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Achieving Equitable Offshore Wind Development: Lessons from European Stakeholders

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Executive Summary

One Pager

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Background

The Biden Administration has set aggressive offshore wind energy goals, aiming to have 30 gigawatts of offshore energy in place by 2030. This amount of energy has the potential to power 10 million homes (White House, 2022), helping the administration to reach larger clean energy goals. In Virginia, Dominion Energy aims to have 2.6 gigawatts of offshore wind energy by 2026, enough to power up to 660,000 homes (Dominion Energy).

While the upcoming offshore wind energy development will create clean energy and green jobs, the ocean is no longer an open field for development and already supports a complex matrix of industries (Schupp et al., 2019). The number of competing uses for space is continually expanding, causing increases in conflicts between sectors (de Groot et al., 2014). From fisheries and offshore aquaculture to shipping channels and military use, the need for sustainably managed offshore development is greater now than ever before (Gill et al., 2020).

The multitude of ocean uses are often thought of as in conflict with one another (Hooper et al., 2015; Schupp et al., 2019), but as the United States looks to establish an offshore wind industry in the coming decade, an opportunity exists to proactively mitigate conflict between sectors. Commercial and recreational fishing, in particular, are likely to experience high levels of conflict since development will create limitations on fishing effort and success (de Groot et al., 2014). While this is impossible to alleviate completely, there are opportunities for lessening this effect, especially since development is still in the early stages.

This research uses European stakeholder knowledge and experiences to highlight opportunities for conflict mitigation in the United States. Europe is about 20 years ahead of the United States in offshore wind development (Gill et al., 2020), and due to the diversity in regulatory statuses across countries (Schupp et al., 2019), a multitude of case studies exist for examining strategies to deal with competing ocean uses.

The ocean is an important source of jobs, food, recreation, and tradition. With offshore wind development forging ahead rapidly and backed by government interest, there is a vital need to ensure smaller stakeholders, such as fishers, are included in the process. This research aims to balance the development of a new industry with the preservation of a current one, finding opportunities to support both industries.

Methods

First, a review of the top offshore wind-producing countries was completed to identify useful case studies. This selection was based on market share, comparable legal and regulatory systems to the United States, prioritization of stakeholder engagement, and the length of offshore wind farm operations. From these countries, a gradient of allowance of fishing was sought across top producers, aiming to identify countries that provided a range of examples and experiences.

Following the identification of countries, semi-structured interviews with stakeholders were completed. This process began with the development of an interview guide (see Appendix A), aiming to understand historical, political, economic, and biological factors which influence the policies and processes in place as well as the perceptions and attitudes of stakeholders and the public. Interviews were sought with at least three stakeholders from each country, with one being focused on a fisher or fishing association representative, one with an energy industry

representative, and one with a researcher with knowledge of the two industries. Interviews were completed over Zoom with an hour as the target interview length and detailed notes were taken. Interview notes were kept anonymous and unattributed, allowing participants to speak freely. Informed consent was obtained for all interviewees, and interview materials were approved by William & Mary's Protection of Human Subjects Committee (Protocol # PHSC-2022-11-03-15940-amscheld).

Following the conclusion of interviews, the conversations were analyzed for overarching themes, looking both across country and across stakeholder group. Then, potential actions and specific recommendations were identified, with consideration being given both to how many times the recommendation/action appeared and its feasibility for success in the United States.

From this analysis, a one-pager and executive summary were created to convey the information to a decisionmaker audience. Outreach meetings were held with both state and federal level decisionmakers, communicating the recommendations to groups able to act on the information. The outreach materials used in these meetings can be found in Appendices B and C of this paper.

Results

From the initial review process, three countries were identified: the United Kingdom, the Netherlands, and Denmark. The United Kingdom has a 22% market share and has complete allowance of all types of fishing. The Netherlands has a 5% market share and does not allow fishing within their offshore wind farms. Finally, Denmark has a 4% market share and allows static fishing gear (i.e., pots and traps) but does not allow mobile fishing gear (i.e., trawls and dredges). The United Kingdom established its first offshore wind farm in 2000, the Netherlands in 2006, and Denmark in 1991.

In total, ten different stakeholders contributed to the research, nine through Zoom interviews and one through an email conversation. The desired distribution of stakeholders was achieved in each country, with the additional tenth interview coming from a private sector consultant in Denmark.

Case Studies

United Kingdom

The United Kingdom allows both static and mobile fishing, with no restrictions during regular offshore wind farm operation. There are temporary restrictions during construction, but these are lifted once installation is complete. A law from the mid-1880s originally put in place to protect telegraph cables creates some legal concerns for fishing gear and offshore wind cables since damage to cables from fishing gear can result in lawsuits. However, this has rarely been seen to affect these two industries. To encourage communication and cooperation between the offshore wind and fishing industries, a diverse group of stakeholders spanning both industries and relevant government agencies has created voluntary guidance. This guidance, developed by the Fishing Liaison with Offshore Wind and Wet Renewables Group (FLOWW), covers communication approaches, compensation for losses, standards for data, and potential for fisheries community funds.

Most fishers in the United Kingdom prefer static gear, with lobsters as the predominant target species. While there is some interest in the use of mobile gear, it is less common and typically occurs farther offshore. This preference for static gear reduces the potential for conflict between the industries since mobile gear is often thought of as more likely to damage turbines

and transmission cables and riskier for the fisher. This, combined with significant input and effort by stakeholders, has allowed the United Kingdom to achieve its current position, where conflicts are addressed and stakeholders from both industries feel they are heard. Overall, the United Kingdom has been able to reach a stable state.

Netherlands

The Netherlands has very little fishing activity within its offshore wind farms since fishing is largely prohibited. The development of offshore wind farms is heavily government-driven, and the process has been streamlined to decrease the length of time between proposal and installation. Due to the government's focus on clean energy and the short development timeline, fishers often feel overlooked and unheard.

Prior exploration into the allowance of fishing was done within the past five years using pilot programs, which allowed large amounts of access and fishing use. However, these programs had little lasting impact on access, which now is typically only a single transit lane through the wind farm. Fishers continue to push for additional access, both for recreational and commercial interests. Compensation for fishing loss and buy-out programs, where the government purchases boats for scrap from fishers, are available, and some fishers choose to participate in these due to the loss of fishing areas.

Developers are exploring the inclusion of multi-use options in their lease applications since there is both public and fishing industry interest in them doing so. These multi-use options are not only limited to commercial fishing and may include or instead suggest recreational fishing and aquaculture. This is not preferred by fishers but does have strong governmental and public backing. The desire for these solutions has been outpacing feasibility, with implementation not matching ambition. Fishers feel limited by the current situation, despite compensation and buy-out options, and are hoping for additional access in the future.

Denmark

Denmark allows static fishing but prohibits mobile fishing within offshore wind farms. In addition, cable exclusion zones have been put into place to prohibit all types of fishing over export transmission cables since these are often regarded as the most vulnerable part of a wind farm. All types of fishing are restricted during construction, and economic losses during this time are compensated. Economic losses for mobile gear limitations following construction are also available for compensation following proof of an impact on operations. Fishers have some concerns around compensation amounts, with concerns over the market price used to calculate losses and whether the compensation payment is given to the individual or the local fishing association.

While static gear is allowed, fishers have the most success and economic benefit from fishing with mobile gear in areas where this is still allowed. Due to this, the development of offshore wind farms has created perceived large negative impacts on the fishing industry. The quick pace of development creates difficulty for fishers to be able to weigh in, and while consultation with them is mandatory, it comes after the lease areas are decided on.

Discussion

From these interviews, insights into conflict mitigation strategies for offshore wind development can be highlighted to inform proactive action in the United States. Unsurprisingly, the most common themes across all interviews were the need for 1) early and often stakeholder

engagement, 2) strategic siting that takes fishing activity into account, and 3) scientific research done before, during, and after construction to understand impacts. Across all countries and stakeholder groups, these were the most common suggestions to mitigate conflict. Stakeholder engagement is desired in multiple forms, both through written communication and early written notification of decisions and meetings, as well as the opportunity for oral dialogue and discussion between the two industries at opportunities such as public meetings, listening sessions, and working groups. The importance of strategic siting was stressed frequently, especially as stakeholders from each of these countries have seen the detrimental effects of poor siting decisions play out over long timespans. Finally, the need for scientific studies on impacts was emphasized, with stakeholders referencing the difficulty of understanding change over time stemming from the lack of data from prior to the installation of offshore wind farms.

Additional specific opportunities for action in the United States became clear through the synthesis of interview notes. First, the inclusion of local fishing representatives on offshore wind industry environmental survey boats provides a more robust understanding of conditions and fishing use by incorporating local knowledge and expertise. In addition, this helps to mitigate conflict and build trust by allowing the community to be properly represented throughout the process. Second, it is recommended that developers be required to come to the table with multi-use ideas in mind for their lease area, starting the conversation from the very beginning and ensuring multi-use suggestions are both feasible and actionable since they originate with the developer. Third, by setting moderate compensation application fees, which are refunded for successful claims and forfeited for invalid claims, developers can ensure only legitimate requests for compensation are submitted. Finally, it is recommended that cable and turbine locations be made publicly available. While the U.S. Wind Turbine Database is a useful start, adding cable locations and creating an output that can be easily downloaded into vessel navigation systems will allow fishers and other ocean users to make educated decisions regarding navigation and fishing effort.

The high-level themes of stakeholder engagement, strategic siting, and scientific research are current considerations in the dialogue around development in the United States. Due to their importance to the stakeholders involved in this research, it is clear these themes should continue to remain paramount in conversations around development. The specific actions recommended are smaller steps but have the potential to amount to large impacts on conflict mitigation. The United States has an opportunity to learn from years of history and prior development, and through prioritization of both the high-level themes and the smaller actions recommended from conversations with diverse stakeholders, equitable development can be achieved.

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White House (2022) Fact Sheet: Biden-Harris Administration Announces New Actions to Expand U.S. Offshore Wind Energy, *www.whitehouse.gov/briefing-room*

Appendix A

Interview Questions

High Level Questions

- Can you tell me about your role and background?
- Can you tell me about your familiarity with offshore wind and commercial and/or recreational fishing?
- Can you tell me about offshore wind and fishing interactions in your country – does fishing occur within offshore wind farms? Nearby? What types of fishing (commercial vs. recreational, gear types, etc.)?
- Can you tell me about the agencies, policies, and processes that regulate or manage the interactions between offshore wind farms and fisheries?
- Do you feel that your country managed the interactions of offshore wind and fisheries well in the early stages of development? What about currently?
- What do you feel are benefits and drawbacks to how your country currently manages the interactions between the industries?
- Are there any changes you would like to see to how the interactions of the two industries are managed?
- Where do you feel the power lies between the two industries? Or do you feel that they are well balanced?
- Do you feel that the fishing sectors (commercial and recreational) are able to operate and/or grow successfully within the existing regulations and current footprint and impacts of existing offshore wind?
- Do you feel that the upcoming offshore wind growth (i.e., new 2030 or 2050 goals) will be able to occur without impeding the fishing industries (commercial and/or recreational)?
- What policies and processes are helpful for you when moving forward on an offshore wind project? What policies/processes are detrimental?
- How do you feel the public perceives the interactions between offshore wind and fisheries?
- Where do you see the two industries going in the next 10 years? (technology advances, policy changes, etc.)

Specific Questions

- How far between turbines do you feel you need for comfortable navigation? What about for fishing? Does this change based on the type of gear you are using?
- How far offshore are the wind farms, and does it affect the way they are used?
- What type of foundation and scour are typically used, and are there choices that have been more beneficial or detrimental for fisheries?
- How is cabling handled and would you prefer for it to be handled differently? (buried, cable-free fishing corridors, energy islands)
- What subset of fishing does well? (specific species and therefore gear types, recreational vs. commercial, etc.)
- Do you see turbines attracting fish/acting as fish-aggregating devices? If so, what types of species?
- Do the turbines attract recreational users? If so, what types? (divers, fishermen, etc.)
- Is there anyone else I should talk to?

Appendix B

Achieving Equitable Offshore Wind Development

Lessons from European Stakeholders

Background

The Biden Administration has set aggressive offshore wind energy goals, aiming to have 30 gigawatts of offshore energy in place by 2030. This amount of energy has the potential to power 10 million homes[1], helping the administration to reach larger clean energy goals. While the upcoming offshore wind energy development will be beneficial, ocean space is highly sought after and already supports a variety of uses. The rapid pace of development, backed by both state and federal government interest, creates issues for smaller stakeholders, such as fishers trying to ensure they are heard in the process.

Stakeholder Information

Europe is about 20 years ahead of the United States in offshore wind development and has dealt with use conflicts both throughout this span and currently as many countries look to expand their offshore wind capacity. This provides useful case studies for conflict management and mitigation strategies between the offshore wind and fishing industries. For this study, semi-structured interviews were held with stakeholders from three countries: Denmark, the Netherlands, and the United Kingdom. In each country a researcher, energy industry representative, and fishing industry representative were interviewed to ensure a range of perspectives were heard.

Top Takeaways

Unsurprisingly, the most common themes were the need for 1) early and often stakeholder engagement, 2) strategic siting that takes fishing activity into account, and 3) scientific research done before, during, and after construction to understand impacts. Across all countries and stakeholder groups, these were the most common suggestions to mitigate conflict. These considerations are part of the current dialogue in the United States and should continue to be paramount in conversations around development.

Suggested Actions

Through these stakeholder conversations, a few specific opportunities for action in the United States became clear. First, the inclusion of local fishing representatives on environmental survey boats provides a more robust understanding by incorporating local knowledge and expertise. In addition, this helps to mitigate conflict by allowing the community to be properly represented. Second, developers should come to the table with multi-use ideas in mind for their lease area, starting the conversation from the very beginning and ensuring multi-use suggestions are both feasible and actionable since they originate with the developer. Third, setting moderate compensation application fees, which are refunded for successful claims and forfeited for invalid claims, allows developers to ensure only legitimate requests for compensation are submitted. Finally, it is recommended that cable and turbine locations be made publicly available. While the U.S. Wind Turbine Database is a useful start, adding cable locations and an output that can be easily downloaded into vessel navigation systems will allow fishers and other ocean users to make educated decisions regarding navigation and fishing effort.

[1] Whitehouse.gov *Fact Sheet: Biden-Harris Administration Announces New Actions to Expand U.S. Offshore Wind Energy*, September 15, 2022

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Appendix C

Achieving Equitable Offshore Wind Development

Lessons from European Stakeholders

As the United States pursues clean energy goals through offshore wind, it is important this development does not come at the cost of existing fisheries operations. Using two decades of European development experience, we can find opportunities for equitable development.

Denmark

- Static fishing allowed, but mobile fishing is desired
- Cable exclusion zones prohibit fishing near cables
- Compensation of fishing losses is required

Netherlands

- Fishing largely not allowed, only access is transit lanes
- Some farms have pilot fishing programs
- Development is heavily government driven

United Kingdom

- All fishing allowed, static gear most frequently used
- Government is hands-off, only steps in when needed
- Voluntary guidance was created by stakeholders

Recommendations

High Level Takeaways:

- Early and often **stakeholder engagement** is desired
- **Scientific research** before, during, and after construction is needed to understand impacts
- **Strategic siting** that incorporates fishing grounds into decision making can mitigate conflict

Suggested Actions:

- Include **local fishing representatives** on environmental impact survey boats
- Require developers to **highlight multi-use** opportunities in their lease applications
- Set moderate **compensation application fees** which are refunded for successful claims
- Make **cable and turbine locations** publicly available for download into navigation systems

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