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2024-10

Jenkins, J & Kurkinen, H 2024, Wind Power, Mining, and Stakeholder Engagement in Finland. in The Routledge Handbook on Meaningful Stakeholder Engagement. 1 edn, Routledge, pp. 295-310. <https://doi.org/10.4324/9781003388227-25>

<http://hdl.handle.net/10138/587250>
10.4324/9781003388227-25

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WIND POWER, MINING, AND STAKEHOLDER ENGAGEMENT IN FINLAND

Jamie Jenkins and Hilja Kurkinen

Introduction

There is an urgent need to decarbonize our energy systems to mitigate the impact of climate change. The planet is experiencing significant and far-reaching impacts from the changing climate. Renewable energy is an important tool for climate change mitigation, and the energy industry is a vital player in the transition away from fossil fuels. Wind power can be an important piece of this puzzle, but can impact land-use practices, the surrounding environment, biodiversity, and local communities, both directly and indirectly through the other impacts. This chapter explores meaningful stakeholder engagement from the broader perspective of local communities; including Indigenous and non-Indigenous peoples affected by development projects. There is extensive literature on engaging with Aboriginal and Indigenous communities (Hanna et al., 2014; Vanclay et al., 2015; Ruwhiu and Carter, 2016; Udofia et al., 2017), which is an important consideration, but it is also important to consider local affected communities more broadly and provide insights on context dependent solutions for engaging stakeholders meaningfully (Buhmann et al., 2024).

As land-based space and resources are becoming fully exhausted, the interest in developing marine-based industries is seeing unprecedented growth (Jouffray et al., 2020). Offshore wind is one such marine industry experiencing this phenomenon. Globally, 21 GW of offshore wind was installed in 2021, a record-breaking year and three times more than in 2020 (Global Wind Energy, 2022). Europe (including the United Kingdom) and China are leaders in offshore wind development, with Europe having installed approximately half of the global total installed capacity of 56GW (Global Wind Energy, 2022). The European Union (EU) has announced ambitious plans to increase offshore wind capacity to 30 GW by 2030, and 300 GW by 2050 (European Parliament, 2022), an increase from the current 16 GW in the EU-27.

Within the EU, Finland is a leader in renewable energy production, second only to Sweden. Renewable energy comprises slightly over 40% of Finnish energy supply, nuclear energy accounts for 20% and fossil fuels for approximately 33% (Statistics Finland, 2022). Wind power comprises approximately 3% of energy consumption and most of this is onshore. The capacity of offshore wind is approximately 70.7 MW, and this is expected to grow. Development

projects are underway that are expected to increase the capacity by 2.7 GW (Finnish Wind Power, 2021). A 2 GW capacity offshore wind park, expected to be operational in the early 2030s, is underway in Korsnäs, along Finland's west coast (Vattenfall, 2023). Additionally, five tendering processes are being launched in 2023 and 2024, of over 6,000 MW of offshore wind power, in Finland's territorial waters (Metsähallitus, 2023). The demand for offshore wind is rapidly increasing, and it has the potential to become a major source of renewable energy, if it can be developed sustainably in line with other marine uses (Metsähallitus, 2020). As wind turbines are predominantly built of metals (Jensen, 2019) and offshore wind farms require more copper than onshore wind farms (Trilogy Metals, 2020), mining becomes central in the increasing production of offshore wind energy. Thus, examining the production of wind power and mining simultaneously provides a broader aspect of the green energy transition and meaningful stakeholder engagement.

Offshore wind development has several challenges that must be overcome. Notably, it can impact the surrounding environment and biodiversity, including increased underwater noise, potential collisions for birds and bats, potential habitat loss, and displacement of marine mammals, birds and other marine life (Hüffmeier & Goldberg, 2019; Soares-Ramos et al., 2020). Turbines can increase noise and visual pollution for surrounding communities, leading to potential impacts on livelihoods, recreation, and cultural activities (Haggett, 2008). Effective engagement with affected stakeholders, for example those living in communities whose livelihoods or recreational spaces are changed as a result, can be one tool for understanding and mitigating the social and environmental impacts of offshore wind development (Walker & Baxter, 2017). Furthermore, consultative, and participatory marine spatial planning can aid in managing and mapping the competing and conflicting uses of marine space and seeks to balance economic development with environmental and social protection (Chen et al., 2015; Lester et al., 2018; Schaefer & Barale, 2011; Schillings et al., 2012; Schupp et al., 2021a). Marine spatial plans are most effective when developed with extensive stakeholder participation, including industrial and recreational fisheries, recreational users, marine scientists, local coastal communities, policymakers and other relevant stakeholders, that analyses the cross-impacts of different industries on the sustainable development of marine areas (Virtanen et al., 2022). Expert stakeholder planning is a key feature of effective marine spatial planning as this deepens understanding of the technical and specific details of development projects, including offshore wind. When combined with knowledge from local communities and site- and location-specific information, marine spatial plans can be effective at managing environmental and social impacts.

There is mounting pressure for nations to do *something* about the urgent threat of climate change. Offshore wind power can be an important and critical element for the green transition and aid in attaining renewable energy and climate targets at the national Finnish and EU levels. While offshore wind has the potential to become a major source of energy it should not come at the expense of a just and socially and environmentally sustainable transition. This is a typical example of a “green-green dilemma”: producing green and renewable energy at the potential cost of environmental and social impacts where stakeholders have opposing views on the priority of which is more important (Straka et al., 2020). Research has long shown the importance of engaging stakeholders in the decision-making process to be critical for balanced decision-making (Tauxe, 1995; Webler et al., 1995). Additionally, the production of wind energy in the Indigenous land Sápmi has been criticized for violating the rights of the Sámi, appearing as green colonialism (Fjellheim, 2022). Collaboration between groups and engaging stakeholders in the decision-making and development of offshore wind power can promote a socially sustainable transition and aid in understanding and mitigating the

environmental and social impacts. Stakeholder engagement has been shown to promote more socially sustainable projects and increase public acceptability of wind power projects (Bowen et al., 2010; Firestone et al., 2020; O’Keeffe & Haggett, 2012). There is a substantial body of literature that reveals the importance of trust for socially sound projects (Fraser, 2021; Gross & Magar, 2016; Hall et al., 2013; Heikkinen et al., 2016). Effectively engaging affected stakeholders in a meaningful way has the potential of promoting trust in the development process (Firestone et al., 2020; Hall et al., 2013), of bolstering public acceptability for large-scale projects, which is a key driver of offshore wind development (Jenkins et al., 2022; Snyder & Kaiser, 2009), and of ensuring socially sound projects that identify, understand, and mitigate adverse environmental and social impacts. Furthermore, ensuring in-depth consultation and open dialogue between affected stakeholders and developers is a crucial element in obtaining local acceptance and trust (Suškevičs et al., 2019; Walker & Baxter, 2017). The EU’s strategy for sustainable development of offshore wind emphasized the need for stakeholder, industry, and community engagement and discussion (European Parliament, 2022). Involving local and Indigenous communities in the development and communication process can be an invaluable source of knowledge and experience for understanding and mitigating the environmental and social impacts of development projects.

Offshore wind could become an important and domestic clean energy source for Finland if developed sustainably. However, the rapid upscaling could result in potential issues in the future. Offshore wind is a relatively new industry in Finland, but guidance and insights can be taken from more established industries, such as mining, that have historically struggled with meaningful stakeholder engagement (Heikkinen et al., 2016). Understanding how to effectively engage affected stakeholders is of critical importance to the successful upscaling of offshore wind. Furthermore, it is important to ensure best practices for effective stakeholder engagement are adopted in the early development stages to ensure socially and environmentally sustainable projects and promote positive public attitudes toward large-scale wind development projects.

The aim of this chapter is to provide insights and guidance on how to meaningfully engage stakeholders in the development of offshore wind power. We synthesize results from two research projects combining the experience and expertise of affected and expert stakeholders. The two participatory stakeholder studies explored: 1) the sustainable development of offshore wind power with expert stakeholders; and 2) citizen perspectives of mining activities, both in Finland. We reveal and present insights on how to engage stakeholders, both affected and expert stakeholders, in large-scale offshore wind development projects. Additionally, we discuss the implications and impact of ineffective stakeholder engagement on local communities. As described in the introductory chapter, risk-based due diligence refers to analysing and managing a project’s risks and negative consequences to the affected stakeholders (Buhmann et al., 2024). We aim to examine the implementation of risk-based due diligence from the perspective of the local people and from the national level perspective.

Results suggest there are several elements to meaningful stakeholder engagement that can be applied generally to promote socially sustainable projects. These can be further categorized into local approaches and national interventions. Local approaches are those that directly involve the affected stakeholders. National interventions are those processes, procedures, and policies that aim to promote meaningful stakeholder engagement. By exploring these two different approaches to MSE, we provide a holistic overview of effectively engaging stakeholders and the potential limitations, bottlenecks, and improvements in the governmental and technical processes.

Legal Requirements for Stakeholder Engagement in Finland

The aim of the Act on Environmental Impact Assessment Procedure (252/2017) is to assess the environmental impacts and provide information and opportunities for participation in planning and decision-making of a project – such as opening a mine or constructing a wind farm, both onshore and offshore. Opportunities for participation in the process is referred to in the Act in Section 2, definition 7, in the following way: participatory interaction during environmental impact assessment between the project manager, the contact authority and other authorities, those whose conditions or interests may be affected by the project as well as associations and foundations whose field of activity may be affected by the consequences of the project (Act on Environmental Impact Assessment Procedure 252/2017).

The procedure of the environmental impact assessment (EIA) includes a program for environmental impact assessment and an environmental impact statement. Both are subjected to public hearings, which last typically 30 days, but can be extended to 60 days for special reasons. Statements and opinions need to be submitted to the contact authority during the hearing period. The contact authority is responsible for preparing the public announcements and ensuring that necessary statements are requested. The Act defines the projects that are always obligated to EIA procedures. To some extent, both wind power and mining projects can be carried out without subjection to environmental impact assessments. The Act decrees that EIA must be conducted when the wind power plant project has at least ten individual power plants, or total capacity of at least 45 MW. Additionally, if the area of a planned mine is over twenty-five hectares or the total amount of removed material exceeds 550,000 tonnes per year, the project is subject to the Act (Act on Environmental Impact Assessment Procedure, 252/2017). However, larger projects are subjected to EIA procedure.

Methods

We used an exploratory, qualitative research design to identify and examine the elements of meaningful stakeholder engagement in two case studies in offshore wind power and mining in Finland. In the first research project exploring the sustainable development of offshore wind, four expert workshops were organized to co-create and gather expert knowledge on the state of the offshore wind industry. This knowledge included the socio-economic and technical drivers of development, how the industry might evolve and what role it could play in Finland's broader energy mix, the current trends that may impact development, and the *status quo* of offshore wind in Finland. In the second research project identifying citizen perspectives of mining, eight stakeholder interviews were conducted in Kolari, the area surrounding the planned Hannukainen mine in Finland.

The first two expert workshops were held virtually in January and June 2021, and the final two were held physically in Helsinki and Turku, Finland, in February 2023. We used an expert stakeholder approach to co-create and gather expert knowledge and experience from a broad range of stakeholders interested in energy and sustainability issues. We used a participatory, expert method with a representative group of expert stakeholders to ascertain a broad and diverse range of information, emerging issues, and potential consequences. We decided to use workshops, as opposed to other methods such as focus groups, as workshops allowed for exploratory discussions in which the participants were free to discuss and co-create ideas, rather than following a predetermined set of questions. Collaboration with a diverse group of stakeholders and experts affects each directly and produces better outcomes than working alone (Austin & Seitanidi, 2012).

Across the four workshops, there were altogether 40 committed participants: 13 in the first workshop, 10 in the second, 7 in the third and 10 in the final. The participants represented a broad range of stakeholder groups, including representatives from regional administrations and marine spatial planners, lobbying groups, industry representatives and entrepreneurs, researchers, nature conservation and non-government organizations, landowners, union groups, and think-tank representatives.

Each workshop was organized with the same general structure. They started with a round of presentations introducing the project, preliminary material, and the aims of the workshop. The participants then split into smaller groups and began discussing the topic of the workshop. Each group had a facilitator to support the discussions as necessary and provide any technical help. The discussions were recorded either on an online canvas or with sticky notes on a paper canvas in the physical workshops. Proceeding the smaller group discussions, the participants returned to the main group, and each shared some key points and results from their discussions and commented on each other's points.

The workshops were organized to explore the sustainable development of offshore wind in Finland. The first workshop identified the drivers of development and extended these under different global narratives to create scenario narratives exploring the potential development (Jenkins et al., 2022). The second workshop identified weak signals and developed 'wild card' events that could dramatically alter the development of offshore wind (Jenkins et al., 2023). The third and final workshop developed a shared vision for the future state of offshore wind and identified policies, practices, investments, and actions needed to reach this desired goal. The workshops were not directly related to stakeholder engagement, but this was a topic raised frequently by the participants, particularly in the final workshops. Consequently, insights and guidance on effective and meaningful stakeholder engagement were discussed and are presented in this chapter.

The studied iron ore mine is in Hannukainen, in the municipality of Kolari, north-west Finland. The villages of Kolari are inhabited by approximately 4000 residents. Although the village of Kolari has the highest population rate, with 1070 residents in 2021 (Statistics Finland, 2021), the fell villages Äkäslompolo and Ylläs have the highest rate of population growth (Municipality of Kolari, 2023). Since the first announcements of the reopening of Hannukainen mine, the plans have been actively opposed by stakeholder groups such as the residents of fell villages, tourist entrepreneurs, and reindeer herders. Generally, the mine has support in the village of Kolari, which is located approximately 30 kilometres from the mining site. However, the residents of the fell villages, located around seven kilometres from the mine, express opposition against the mining plans. The opposing residents have actively halted the permitting process. The mining permit was dismissed as illegitimate by the Administrative Court of Northern Finland in 2020 for not taking into consideration possible harm to local livelihoods and nature values to protect the benefits of private and public sectors (Tynkkynen, 2020). Hannukainen mine's zoning plan was accepted by the municipal council in 2021, but an appeal was filed by locals. At the time of writing, the decision is being re-evaluated by the Administrative Court of Northern Finland. Additionally, an environmental permit for the mining project has not been obtained, as the EIA authority has returned the assessment report back to the mining company.

The data of the Hannukainen mining case consists of eight interviews conducted in Kolari in February 2021. Originally, the interviews were conducted as part of a research project regarding the implementation of environmental and employment UN Sustainable Development Goals (SDG) from the perspective of local key stakeholders (Kurkinen, 2023).

The Hannukainen mining plans function as a case example of local peoples' experiences of insufficient stakeholder engagement.

The interviewees represented local key stakeholders: residents, tourist entrepreneurs and employees, the chair of municipality, and a local reindeer host. The interviews lasted between 45 minutes and 1.5 hours and were recorded with the permission of the participants. The tapes were transcribed in written form proceeding the interviews. The transcriptions were systematically coded with ATLAS.ti 22, a software for analysing qualitative data. The aim was to search for repetitive patterns and themes from the data by utilizing Braun and Clarke (2006) guidelines for Inductive Thematic Analysis (TA). Choosing TA as an analytical method enabled engagement with the data constructively while staying open to various possible viewpoints and dismissing previous assumptions of the subject. TA enabled the grounding of the constructing concepts and themes strongly to the data instead of researcher's previous assumptions.

Results

While the results presented in this chapter stem from two research studies focusing on different industrial development projects, it is possible to identify common themes and elements on how to adopt best practices for meaningful stakeholder engagement. These can be categorized further into local- and national-level approaches. Local-level approaches are those practices that directly involve affected stakeholders in the development project; honest and open communication, accessibility of information and opportunities for affected stakeholders to voice their concerns, protests, wishes and feedback. National-level interventions indirectly involve local and affected stakeholders and are those practices and policies that *should* ensure meaningful stakeholder engagement with governmental and technical processes, but often-times affected stakeholders express that there is a disconnect between what happens in practice, and what the processes aim to achieve. We seek to identify potential bottlenecks, improvements, and limitations in these processes.

Local-Level Approaches to Meaningful Stakeholder Engagement

The results suggest that local-level meaningful stakeholder engagement comprises at least two important aspects: 1) adequate capacity to impact the development process; and 2) honest and transparent communication and accessibility of information.

Adequate capacity to impact refers to the ability for affected stakeholders to impact the decision-making process and have their concerns, feedback, protests, and wishes heard and mitigated during the development project. This ability should be available from the beginning of the development process, through construction, operation, and decommissioning. Results suggest that the participants expressed inability to impact the decisions regarding different phases of planning and permitting process. It was revealed that affected stakeholders had no chance to make statements regarding some of the mining-related decisions that impact the surrounding communities. One respondent noted that "there was no possibility of making a statement about the (zoning) decision." Furthermore, one key affected stakeholder group, leisure property owners near the open pit, were excluded from the permitting and appealing process, which was one of the reasons the decision to grant a mining concession issued by Finnish Safety and Chemical Agency in 2017 was overturned by the Administrative Court of Northern Finland in 2020 and returned for further consideration. Moreover, tensions have arisen between affected stakeholders and the mining company due to concerns over impacts to livelihoods

with little to no understanding or mitigation of their concerns. Consequently, respondents expressed doubt and a lack of trust in the broader development and judicial process.

Local communities expressed exhaustion at the process. There is a feeling that local people have no power to impact the decisions, particularly without expert or scientific evidence. One interviewee responded:

only if you know how to write law, or you can prove something scientifically, can it have an impact. I believe strongly in democracy, but in this case, I've experienced a great shock that in these kinds of situations, democracy does not in fact happen.

To account for the opinions of affected stakeholders, the planning process of developing a project should allow for two-way communication and ensure that affected stakeholders are heard during the communication process, rather than it simply being about the company sharing information in a one-way process.

The second important local elements for meaningful stakeholder engagement are proactive, transparent communication and easily accessible information on the development process. The mining company was criticized for its lack of interaction with opposing affected stakeholders such as reindeer herders, tourism entrepreneurs, and other local communities. Respondents expressed that the mining company is not willing to communicate with opposing stakeholders and is conducting public relations only in the village where the mining plans are generally supported. Furthermore, difficulty reaching the mining company was evident. One respondent stated that the mining company had repeatedly ignored their attempts to contact the company.

Overall, lack of information and transparency regarding the mining plans from the mining company is apparent. The data reveals the need for independent information about the situation of the development project plans. The respondents described that the mining company is publishing propaganda, while the municipality, a decision-making authority regarding zoning plans, is announcing information seldomly, if at all. The respondents expressed that independent and objective information is not shared with stakeholders. Additionally, a few respondents emphasized that their first source for information is the news. There is a need for an objective and active platform for updating information. Respondents stated that the responsibility of seeking information regarding the project is on the shoulders of the affected stakeholders, while at the same time some of the respondents did not know from where to get the information in the first place, as described in the following excerpt.

I sometimes wonder, where are the mining plans going now. There is so much obscurity in the communication. I wish that there was regular reporting, even if nothing is happening. Like, I know nothing now either. Why do we get to know everything after it has already been decided? Suddenly, the municipality announces that something has been decided. And then the municipality is like "it was there, on the wall of the town hall, you could have gone to have a look at it."

Respondents brought up that the mining company had published false information regarding the employment and environmental impacts of the mine. According to the interviewees, the positive effects on employment had been exaggerated while the negative impacts on the environment had been underestimated or ignored. A tourism entrepreneur described: "The foundation pillars of a constitutional state are sufficient communication and precautionary

principle. These are not actualising. [...] People have the right to know about the issues that affect their livelihoods and environment.” Publishing false information (Valtavaara, 2018) and the mining company’s attempt to conceal some of the documents regarding the supplement of the environmental permit application deepens the distrust towards the mining company and contact authorities and creates lack of belief in democratic processes.

National Interventions Aiming to Achieve Meaningful Stakeholder Engagement

National interventions can be important for ensuring and promoting meaningful stakeholder engagement. There are policies and legislations in Finland in place that aim to protect affected stakeholders, but affected stakeholders often express a disconnect between these procedures and what happens in practice. The following themes are issues raised that can improve national-level MSE, and help in identifying and understanding potential bottlenecks and limitations in governmental and technical processes.

The environmental impact assessment (EIA) is a procedure that attempts to understand, identify, and limit the environmental and social impacts of development projects. The procedure of Finnish EIA includes programs for environmental impact assessment and environmental impact statement, which are subjected to public hearings. In addition, one part of EIA is to consult those whose conditions or interests may be affected by the project. To ensure MSE, there is a need for reliable, predictable, and consistent rules surrounding the EIA procedure. Furthermore, affected stakeholders should be well-informed of the process and know where they can get official support and guidance if they feel the process is not being fairly implemented. It was found that local stakeholders have revealed mistakes in the developer’s EIA report. The residents and entrepreneurs have themselves funded research and revealed mistakes in the mining company’s assessments and applications.

The work of public authorities has not been enough. The public officials have conducted inadequate reports and statements. For example, the Natura 2000 statement of ELY (Centre for Economic Development, Transport, and the Environment) was changed because of our actions, because ELY had not considered the cumulative effects of Hannukainen and Kaunisvaara.

Participants discussed the possibility of an “enhanced EIA”, and overhauling the current EIA and permitting process to better identify and understand the social impacts of development projects that need to be adequately resourced by developers and government. This would be akin to obtaining social licence to operate (SLO); a procedure that identifies and understands the social impacts of development projects in greater detail that incorporates many of the elements of meaningful stakeholder engagement.

Marine spatial planning is an important tool to map and mitigate the often conflicting and opposing uses of marine space. An important consideration when developing offshore wind power is identifying the most suitable locations given the economic, wind, and sea conditions against the environmental and social impacts and competing marine uses. There is a limited amount of space available in Finnish waters to develop offshore wind power, so correctly identifying the most suitable locations is critical. Holistic management of the entire marine area to identify and ensure the correct locations could be introduced to fully understand, map, and mitigate environmental and social impacts. This holistic management could include all territorial waters in Finland, and the exclusive economic zone (EEZ), in cooperation with

neighbouring countries to plan infrastructure development and identify cross-boundary impacts. Currently, the process for permitting and licensing offshore wind is unclear in the EEZ, and the procedure should be clarified. Furthermore, this holistic planning should be conducted with research and science-based evidence in conjunction with extensive stakeholder participation.

A common theme discussed in both research studies was the need for improved collaboration and cooperation between ministry departments. Furthermore, additional resources could be provided to ministry departments responsible for the permitting and licensing phase. Critique towards the governmental structures was brought up. Respondents alleged contact authorities claiming they do not have the financial resources to ensure that the details in the EIAs are correct.

The ELY centre claims that they don't have the financial resources for it, but I bet they also don't have the will for examining all the things that the mining company says in their papers. [...] So, we have done the job of the public authorities. It is quite sad, that we are the ones that must do it.

Oftentimes, this leads to decreased trust in the government processes in affected stakeholders if those responsible for the process are not properly funded or trained to handle complex cases impacting their livelihoods. Furthermore, enhancing the cooperation and collaboration between ministry departments could streamline the process of information sharing and speed up the permitting process. A national roadmap or framework for development of offshore wind could be implemented to support and guide the municipalities in Finland. A national plan will remove some of the planning and decision-making burden from municipalities and allow for cohesive nation-wide development of offshore wind in line with sustainability and biodiversity targets.

The final key theme emphasized in both research projects is the need for research, education, shared knowledge, and science-based evidence for decision-making and planning. This theme is an important element of several of the other points raised above and is critical for supporting the planning and decision-making phase and promoting trust for development projects in local communities. Marine spatial planning is strongly supported by understanding site-specific conditions and potential impacts from the development of offshore wind in the area. Furthermore, as noted above, there is limited space for development of offshore wind in Finnish waters, so identifying the optimal locations through analysing location and site-specific impacts based on scientific and local knowledge is crucial. Education and technical training for the next generation of engineers, policymakers and other specialists was a topic raised several times by expert stakeholders. There is a need to develop educational and technical programs that support the development of specialists interested in the just green transition.

Discussion

This chapter synthesizes results from two research projects exploring the sustainable development of offshore wind and citizen perspectives of mining activities in Finland. By doing so, we reveal and present insights on how to engage stakeholders effectively and meaningfully in large-scale development projects. Results of the expert workshops and stakeholder interviews suggest there are several elements to meaningful stakeholder engagement. First, affected

stakeholders must have adequate capacity to impact the decision-making and development process. Second, communication should be transparent and information easily accessible by all those interested. Third, the concerns, protests, feedback, and wishes of affected stakeholders are heard, understood, and mitigated. Fourth, holistic marine spatial plans should map and identify impacts and conflicts arising from competing marine uses. Fifth, there is a need for clarification of the permitting and licensing process of offshore wind, particularly in the exclusive economic zone (EEZ). Six, collaboration between ministry departments should be improved and additional resources are needed in research, training, and education. Finally, objective third parties should be involved in the EIA process to ensure all affected stakeholders have their concerns heard. Furthermore, the EIA process could be overhauled to include an “enhanced EIA” that focuses on the social impacts of development projects.

The results presented in this chapter represent steps that can be taken to engage affected stakeholders in a meaningful way. We are not prioritizing or providing information on which are the most important as each are applicable and broadly relevant. These results are consistent with prior research exploring different wind power projects and social impacts. The ability to affect outcomes and decision-making has been shown to be of key importance in Canadian onshore wind power projects (Walker & Baxter, 2017), and we found this a critically important element for development approval. Respondents noted the need for accessibility and transparency of information from developers to build trust that the project will benefit the community, and the harmful impacts minimized or mitigated, a similar sentiment echoed in prior research in the US (Elmallah & Rand, 2022; Firestone et al., 2018). These elements build trust in the local community that the process of development is fair and just (Bowen et al., 2010; Firestone et al., 2020; Wüstenhagen et al., 2007). Respondents emphasized that these elements were missing, and trust in the development process, and the broader democratic process, was lost. There is a body of literature showing the need for trust between affected stakeholders and developers in development projects. Processes and outcomes that are perceived to be unfair can increase protests, harm relationships, and divide communities if opinions are split (Gross, 2007). According to Fraser (2021), a development project’s opposing stakeholders may refuse to collaborate with a company lacking public trust, which can further hinder the advancement of the sustainability of the project. Furthermore, transparency of the process can contribute to building trust in long-term development projects (Heikkinen et al., 2016). Establishing and maintaining trust throughout the entire lifecycle of the wind farm can have an impact on the public acceptance of the project (Hall et al., 2013).

Public involvement in development projects is often highly localized to the affected area (Solman et al., 2021). However, large-scale development projects can have cross-boundary impacts that spread from impacting only the affected area. The marine space available for development of offshore wind in Finland is currently limited to the west coast due to defence concerns and interference with radar technology. Consequently, ensuring that the most suitable location for offshore wind development is paramount to mitigating the environmental and social impacts. Holistic planning and management of the marine space through extensive marine spatial planning of the entire sea area can be an important step to understanding and identifying impacts. This sentiment is echoed in the EU’s ambitious plans for offshore wind and has emphasized the need for iterative marine spatial plans by member states (European Parliament, 2022). This broadens the scope of analyses and identifies cross-boundary impacts of development. Iterative and detailed marine spatial plans that are developed with strong participatory consultations can aid in minimizing conflicts from competing users and consider the environmental and social impacts of combining uses of the marine space (Chen et al., 2015;

Lester et al., 2018; Schillings et al., 2012; Schupp et al., 2021b). Furthermore, Billing et al. (2022) shows that combining offshore wind production with other uses of the marine space improves perceptions and is seen as a positive improvement by local stakeholders. Identifying and developing strategies for mitigating potential conflicts is crucial for ensuring sustainable marine development (Kitsiou & Karydis, 2017). Currently, Finland's marine spatial plans covers the territorial waters only. The marine spatial plan identifies the most optimal locations for offshore wind, given the economic feasibility against the environmental and social impacts of development (Virtanen et al., 2022). Expanding the plans to cover Finland's exclusive economic zone, in a similar science-based and participatory led approach, could be an effective tool for mapping competing marine uses. This should be completed in conjunction with clarifying the permitting and licensing process for development in the EEZ. Furthermore, cooperation and collaboration with neighbouring countries, or entire sea areas, could be an effective tool to minimize cumulative impacts of large-scale marine development projects.

Local and community ownership of wind energy turbines is one potential solution for communities to trust the decision-making and development process in their local areas. Community ownership of onshore wind turbines has been an effective tool for development in, for example, Germany (Chezel & Labussière, 2017) and the UK (Leaney et al., 2001). Community ownership ensures benefits, such as employment, revenue and electricity generation, remain in the community (Leaney et al., 2001), and allows citizens to take responsibility and ownership of development projects. Consistent with prior research (Smith & McDonough, 2001), respondents revealed they often felt powerless to affect the decision-making process without expert or legal know-how and experience. Decision-makers often prefer technical evidence to support concerns (Rydin et al., 2015), over community or local knowledge. Community ownership ensures that affected stakeholders have control over the decision-making of the project; where often they are rejected from the decision-making process as their input is seen as being based on "emotion" (Devine-Wright, 2005). Local communities and affected stakeholders can be welcoming toward development projects if there is trust that benefits will remain local and harmful impacts are mitigated and minimized (Walter, 2014).

It is important to ensure that the process of engaging with stakeholders should not simply be a checkbox exercise or a one-way consultation process (OECD, 2018). Our results suggest that affected stakeholders alleged they were sometimes excluded from the consultation and discussion process. A rigorous consultation process with opposing and conflicting viewpoints where consensus can be reached oftentimes leads to more effective and meaningful decisions and actions than a simple one-way information exchange (Owens, 2004). Prior research reveals that the EIA procedure has become a "tick-box" exercise (Whicher, 2021). An overhauling of the EIA process has been suggested to include an "enhanced EIA" that examines and identifies social impacts in greater detail, akin to the social licence to operate (SLO), most adopted in the mining industry (Hall et al., 2015). Historically, social impact assessments have played a minor role in the broader EIA procedure in mining projects (Suopajarvi, 2013). However, developers are increasingly becoming interested in obtaining SLO as it ensures communities trust the development process and acceptability and acceptance for the project is high. Developers must ensure close and authentic engagement with the community to build trust and obtain SLO (Prno & Scott Slocombe, 2012) and provide developers with a competitive advantage over the long term (Hall & Jeanneret, 2015). Incorporating the need for SLO in wind power projects and into the EIA procedure could strengthen the social impact assessments and promote meaningful stakeholder engagement.

One final consideration that should be emphasized is that the EIA procedure is not a requirement for wind power parks with 10 or less turbines or a total capacity of less than 45 megawatts. The Finnish Wind Power Association has produced a map (<https://tuulivoimayhdistys.fi/en/wind-power-in-finland/map>) showing wind power parks in various development stages. This map reveals several of these parks fall below the requirement for an EIA. Consequently, there is limited recourse for affected stakeholders to impact the decision-making process for small onshore wind power parks. Currently, there is limited scientific research conducted in Finland to ascertain how these small power parks have impacted the surrounding environment and communities post development or the cumulative impact of these smaller wind parks on the region.

The results in this chapter stem from two different research projects collecting data from expert stakeholders and affected stakeholders. Such a method can yield valuable insights. Expert stakeholders reveal knowledge on how the industry operates, technical information on the processes and technology, and policy procedures. Affected stakeholders, by contrast, reveal knowledge on site- and area-specific information, local knowledge, and community interactions. Combining knowledge and expertise from both groups of stakeholders is important for effective decision-making (Reynaud et al., 2015). We were initially interested in exploring the differences in understanding of these two groups of stakeholders and how their opinions differ. However, we found that both groups often discussed similar issues in promoting meaningful stakeholder engagement. The biggest differences were in the type and scale of processes. For example, expert stakeholders discussed improvements in MSE in the context of marine spatial planning, permitting, and licensing, representing national policies of MSE. Affected stakeholders focused on MSE that impacted them directly from the local perspective. The stakeholders described that the national interventions are not functioning on a local level and fail in protecting their interest. Through combining the insights from both groups of stakeholders, we present a holistic approach to MSE that identifies the limitations of national processes, exploring the disconnect between local and national level approaches on MSE, bridging the gap between the two.

Conclusion

The profound impacts of climate change require urgent decarbonization of our energy systems. Offshore wind can be vital for the green transition, but should not come at the expense of a just and environmentally sustainable transition. Engaging stakeholders in a meaningful way can aid in identifying, understanding, and limiting the social and environmental impacts of offshore wind development. Finland has huge potential for offshore wind, but current capacity is limited. Finland could become a leader in renewable energy development while implementing practices, procedures, and policies to support and ensure meaningful stakeholder engagement and ensure a just and sustainable transition. We present empirical results and guidance from two Finnish case studies exploring MSE in large-scale development projects. These results can be used as guidance and encourage discussion on how to engage stakeholders and understand the potential limitations in national interventions effectively and meaningfully.

The EU emphasizes the need for public participation and communication (European Parliament, 2022) in the development of offshore wind for meeting ambitious climate targets. Many of the issues raised in this chapter are general for most offshore wind development projects, and we have used Finland as an example of a country with limited development but

high growth potential, and the guidance can be taken to other countries with similar circumstances. Furthermore, offshore wind is a cross-boundary issue and cooperation is needed with other countries in infrastructure development, investment, and identification and mitigation of impacts. Interested parties across different countries can use the results presented here as guidance to promote socially and environmentally sustainable projects or understanding the potential implications of (in)effective stakeholder engagement.

The insights and results presented in this chapter are by no means an exhaustive list of steps. These should be taken as general guidance only as there are many site- and location-specific details that should be accounted for with each development project. We synthesize results from two research projects and take guidance from other industries that have historically struggled with obtaining social licence to operate. We are presenting results exploring different development projects; however, similar issues are faced by affected stakeholders by both wind power and mining. Consequently, we can produce guidance and insights to develop effective steps for meaningful stakeholder engagement for the offshore wind industry. We contribute to the scientific discussion by providing a foundation for developers, decision-makers, affected stakeholders, and those interested in the process to understand and identify the steps needed for ensuring meaningful stakeholder engagement in an industry where demand is rapidly increasing.

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