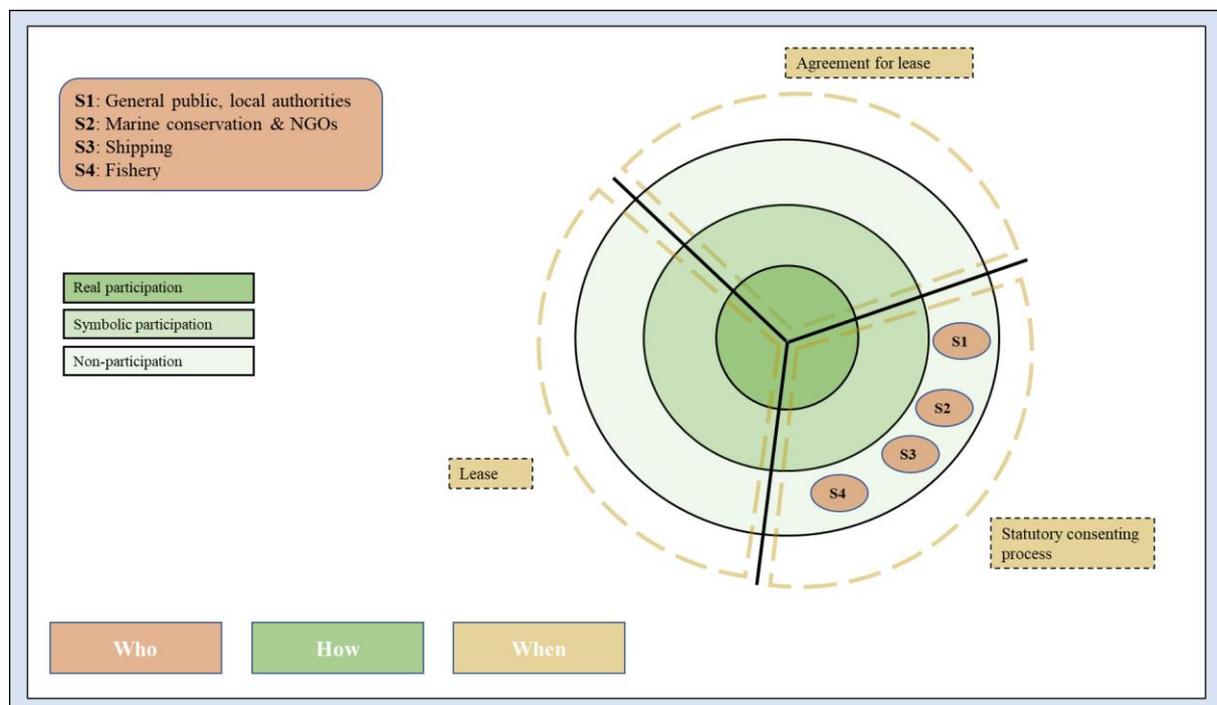


Figure 10: Degree of stakeholder involvement for stakeholders involved in the planning process of offshore windfarms in the English EEZ. (Author, 2018).

4.2 Offshore windfarm planning in the Lower Saxon EEZ

The MSP approach for offshore windfarms in Germany “builds upon existing legislation for terrestrial planning, which has simply been amended to incorporate marine territory” (Jay et al., 2012, p. 2017), resulting in a “sophisticated and complex” (Interviewee 4) planning structure. Firstly, this can be attributed to Germany’s federal structure (Jay et al., 2012). Due to this federal structure, the responsibilities for spatial planning are split among several administrative departments, resulting in a complex network of different authorities. Secondly, the German offshore waters are divided into the territorial sea (extending up to 12 nm from the baseline of

the coastal state) and the EEZ (up to 200 nm), with different authorities for each area (Jay et al., 2012). Based on the Raumordnungsgesetz of 2004, the BSH was given the mandate for MSP in the German EEZ (Niedersächsische Ministerium für Ernährung Landwirtschaft und Verbraucherschutz, 2017). The authority for the territorial sea lies with the coastal states. Existing state laws were being extended beyond the coastline to include the territorial sea (Jay et al., 2012).

Attributing to the complex structure of the planning remit in Lower Saxony and for the purpose of unambiguity the remaining part of this study will focus solely on the Lower Saxon EEZ, excluding the territorial sea.

As depict in Figure 1, four steps have to be completed before the permission for an installation of an offshore windfarm in the Lower Saxon EEZ can be issued by the BSH (Interviewee 1, 2018). The approval process is thought to identify the “appropriate location for the proposed offshore windfarm and to specify the conditions under which approval is granted” (Bruns & Gee, 2009, p. 152). All four steps are being conducted in different departments of the BSH (Interviewee 1).

- *Step 1*
 - Preparation of the Raumordnungsplan for the EEZ which determines priority areas for OWE.
- *Step 2*
 - Preparation of the Bundesfachplan Offshore Nordsee (in the future called Flächenentwicklungsplan) which combines the priority areas and the grid connection.
- *Step 3*
 - Preliminary investigation including wind and oceanographic examinations.
- *Step 4*
 - Plan approval procedure with the BSH as responsible authority. The BSH examines whether all conditions for the implementation are met and determines compensation measures. The approval procedure concludes with the planning permission.

Figure 11 depicts the different steps of the permission process of offshore windfarms in the Lower Saxon EEZ. Since the plan approval procedure represents the main opportunity for extensive stakeholder involvement, a detailed description of the procedure is given in section 4.2.2, when the focus is on the analysis of stakeholder involvement.



Figure 11: Permission process for the installation of offshore windfarms in the Lower Saxon EEZ. Annotation: Step 4 represents the step of interest for the analysis of stakeholder involvement. (Author, 2018).

4.2.1 Analysis of policy integration in the Lower Saxon EEZ

Complexity of the OWE sector in the EEZ of Lower Saxony

As already outlined in section 2.3.1, the OWE sector in general is facing a vigorous increase in institutional as well as functional interdependency. This development can also be observed for the planning process of offshore windfarms in the Lower Saxon EEZ, becoming apparent through the increasing complexity of the policy documents as well as the stakeholder network related to the planning of offshore windfarms.

Several different policy documents, ranging from international to federal jurisdictions, are affecting the planning process of offshore windfarms in the Lower Saxon EEZ. Which exact (inter-)national policy documents apply to the planning process is outlined in the following paragraph.

EU Directives and international legislation as well as national policies frame the exploitation of marine space and resources and the protection of marine ecosystems. Furthermore, international and national policies concerning climate change and the development of RE provide targets for the installation of offshore windfarms. (Kannen, 2014)

The planning process of offshore windfarms in the Lower Saxon EEZ is structured through several different policies on national level, namely the Seeanlagengesetz as well as the Raumordnungsgesetz (Interviewee 1). These policies allow the designation of areas of priority for offshore windfarms in the EEZ. The Windenergie-auf-See-Gesetz enacted on national level in 2017, triggered a restructuring process of MSP in the Lower Saxon EEZ (BSH, 2017). The Windenergie-auf-See-Gesetz and before that the Raumordnungsgesetz require(d) the preparation of a Fachplan for the EEZ (Bundesfachplan Offshore and in the future Flächenentwicklungsplan), in which areas of priority for offshore windfarms are designated (Interviewee 5, 2018). Due to the restructuring the planning for offshore windfarms in the EEZ is currently undergoing a transition period (BSH, 2017).

Furthermore, the planning process is guided by the statutory ordinance Raumordnung in der deutschen Ausschließlichen Wirtschaftszone (AWZ) in der Nordsee (AWZ Nordsee-ROV, 2009) which determines the planning principles for the EEZ, and can be regarded as the first legal ordinance acknowledging MSP in Germany (Bundesministerium für Verkehr Bau und Stadtentwicklung, 2011).

On the state level, the planning process is guided through the Landes-Raumordnungsprogramm as well as through the Niedersächsisches Raumordnungsgesetz, which implement the planning ambitions and principles formulated in the national policies into the state specific context (Bundesministerium für Umwelt Naturschutz und Reaktorsicherheit, 2006).

Additionally to these policies which directly influence the planning process of offshore windfarms in the EEZ, all legislations which apply to the Lower Saxon mainland, such as the Federal Nature Conservation Act, also apply to the EEZ (Interviewee 2, 2018).

Considering these complex network of international, national and federal regulations, it can be stated that a complicated pattern of policies for the planning of offshore windfarms in the Lower Saxon EEZ has evolved, leading to a high degree of institutional interdependency (Kannen, 2014).

Not only does the complex network of policies illustrate the increasing complexity of the OWE sector. Also, the increasing number of different stakeholders with different interests and motives in the EEZ is facilitating the increasing functional interdependency, resulting in a higher degree of complexity (Interviewee 8).

Several studies on the German EEZ identified an immense increase in number and intensity of sea uses, resulting in an increasing pressure on the marine space. This intensification of sea use implies that “policies and planning for marine areas have to deal with an increasing number of different actors and groups in society” (Kannen, 2014, p. 2140), who certainly follow different, sometimes conflicting, interests in the EEZ. Figure 12 depicts the accumulation of sea uses in the Lower Saxon EEZ, displaying the increasing need for functional coordination.

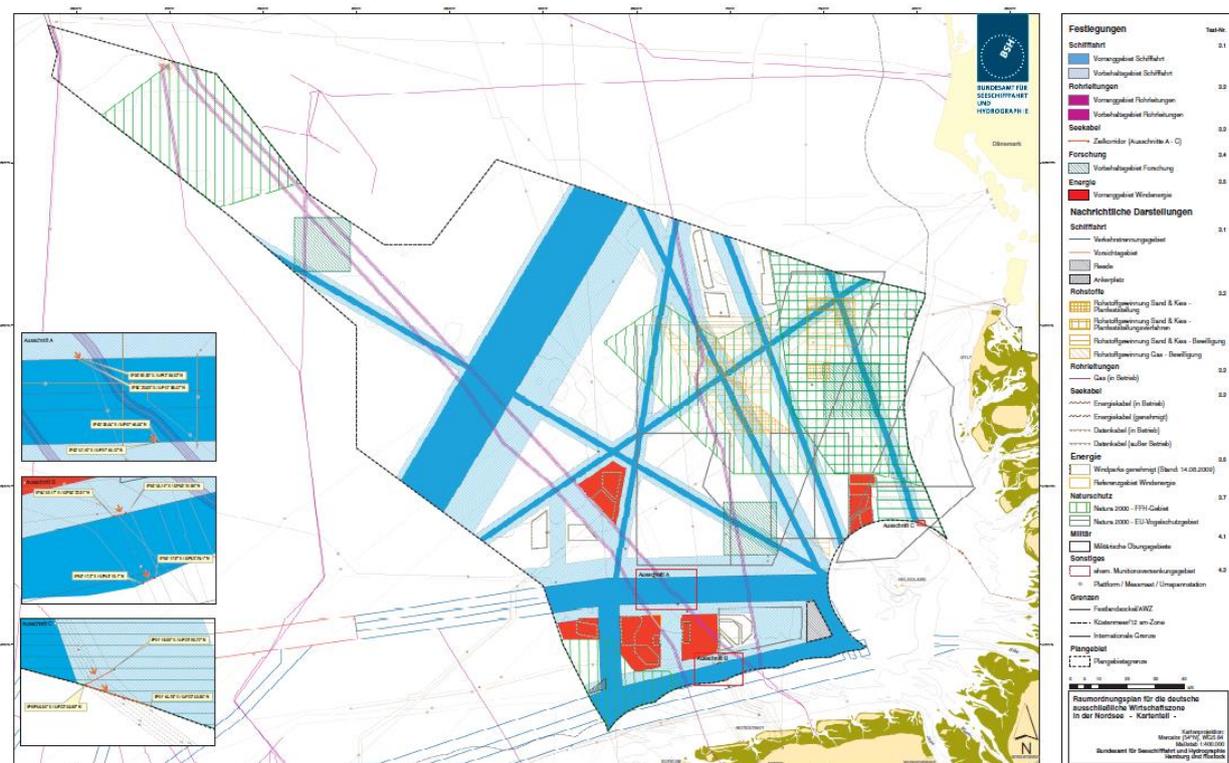


Figure 12: Display of different sea uses in the Lower Saxon EEZ. (BSH, 2009).

Due to the enormous spatial extension (the windfarm in the Lower Saxon EEZ cover approximately 30 – 40 km² on average), offshore windfarms affect and sometimes even preclude other forms of sea use in the EEZ, such as shipping or fishing (Bruns & Gee, 2009). Table 8 illustrates all different forms of sea use in the Lower Saxon EEZ as well as their (in)compatibility with offshore windfarms. A detailed description of all stakeholders affected by the installation of offshore windfarms in the Lower Saxon EEZ is given in section 4.2.2. Acknowledging the high number of incompatibility between the different uses, the increasing need for functional coordination, not solely resulting in competition, becomes apparent.

Table 8: List of selected sea uses in the Lower Saxon EEZ and their estimated compatibility. Annotation: X = incompatible, 0 = compatible (modified after Kannen (2014)).

Sea use	Estimated compatibility
Marine protected areas / nature conservation	X
Shipping and shipping routes	X
Fisheries	X
Cables	0
Harbors and ports	0
Oil and gas extraction	X
Military use	X
Tourism	X

The immense complexity in terms of policies and stakeholders emphasizes the increasing degree of functional as well as institutional interdependency of the planning process of offshore windfarms in the Lower Saxon EEZ. The remaining part of this chapter will focus on how the increasing need for institutional as well as functional coordination is being acknowledged and how theoretical ambitions formulated in policy documents are translated into practice. A juxtaposition of the theoretical aspirations, with the experience made by involved stakeholders in practice serves as a basis for analyzing the degree of policy integration of the planning process of offshore windfarms in the Lower Saxon EEZ.

Institutional interdependency

The guiding question for analyzing the level of institutional interdependency in the planning process of offshore windfarms in the Lower Saxon EEZ is whether the different policies affecting this planning process are coherent and coordinated?

As expected, the analyzed policy documents stated a clear theoretical ambition for institutional coordination. All policies affecting the planning process of offshore windfarms in the Lower Saxon EEZ refer to the need for integrated and coordinated policies, implying a coherent implementation of (inter-)national legislations into federal policies as well as to the need for coordination and collaboration between the different stakeholders (Interviewee 8, 2018). The guiding planning principle for achieving a sufficient degree of institutional coordination is formulated in the Raumordnungskonzept für das Niedersächsische Küstenmeer. It states that measures of different stakeholders are to be coordinated and coherent solutions are to be identified (Niedersächsisches Ministerium für den ländlichen Raum, 2006).

According to Interviewee 1, the planning process of offshore windfarms in the Lower Saxon EEZ resembles a “very synchronized” procedure with “very coordinated” and “interconnected” policies. Furthermore, she stated that due to the fact that the complete permission procedure is located at one planning authority, the BSH, a good and “expedient” coordination of policies can be achieved.

However, this represents only the theoretical aspirations for achieving a high and fruitful degree of institutional interdependency. Insight retrieved from interviews highlight that these high ambitions do not mirror the practical implementation.

Interviewee 2 stated that in his opinion the planning process of offshore windfarms in Lower Saxony in practice is no integrative process, and never has been. He explained the lack of integration and coordination with the increasing complexity of the OWE sector. He referred to the increasing congestion of the EEZ, provoked by the increasing exploitation of the spatially limited EEZ. In his opinion this increasing congestion represents the major restriction for a more integrative planning approach. Furthermore, he questioned the “usefulness” of the different steps of the planning procedure. He demanded that several steps should be incorporated into one single step to streamline the process. According to the interviewee it is questionable whether the designation of areas of priority and the following preliminary investigation of the area is reasonable and if the several separated steps result in a surplus of knowledge.

Following a similar line of argument, Interviewee 1 criticized the uncoordinated timing of the permission procedure. Due to political decisions, it is not possible for the BSH to stick to the chronological sequence. The Windenergie-auf-See-Gesetz requires the preparation of the new area development plan until June 2019. However, the new spatial structure plan will not be finished until that point (Interviewee 8). Interviewee 1 described these circumstances as “not ideal” and as limitation for a sufficient coordination of policies.

A study conducted by Kannen (2014) identified that many of the policies regarding offshore windfarm planning in the Lower Saxon EEZ, coming from different governance levels, are “focusing on one political [favored] sector without (proper) recognition of aims and policies formulated for other sectors or with inconsistencies in wording” (Kannen, 2014, p. 2142).

Functional interdependency

The analysis of the functional interdependency within the planning process of offshore windfarms in the Lower Saxon EEZ is guided by the question of interaction between the different stakeholders, more precisely whether the planning process is characterized by a fragmented or holistic approach of interaction.

Based on extensive policy documents analysis a high ambition for functional coordination can be identified. Various policies require a strong interaction between the different stakeholders. All policies state in accordance that the development and operation of offshore windfarms in the EEZ must consider the interests of all affected stakeholders (e.g. shipping, nature conservation, fishing), contradicting interests are to be synchronized and conflicts of use are to be solved. The guiding planning principle formulated in the ROKK states that measures of different stakeholders are to be coordinated and coherent solutions are to be identified. Hence, it supports the strong ambition for functional coordination (Niedersächsisches Ministerium für den ländlichen Raum, 2006).

In practice however, these strong ambition for functional coordination cannot be met. Interviewee 7 clearly stated that “the planning process of offshore windfarms represents a

classical sectoral planning approach". Jay et al. (2016) identified a distinct lack of functional coordination between the different stakeholders involved in the planning process, based on several conducted interviews. Interviewees stated that instead of applying a holistic approach, "single uses were regulated independently [...], conflicts were over-looked and the opportunity to resolve them was missed" (Jay et al., 2016, p. 133). Furthermore they argued that the current planning approach is characterized by "a lack of communication [...] between agencies" (Jay et al., 2016, p. 133) and a "sectoral approach" (Jay et al., 2016, p. 134) instead of a holistic approach. Hence "a larger spatial perspective and spatial planning" (Jay et al., 2016, p. 133) for the EEZ is missing. As already explained in section 4.2, the Lower Saxon territorial waters are divided into coastal waters and EEZ with different planning authorities, respectively. This division depicts the rather sectoral instead of holistic planning approach for the Lower Saxon offshore waters. These arguments are in line with findings made by Bruns & Gee (2009) showing that "the offshore wind farm planning process is a top-down process" and "still largely hierarchical" (p. 150).

However, considering the interaction across the Lower Saxon administrative borders, the picture is changing. Due to the fact that the grid connection for offshore windfarms in the EEZ needs to cross the territorial sea, a strong coordination beyond the borders of the EEZ is essential for an solid functional interdependency (Interviewee 5).

As stated by Interviewee 1 and Interviewee 2 a "strong coordination" between both authorities is given. By, together, identifying several gates through which the cables, coming from the EEZ, are introduced into the territorial sea, a smooth, reasonable as well as efficient grid connection is safeguarded. A continuous information exchange supplemented with periodic direct meeting overcomes the territorial dissection of both authority (Interviewee 1; Interviewee 2). Furthermore, the released plans for offshore development in neighboring states were considered for the designation of these gates as well (Interviewee 1). Thus, an effective implementation of the theoretical aspirations for the functional coordination can be identified on an international and national level.

The appointment of one single provider who is responsible for the grid connection of all windfarms in the Lower Saxon EZZ facilitates this functional coordination as well. Instead of negotiating with several different grid providers, both planning authorities only need to synchronize their plans with one provider. This represents a distinct advantage in comparison to the English grid connection approach (Interviewee 5).

Reality of policy integration

Based on the juxtaposition of the theoretical aspirations in regard to policy integration with the degree of institutional and functional interdependency achieved in practice the degree of policy integration for the planning process of offshore windfarms in the Lower Saxon EEZ can be assessed.

According to the findings presented in the section above the question whether the different policies affecting the planning process of offshore windfarms in the Lower Saxon EEZ are coherent and coordinated has to be negated. Despite the high theoretical ambitions formulated in various policies, practice shows a fundamental lack of "dovetailing and coordination"

(Bundesministerium für Umwelt Naturschutz und Reaktorsicherheit, 2006, p. 65) between relevant policies and stakeholders, resulting in a low functional coordination. However, Interviewee 7 stated that the conditions for a more coherent network of policies were improved through the enactment of the Windenergie-auf-See-Gesetz.

Analyzing the interaction between stakeholders within the planning process allows for statements referring to the degree of functional interdependency. Considering the EEZ only, the planning process is characterized by a low level of functional coordination. However, considering the planning process from a national or even international spatial perspective, masking out the administrative borders of the EEZ, the attempts for achieving a holistic approach are more pronounced than on the level of the Lower Saxon EEZ.

Based on these findings the planning process of offshore windfarms in the Lower Saxon EEZ needs to be assigned a moderate level of integration (cf. Figure 13).

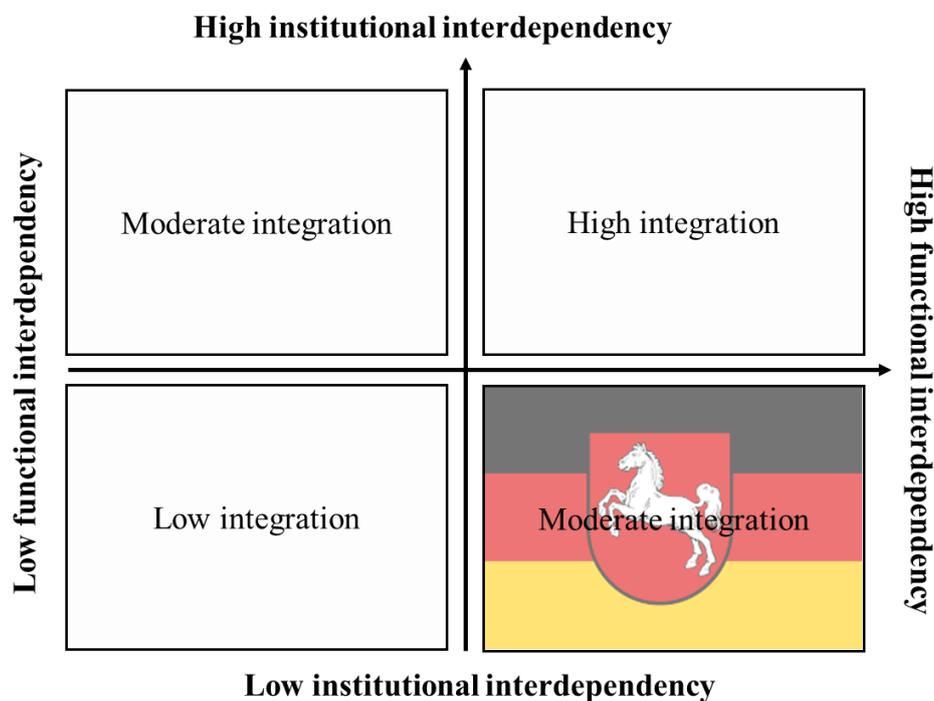


Figure 13: Degree of policy integration within the planning process of offshore windfarms in the Lower Saxon EEZ. (Author, 2018).

4.2.2 Analysis of stakeholder involvement in the Lower Saxon EEZ

As already explained the analysis of stakeholder involvement is based on the degree of involvement within the plan approval procedure (step 4, cf. Figure 11) of the plan approval process of offshore windfarms in the Lower Saxon EEZ.

Theoretical aspirations for stakeholder involvement

The following section depicts the theoretical foundation for stakeholder involvement in the planning process of offshore windfarms in the Lower Saxon EEZ. The analysis is guided by the three questions of *who*, *when* and *how* to involve stakeholders in the planning process, which are extensively explained in section 2.5.

Who is involved?

The Landes-Raumordnungsprogramm requires that “all the affected sectors, groups and actors as well as the relevant local, regional and national administrative authorities are to be involved in planning and development processes” of offshore windfarms (Niedersächsische Ministerium für Ernährung Landwirtschaft und Verbraucherschutz, 2017, p. 5). Several stakeholders can be identified as primary stakeholders within the planning process of offshore windfarms in the EEZ of Lower Saxony (Interviewee 1, cf. Table 9).

Public authorities, implying all regional and national administrative authorities that are affected by the installation of offshore windfarms, such as the Water and Shipping Authority or the Federal Environmental Agency, need to be involved (Interviewee 1).

Nature conservation organizations are to be involved in the planning process as well. Due to potential accidents, air, water or noise pollution the installation of offshore windfarms can have a severe impact on the (marine) ecosystem, cetaceans, migrating birds or benthos. Hence, several nature conservation issues need to be considered during the planning process of offshore windfarms. (Interviewee 1)

Shipping, more precisely the shipping lanes, are heavily affected by the installation of offshore windfarms resulting in a narrowing of shipping lanes and an increased risk of collisions. Therefore, existing shipping lanes need to be considered within the planning process of offshore windfarms to spatially separated both uses and avoid conflicts of interests. (Kannen, 2014)

Similar to shipping, also the *fishing industry* is circumscribed in its exertion. Based on the European policy on fishery, the EEZ represents a collective fishery, hence the fishermen in the Lower Saxon EEZ have a right of unimpeded exercising of fishing. The installation of offshore windfarms reduces the potential fishing grounds in the Lower Saxon EEZ, thus an involvement of fishermen in the planning process is inevitable. (Interviewee 1)

Obviously, the *project developer* has to be involved in the planning process as well for the purpose of coordination. The project developer and the BSH are in continuous communication to exchange information about the scope of the installation but also about approval requirements for the planning permission. (Interviewee 1)

Scientific research institutions, such as universities, are involved in the planning process as knowledge source (Interviewee 1, Interviewee 3). These stakeholders are being consulted if technical or planning related issues arise during the execution of feasibility or environmental assessment studies.

Additionally, to those primary stakeholders, several secondary stakeholders can be identified as well, namely, aviation, military, department for culture and heritage preservation, raw

mineral extraction industry, operators of cables and pipelines as well as neighboring states (Interviewee 1). However, due to their minor and very case-specific involvement in the planning process of offshore windfarms, these secondary stakeholders are excluded from the following analysis.

Table 9: Involved stakeholders in the planning process of offshore windfarms in the Lower Saxon EEZ. (Author, 2018).

Primary stakeholder	Public authorities
	Nature conservation
	Shipping
	Fishery
	Project developer
	Scientific research institutes
Secondary stakeholder	Aviation
	Military
	Department for cultural and heritage preservation
	Raw mineral extraction industry
	Neighboring states

When to involve?

As stated by Interviewee 1, the involvement of relevant stakeholders is a continuous process throughout the complete approval procedure. The plan approval procedure (step 4, cf. Figure 11) represents a common step for extensive stakeholder involvement (Bruns & Gee, 2009).

The plan approval procedure is structured into several steps, of which three aim at stakeholder involvement (rounds of involvement). The following section focuses solely on these three rounds of involvement (cf. Table 10).

Table 10: Rounds of involvement throughout the plan approval procedure for offshore windfarms in the Lower Saxon EEZ. (Author, 2018).

Phase	Participating stakeholder	Form of participation
1 st round of involvement	Public authorities	Invitation to comment (in writing)
2 nd round of involvement	Selected associations (e.g. nature conservation, shipping, fishing)	Invitation to comment (in writing)
	Responsible planning authorities for territorial sea	Discussion on coordinating grid connection
	Network operator	Discussion on coordinating grid connection
3 rd round of involvement	Public	Public display of application
	Public authorities	Invitation to comment (in writing)
	Applicant	Public hearing

During the *first round of involvement*, which follows immediately after the application is being submitted by the project developer, only the bodies for public concern and the project developer are involved by the BSH. Within this round the project developer is required to explain the intention of the application, the scope as well as timeframe for the offshore windfarm. Based on these information the bodies for public concern are asked to give a first statement. (BSH, 2018)

During the *second round of involvement* all affected associations, such as nature conservation, shipping and fishery are involved. At this stage also, the responsible planning authorities for the territorial sea as well as the network operator are included in the planning process to secure a smooth grid connection of the offshore windfarms to the mainland. Furthermore, by publicly displaying the application documents the general public is granted the opportunity to gain insight into the project intentions. (BSH, 2018)

During the *third round of involvement* the bodies for public concern as well as everybody whose concern is affected by the installation of the offshore windfarm are given the opportunity to submit statements again. This round ends with a public hearing and an evaluation of the received statements by the BSH. (BSH, 2018)

How to involve?

The manner of stakeholder involvement during the planning process of offshore windfarm is guided by two principles formulated in the Raumordnungskonzept für das Niedersächsischen Küstenmeer (Niedersächsisches Ministerium für den ländlichen Raum, 2006):

- *Principle of public information*
Each participant needs to be informed as early as possible so that all relevant findings are available for the following decision-making process
- *Principle of neighbor involvement*
Planes actions need to be communicated across borders.

As already touched upon in the previous section the opportunity for stakeholders to get involved in the planning process is through gathering information through the public display of the application documents and submitting written comments within a limited timeframe as well as attending the concluding public hearing (Interviewee 1).

In conclusion, it can be stated that the policies regarding stakeholder involvement within the planning process of offshore windfarms aim for an extensive, overarching involvement (Niedersächsisches Ministerium für den ländlichen Raum, 2006). This proposition can be underlined by the statements made by Interviewee 1. She stated that the consultation process is “principally broad” including the public and bodies for public concern. The process is “in no way restrictive [...] rather the opposite, open”.

Reality of stakeholder involvement

The previous section described the theoretical aspirations for stakeholder involvement in the planning process of offshore windfarms in the Lower Saxon EEZ. However, based on insight gathered through interviews with affected stakeholders and additional literature review, it can be stated that reality does not reflect the theoretical ambitions.

Following Bruns & Gee (2009), the planning process of offshore windfarms in Lower Saxony “can be criticized for lack of representativeness on several grounds. One is that the opinions of the majority of stakeholders have very little bearing on the ultimate decision, being effectively excluded from the decision-making process. Worse, there is little opportunity for redress.” (p. 153). An analysis conducted by Licht-Eggert et al. (2008) revealed that “Out of 430 organized stakeholders identified at a local, Länder [federal], and national level, only 79 (18%) had been invited to comment at any stage of the process. An uneven distribution was noted also with respect to the administrative scales and the sectors involved, with a decided lack of private-sector involvement”. These findings are in line with statements made by several affected stakeholders.

Jay et al. (2012) and Jay et al. (2016) interviewed several representatives of different sectors affected by the installation of offshore windfarms in the Lower Saxon EEZ. The results of these interviews show a strong divergence from the theoretical aspirations in practice.

A typical comment of interviewees from the nature conservation association was that “nature conservation was not given the same priority, given that shipping is covering the whole area, but nature conservation sites only cover certain areas” (Jay et al., 2016, p. 134). An interviewee for the nature conservation association stated that they “asked, even demanded, to have a priority area for nature conservation” (Jay et al., 2012, p. 2022) but this plea was not granted. Furthermore, “nature conservation was subordinate to sectors of economy (shipping and wind energy)” (Jay et al., 2016, p. 134). Interviewee 7 stated that nature conservation is “clearly underprivileged”. These statements touch upon the degree as well as the result of involvement, which are both relevant but need to be distinguished. According to the statements, the degree of participation can be considered as very low and “underprivileged”. This non-participation does not allow the nature conservation sector to actively influence the planning process.

A similar picture can be drawn from interviews with representatives of the fishery association. According to Jay et al. (2012) “the sector felt that it had little influence and that the plan had failed to accommodate their concerns: ‘We are too small and unimportant’.” (Jay et al., 2012, p. 2023).

Interviewee 3 (2018) commented that the scientific research institutions are considered as experts, but they are solely “standing in the second or third row” without any direct involvement in the planning process.

Stakeholders from the local public authorities “resent the process as token involvement which merely creates work and does not accord them any degree of control over the final outcome. “ (Bruns & Gee, 2009, p. 153). According to them, the process of involvement “does not represent an open forum for dialogue which involves all relevant stakeholders and accords equal rights to all participants” (Bruns & Gee, 2009, p. 153). Additionally, Interviewee 8 stated that the general public is not actively involved in the planning process of offshore windfarms.

Deviating from the perception of the previously mentioned stakeholders is the perception of one project developer, who stated that they were extensively involved throughout the complete process (Interviewee 6, 2018). Furthermore, she stated that their level of participation was “very high” and that they did not experience any restrictions in their possibilities to get actively involved in the planning process. This statement is in accordance with statements made by Interviewee 7. She mentioned that the OWE sector is “clearly on the inside track” due to the strong political support.

Based on these findings, the different primary stakeholders involved in the planning process of offshore windfarms in the Lower Saxon EEZ can be ascribed different degrees of participation, as depicted in Figure 14. The positioning is based on the three-step analysis as part of the conceptual model developed in chapter 2.

The analysis reveals that six different stakeholders can be considered as primary stakeholders to the planning process of offshore windfarms in Lower Saxony, namely public authorities, nature conservation groups, the shipping and fishing industry, project developer and scientific research institutions. The involvement of these stakeholders is restricted to the plan approval procedure (step 3). Nature conservation groups, the fishing industry as well as the scientific institutions are only granted a marginal degree of involvement (non-participation). According to interviews held with representatives of public authorities and the shipping industry their degree of involvement can be considered as symbolic participation. Real participation is only granted to the project developer, underpinning the bias towards the OWE sector in the planning process of offshore windfarms.

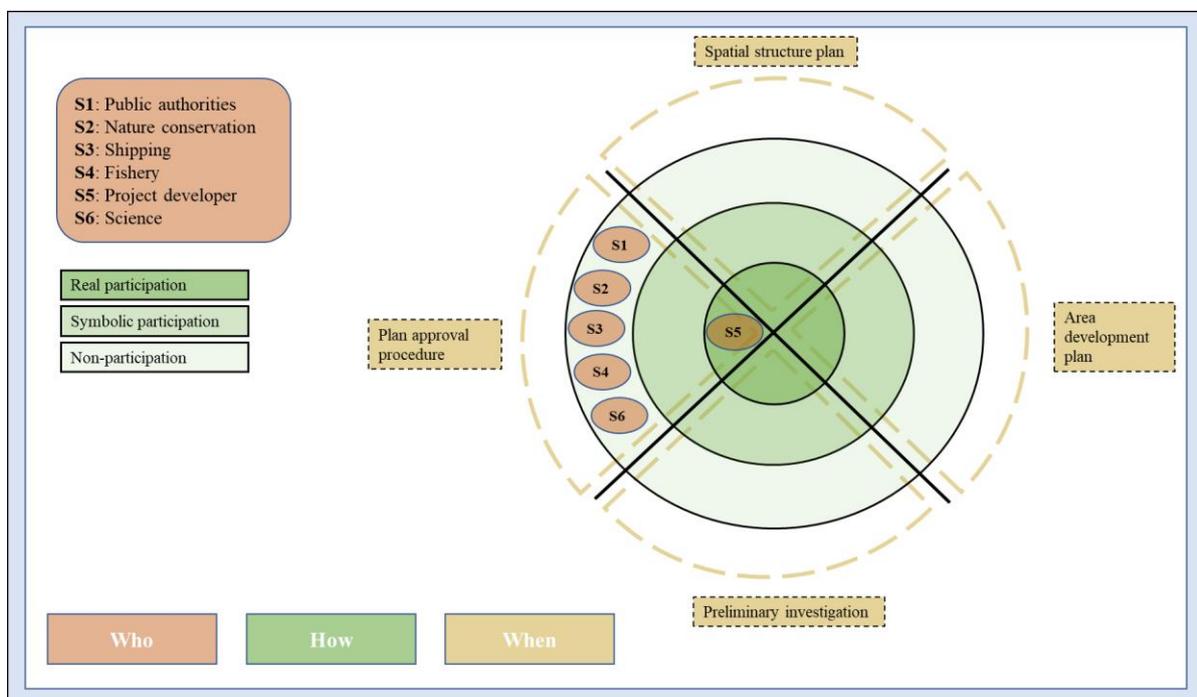


Figure 14: Degree of stakeholder involvement for stakeholders involved in the planning process of offshore windfarms in the Lower Saxon EEZ. (Author, 2018).

5 Discussion and reflection

Based on the findings presented in chapter 4, the two remaining sub-questions (4) *What are the similarities as well as differences between the planning approaches in England and Lower Saxony for achieving policy integration and stakeholder involvement in the offshore wind energy sector?* and (5) *How can policy integration and stakeholder involvement contribute to the identification of crucial factors for achieving a better integrated MSP process of offshore windfarms in the Dutch context?* will be answered in the following discussion of the obtained results. Based on the analysis conducted in chapter 4, similarities as well as differences between the planning approach for offshore windfarms in England and Lower Saxony can be identified (sub-question 4). Hence, this chapter combines all findings of this study and thereby forms the foundation for formulating recommendations for other countries in order to enhance their planning approach for offshore windfarms. For the purpose of tangibility, the planning approaches applied in England and Lower Saxony will be adduced to give recommendations to the flawed Dutch planning process of offshore windfarms (Spijkerboer, 2015, sub-question 5). Finally, the chosen research design as well as the obtained data are reflected upon.

5.1 Comparison of the planning approaches applied in England and Lower Saxony

Resulting from the findings presented in chapter 4 several similarities as well as differences between the planning approaches applied in England and Lower Saxony can be identified. The different approaches of application represent the reason for the different degrees of policy integration and stakeholder involvement identified in chapter 4 (cf. Figure 9, 10, 13, 14).

Starting out with the similarities between both planning approaches, it becomes apparent that both planning processes are guided by “superordinate strategies for marine spatial planning” (Interviewee 7). “The exact details of the processes are different but the outcome is similar” (Interviewee 7). Both processes are guided by overarching policy documents (England: MCAA, MPS; Lower Saxony: Landes-Raumordnungsprogramm, Windenergie-auf-See-Gesetz). All documents formulate distinct planning principles and theoretically aim for a high degree of policy integration and stakeholder involvement, by addressing the need for a streamlined, more coherent planning process and cross-sectoral coordination (Interviewee 7). Also, the planning authorities in England as well as in Lower Saxony acknowledge the need for cooperation across administrative boundaries. This theoretical acknowledgement is crucial considering the devolved/federal systems. However, the alike theoretical aspirations represent the major similarity between England and Lower Saxony.

The approach of achieving institutional coordination differs between England and Lower Saxony (Interviewee 8). The enactment of the MCAA and the MPS in England appointed the MMO as the single planning authority, which is “doing a really good job” (Interviewee 4), resulting in a streamlined planning process characterized by “consistency, integrity and uniformity” (Gibson & Howsam, 2010, p. 13) and “much more integrated and coherent outcomes” (Interviewee 4). The Lower Saxon planning process is built on several policy documents, coming from different governance levels with overlapping and contradicting objectives, clearly impeding institutional coordination (Kannen, 2014).

Furthermore, the practical application of functional coordination presents a second disparity. Whereas the English planning approach, by establishing the MMO as the single planning authority, seems to successfully translate the ambitions of a holistic interaction approach into practice, the planning process in Lower Saxony is still characterized by a fragmented interaction approach between different planning authorities.

However, masking out the administrative borders of the EEZ, the picture is changing. The interaction between the different devolved administrations in the UK as well as with neighboring states is still insufficient, whereas a fruitful cooperation between the different administrative bodies in Lower Saxony, on international as well as on national level, is given. The consequences of these different approaches are perfectly depicted in the issue of the grid connection. Whereas in Lower Saxony a substantive cross-border cooperation between the authorities and the single grid provider is given, the devolved English planning system is still lacking this coordination due to devolved planning authorities and an uncoordinated grid network.

Hence, the Lower Saxon planning approach, distinctively regulated by several (inter)national policy documents, represents a typical spatial planning approach which is mostly performed in a sectoral manner. In contrast to that, the English planning process, embedded in the devolved law with the devolved MMO, represents a more specific planning approach.

These differences represent the reasons for the different degree of policy integration in the planning process of offshore windfarms in England and Lower Saxony (cf. Figure 15).

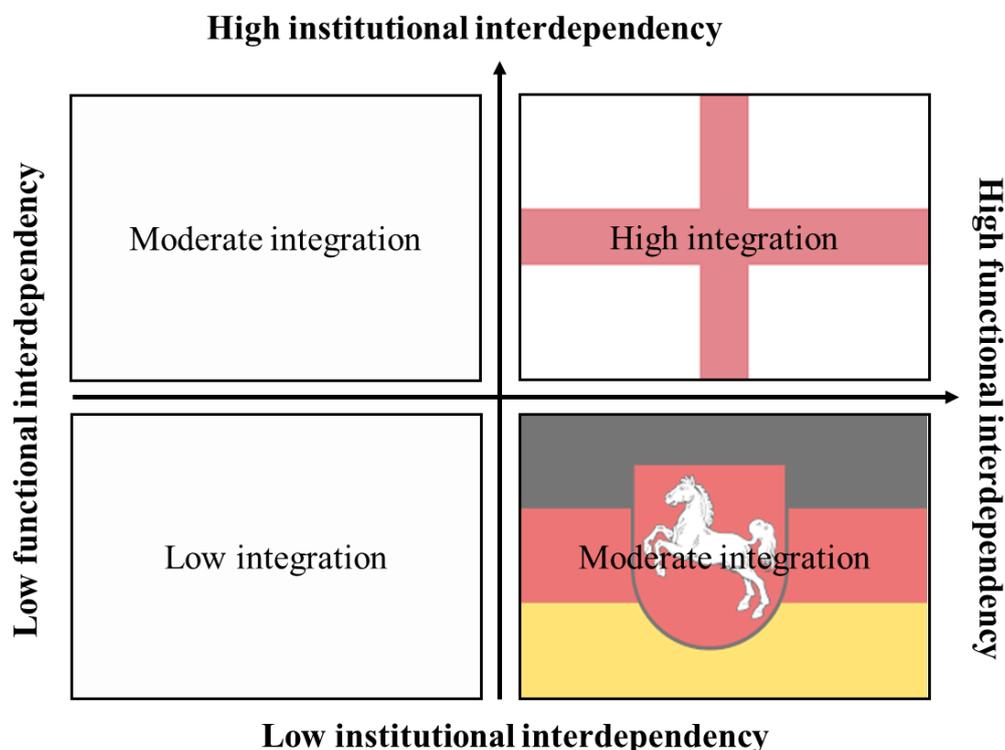


Figure 15: Comparison of the degree of policy integration in the planning process of offshore windfarms in England and Lower Saxony. (Author, 2018).

In regard to the degree of stakeholder involvement, it can be stated that despite the high theoretical ambitions formulated in policy documents, the involvement in England is “a bit more intense and important” than in Lower Saxony (Interviewee 7), at least from a theoretical point of view. Interviewee 3 stated that the process of stakeholder involvement in England is more transparent than in Lower Saxony. The English approach is characterized by an intensive phase of stakeholder involvement in the pre-application phase, emphasizing informal discussion rounds (Interviewee 7, 10, cf. Figure 10). The MMO offers a variety of different methods and opportunities of engagement to as many people as possible (MMO, 2013). However, in practice this intensive phase of involvement is overshadowed by a strongly political favored OWE sector, which curtails the influence of the other primary stakeholders, leaving them with non-participation only (cf. Figure 16). In Lower Saxony the involvement of stakeholders is not as emphasized as in England and is mainly conducted at the end of the planning process (cf. Figure 11). The opportunities of involvement are limited to written comments or attending formal public hearings.

Furthermore, the responsibility for stakeholder involvement is appointed to different bodies in England and Lower Saxony, respectively. In England the developer is delegated to conduct extensive stakeholder involvement, supported by the planning authority MMO. In the context of the Lower Saxon planning approach the planning authority itself is responsible for safeguarding a sufficient involvement of stakeholders, the developer are solely considered as stakeholder and not as responsible party (cf. Table 9).

Even though both planning process are guided by a different approach for stakeholder involvement, the result is tenuous in England as well as in Lower Saxony. As already mentioned, the successful involvement of all primary stakeholders is hampered by a strong bias towards the OWE sector, resulting in a high degree of non-participation for all other stakeholders (cf. Figure 16). According to Interviewee 8, the bias towards OWE is more distinct in England than in Lower Saxony. This is elucidated in the “enormous areas” (Interviewee 8), which are reserved in planning for OWE sector compared to other sectors.

Concludingly it can be stated that the English policy documents pursue a more comprehensive and earlier stakeholder involvement than the Lower Saxon planning policies. However, both planning regimes fail at translating their ambitions into practice. The politically supported OWE sector overrules all English and Lower Saxon primary stakeholders, leaving them with non-participation opportunities only (cf. Figure 16). Hence, both planning approach do not represent role models for balanced and fair stakeholder involvement.

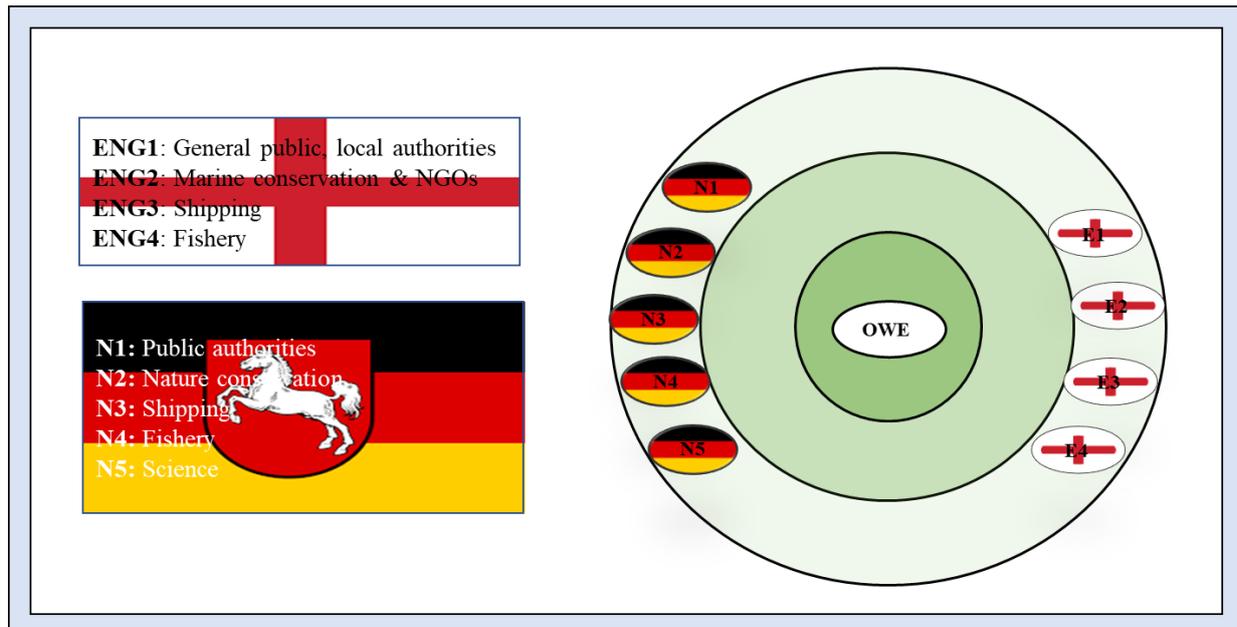


Figure 16: Comparison of the degree of stakeholder involvement for stakeholders involved in the planning process of offshore windfarms in the English and Lower Saxon EEZ. Annotation: Deep-green circle = Real participation, Light-green circle = Non-participation. (Author, 2018).

5.2 Recommendations to the Dutch planning process of offshore windfarms

As already mentioned, a study conducted by Spijkerboer (2015) identified several deficits in the Dutch application of MSP to the planning process of offshore windfarms. Among others, several flaws regarding policy integration and stakeholder involvement were identified, such as a rather sectoral than integrative planning approach as well as a strong bias towards the OWE sector, which impedes a balanced process of stakeholder involvement. Due to the limited scope of this study no extensive explanation of the identified deficits will be given, instead it will be referred to Spijkerboer (2015) for clarification. Based on the analysis of the English and Lower Saxon application of MSP to the planning process of offshore windfarms, recommendations to the Dutch MSP approach in regard to OWE can be proposed (sub-question 6).

In regard to policy integration, Spijkerboer (2015) identified a fundamental lack of institutional as well as functional coordination in the Dutch planning process. The enactment of the Offshore Wind Energy Act in 2015 resulted in the “development of sectoral regulation to ensure quick and cost-efficient development” (Spijkerboer, 2015, p. 50) “discourag[ing] cross-sectoral integration” (Spijkerboer, 2015, p. 64). The “government actively pursues a sectoral, rather than an integrated [interaction] approach” (Spijkerboer, 2015, p. 51). Hence, the planning process of offshore windfarms in the Netherlands is to be positioned at a low level of integration (cf. Figure 17).

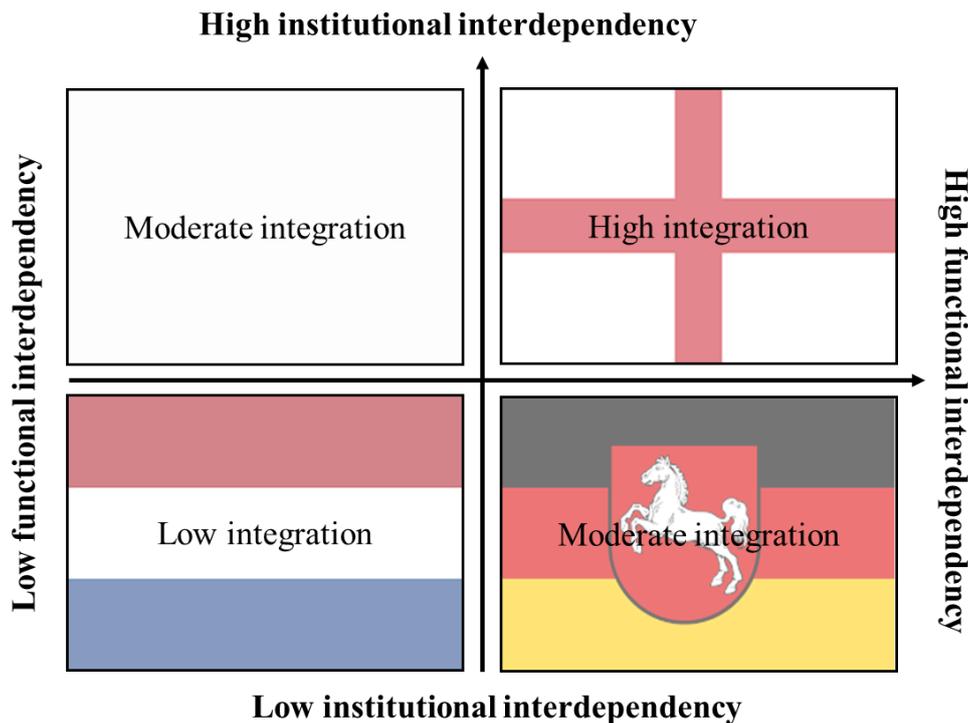


Figure 17: Degree of policy integration within the planning process of offshore windfarms in the Netherlands, in comparison to the English and Lower Saxon planning approach. (Author 2018).

It becomes apparent that an overarching policy document, requiring a streamlined and coherent planning process is missing in the Dutch MSP process of offshore windfarms. The enactment of an Act resembling the English MCAA and replacing/extending the Offshore Wind Energy Act, could serve as a starting point for streamlining the planning process. Considering the statements made by Interviewee 4, the appointment of a single authority (based on the example of the MMO) could be considered as fruitful for the Dutch planning process. The authority would be responsible for safeguarding a higher degree of consistency throughout the planning process, hence facilitating the creation of area-based synergies and cross-sectoral cooperation between the different local authorities. The envisioned Act could also include features of the *Windenergie-auf-See-Gesetz* enacted in Lower Saxony, since this Act improved the conditions for a more coherent network of policies (Interviewee 7).

Even though the Dutch planning legislation requires a high degree of stakeholder involvement, these ambitions cannot be translated into practice (cf. Figure 18). According to Spijkerboer (2015) “participation in the Dutch MSP seems to be a method for avoiding and minimizing conflicts, rather than an opportunity for gathering information about opportunities and possible synergies” (p. 63). Following Spijkerboer (2015) the Dutch planning process of offshore windfarms is characterized by a fundamental lack of stakeholder participation. In the Offshore Wind Energy Act opportunities for participation are kept to a minimum. Moreover, participation is only being “applied as a reframing strategy for politically sensitive decisions” (Spijkerboer, 2015, p. 57).

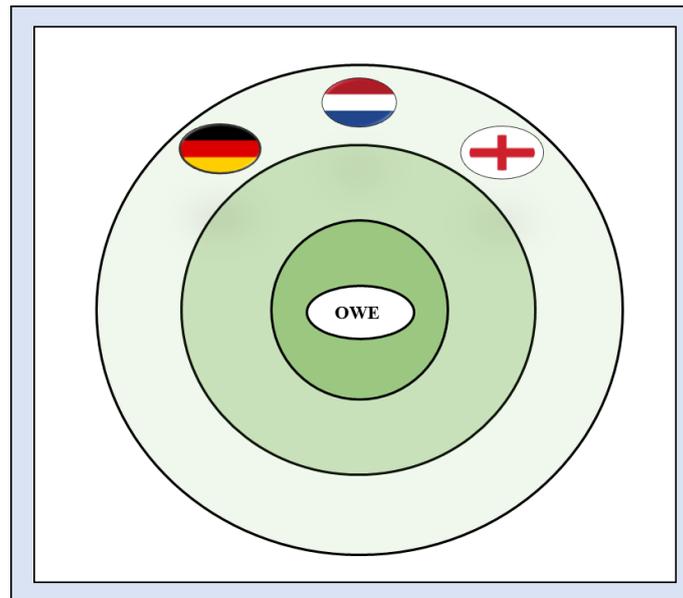


Figure 18: Degree of stakeholder involvement in the Dutch planning process of offshore windfarms, in comparison to the English and Lower Saxon approach. Annotation: Deep-green circle = Real participation, Light-green circle = Non-participation. (Author, 2018).

Due to the fact that neither the English nor the Lower Saxon planning process is characterized by a high involvement of stakeholders in practice, it can only be stated that planning authorities in general are struggling with the implementation of the high theoretical ambitions for stakeholder involvement formulated in policy documents, not only the Dutch authorities. However, the (Dutch) planning authorities need to acknowledge the benefits of an intense stakeholder involvement, such as “increased transparency” (Interviewee 1), “less resistance” (Interviewee 1) and/or “greater sense of ownership” (DEFRA, 2011, p. 61). From the standpoint of this study, acknowledging and implementing these benefits represents the only effective option to sustainably overcome the insufficient engagement of stakeholders in the Dutch context, but also to improve the involvement of stakeholders in England or Lower Saxony.

Furthermore, Spijkerboer (2015) identified a prioritization of the OWE sector over other stakeholders in the EEZ. However, based on the findings presented in chapter 4, it seems as if this bias towards OWE is no Dutch problem. Similar complaints were made by stakeholders from the English and Lower Saxon planning process. Hence, the English and Lower Saxon MSP cannot provide any recommendations to overcome this problem in the Dutch context.

In summary, four recommendations can be made to the Dutch planning approach for offshore windfarms (cf. Table 11). Firstly, an overarching policy document which should resemble the English MCAA could result in a more streamlined planning process. Substantiating this pursued Act with features of the Lower Saxon Windenergie-auf-See-Gesetz would evoke a more coherent network of policies within the Dutch planning approach. Secondly, appointing a single planning authority, taking the English MMO as concrete example, could result in more consistent and coordinated decision-making processes and avoids fragmentation. Thirdly, by determining one single grid provider, drawing on the Lower Saxon example, the Dutch planning process could be streamlined. Lastly, by actively intensifying the involvement of affected stakeholders first attempts can be made to overcome the strong political influence on the

planning process. However, due to the fact that the English and Lower Saxon planning process are not without flaws themselves, they offer only limited options for recommendations to the Dutch process. This partial insufficiency serves as a point of departure further research (cf. chapter 6).

Table 11: Summary of recommendations to the Dutch planning process for offshore windfarms. (Author, 2018).

Recommendation	Example	Anticipated contribution
Overarching policy document	Marine Coastal Access Act (MCAA)	Streamlined planning process
	Windenergie-auf-See-Gesetz	Coherent policy network
Single planning authority	Marine Management Organization (MMO)	Consistency & coordination Reduction of fragmentation
	Lower Saxon approach	Centralization
Improved stakeholder involvement	English theoretical ambitions	Balanced and fair involvement

Hence, combining the benefits of the English and the Lower Saxon MSP process, implying to combine the best features of both planning regimes, and adjusting it to the specific planning context of the Netherlands is likely to conclude in a more thorough and legitimate planning outcome.

5.3 Reflection

This chapter will conclude with a reflection on the applied research design as well as on the obtained data.

The research design chosen for this study aims at comparing the planning process of offshore windfarms in England and Lower Saxony in regard to the application of policy integration and stakeholder involvement. Representing the two leading nations in OWE production, a comparison of these two cases was expected to provide useful insight into how policy integration and stakeholder involvement is contributing to the planning process and how they can be successfully translated into practice. However, the findings could not completely meet these expectations. The analysis revealed, that the two planning processes are not without flaws themselves. Both, England and Lower Saxony, are successfully implementing offshore windfarms in their EEZ and thereby strongly promoting the energy transition in both countries. However, both planning approach are characterized by a heavy bias towards OWE, resulting in an unbalanced and uncoordinated overall planning approach. Due to this partial divergence from the expectation made prior to the analysis, only limited recommendation could be provided for the Dutch MSP process. However, these shortcomings allow room for further research (cf. chapter 6).

By comparing the theoretical ambitions formulated in policy documents with the translation of these objectives into practice, a thorough foundation was being established for analyzing the

degree of policy integration and stakeholder involvement in both cases, allowing for a substantiated answer to the primary research question (cf. chapter 7).

Policy documents served as a basis for analyzing the theoretical ambitions. Throughout the analysis no difficulties in acquiring the desired documents were encountered, since all of the documents represent official governmental documents, open to the public. As being stated throughout this study, the used policy documents represent an unilateral source of information, containing only theoretical aspirations. In order to obtain detailed knowledge on how these aspirations are being translated into practice, semi-structured interviews with different involved stakeholders in the planning process were conducted.

The objective was to achieve a careful balance between interviewees from England and Lower Saxony as well as between interviewees from different sectors (national/regional planning authority, industry, independent experts). These ambitions could not be completely met. Due to lower responses to requests for interviews from the English side, more interviews were conducted with stakeholders from Lower Saxony. Despite this quantitative imbalance, representatives from national and regional planning authorities as well as independent experts from both England and Lower Saxony could be interviewed. However, no contact to the English industry sector could be established, wherefore statements about the involvement of the industry sector in England solely rely on additional literature research. The interview with an expert on MSP, operating in the English as well as in the Lower Saxon planning process, can be considered as a very fruitful contribution to the comparison of both planning approaches.

Due to the limited scope of this study, the interviews focused on the primary stakeholders only. The experiences made by secondary stakeholders in regard to policy integration and stakeholder involvement are important for the overall analysis as well. Analyzing these experiences and combining them with the findings made in this study would allow for more substantiated statements regarding the degree of policy integration and stakeholder involvement in England and Lower Saxony. This additional analysis could be the subject of further research.

However, the statements made by the different interviewees need to be handled with caution. Due to the fact that the planning process in the English and Lower Saxon EEZ is operating in a congested area with different, sometimes contradicting interests, each stakeholder, hence each interviewee, is pursuing an own motive or interest within the planning process. Thus, the statements made may never be free of bias. By scrutinizing the given statements as well as relating/comparing the statements to each other, a position of objectivity was being aspired.

6 Conclusions

The guiding research question for this study was formulated as follows: “*How is policy integration and stakeholder involvement contributing to the planning process of offshore windfarms in England and Lower Saxony?*”. Based on the conducted analysis of the English and Lower Saxon planning process of offshore windfarms, allowing for an analysis of the degree of policy integration and stakeholder involvement in both processes, the primary research question can be answered in the subsequent section (direct contributions are highlighted in italics). The answers to the secondary questions were already provided in the previous chapters.

Contribution of policy integration and stakeholder involvement

Due to the fact that both planning regimes pursue different approaches of achieving policy integration, different possible contributions of policy integration to the overall planning process of offshore windfarms can be identified.

The English approach of actively pursuing policy integration is being monitored by one single specific planning authority, the MMO, which is responsible for the complete planning process (cf. section 4.1). This strategic plan-led approach pursued by the MMO allows for a *more effective management* of marine activities by “ensur[ing] that we [the planning authority] are doing the right activities at the right place, at the right time.” (Interviewee 9). Even though a different approach towards policy integration is conducted in Lower Saxony, similar effects could be observed. Instead of pursuing a strategic plan-led planning approach, the Lower Saxon planning authorities aim for policy integration by conducting a spatial planning approach. By actively aiming for policy integration the planning process in Lower Saxony is “expedited” (Interviewee 7). *Enhanced lucidity* for all involved parties (planning authority, project developer, affected stakeholders) allows for an *accelerated planning process* (Interviewee 7).

Sufficient coherence among the different policy documents represents the main objective within the English planning process (Interviewee 9). The MCAA and the MPS established a framework for decision-making which acknowledges the need for coherence and consistency, allowing for a *streamlined planning process with increased transparency*, resulting in a *reduced regulatory burden* (DEFRA, 2011). Even though the enactment of the AWZ Nordsee-ROV and the Bundesfachplan Offshore introduced a different approach of policy integration into the Lower Saxon planning process, similar effects were evoked. One of the main objectives for the Lower Saxon planning approach is to concentrate offshore activities in specific areas to trigger a more extensive collaboration and coordination between the different interests. The *efficient clustering* of cables or pipelines, interconnecting different windfarms, represent an example of the pursued “concentration effect” (Interviewee 5, 7). A *more efficient usage of space* due to the strong focus on improving the “concentration effect” (Interviewee 7), is the result. Enhanced coherence between the previously very sectoral operating policy documents as well as intensified coordination between the different involved planning authorities allows for a more efficient and systematic management of the different uses in the Lower Saxon EZZ (Interviewee 5).

Drawing from the observations made by analyzing the English and Lower Saxon planning process, it can be stated that the enactment of the MCAA in England and the AWZ Nordsee-ROV in Lower Saxony induced a higher degree of consistency and coordination between the different policy documents as well as the planning authorities, hence positively influencing the degree of institutional and functional interdependency. This development results in a *more structured and streamlined planning process*, allowing for an offshore windfarm development in a *sustainable and considerate manner*.

Regarding stakeholder involvement, both planning regimes aim for an involvement of as many stakeholders as possible, starting at the earliest possible stage. Several positive effects of active and early stakeholder involvement could be identified.

First of all, a participatory planning approach from an early stage will enable *increased public understanding* as well as the *likelihood of adopted documents*. Secondly, by offering affected stakeholders the possibility of actively participating in the planning process the *sense of ownership* can be increased. Thirdly, the involvement of different stakeholders offers *access to alternative sources of data/knowledge*, which might not be accessible for the planning authority. However, the contribution of a participatory planning approach strongly depends on the level of involvement, which is granted to the stakeholders. The more the stakeholders are engaged in the planning process, the more pronounced the positive effects of stakeholder involvement are. If stakeholder involvement is conducted in the appropriate manner, it results in a *more profound and robust plan with enhanced public support*.

As already explained in section 5.1 the necessity to involve stakeholder as early as possible is stronger acknowledged in England than in Lower Saxony. Resulting from this disparity, additional contributing factors could be identified in the English planning process. Although the extensive involvement procedure can be time-consuming, *potential issues can be raised at an early stage*, discussed among a variety of different stakeholders and solved in collaboration, hence safeguarding a *smooth subsequent consenting process* (Interviewee 4). Due to a lower overall degree of involvement in Lower Saxony and the focus to involve stakeholders towards the end of the planning process only, issues often occur towards the end of the planning process. The planning authority alone is responsible for solving the occurring issues, they are not required to involve the stakeholders during the compromise-finding procedures (Interviewee 1). These circumstances leave a feeling of apathy to some stakeholders, resulting in a retreat of from the planning process.

As depicted by the observations made in England and Lower Saxony, a broad involvement of different stakeholder groups from an early stage on may result in a *wider acceptance of the final plan*, which is essential for an *effective implementation*.

The findings presented above allow for an answer to the primary research question. If active attempts are being made by the responsible authorities (preferably one single appointed planning authority) to enhance the degree of policy integration and stakeholder involvement it is most likely that the *more structured and streamlined planning process* will result in *more profound and robust planning outcomes*. Furthermore, the *acceptance* of these outcomes can be increasingly improved, resulting in *effective implementation procedures*.

However, the English and Lower Saxon planning approaches partially lack sufficient coherence and coordination between policy documents as well as planning authorities in practice (depict for example in the uncoordinated grid connection in England) and are characterized by a strong bias towards the OWE sector impeding a well-balanced involvement of stakeholder. Due to this, a high degree of institutional and functional coordination as well as extensive stakeholder involvement cannot be completely achieved in practice and the contribution of policy integration and stakeholder involvement varies between both cases.

In order to overcome these deficiencies in institutional and functional coordination in the future, two main recommendations can be provided for the English and Lower Saxon planning approach for offshore windfarms. First of all, the establishment of an unified grid network provides the foundation for achieving greater functional coordination and drawing on the advantages of the “concentration effect”. Secondly, the strategic planning approach pursued in England, customized to the capabilities of the single planning authority, allows for a higher degree of institutional coordination and coherence, especially in the spatial planning oriented approach of Lower Saxony. These recommendations also apply to the Dutch planning system in order to overcome its flawed planning process for offshore windfarms.

Implications for the Dutch planning process

Considering the observations presented above, it becomes apparent that even though different approaches on actively increasing the degree of policy integration and stakeholder involvement are being applied in England and Lower Saxony, they result in rather similar outcomes. The appropriate approach to pursue policy integration and stakeholder involvement in the planning process of offshore windfarms seem to heavily depend on the specific planning context, such as the guiding planning legislations, political influences or the marine environment. Due to this context-dependency, no guarantee can be granted that by adopting characteristics of the English or Lower Saxon planning process, the flaws in other planning contexts such as those of the Dutch planning process can be overcome.

The results of the analysis suggest that for improving the Dutch planning process for offshore windfarms important factors are: the enactment of an overarching policy document, inspired by the MCAA and the AWZ Nordsee-ROV, the appointment of a single planning authority which is responsible for the complete planning process as well as the determination of one single grid provider. Furthermore, intensive stakeholder involvement starting right from the beginning of the planning process could enhance the performance of the Dutch MSP process. However, due to the context-dependent character of offshore windfarm planning, these recommendations should be considered as guidelines only. The customized adoption of these recommendations to the specific requirements of the Dutch spatial planning regime is inevitable. The requirements and conditions for a suitable adoption to the Dutch planning system could be the subject of further research.

Recommendations for further research

As already touched upon in the previous sections, the findings retrieved from the analysis of policy integration and stakeholder involvement in the planning process of offshore windfarms in England and Lower Saxony leave room for further research.

Based on the conclusions drawn in this study, several research questions could be formulated which can serve as an orientation for further research:

- Does transboundary marine spatial planning, as defined by Tatenhove (2017), represent a solution to improve policy integration and stakeholder involvement in the English and Lower Saxon OWE sector?
- How does an unified grid connection of offshore windfarms contribute to the overall performance of the OWE sector?
- How can the success bringing characteristics of the English and Lower Saxon planning process be effectively adopted to the deficient Dutch planning process?

By answering these questions additional factors and conditions for a higher degree of policy integration and stakeholder involvement within the planning process of offshore windfarms can be identified. Based on these findings a more coordinated and sustainable MSP approach can be safeguarded for the future. Additionally, these findings can serve as a basis for further substantiated recommendations to the Dutch planning process in regard to offshore windfarms.

Concluding remarks

Marine ecosystems, especially the EEZs of industrialized countries, are facing an increasing demand for space from different sectors, either for industrial exploitation or for nature conservation. Due to the limited space capacity of the marine environment this trend leads to an immense congestion, resulting in an increased level of complexity and uncertainty for the planning regimes of marine areas. Especially the emergence of the OWE sector, due to its immense demand for space, represents a major challenge for the traditional planning approach of the marine realm.

Considering this problematic development, the importance of a thorough and reasoned application of MSP is undeniable. Following the findings presented in this study, policy integration (actively facilitating institutional and functional interdependency) and extensive stakeholder involvement (from an early stage on) are likely to take on an increasingly important role within the MSP process by enhancing the coherence and cooperation needed for a successful and streamlined planning approach.

However, whether the English and Lower Saxon approach towards policy integration and stakeholder involvement represent a fully appropriate strategy is questionable. Even though the English and Lower Saxon planning approach towards policy integration and stakeholder involvement aspire to trigger a higher degree of coordination, collaboration and consistency between the policy documents as well as the involved stakeholders, they fail at successfully translating these ambitions into practice. The pursued planning approaches are characterized by a strong bias towards the OWE sector, impeding successful stakeholder involvement and a balanced and considerate planning outcome.

Due to the increasing congestion, followed by accumulated complexity and uncertainty, the necessity to balance all colliding interests in the English and Lower Saxon EEZ in a fair and sustainable manner is inevitable. Hence, further research is needed to identify additional contributing factors, which allow for a more evenly balanced planning approach to combine demands for economic development with the need to protect marine ecosystems as well as to achieve social and economic objectives in a sustainable way.

7 Epilogue

The work presented in this study was carried out at the Faculty of Spatial Sciences of the university of Groningen, between November 2017 and June 2018. It represents the final product of my 2-years study of the Double Degree program Water and Coastal Management, which is offered by the University of Groningen in cooperation with the University of Oldenburg.

After devoting a considerable time of my last half year trying to find answers to my questions, I would like to stress that this study was conducted in a highly sensitive research context. Due to the increasing congestion of the EEZs and the increasing pressure on the different interests in the EZZs induced by the transition towards RE, the complexity and the uncertainty in regard to planning in the marine realm is tremendously increasing. Due to the rapid development of the OWE sector, both MSP regimes in England and Lower Saxony are constantly undergoing changes, in terms of jurisdiction, to adapt to the rapidly changing circumstances. Furthermore, the growing potential of interest collusion coupled with increasing political pressure leads to an increase of competition and suspicion among the different stakeholder. These circumstances result in a very complex and challenging research context for analyzing the contribution of policy integration and stakeholder involvement on the planning process of offshore windfarms.

However, by thoroughly comparing the given statements and formulated accusation and by pursuing the ambition to include all primary stakeholders the ethical considerations formulated for the purpose of this study were given special attention. But due to the limited scope of this study, the secondary stakeholder of the planning process had to be excluded. Hence, the entirety of the stakeholder network could not be acknowledged, which clearly represents a weakness of this study. Further research is needed in order to provide a more detailed and comprehensive answer to the proposed research questions question since a more in-depth analysis of the planning process in such a highly contested context clearly exceeds the limits of a master thesis.

Starting out my research with the firm believe that MSP represents a genius tool for successfully overcoming the increasing complexity and uncertainty related to planning the marine realm, this presumption changed based on the experiences made during my research. Despite its objectives, MSP, at least as conducted in England and Lower Saxony, opens opportunities to actively favor the political supported OWE sector, resulting in an unbalanced planning outcome. These findings leave me questioning the usefulness of MSP as a tool to achieve a more reasoned and sustainable planning approach for marine systems.

However, this research on MSP and the effects for the OWE sector represents a perfect combination of what I have learned during my time studying Water and Coastal Management at the University of Oldenburg and Environmental Infrastructure Planning at the University of Groningen. It was a complying feeling to combine my knowledge learned during my time at both universities.

Since I have always been very keen on the marine environment, this thesis only encouraged me in pursuing a future in environmental spatial planning to successfully combining economic growth with ecological conservation. I would like to devote my future self to the increasing complexity of the marine realm and its bearing challenges. I hope to be able to contribute to

pursuing a more balanced and sustainable planning approach for the essential marine ecosystems.

Last but not least, for being able to present the results of this thesis I heavily relied on the support and cooperation of several contributors. Therefore, I want to use this opportunity to thank a number of people, some for directly contributing to this work, others simply for creating a pleasant environment to live and work.

First of all, I would like to thank the people I have interviewed for this thesis, who were so kind to answer my questions and provided me insight into the complex planning process of offshore windfarms in England and Lower Saxony. Thank you all for your help, it was a pleasure to work with you.

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Marit Schütte

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Appendices

Appendix I – Code book

Category	Code	Definition
Energy production	Renewable energy	Statements about the on-going energy transition
	Offshore	Statements about OWE as part of the on-going energy transition
Planning process	Authorities	Statements about responsibilities and capabilities (e.g. who is responsible for what on the basis of which rules) of actors
	Complexity	Statements about the degree of uncertainty and complexity, institutional ambiguity or mismatch between institutional settings (influences behavior of actors, e.g. high levels of complexity and uncertainty will let investors be more hesitant)
	Paradigm	Statements about the applied planning paradigm (e.g. collaborative, rational, technical)
	Process	Statements referring to the procedure of planning an offshore windfarm
	Devolved / Federal	Statements about the prevailing planning approaches in UK and Germany
Policy integration	Integration	Statements about integration ambitions in the documents (bot vertical and horizontal)
	Cross-sectoral	Statements referring to comprehensive, proactive, integrative approaches
	Trade-offs/ Synergies	Statements clarifying the acknowledgement of interdependencies between systems, potential for additional benefits
	Cooperation / Coordination	Statements clarifying the recognition of cooperation/coordination as crucial conditions to create the desired interdependency between two or more policy domains
	Comprehensiveness	Statements clarifying the recognition of a broader scope of policy consequences in terms of time, space, actors and issues
	Consistency	Statements referring to the minimal extent to which a policy penetrates all policy levels and all government agencies
	Fragmentation	Statements clarifying the recognition of wicked problems, interconnectedness, complicatedness, uncertainty and/or ambiguity or the “patchwork” character
	Governance	Statements referring to the applied governance approach (sectoral, multi-level)
	Restrictions	Statements referring to restrictions for policy integration
	Evaluation	Statements referring to the achieved level of policy integration

	Documents	Statements referring the essential documents, which are guiding the planning process (acts, laws, etc.)
Stakeholder involvement	Institutional interdependency	Statements referring to the recognition of increasing number of stakeholder involved in the planning process
	Involvement	Statements referring to the degree/level of engagement, participation, collaboration
	<i>Who</i> should be involved?	<i>Statements about</i> the stakeholders that are entitled to take part in the planning process
	<i>When</i> should stakeholders be involved?	Statements about the point of time of stakeholder involvement
	<i>How</i> should stakeholders be involved?	Statements about the type of participation
	Restrictions	Statements referring to restrictions for stakeholder involvement
	Evaluation	Statements referring to the achieved degree of stakeholder involvement
	Authority	Statements referring to the responsible party for the process of stakeholder involvement
	Interests	Statement about the varying motives, interests, values of involved stakeholders
MSP	Fragmentation	Statements about the diversification of ecosystem services as a driver for MSP
	Functional interdependency	Statements about acknowledging the relationship between the marine ecosystem resources and its users (e.g. ecosystem services)
	Solution approach	Statements about attempt to acknowledge the increasing institutional and functional interdependency within the OWE sector
	Usefulness	Statements regarding the evaluation of MSP

Appendix II – Interview guides/questionnaire

Hyphen represent the actual questions, bullets represent possible follow-up questions or supporting suggestions, depending on how the interview evolves.

Guide for representatives of a national/regional planning authority

Introduction

- Introduce of myself, introduction of research
- Ask for permission for recording
- Ask if he/she wants to be anonymized
- Ask if he/she wants to see the transcript
- Explain that can take back answers and stop recording
- Ask exact position of interviewee

General questions

- What is your ministry's role within the planning process of offshore windfarms in England/Lower Saxony?
 - o How would you describe your contribution to the planning process of offshore windfarms in England/Lower Saxony?
- How would you describe the planning process of offshore windfarms in England/Lower Saxony?
- What were the main challenges you were facing during the planning process of offshore windfarms in England/Lower Saxony?
- How familiar are you with the concept of Marine Spatial Planning?

MSP (only if the interviewee stated that he/she is familiar with the concept)

- How would you describe the influence of MSP to the planning process of offshore windfarms in England/Lower Saxony?
- Was MSP applied as a tool during the planning process of offshore windfarms in England/Lower Saxony?
 - o If yes, what were the reasons for choosing MSP?
 - o If not, why and were other tools applied to improve the planning process?

Policy integration

- Which different policies are affecting the planning of offshore windfarms in Lower Saxony/England?
- What are the relations between the different policies regarding the planning of offshore windfarms in England/Lower Saxony?
- How would you evaluate the usefulness of policy integration for the planning process of offshore windfarms in England/Lower Saxony?
- What are limitations for a better integration of different policies?
- What are necessary conditions for increasing the degree of integration?

Stakeholder involvement

- Who is involved in the planning process of offshore windfarms in England/Lower Saxony?
 - o Who decides which stakeholders are to be involved?
- When are the different stakeholders involved in the planning process of offshore windfarms in England/Lower Saxony?
 - o Are there differences in the degree of involvement between the different stakeholders?
 - o Does the degree of involvement vary throughout the planning process?
- How are the different stakeholders involved in the planning process of offshore windfarms in England/Lower Saxony?
 - o Which opportunities are stakeholders granted to influence the decision-making process?
- How would you evaluate the usefulness of involving multiple stakeholders in the planning process of offshore windfarms in England/Lower Saxony?
- What do you consider as limitations for an improved involvement of multiple stakeholders?
- What are necessary conditions for improving the opportunity for stakeholders to get actively involved in the planning process of offshore windfarms in England/Lower Saxony?
- How would you describe your degree of participation in the planning process of offshore windfarms in England/Lower Saxony?

Evaluation (only if the interviewee stated that he/she is familiar with the concept)

- What do you think of MSP as a tool for the planning of offshore windfarms in England/Lower Saxony?

Final words

- Is there anything you would like to add that I did not think about?
- Ask for helpful documents and other potential interview partner
- Ask if the interviewee would want to get a copy of the final thesis
- Thank you for the interview

Guide for independent experts

Introduction

- Introduce of myself, introduction of research
- Ask for permission for recording
- Ask if he/she wants to be anonymized
- Ask if he/she wants to see the transcript
- Explain that can take back answers and stop recording
- Ask exact position of interviewee

General questions

- How would you describe your contribution to the planning process of offshore windfarms in England/Lower Saxony?
- How would you describe the planning process of offshore windfarms in England/Lower Saxony?

MSP

- How would you describe the influence of MSP on the planning process of offshore windfarms in England/Lower Saxony?
- Can MSP contribute to acknowledging the increasing institutional interdependency within the offshore wind energy sector?
 - o In practice, is MSP facilitating a better involvement of multiple stakeholders throughout the planning process of offshore windfarms in England/Lower Saxony?
- How can MSP contribute to tackle the increasing functional interdependency within the offshore wind energy sector?
 - o How is this linked to the integration of policies in practice?

Policy integration

- What are the relations between the different policies regarding the planning process of offshore windfarms in England/Lower Saxony?
- How would you evaluate the usefulness of policy integration for the planning process of offshore windfarms in England/Lower Saxony?
- What are limitations for a better integration of different policies?
- What are necessary conditions for increasing the degree of integration?

Stakeholder involvement

- Who should be involved in the planning process of offshore windfarms in England/Lower Saxony?
 - o Who decides which stakeholders are to be involved?
- When should the different stakeholders be involved in the planning process of offshore windfarms in England/Lower Saxony?
- How should the different stakeholders be involved in the planning process of offshore windfarms in England/Lower Saxony?

- Which degree of participation is most fruitful?
- Which opportunities should stakeholders be granted to influence the decision-making process (to ensure an effective, efficient process)?
- How would you evaluate the usefulness of the involvement of more stakeholders in the planning process of offshore windfarms in England/Lower Saxony?
- What do you consider as limitations for an improved involvement of multiple stakeholders?
- What are necessary conditions for improving the opportunity for stakeholders to get actively involved in the planning process?
- How would you describe your degree of participation in the planning process of offshore windfarms in England/Lower Saxony?

Evaluation

- What do you think of MSP as a tool for the planning of offshore windfarms?
- Can you suggest alternative approaches/strategies to improve the planning and implementation process of offshore windfarms?

Final words

- Is there anything you would like to add that I did not think about?
- Ask for helpful documents and other potential interview partner
- Ask if the interviewee would want to get a copy of the final thesis
- Thank you for the interview

Questionnaire for a representatives of the industry sector

Introduction

- Introduce of myself, introduction of research
- Ask if he/she wants to be anonymized
- Ask exact position of interviewee

General questions

- How familiar are you with the planning process of offshore windfarms?
- How would you describe the planning process of offshore windfarms in England/Lower Saxony?
- What is your company's role within the planning process of offshore windfarms in England/Lower Saxony?
 - o How would you describe your contribution to the planning process of offshore windfarms in England/Lower Saxony?
- What are the main challenges you are facing during the planning process of offshore windfarms in England/Lower Saxony?
- How familiar are you with the concept of Marine Spatial Planning?

Policy integration

- Are you familiar with the concept of policy integration?
 - o If yes, what do you think of it in regard to the planning of offshore windfarms in England/Lower Saxony?
- How would you evaluate the usefulness of policy integration for the planning process of offshore windfarms in England/Lower Saxony?
- What are limitations for a better integration of different policies?
- What are necessary conditions for increasing the degree of integration?

Stakeholder involvement

- Which other stakeholders beside you were involved in the planning process of offshore windfarms in England/Lower Saxony?
- When were your company involved in the planning process of offshore windfarms in England/Lower Saxony?
- How were your company involved in the planning process of offshore windfarms in England/Lower Saxony?
- How would you describe your degree of participation in the planning process of offshore windfarms in England/Lower Saxony?
- Did you experience any restrictions/limitations in your degree of involvement?
 - o What are necessary conditions for improving your opportunities to get actively involved in the planning and implementation process of offshore windfarms in England/Lower Saxony?

Final words

- Is there anything you would like to add that I did not think about?
- Ask for helpful documents and other potential interview partner
- Ask if the interviewee would want to get a copy of the final thesis
- Thank you for the interview