UiA University of Agder

Master

Achieving community acceptance in an early-phase for onshore wind projects in Norway

A case study of the onshore wind energy project Snøheia Industrikraft

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This master's thesis is prepared during the spring semester of 2023 in the study of Industrial Economics and Technology Management at the University of Agder, Campus Grimstad. The thesis is based on a single case study of the onshore wind power development project Snøheia Industrikraft, with Hydro, Eviny, and Zephyr as project owners and developers.

We chose this case study because of Yngvild's previous background as a summer intern at Hydro, with an interest in the company and its ongoing projects. In combination with our background as renewable energy engineers and a genuine interest in learning more about renewable, available energy such as wind power, we want to create a better strategy for how those projects are managed. We have followed the ongoing debate regarding onshore wind power in Norway throughout our studies where the big opposition in our country has made us curious to understand the term social acceptance. Also, to be able to follow a live project where the companies and the municipalities affected have been involved in our work is something we have found very rewarding and engaging. Throughout this semester we have been in touch with several people related to this project who contributed with great input and important opinions.

We would like to thank all informants from Hydro, Eviny, Høyanger, Sunnfjord, and Fitjar municipalities for taking the time to participate in our research, as well as all the locals who were able to respond to our survey. We would not be able to present the results from this thesis without their valuable shared insights, knowledge, and experiences. We would also like to thank our contact person from Hydro, Ole-Jørgen Myrtrøen who initiated the possibility of writing a master's thesis based on a Hydro project and helped us get in touch with relevant informants while being available for discussions and questions throughout the semester. Furthermore, we would like to thank our supervisor Magnus Hellström, for his contribution with valuable feedback, helpful guidance, and availability throughout the semester.

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Abstract

Renewable energy is crucial for sustainable energy production to combat climate change. One global pillar in renewable energy production is wind power. However, it is not always easy to get acceptance within local communities and social license to operate when discussing wind power development. This issue is especially present in a country like Norway, with a lot of scenic beauty to offer. By looking at a case from Høyanger and Sunnfjord municipality, this thesis aims to create a model to follow for gaining higher community acceptance and social license to operate amongst local communities in early-phase wind power development projects in Norway.

Hydro and Eviny released a press statement on December 19th, 2022, expressing their intentions of pursuing the development of a wind power plant in the mountain area called Snøheia, on the border between Høyanger and Sunnfjord municipality in the western part of Norway. The project is dependent on local acceptance and political approval. Therefore, Hydro and Eviny want to start a dialogue with the local community and the municipal council which distinguishes this project from other similar projects. The early dialogue, in what can be described as "phase-zero", is an unusual approach. It is a new way to communicate the project at this early stage, and hence, there exists no best practice to follow to create the acceptance needed to get the green light for the project.

To identify concerns and expectations for the project and how to create higher community acceptance of wind power development, a mixed approach with the combination of interviews and surveys has been used. To get a perception of the public opinion, a survey was issued. The survey has been used to compare the answers from the informants during the interview with the answers from the local community.

The results indicate both sides struggling to engage the silent majority and increase the acceptance of the project within the local community. To overcome these issues, a model based on stakeholder engagement and social acceptance has been developed. The model consists of four steps: *Motivate, Interactive, Inclusive*, and *Change*. Each step is described with corresponding actions and purposes as a guide to implementing the model. Through an iterative process of repeating these steps, higher community acceptance for onshore wind power development in Norway can be achieved.

Sammendrag

For å klare å unngå klimaendringene så er omstillingen til fornybar energi et avgjørende tiltak. En av de viktigste bærebjelkene innenfor fornybar energiproduksjon er vindkraft. Selv om vindkraft er en fornybar energiform, er det fortsatt vanskelig å få sosial aksept fra lokalsamfunnet når det gjelder utbygging av vindkraft. Dette problemet er spesielt tilstedeværende i et land som Norge, med sin vakre og urørte natur. Ved hjelp av en case-studie av vindkraftutbygging i Høyanger og Sunnfjord kommune på Vestlandet, gir denne oppgaven en modell for hvordan gå fram i tidligfase av vindkraftutbygging for å skape økt aksept og *"social licence to operate"* i lokalsamfunn i Norge.

Hydro og Eviny kom med en pressemelding 19 desember 2022, hvor de redegjorde for et ønske om å bygge ut vindkraft i fjellområdet Snøheia mellom Høyanger og Sunnfjord kommune. Prosjektet er avhengig av lokalsamfunnets aksept for utbyggingen, samt en politisk godkjenning for at prosjektet skal kunne realiseres. Av den grunn ønsket Hydro og Eviny å gå ut så tidlig som mulig for å skape dialog med lokalsamfunnet og kommunestyrene. Det som gjør dette prosjektet unikt er at det er første gang man går såpass tidlig ut i dialog. Vanligvis går man rett til kommunestyrene for å få sende melding til NVE om konsesjon, men i dette prosjektet har de valgt å begynne i "fase null" med dialogen. Dette betyr at det ikke eksisterer en beste praksis for hvordan man skal skape nødvendig aksept i tidligfase for å få grønt lys for prosjektet fra kommunen og lokalsamfunnet.

I denne oppgaven har vi brukt intervjuer i kombinasjon med en spørreundersøkelse for å skape et bilde av bekymringer, forventninger og hvordan man deretter kan skape større aksept knyttet til prosjektet. Undersøkelsen har blitt brukt til å skape et bilde av holdningen lokalbefolkningen har til prosjektet.

Resultatene fra intervjuene og undersøkelsen viser at begge sider sliter med å få engasjert den stille majoritet, og øke aksepten for prosjektet innad i lokalsamfunnet. For å overkomme disse problemene, har det blitt utarbeidet en modell basert på interessentengasjement og sosial aksept. Modellen tar for seg fire steg: *Motivere, Interaksjon, Inkludere* og *Endre*. Alle stegene er beskrevet med tilhørende handlinger og begrunnelse som en guide til utførelsen av modellen. Gjennom en iterativ prosess hvor disse stegene gjentas, vil man etterhvert kunne oppnå høyere sosial aksept for utbygging av landbasert vindkraft i Norge.

Table of Contents

Acknowledgements **ii**

Abstract **iii**

Sammendrag **iv**

List of Figures **viii**

List of Tables **ix**

1 Introduction **1**
1.1 Case background 3
1.2 Research Question 4
1.3 Structure of the thesis 4

2 Theory **6**
2.1 Wind energy history in Norway 6
2.1.1 Wind energy projects development and concession process 8
2.2 IFC Performance Standard on Environmental and Social Sustainability 10
2.3 Stakeholders 13
2.3.1 Defining a stakeholder 13
2.3.2 Other definitions of stakeholders 15
2.3.3 Stakeholder prioritization 15
2.3.4 Stakeholder influence 17
2.3.5 Stakeholder engagement 18
2.4 Social acceptance 20
2.4.1 Defining social acceptance 20
2.4.2 Community acceptance 22
2.4.3 Market acceptance 24
2.4.4 Socio-political acceptance 26
2.5 NIMBY - Not in my backyard 27
2.5.1 Public Acceptance (PA) framework 28
2.5.2 Social License to Operate (SLO) framework 29
2.6 Reasons for opposition from stakeholders 31

3 Methodology **33**

3.1 Single case study context . . . 33
3.1.1 An inductive research process . . . 34
3.1.2 Research design . . . 34
3.1.3 A mixed-method approach . . . 36
3.2 Data collection . . . 36
3.2.1 Collecting background information . . . 37
3.2.2 Interviews . . . 37
3.2.3 Online survey . . . 39
3.3 Data analysis . . . 40

4 Analysis and Results **41**
4.1 Stakeholder analysis . . . 41
4.2 Interviews . . . 42
4.2.1 Challenges related to the project . . . 44
4.2.2 Perception of the public opinion . . . 46
4.2.3 Developer's role and communication . . . 46
4.2.4 How to create greater acceptance in early-phase . . . 47
4.3 Survey . . . 48

5 Discussions **56**
5.1 Handling the concept of social acceptance . . . 56
5.1.1 Underlying reasons for opposition . . . 56
5.1.2 Information strategies and their cost . . . 57
5.1.3 Dynamics of social acceptance . . . 58
5.1.4 Legislative and political impacts on the acceptance . . . 58
5.1.5 The effect of NIMBY . . . 59
5.1.6 Obtaining a Social Licence to Operate for project development . . . 60
5.2 Towards a model for establishing community acceptance . . . 61
5.2.1 How to Encourage . . . 61
5.2.2 How to be Interactive . . . 64
5.2.3 How to be Inclusive . . . 65
5.2.4 Adopt changes to create acceptance . . . 67
5.2.5 A model for establishing community acceptance . . . 67

6 Conclusions **71**
6.1 Limitations . . . 72
6.2 Future research . . . 73

Bibliography **74**

List of Figures

1.1 Map overview of the area between Høyanger and Sunnfjord including the mountain area Snøheia, collected from Google Maps 3

2.1 Overview of operative wind power plants, under construction, granted concession, denied concession, and concession license pending in Norway (NVE, 2023a) 7
2.2 The map to the left shows where wind power has been developed in Europe, while the map to the right shows the European topography. It is evident that where the wind power plant density is highest, is also the amongst the flattest areas 8
2.3 Key components for good stakeholder engagement from the IFC handbook for stakeholder engagement (International Finance Agency, 2007) 12
2.4 Stakeholder typology from Mitchell et al. (1997) 14
2.5 Differences between Crisis Management, Stakeholder Management, and Stakeholder Engagement (Jeffery, 2009) 19
2.6 The seven steps of the iterative stakeholder management process from Jeffery (2009) 19
2.7 The triangle of social acceptance of renewable energy innovation collected from Wüstenhagen et al. (2007) 21
2.8 Actors from the community when it comes to acceptance of wind energy projects made with inspiration from Horbaty et al. (2012) 23
2.9 U-shaped relationship between acceptance and time collected from Dugstad et al. (2020) 24
2.10 Actors from the market for wind energy projects made with inspiration from Horbaty et al. (2012) 25
2.11 Socio-politcal actors of wind energy acceptance made with inspiration from Horbaty et al. (2012) 26
2.12 The analytical framework of public acceptance (PA) collected from Xu et al. (2023) 28
2.13 Measuring SLO with the pyramid model by Thomson and Boutilier (2011) 30
2.14 Symptoms/Indicators for each level from the pyramid model . . 31

3.1 Research design 35

4.1 Overview of the involved stakeholders in the project at Snøheia. Stakeholders marked in red are within the scope of this thesis, yellow is indirectly involved in this thesis, and black is not included in the scope of this thesis. 42
4.2 Overview of the different age ranges of respondents participating in the survey 49
4.3 Response regarding statements related to onshore wind power. It shows the number of respondents and average rating, ranging from 1 being disagreed to 5 being agreed. 50
4.4 A set of factors presented to the respondents that were against wind power, where they had to choose a maximum of 3 options for why they are against wind power 51
4.5 Set of statements about industry and municipality in relation to wind power development projects 52
4.6 Set of statements provided to the respondents on which two statements are most important for compensating the local community 53
4.7 Overview of the response on how local communities want to receive information about the project. 54
4.8 Percentage of the respondents that felt the information from the developer was sufficient 54
4.9 Preferred way of receiving information 55

5.1 The relation of the project Snøheia Industrikraft to the U-shaped relationship between acceptance and time from Dugstad et al. (2020) 58
5.2 Model for stakeholder engagement to achieve community acceptance within onshore wind projects in Norway 68

List of Tables

2.1 Power/predictability matrix adapted from Newcombe (2003) . . 16
2.2 Power/interest matrix adapted from Newcombe (2003) 16
2.3 Help/Harm matrix adopted by Eskerod and Jepsen (2013), inspired by Savage et al. (1991) 18
2.4 Reasons people are opposed to wind power, according to literature, NGOs and media 32

3.1 Main topics of relevance 37
3.2 Interview objects with their respective organization, role, and interview duration 38

4.1 Main findings from the informants representing the developer . 43
4.2 Main findings from the informants representing the municipalities 44

5.1 Steps with actions and purpose in accordance with the stakeholder engagement model for community acceptance 70

1. Introduction

Wind energy today is one of the global pillars to secure an energy transition and power a greener future (International Renewable Energy Agency, 2019). The concern for environmental and climate change has raised the demand for green energy supply to reduce overall carbon dioxide emissions worldwide (Tollefson, 2018). Therefore, to stay on the right path to achieving the 1.5°C target by 2050 and to meet the objectives of the Paris Agreement, green energy is crucial (International Renewable Energy Agency, 2022b; Luca et al., 2020).

The energy sector accounts for more than two-thirds of global greenhouse gas (GHG) emissions (International Energy Agency, 2022). The transition to a low-carbon energy system is needed to reduce the risk of global warming and the threat of climate change. Having accessible renewable sources is an environmental issue and critical to developing economies and reducing poverty (Kaartemo & Gonzalez-Perez, 2020). That is why green energy is a fundamental factor for decarbonization, and the process is consolidated as a major mitigation strategy to reduce these emissions and the impact of climate change on society and the environment (Kaartemo & Gonzalez-Perez, 2020; Panarello & Gatto, 2023; Sadik-Zada & Gatto, 2022). Renewable sources like wind power are one of the solutions for decarbonizing the world's energy system. Just over the last two decades, wind power generation has grown by a factor of 98 (International Renewable Energy Agency, 2022a). Wind power is clean and green energy with huge potential. According to IRENA (International Renewable Energy Agency), both onshore and offshore wind will together generate 35% of total electricity needs and make them the most prominent generation source by 2050 (International Renewable Energy Agency, 2019). For this to happen, the issues regarding social acceptance from stakeholders need to be solved to realize the development and construction of more wind power plants.

Throughout the last decade, many countries have faced increasing resistance towards wind energy projects at a local level, and a critical bottleneck of community acceptance has emerged (Agency, 2020; Luca et al., 2020). In Norway especially, several wind projects have been stopped in the developing phase due to such strong opposition from public stakeholders (Devine-Wright & Batel, 2017; Omholt, 2020). Shaping community acceptance is essential for successful wind projects as it turns out to be the most critical obstacle to realizing the green energy potential (Maleki-Dizaji et al., 2020).

The attitude towards onshore wind projects varies a lot. The development of such projects rarely goes through without any resistance. There is often huge engagement in the local environment, and the process is met with opposition from local stakeholders (Rosario & Goh, 2008). In many regions, energy projects have resulted in increasing societal polarization. Conflict issues often arise from factors like a project's technical characteristics and environmental, economic, and societal impacts (Leiren et al., 2020). Big energy projects such as onshore wind power must meet the stakeholders accordingly to be able to develop successful projects and meet sustainable performance measures.

The existing literature shows numerous research on stakeholder management and community acceptance connected to wind energy projects internationally (Aitken, 2010; Devine-Wright & Batel, 2017; Johansen & Emborg, 2018; Ladenburg, 2008; Nadaï & van der Horst, 2010; Rosario & Goh, 2008; Toke et al., 2008; Vuichard et al., 2022). One of the essential findings is the influence factors of political ideology, cultural values, and identity, which makes the social acceptance aspect different in every part of the world. Also, there are gaps in understanding the topic and what the opposition is based upon in different regions. The literature focuses less on community-level variables for support or opposition of wind power (Lindén et al., 2015). Although the literature shows evidence of stakeholder management and community acceptance from an international perspective, we have identified shortcomings in the research on this subject in Norway. Furthermore, the literature found during our literature reviews suggests that more research will be beneficial (Dugstad et al., 2020; Leiren et al., 2020).

Norway is a country with a political climate, cultural differences, and legislative acts differing from neighboring countries like Denmark and Sweden, as well as the European Union. Also, Norway has a unique landscape with high mountains and a range of natural variations within counties such as terrestrial, marine, limnic, and snow and ice ecosystems. Looking at the existing technology, wind power plants are constructed in more flat areas. This is one reason why the public is concerned about these kinds of projects compared to other European countries. Another concern is related to the high living costs due to high electricity prices in Norway. Looking at the NGOs' publications in public media, there seem to be strong opinions on this matter.

There is a need to take deep dive into why the locals of Norway have such strong opposition towards onshore wind power and how the opposition should be met to be able to realize the needed deployment of renewable energy projects (Jikiun et al., 2023; Omholt, 2020). Therefore, this thesis aims to cover how to reach community acceptance in the early-phase design of big onshore wind energy projects in Norway.

1.1 Case background

According to a market analysis from Statnett, Norway faces an energy deficiency in 2027 (Statnett, 2022). The industry needs to act in advance to keep power prices competitive for the future. As mentioned in the introduction, the literature shows that Norwegian onshore wind energy projects face considerable opposition to their development. Therefore, the Norwegian energy companies Hydro and Eviny as project owners together with Zephyr are joining forces to explore an onshore wind project to contribute to developing renewable energy and support the development of the industry. The project is called *Snøheia Industrikraft* and is located between Høyanger and Sunnfjord (see figure 1.1). Initial technical specifications were published publicly on 19.12.2022 and are the following: Approximately *50 turbines* (depending on Watt/turbine), installed power up to *300* MW, and a planned area of *22* km^2 (Zephyr, 2022).

Figure 1.1: Map overview of the area between Høyanger and Sunnfjord including the mountain area Snøheia, collected from Google Maps

The area is chosen based on its excellent wind conditions as well as the location is connected close to Hydro's already existing industry. Both Hydro and Eviny have been a part of the region's industrial development since the early days. Upon completion of construction, the power plant will have the capacity to generate approximately 1 TWh of electricity, which is equivalent to the energy consumption of approximately 60,000 households. The electricity generated from the wind power plant will be utilized for local and regional industrial development. Additionally, the power plant is expected to contribute around 45 million NOK in annual tax revenues to the host municipalities.

The initiative started in 2019 with Zephyr, but due to a stop in concessions, it has been put on hold until the start of 2023. Therefore, the project is in phase-zero, and creating social acceptance and approval for the project amongst the local community is critical at this stage. The project will not be realized without acceptance and approval from the local community and authorities.

This thesis will aim to provide recommendations regarding stakeholder engagement and how to create social acceptance in an early-phase of a wind energy project, based on a single case study, Snøheia Industrikraft. Moreover, this thesis will cover the research shortcomings identified in the literature on reasons for opposition towards wind energy development in Norway. The recommendations from this thesis will be a beneficial supplement for stakeholder management and contribute to strengthening work on stakeholder engagement, management, and influence on similar future projects.

1.2 Research Question

This thesis aims to look at the effect of stakeholder engagement on onshore wind projects in Norway and how to achieve community acceptance from a socially sustainable perspective. To dive deeply into such a topic, we will use a project in the early planning phase as a single case study. The relevance of this project as a case study is the opportunity to follow a live project developed in an early-phase, where the target is to look at the effect of early stakeholder engagement and management strategy. Throughout this thesis, the following research question will be answered:

How can onshore wind energy projects in Norway successfully reach a higher degree of community acceptance during phase-zero?

1.3 Structure of the thesis

This thesis is divided into six chapters with related sections and subsections. The following overview explains their aims, objectives, and outcomes.

Chapter 1: Introduction

The introduction chapter provides an outlook of this thesis's topic and background information. This includes relevance from a global and national perspective, in addition to the current state of the relevant literature where a literature gap is identified. Furthermore, the case background is presented, followed by the research question and aim.

Chapter 2: Theory

The literature review presents the relevant theory based on our research question. The aim is to increase the understanding of handling stakeholder management on wind energy projects, focusing on reaching social acceptance.

Chapter 3: Research Methodology

The research methodology presents the methodology chosen for this thesis and elaborates on the choices made. The chapter explains the context of choosing a single case study, the inductive research process, the research design, and the mixed-method approach used. Lastly, how the data is collected including background information, interviews, and the survey, and how those were analyzed is presented.

Chapter 4: Analysis and results

The results present the data collection and findings collected from the interviews and the survey. It aims to show differences and similarities between the perception of social acceptance within the local community from the developer and the municipality. In addition, to get our own perception of social acceptance, the survey has been used to compare the answers from the interviews with the response from the local communities themselves. The results chapter presents the findings from the interviews and survey, aligned with the four defined main themes we intended to investigate. The data is presented as raw data with translation from Norwegian to English while preserving the essence of the original data.

Chapter 5: Discussion

The discussion chapter discusses the data from the results chapter aligned with the theory presented. The empirical findings are further analyzed and discussed and put in context to the theory of social acceptance and stakeholder engagement. Lastly, a suggested model is presented based on stakeholder engagement theory and social license to operate developed from the discussed theory and results combined.

Chapter 6: Conclusion

In the last chapter, the conclusion and answer to the research question are presented. Here the key findings are addressed as well as limitations to the thesis closing off with an elaboration on future research based on the findings made and presented limitations.

2. Theory

This chapter aims to provide the reader of this thesis with the relevant theory to answer the research question. The theory chapter deals with the current situation regarding wind power in Norway, stakeholder theory, and social acceptance theory. First, the chapter provides an understanding of the current situation of wind power and the process for obtaining approval for wind power development concession in Norway. Secondly, the chapter goes in-depth on how to identify stakeholders, how to engage stakeholders in the project, and how stakeholders can influence the project. After the definition and analysis of stakeholders have been done, we move on to social acceptance within a community. The social acceptance section will discuss success factors in achieving community, market, and socio-political acceptance. In addition, NIMBY - Not in my backyard, will be discussed with two frameworks to overcome NIMBYism; Public Acceptance framework and Social License to Operate framework. Finishing the theory chapter, we will provide a summary of the main reasons for opposition to wind power both from the literature and NGOs. This summary will create some of the foundations for our interviews and questionnaire together with the rest of the theory presented in this chapter.

2.1 Wind energy history in Norway

The first wind turbine constructed in Norway was in 1916 at Andøya, delivering electrical power to 16 households (Hofstad, 2023). However, it took nearly 70 years before the modern use of wind power started, with the first research and experimental program in 1983 and the first operative wind power plant with an installed effect of 55 kW in 1986 in Titran in Sør-Trøndelag county (Hofstad, 2023).

Along the western coast of Norway, the wind speed averages 8 m/s, and some places even offer a 9 m/s average wind speed (NVE, 2009). This reveals a huge potential for wind power development along the western coastline of Norway. In combination with hydropower, in times of energy surplus, water can be pumped back up in to the reservoir, balancing the load on the grid (Blindheim, 2013).

Since the Energy Notice 26 "Kraft til endring" (Det kongelige olje- og energidepartementet, 2016) from the Norwegian Parliament in 2015-2016, there have been a lot of changes to the prerequisites of onshore wind power. In 2016, the government made a statement about wanting to facilitate the long-term de-

velopment of profitable wind power, wanting politics that would ease the social conflicts and make sure the best locations are chosen. Also, a lot of concessions were given. Although, between 2016 and 2019, not many wind power plants were built. The Energy Notice 28 2019-2020 gives an overview of the development of onshore wind power moving forward, claiming that the development of new projects will be at a minimum (Det kongelige olje- og energidepartementet, 2020). This is due to only a few projects in the process of getting the concessions. Nevertheless, NVE in 2020 estimated new wind power to be the most important source of increased power generation in Norway for the upcoming three years (Miljødirektoratet, Statens vegvesen, Kystverket, Landbruksdirektoratet, Norges vassdrags- og energidirektorat and Enova, 2020).

The installed effect from wind energy in Norway today is 5083 MW, distributed among 65 power plants with a total of 1392 wind turbines, as of 18.08.2022 (NVE, 2022b). Figure 2.1 shows which wind power plants are operative (green circle) and under construction (lighter green circle), as well as which sites have been granted concession (blue triangle), denied concession (red triangle), or have their concession license pending (light blue triangle) (NVE, 2023a).

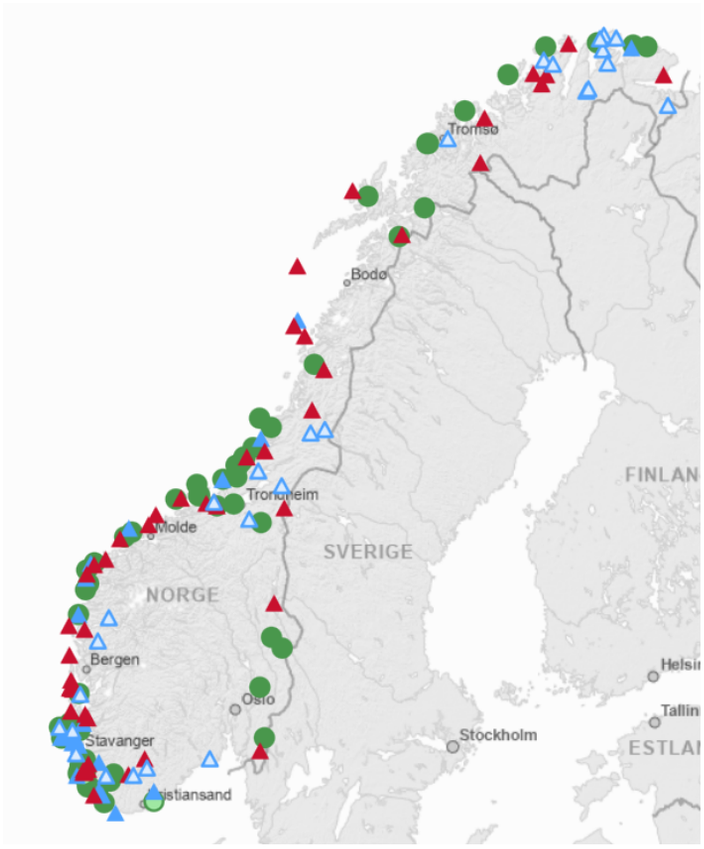

Figure 2.1: Overview of operative wind power plants, under construction, granted concession, denied concession, and concession license pending in Norway (NVE, 2023a)

Compared to the rest of Europe and especially countries like Denmark and Germany, wind energy production in Norway can be considered as low (Hofstad, 2023). A part of the reason for the low installed wind energy effect might

be due to Norway's topography. Figure 2.2 shows the correlation between mountain ranges and the density of wind power plants across Europe. It is conspicuous that in the lowlands and flat areas, the density of wind power developments is much higher than in mountainous landscapes (Clifton et al., 2022). It is reasonable to think this has to do with the low accessibility of the mountainous areas and the problematic engineering process of creating the required infrastructure in the mountains. In addition, mountains act as "wind stoppers" in some cases for the terrain behind them (Clifton et al., 2022). That is why it is evident that wind power farms, for the most part, are built along the western coast of Norway, where the winds from the ocean create an acceptable wind speed and reliable conditions for wind power plants.

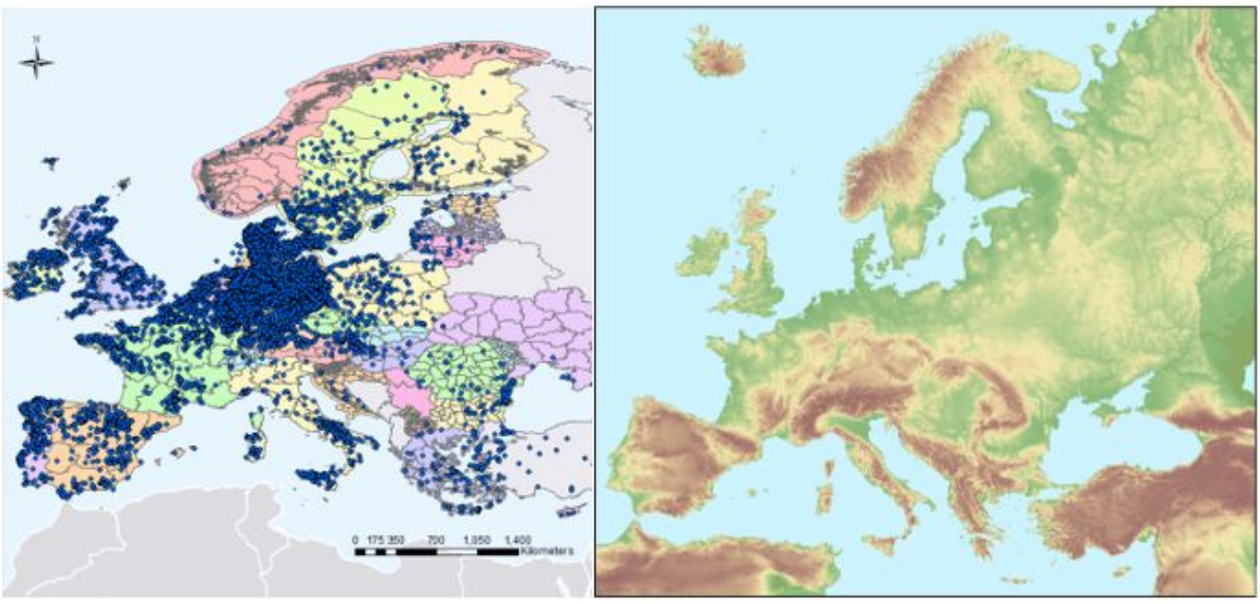

Figure 2.2: The map to the left shows where wind power has been developed in Europe, while the map to the right shows the European topography. It is evident that where the wind power plant density is highest, is also the amongst the flattest areas

2.1.1 Wind energy projects development and concession process

The development of wind energy projects in Norway is monitored by the governmental body *Norges Vassdrags- og Energidirektorat* (NVE). NVE is a directorate under the Minister of Petroleum and Energy and has, since its establishment in 1921, had the mandate to ensure environmentally friendly development of hydropower, which is beneficial for the Norwegian society at large (NVE, 2022a). As the technological evolution has provided better technology, NVE's mandate has been expanded to also include the application process of concession for energy infrastructure, such as power lines, transformers, and other energy installments e.g. wind power.

To get a concession for a wind power plant, one must apply to NVE. The only exception is if there is planned to install less than 1 MW installed effect or

the plant will consist of less than five wind turbines. If these requirements are fulfilled, no concession application is needed. However, most of the wind energy projects have a higher installed effect than 1 MW and therefore must apply for a concession. In the application process, there are six phases from the first initiation phase until you can start building the wind turbines (NVE, 2022c):

First phase: The first phase is to send a notification to NVE in accordance with the Planning and Building Act. The notification shall provide affected parties with information about the project, and present a proposed program for the impact assessment while allowing them the opportunity to provide input. This notification is mandatory for all wind power plants exceeding 10 MW installed effect. In turn, if the planned installed effect exceeds 10 MW it provokes the second phase. If the planned installed effect is lower than 10 MW, the second phase can be neglected.

It is important to note that as of April 2022, the municipality in which the wind power plant is planned has to consent to the concession process, involving sending a notification to NVE.

Second phase: The second phase involves an impact assessment. During the impact assessment, the initiator shall conduct third-party technical and environmental & social studies in accordance with the impact assessment program determined by NVE. The impact assessment program shall provide the initiator with clear guidelines and premises for what shall be examined and described in the final impact assessment.

Third phase: The third phase is the actual application. In this phase, the initiator is required to deliver a complete application with the results from the impact assessment and a description of the project. Once the application has been submitted to NVE, the hearing process begins with relevant consultation and briefing bodies. After this hearing period, NVE inspects the requested planned area.

If the wind power plant has an installed effect of 1 MW or less or consists of five wind turbines or less, the application can be processed by the local municipality and does not have to involve NVE.

Fourth phase: The fourth phase involves decision-making from NVE. Based on the application, impact assessment, input from the hearing process, and NVE's expertise within wind power, should make NVE capable of making a comprehensive assessment and making a decision. The outcome of the decision-making process is "granted" or "denied", and NVE will provide their reasoning in a separate document.

Fifth phase: The fifth phase involves the complaint processes. Anyone who has direct involvement in the case or has a legal basis for filing a complaint can do so. The complaint shall be lodged to the Ministry of Petroleum and Energy before it reaches NVE, which then will assess if the complaint is valid enough to change or reverse the resolution.

Sixth phase: Before the initiator can begin constructing the wind turbines, NVE, with consultation from the Norwegian Environment Agency (Miljødirektoratet), has to approve the environment, transport, and facility plan together with a detailed project plan. NVE's environmental team conducts inspections during the construction and operational phase to ensure that both construction and operation lie within the legal basis of the Energy Act.

2.2 IFC Performance Standard on Environmental and Social Sustainability

To ensure the sustainable development of projects in a universal way, with emphasis on environmental and social factors, constructors or related companies follows the International Finance Cooperation's Performance Standard on Environmental and Social Sustainability. The IFC's Performance Standard on Environmental and Social Sustainability offers guidelines for a strategic commitment to sustainable development. The Performance Standard is aimed directly at IFC's clients to provide guidelines on how to identify risks and impacts, to avoid, mitigate and manage the risks and impacts occurring during a project in a sustainable way. However, the IFC Performance Standard is publicly available information and can be used by companies that are not members of the IFC. The only difference is whether the company undergoes auditory to ensure the Performance Standard is being followed or not.

The IFC performance standard provides companies with the tools and guidelines. It is up to the companies to tailor the guidelines to fit the country of operations to ensure concurrence with the cultural characteristics of the country. This might involve some adjustments to their strategy, but the guidelines should provide sufficient information and a phase-by-phase approach to be successful. Following the Performance Standard involves eight different performance categories, ranging from Assessment and Management of Environmental and Social Risk and Impact on Indigenous People and Cultural Heritage (International Finance Corporation, 2012).

Communities are emphasized throughout the IFC's performance standard in different categories. The client using the performance standard should include affected communities as much as possible through communication, information,

and where applicable, collaboration and monitoring activities. Early involvement of affected communities, in combination with keeping the information in a format and language that is understandable, is important to achieve sustainable development in a project. Depending on the size of the project, the information flow from the client to affected communities can range from a full Environment and Social Assessment and Action Plan to easy-to-understand summaries of key milestones, issues, and commitments.

To identify affected communities, stakeholders must be defined for each individual project. Affected communities will emerge as a stakeholder due to their location in correspondence with the project. In addition, IFC's performance standard advises clients to identify other stakeholders. IFC's performance standard defines them as *"other stakeholders [...] not directly affected by the project but have an interest in it"* (International Finance Corporation, 2012, p. 1). Such stakeholders could be the national government, banks, insurance companies, or non-governmental organizations. Stakeholders will be elaborated on further in the following subsection 2.3.1 Defining a stakeholder.

The IFC's Performance Standards can be a useful tool for a wide variety of projects, also projects involving wind power plants. By using the guidelines, the clients will be able to find ways to maximize local development through Social License to Operate (SLO), as well as improve their bottom line by optimizing the management. As previously illustrated, wind power development has been a tense topic with strong opposition to said projects. Therefore, the IFC Performance Standard is a helpful tool to create a higher level of social acceptance, which will be explained in more depth in section 2.4 Social acceptance.

In the IFC's handbook for stakeholders engagement, they have listed a figure with key components for good stakeholder engagement (International Finance Agency, 2007). The figure emphasizes eight different components that are important to have good stakeholder engagement. The components are:

- Stakeholder identification & analysis
- Information disclosure
- Stakeholder consultation
- Negotiation and partnership
- Grievance management
- Stakeholder involvement in project monitoring
- Reporting to stakeholders
- Management functions

Each component has a short explanation to ensure that managers understand the effect of each component. Some of the components are internal, meaning they concern the project group. Others are external, meaning they provide methods for good stakeholder engagement and communication. The figure from the IFC handbook for stakeholder engagement is displayed down below in figure 2.3

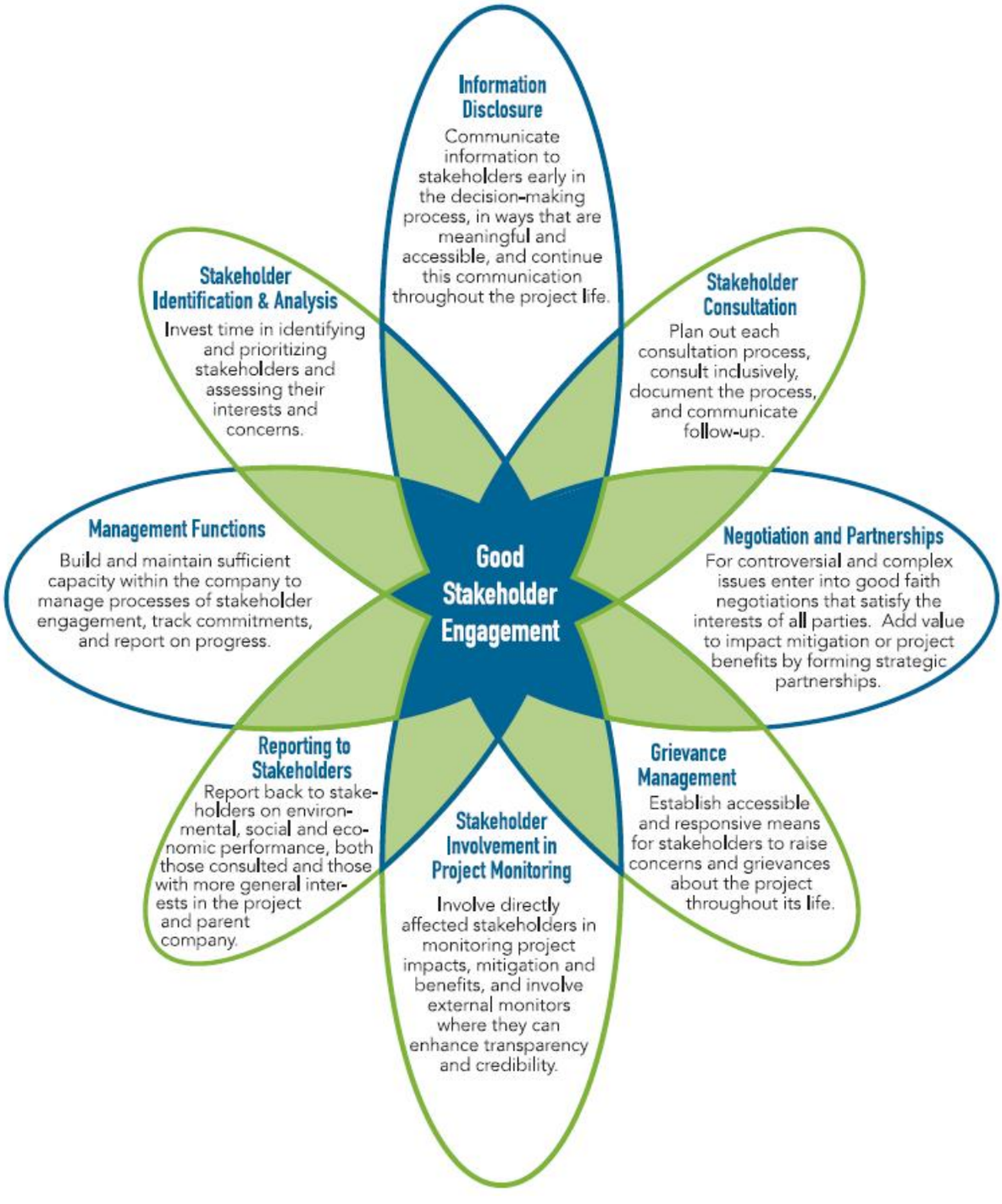

Figure 2.3: Key components for good stakeholder engagement from the IFC handbook for stakeholder engagement (International Finance Agency, 2007)

2.3 Stakeholders

For the last decades, academics and scholars have tried to develop the idea that every business, project, and politics have stakeholders (Aaltonen et al., 2008; Eskerod & Jepsen, 2013; Freeman et al., 2010; Lehtinen & Aaltonen, 2020; Mitchell et al., 1997). For project owners and managers, it is in their best interest to identify who their stakeholders are to avoid conflict, costly impediments, and failures. However, stakeholders can also be an important part of the project, helping the management and creating value. To successfully identify stakeholders, managers first need to define stakeholders, prioritize stakeholders, engage stakeholders, and acknowledge the different types of influence a stakeholder holds over the project.

2.3.1 Defining a stakeholder

A stakeholder is defined as *"groups and individuals who have a stake in the success or failure of a business"* (Freeman et al., 2010). The great variation of stakeholders is what makes it difficult but also important for a company or project owner to identify their stakeholders, as they can vary from employees working on the project, project managers, and executives to local citizens, neighbors, or local authorities. In addition, it's important to identify who are the key stakeholders and who are "just" stakeholders. To try and identify the differences, one might ask who has the biggest impact on the project. To find out who will have the greatest impact on your project, the framework of Mitchell et al. (1997) is useful. Mitchell et al. (1997) put stakeholders into three different categories based on their attributes: (1) Power, (2) Legitimacy, and (3) Urgency. The different categories refer to how each stakeholder has the power to influence the firm, the legitimacy the stakeholder holds in their relationship with the firm, and the urgency relating to how urgent the stakeholder's claims are for the firm.

Combined, these three categories create a triple Venn diagram. By putting the different stakeholders in the triple Venn diagram, Mitchell et al. (1997) define who is a key stakeholder and who is not. Ending up with eight categories of stakeholders, depending on which one of the three categories the stakeholders belong to.

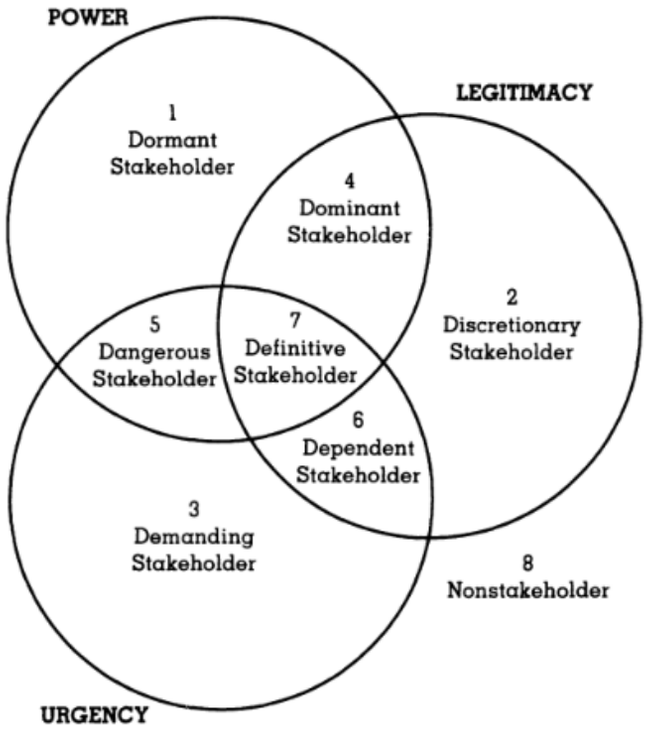

Figure 2.4: Stakeholder typology from Mitchell et al. (1997)

As figure 2.4 shows, stakeholders can possess more than just one attribute. The attributes might overlap, giving different characteristics to the different stakeholder types. Again, Mitchell et al. (1997) divide stakeholders into three different groups based on how many of the different attributes they possess. Stakeholders holding only one attribute are classified as *latent* stakeholders, whereas *expectant* stakeholders holding two attributes and lastly, *definitive* stakeholders holding all three attributes. In addition, Mitchell et al. (1997) identify a group of stakeholders that holds non of the attributes, and those are defined in the framework as non-stakeholders.

For the latent stakeholders, it is reasonable to pay them limited attention as they do not possess significant influence over the project. Managers may well choose to ignore them completely due to their low influence, and likewise, the latent stakeholders will probably not give the project or firm much attention or acknowledgment (Mitchell et al., 1997). However, it is important to note that a stakeholder can change which attributes they possess, depending on the development of the project. Over time, a stakeholder group can acquire attributes, for example, going from only having the power to also possessing urgency depending on the project direction. This means that a latent stakeholder which might have been paid little to no attention, now is an expectant stakeholder. An expectant stakeholder also has the possibility to become a definitive stakeholder once it gains the last attribute (Aaltonen et al., 2008; Freeman et al., 2010; Mitchell et al., 1997).

2.3.2 Other definitions of stakeholders

Another common definition of stakeholders is to define them as primary versus secondary or as internal versus external (Aaltonen et al., 2008; Freeman et al., 2010). The primary is related to stakeholders who have direct influence over the firm or project by being a part of the firm or project and is therefore sometimes referred to as internal stakeholders. Likewise, secondary stakeholders are related to individuals or groups who are outside of the firm and have an indirect influence. They are also referred to as external stakeholders, as they are external to the organization. This definition differs Freeman et al. (2010) from Mitchell et al. (1997) definitions where they only divide stakeholders into two groups. By using the definition of Mitchell et al. (1997), the stakeholder definition gets somewhat more complex. However, the definition contains more variables that increase the likelihood of identifying potential and actual stakeholders. It is important to be conscious of what variables a company wants to use to identify their stakeholders. Depending on the project, it might be sufficient enough to use the definition by Aaltonen et al. (2008), but the degree of complexity might call for a more extensive stakeholder definition where the definition from Mitchell et al. (1997) might be necessary.

2.3.3 Stakeholder prioritization

Determining which of the stakeholders need to be kept informed about the progress of the project and which stakeholder only need brief information can be challenging to define in a multitude of stakeholders. By using the definition of stakeholders and stakeholder salience by Mitchell et al. (1997), prioritizing becomes clearer to the manager. Managers might assign a higher salience level to stakeholders, for example, in the case where a manager chooses to devote attention to a certain stakeholder based on the managerial issues faced by this stakeholder group (Serna et al., 2022).

Different matrices can be used to point out which stakeholders that should be paid close attention to and avoid the manager's bias. The work of Newcombe (2003) provides matrices that can be used to determine predictability and interest for the stakeholders involved in the project. He suggests two matrices: the power/predictability matrix and the power/interest matrix.

The power/predictability matrix aims to map out which stakeholders hold power and how predictable they are. If a stakeholder has low power and high predictability, the stakeholder will be easily manageable stakeholder. However, if the stakeholder holds high power and has unpredictable behavior, this will be seen as the stakeholder posing the greatest danger to the project but also a stakeholder who is possible to persuade into supporting decisions made by a

project owner (Newcombe, 2003). The different constellations between power and predictability and how they affect the project or should be managed by the project management are illustrated in table 2.1.

The main issue for project management is to make acceptable decisions to the stakeholder who holds high power and high predictability to avoid influencing the unpredictable stakeholder. It is also important to keep in mind that even though the stakeholders with low power probably won't be able to affect the project in a critical way they should also be listened to (Newcombe, 2003).

Table 2.1: Power/predictability matrix adapted from Newcombe (2003)

		Predictability	
		High	*Low*
Power	*Low*	Few problems	Unpredictable but manageable
	High	Powerful but predictable	Greatest danger or opportunities

The power/interest matrix aims to give an overview of which stakeholders need to be paid close attention regarding information flow. For a stakeholder with low power and low interest, project management is not required to do much effort to keep them informed. Contrary, a stakeholder with high power and high interest is regarded as a key player and should be informed to a large extent which would require some effort from the project management (Newcombe, 2003). The different relationships stakeholders can have are listed in table 2.2.

Again, issues related to decision making is prominent. Project management needs to make decisions that are acceptable to the stakeholder holding high power and high interest to keep the key players satisfied. If they are satisfied, the project manager can keep a close eye on the other stakeholders with high power. They have a low interest, but if they are not heard or taken into consideration when making decisions, they might increase their interest, thus becoming a key player (Newcombe, 2003).

Table 2.2: Power/interest matrix adapted from Newcombe (2003)

		Interest	
		Low	*High*
Power	*Low*	Minimal effort	Keep informed
	High	Keep satisfied	Key player

2.3.4 Stakeholder influence

Stakeholders hold to some extent power to influence the project. This can be done through different means to put pressure on the project management to get their interests and concerns communicated to the project management. Aaltonen et al. (2008), by the work of Frooman (1999), defines four strategies that stakeholders use to influence the project: (1) direct withholding, (2) direct usage, (3) indirect withholding, and (4) indirect usage. With direct withholding, the stakeholder withholds resources in an attempt to influence and change the behavior or decisions made by the project owners. Differentiating from direct withholding, direct usage implies that the stakeholder continues to provide the key resources but under strict conditions or special constraints to the use of the resource. The indirect strategies work in the same way as the direct, but in the indirect case, the stakeholder finds an ally to manipulate the flow of resources necessary for the project (Aaltonen et al., 2008; Frooman, 1999).

Moreover, Eskerod and Jepsen (2013) suggest that stakeholders not only want to use their power to sabotage or obstruct the project, but they also have the ability to help. They propose what they call a Harm/Help matrix, deduced from Savage et al. (1991). This matrix shows that it is a fine line between the harm a stakeholder can do and the help they might be willing to provide. The potential cooperation from stakeholders is often neglected because the focus is on eliminating threats from stakeholders that might jeopardize the project, but the cooperation potential should be paid equal attention to as the threat potential (Savage et al., 1991). At the same time, it is important to note that help or harm is not two ends on a scale, but it is more flexible. The stakeholder's motivation for cooperation or helping the project can vary due to different factors such as project progress, project interest, or dependency on the firm.

Figure 2.3 shows how a manager could categorize different project stakeholders in light of their harm or help potential. Furthermore, Eskerod and Jepsen (2013) provide us with three questions useful to be able to assess the potential and capacity each stakeholder holds. The questions are as follows: (1) *Does the stakeholder control key resources needed by the project?*, (2) *Is the stakeholder likely to take supportive, non-supportive, or no action?*, and (3) *Is the stakeholder likely to form coalitions with other project stakeholders? If yes, who?* These questions give an overview and provide guidance on how to manage the different stakeholders. In combination with the previously mentioned matrices, this should provide sufficient information to manage stakeholders and mitigate potential risks towards the project.

Table 2.3: Help/Harm matrix adopted by Eskerod and Jepsen (2013), inspired by Savage et al. (1991)

		Harm potential	
		Low	*High*
Help potential	*High*	Resourceful	Key Player
	Low	Marginal	Show Stopper

2.3.5 Stakeholder engagement

Stakeholder engagement is the basis for building strong, constructive, and responsive relationships with the stakeholders belonging to a project (International Finance Corporation, 2012). It happens continuously throughout the project and involves previously introduced theories combined in varying degrees. By engaging the stakeholders, managers create a benefit for the project or business by reducing constraints, minimizing risks, and enhancing opportunities through input from stakeholders. This can, in turn, help managers understand the fast-changing PESTE (Political, Economic, Social, Technological, Environment) context and adapt to the new changes (Jeffery, 2009). To achieve a good dialogue with the stakeholders, the managers should identify stakeholders relevant to their project as soon as possible. Moreover, the disclosure of relevant information will help affected communities and other stakeholders understand the impacts, opportunities, and risks related to the project, allowing them to take rational decisions (International Finance Corporation, 2012).

Stakeholder engagement aims to be interactive, encouraging, and inclusive. Through collaboration with the stakeholders, the company is exploiting the opportunities that their stakeholders can offer instead of trying to mitigate the risk through stakeholder management. By being hands-on and offering interactivity with the stakeholders, the company will be on the front foot, able to act quickly if problems arise and make changes to satisfy their stakeholders. This means that the probability of maintaining a good relationship with the stakeholders increases. Figure 2.5 shows the differences between Crisis Management, Stakeholders Management, and Stakeholder Engagement, according to Jeffery (2009).

Crisis Management	Stakeholders Management	Stakeholders Engagement
Reactive	Proactive	Interactive
Vulnerable	Anticipate	Encourage
Episodic	Regular	Inclusive
Hostile	Defensive	Prepared to change

Figure 2.5: Differences between Crisis Management, Stakeholder Management, and Stakeholder Engagement (Jeffery, 2009)

Jeffery (2009) explains that stakeholder engagement is an iterative process where organizations learn and improve their stakeholder engagement continuously. To make sure organizations and companies are making the most of their stakeholder engagement work, he proposes an iterative process with seven steps. The steps are used to identify objectives and stakeholders before starting to engage with the stakeholders. He points out the importance of building trust before the consultation stage begins. Without trust, it will be hard to interact and consult with the stakeholders (Jeffery, 2009). Lastly, he refers to being prepared to change under stakeholder engagement by responding and implementing issues agreed upon with the stakeholders, while monitoring and evaluating to create a learning outcome for the organization or company. The process is shown in figure 2.6.

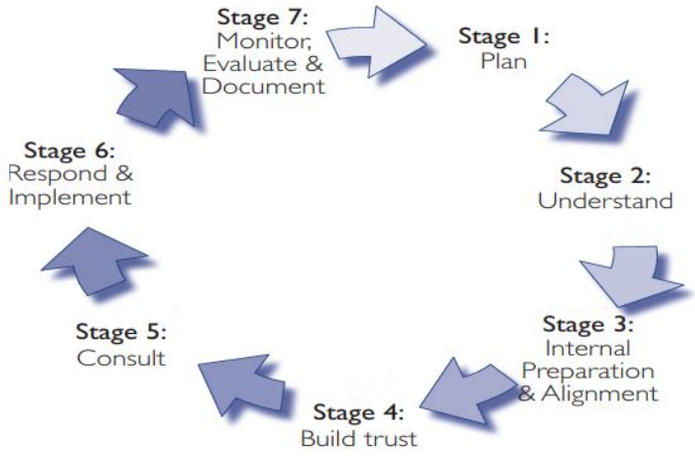

Figure 2.6: The seven steps of the iterative stakeholder management process from Jeffery (2009)

When it comes to big engineering projects, such as wind power, it does contain not only technical challenges but also social, environmental, and cultural challenges (Aaltonen et al., 2008). This naturally connects to the ESG (Environment, Social, and Government) measures of sustainable performance (Yang et al., 2022), whereas Strand et al. (2015) find stakeholder engagement to help improve such sustainability performance measures. As a project manager and investor, it is important to acknowledge the different risk factors and analyze them carefully concerning the stakeholders involved (Larson & Williams, 2009). Stakeholders can provide valuable inputs and feedback regarding the project and can be valuable assets to the project group. The stakeholders can help the project group to understand the needs and concerns of the local community. Engaging the local community as soon as possible in the project, developers can take measures to ensure the interests of the local community. Involving stakeholders can help build support and promote a greater understanding of the project (Jeffery, 2009). This can, in return, yield a greater payoff considering long-term support and remove some opposition to the project. If the developers fail to involve local stakeholders, worst case, they turn their back on the project, creating opposition and may actively work to stop the project (Aaltonen et al., 2008).

2.4 Social acceptance

Securing a green energy transition and decarbonizing the energy system will ensure a sustainable, affordable energy supply (International Renewable Energy Agency, 2019, 2022a). In such a big process of transition, a lot of different stakeholders are involved. New energy infrastructure and adapting to new technologies will make an impact on the stakeholders, especially the public and local communities (Upham et al., 2015). Related public opinions, acceptance, attitudes, perceptions, behavior, values, and practices are all important matters for governments, the energy industry, and academics. From previous experience with some renewable and non-renewable energy infrastructures, opposition from local communities arise while some coexist in the greatest harmony (Aitken, 2010; Toke et al., 2008; Upham et al., 2015). This has made it an interest for especially energy companies to understand the factors that are driving societal and public relations. In the energy sector, social acceptance has increasingly become one of the main issues shaping the successful implementation of new development and policies.

2.4.1 Defining social acceptance

The term "social acceptance" has been a long-standing topic in relation to a range of facilities and developments such as nuclear power infrastructure, waste

facilities, and hydroelectric schemes (Ellis & Ferraro, 2016). The evolution of the term started as a marginal and small study in the 1980s but is now at the front line of broader debates in the social sciences, with wind energy as a key topic (Wüstenhagen et al., 2007). In Norway these days, the topic is an ongoing debate in both local communities and on social media platforms.

Carlman (1984) was the first academic to define the issue of societal acceptance of wind energy and went above and beyond the conventional public opinion research. She began by arguing that choosing a location for wind turbines was *"also a matter of public, political, and regulatory acceptance,"* and she conducted research on decision-makers attitudes toward wind power. Her investigations indicated that there were a number of barriers to societal acceptance, and in the 1980s, other academics joined her in outlining and assessing the difficult implementation challenges (Wüstenhagen et al., 2007). However, due to widespread public support for renewable energy technology in the 1990s, the issue of social acceptance was more or less neglected. Although, the debate has always been an issue and continued throughout the 21st century with even bigger engagement today more than ever (Xu et al., 2023).

Even though the term "social acceptance" is frequently used in the literature on practical policies, precise definitions are rarely provided. Wüstenhagen et al. (2007) define social acceptance as three dimensions: socio-political acceptance, community acceptance, and market acceptance as seen in Figure 2.7. With many stakeholders involved in the social acceptance of wind energy, the three dimensions enable a robust understanding of the issues and the stakeholders involved (Horbaty et al., 2012).

Figure 2.7: The triangle of social acceptance of renewable energy innovation collected from Wüstenhagen et al. (2007)

There have been several studies done to understand the drivers of social acceptance of wind energy during the last decade (Devine-Wright & Batel, 2017; Ellis & Ferraro, 2016; Leiren et al., 2020; Luca et al., 2020; Maleki-Dizaji et al., 2020; Upham et al., 2015; Vuichard et al., 2022; Wüstenhagen et al., 2007; Xu et al., 2023). Variables such as individual attitudes, relationships, contextual issues, perceived impacts, and process-related issues have been analyzed to conceptualize the impacts of social acceptance (Vuichard et al., 2022). Considering a technical study from the EU highlighting high levels of socio-political acceptance for wind energy as well as the wind energy technology undergoing impressive cost-reductive improvements on the market, the community acceptance dimension is the biggest limiting factor (Ellis & Ferraro, 2016; Vuichard et al., 2022). Fostering community acceptance is one of the greatest challenges to increasing the deployment of wind energy (Leiren et al., 2020; Luca et al., 2020; Maleki-Dizaji et al., 2020). Many of the barriers implemented to achieve successful projects can be seen as a manifestation of a lack of social acceptance. This also relates to the acceptance of important stakeholders and policy actors at the general level of socio-political acceptance. These policies call for the institutionalization of frameworks that successfully foster and enhance market and community acceptance, such as the establishment of trustworthy financial procurement systems that open opportunities for new investors and spatial planning systems that encourage group decision-making (Wüstenhagen et al., 2007).

The three different dimensions of social acceptance; community acceptance, market acceptance, and socio-political acceptance are further elaborated on in the next three subsections.

2.4.2 Community acceptance

Academic research has recognized the importance of community acceptance for a long time. Community acceptance is about the surroundings of renewable energy projects specifically for siting decisions where local stakeholders, particularly residents and local authorities, are involved (Luca et al., 2020; Wüstenhagen et al., 2007). They are the ones bearing most of the external impacts. The "community" factor is defined as the local society affected by a specific planned wind energy project consisting of multiple municipalities, inhabitants with various interests, neighborhood groups, and other organizations (Horbaty et al., 2012). Examples of different community actors are shown in figure 2.8.

Figure 2.8: Actors from the community when it comes to acceptance of wind energy projects made with inspiration from Horbaty et al. (2012)

Often the community has a history such as landscape, economic background of the region, and earlier experience with similar projects, companies, or proponents, which is shaping the reaction to wind energy projects. It is also important to keep in mind the already existing divides between elected officials and the population or generational and new population because this will also affect how a community handles such big, conflicting projects (Horbaty et al., 2012). According to Horbaty et al. (2012) community acceptance has four important aspects to address:

Visual intrusion: The relation between landscape and identity of the local community. Since the landscape is fundamental to both individual and collective identity, any effects brought on by wind projects must be handled sensitively, openly discussing the issue, and should not be covered up by health or environmental issues.

Valuation of ecosystems: The potential impacts, such as bird strikes and the impacts on other species and habitats. People value wildlife as it benefits their living area. Especially concerning wind energy projects which can threaten endangered species or conservation areas.

Standard of living: Concerns the impacts on real estate values, regional job development, and tourism. For the wind sector, there have been significant economic benefits or positive long-term impacts. The local concerns are often based on issues such as wind energy causing higher electricity prices, declining tourism, or loss of property values.

Quality of life: Relates to issues of annoyance and health impacts, such as stress related to noise, low-frequency sound, shadow flicker, or obstruction markings. Regardless of the new and better technology that affects people's well-being, the quality of life around wind energy is still a controversial topic.

Naturally connected to community acceptance is also the term NIMBY, which is explained in section 2.5 NIMBY - Not in my backyard. The NIMBY debate concerns the difference between general acceptance and resistance to specific projects where people support renewable energy as long as it is not in their own backyard. This is also argued to be an oversimplification of people's actual motives (Wüstenhagen et al., 2007).

Another aspect of community acceptance is the time dimension. Devine-Wright (2005) demonstrates the local acceptance before, during, and after a project as a pattern following a U-curve as seen in figure 2.9. During the siting phase, the curve goes from high acceptance to relatively low acceptance and back to a higher level of acceptance once the project is operative. This suggests that acceptance for the project increases as the exposure to the project makes the local community accustomed to having wind turbines nearby (Dugstad et al., 2020). However, studies also find that exposure leads to lower acceptance, and therefore there is no certainty exposure creates higher acceptance in the local community (Wolsink, 2007; Zerrahn, 2017).

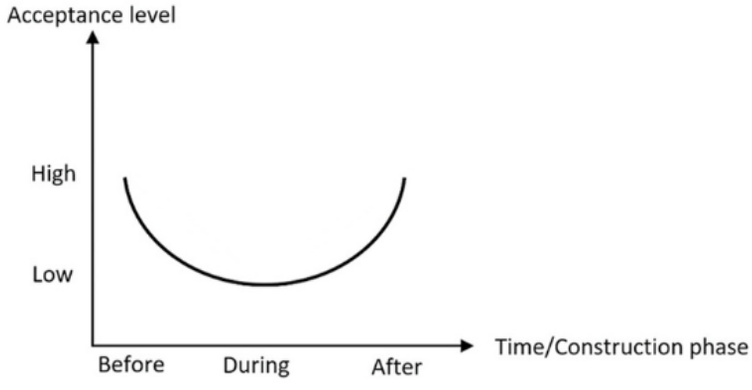

Figure 2.9: U-shaped relationship between acceptance and time collected from Dugstad et al. (2020)

2.4.3 Market acceptance

Community acceptance measures acceptance among stakeholders in local contexts, as discussed in previous chapters. Whereas market acceptance measures how well technology is adopted by the market (Dugstad et al., 2020). For wind energy projects, market acceptance includes investors, project developers, energy suppliers/utilities, and grid owners, as well as electricity consumers, as shown in figure 2.10.

Figure 2.10: Actors from the market for wind energy projects made with inspiration from Horbaty et al. (2012)

Horbaty et al. (2012) defines two main issues especially project managers need to consider when it comes to market acceptance which is the distribution of costs and benefits and consultation and involvement.

Distribution of costs: This is the differential impact of visual intrusion, noise, and issues concerning who may financially benefit from wind energy projects through payments to landowners, job creation, taxes for the host communities, and revenue from shares as such. In the acceptance process of a project, the financial model often plays a major role. This is mainly due to individual weighing of costs and benefits where people from the local community decide upon a proposed project. Here the people have to be convinced about the combined positive benefits, both material and immaterial. One good example of involving the community in the market could be having the local population as investors. Because an economic stake in a project causes greater levels of social acceptance and gives people a feeling of "local control," it also makes people take ownership of the project.

Consultation and involvement: Refers specifically to the need for openness and transparency in any decision-making process involved in wind energy projects. Issues related to this aspect are where project managers from outside the host communities are suspected to exploit local resources. Here, they propose too many benefits or do it at the wrong time in the decision-making process. As a result, people from the local community get suspicious, and it can result in an accusation of bribery. Proper communication, involvement, and consultation with the stakeholders are vital. When the concerns and values of the affected people are not acknowledged and incorporated into the decision-making process, the outcome is often perceived as unfair or poorly legitimated. Developers who are flexible and open to discussing the details of the project are more likely

to meet a positive dialogue from the public. Although, even when combining successful communication campaigns, consultation processes, and involvement approaches, there will be no guarantee for success. Therefore, total acceptance will never be possible, but to secure greater deployment of wind energy, greater levels of social acceptance are needed. Full public engagement must be one of the key priorities for wind energy projects.

2.4.4 Socio-political acceptance

The socio-political aspect is related to the broader issues of acceptance, such as acceptance of technologies and policies by the public, policymakers, and key stakeholders (Dugstad et al., 2020). This can also include state policies and institutional frameworks which allow or promotes the deployment of specific technologies and give wider public opinions beneficial for the development of technology (Horbaty et al., 2012). Examples of typical socio-political related actors for wind energy projects can be seen in figure 2.11.

Figure 2.11: Socio-politcal actors of wind energy acceptance made with inspiration from Horbaty et al. (2012)

When it comes to being able to realize a wind energy project, acceptance must come from all the actors involved. However, acceptance may come forward in different time scales throughout a project and therefore needs to be fostered differently. The socio-political acceptance is seen as public opinion and will also affect the tone of the social debate in politics, institutions, and organizations on both national and regional levels. Legislation and spatial planning of the respective area are strongly influenced by the implementation of national and regional policy targets. However, the outcome in the level of wind energy deployment is significantly influenced by the policy instruments and the means to achieve the goals. Horbaty et al. (2012) define two important aspects of socio-political acceptance:

Policy and spatial planning: When setting rules for locational decisions and providing an arena for people to express their opinions on how their local community can evolve, spatial planning is particularly important. Usually, the planning and application process includes several different licenses and approvals on both national, regional, and local scales which vary a lot between regions. Big projects such as large-scale wind farms face several planning challenges as these projects often involve more than one administrative body, concern multiple environmental issues, as well as affecting traffic infrastructure and economic development. Often the local planning authorities lack knowledge, resources, and decision-making processes suited to facilitate such large-scale projects.

The role of social media and networks: An important component of today's acceptance of wind energy projects is the role of social media and other networks such as television, print media, and websites. These platforms make it easier for anyone to say their opinion on the matter, where the possibility of being anonymous is there. There is a tendency where politicians and other key stakeholders offer a high level of support for wind energy where the value as a source of clean and green energy is emphasized. On the other hand, you have the media, which tends to focus on the more conflicted issues of wind energy deployment, such as project design and implementation. Looking at how wind energy projects are presented by both the media and other networks contributes to the process of understanding the issues to achieve greater social acceptance.

2.5 NIMBY - Not in my backyard

To mitigate climate change and transform the energy systems, low-carbon energy projects such as wind power demands huge resources (Ellis & Ferraro, 2016). A grid infrastructure, including transmission power lines, impacts both environmental and social aspects (Devine-Wright & Batel, 2017). These impacts are often met with strong objections from the affected communities where the local protests are characterized as "Not in my backyard" (NIMBY) responses (Smith & Klick, 2007). "Nimbyism" is described as an *"intense, sometimes emotional, and often adamant local opposition to site proposals that residents believe will result in adverse impacts* (Kraft & Clary, 1991). This kind of opposition from the locals is considered one of the fundamental challenges the wind industry has been facing since the 1990s and as of today (Bosley & Bosley, 1992; Geraint & Gianluca, 2016). According to the Oxford English Dictionary, NIMBY is defined as *"an attitude ascribed to persons who object to the siting of something they regard as detrimental or hazardous in their own neighborhood, while by implication raising no such objections to similar developments*

elsewhere." The NIMBY facilities, such as wind power plants, are referred to as a kind of facility benefiting the wider public in health, economic, social, safety, or environmental aspects, but on the other hand, they may disturb the nearby communities and residents (Wang et al., 2019). When finding a citing for the NIMBY facilities there is often strong opposition and land use conflict from local communities. These kinds of constructions have become a thorny problem worldwide (Xu et al., 2023). Liu et al. (2022) have revealed three types of major factors triggering NIMBY conflicts which are: (1) factors related to the facility, such as project characteristics and project distance, (2) factors related to the public, such as the benefits and risk perception capability and (3) factors related to society and environment such as public participation, social acceptance, legitimacy, or democracy of government.

To manage those kinds of factors, Xu et al. (2023) proposes two mainstream research frameworks to improve the social acceptance of NIMBY facilities which will be further explained in the next two subsections.

2.5.1 Public Acceptance (PA) framework

Originating from the studies of public attitudes and behaviors towards nuclear power plants, Public Acceptance (PA) framework is a unified analytical framework. The framework has been used widely in public attitude and behavioral research since the 1960s (Xu et al., 2023). As social acceptance has been an essential key for the sustainable development of NIMBY facilities, PA is a framework commonly used to reflect the public's recognition and acceptance of new technology. Today, the PA framework is widely used in nuclear energy projects, carbon storage schemes, and waste treatment facilities, with an important influence in the Nimbyism literature (Xu et al., 2023). The framework, as shown in figure 2.12, shows a variety of factors that directly or indirectly affect public acceptance of NIMBY facilities.

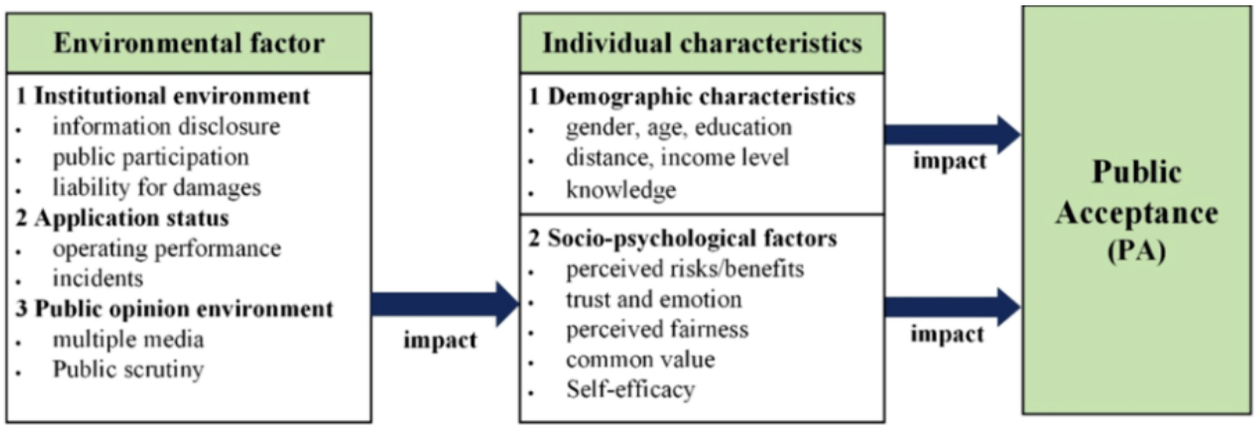

Figure 2.12: The analytical framework of public acceptance (PA) collected from Xu et al. (2023)

A previous study shed light on identifying public individual and institutional environments as the two main explanatory ways to look at social conflicts in siting NIMBY facilities when using the PA framework (Devine-Wright, 2005). The most important factors affecting public acceptance are the variables related to demographic factors such as age, gender, income, and educational level (Xu et al., 2023). According to Xu et al. (2023) the PA framework seems to provide a valuable reference to enhance the social acceptance of NIMBY facilities which is of great significance in project management of such projects. Although the PA framework has previous studies valuing its enhancement of social acceptance of NIMBY facilities, they are also limited by emphasizing public acceptance with only a single or a few of the major factors included. According to Devine-Wright (2005), it seems as if it lacks an interdisciplinary approach. At the same time, the framework has been criticized for analyzing the role of the "public" as overly simplistic, ignoring the complexity and nonlinearity of the public's attitude and responses. A single or linear perspective is needed to understand the diverse and complex core concerns of stakeholders involved in land-use disputes (Xu et al., 2023).

2.5.2 Social License to Operate (SLO) framework

Social License to Operate (SLO) refers to a community's perception of the acceptability of a company's local operations that usually relates to a specific project or land use change. The term SLO has its origin in the mining industry. In late 1990, Jim Cooney introduced the term "social license" to reduce socio-political challenges to the actions of the mining industry (Xu et al., 2023). Nowadays, research has developed SLO to fit a variety of industries, ranging from the original mining to agriculture, forestry, and energy industry (Xu et al., 2023).

Where legal basis or statutory regulations are insufficient to meet the social expectations and demands, SLO can be described as an unwritten social contract between society or a social group (Franks & Cohen, 2012; Xu et al., 2023). The Social License to Operate cannot be formalized as an agreement between a company and the community it operates within. Instead, it should be viewed as an ongoing negotiation process that describes the current state of the relationship between the company and the community. SLO can be seen as a complement to regulatory licenses but can not replace them nor be granted by civil authorities, the legal system, or political structures (Franks & Cohen, 2012).

To succeed with SLO, Nelsen et al. (2006) identified four success factors; (1) maintaining a positive cooperate reputation, (2) understanding the local culture, history, and language, (3) educating local stakeholders about the project,

and (4) ensuring open communication amongst all stakeholders. To achieve all four success factors, the company needs to be conscious about its actions, in an ethical, moral, and environmental way. To create a higher chance of succeeding with success factors (2), (3), and (4), the use of a *community liaison office coordinator (CLO)* could be beneficial. The CLO will work as a middleman between the company and the community, helping the company to understand local culture, history, and language, in addition to being able to educate the local stakeholders about the project. The CLO will also be able to work with communication amongst the stakeholders, hence creating openness and transparency across stakeholders' interests. Based on this, a CLO will have a central role in achieving SLO. Lastly, it is important to note that most of the studies on SLO involve the mining industry. However, there can be drawn similarities to wind power projects (e.g. land area use, intervention in nature), making SLO a relevant theory for such projects.

Measuring your social license can be done by looking at the "pyramid" model by Thomson and Boutilier (2011), where they identified four levels of SLO (Boutilier & Thomson, 2012). The lowest level is having the SLO withheld or withdrawn. This means, as discussed earlier that the stakeholder or community is withholding essential resources from the project. At this level of the pyramid, the socio-political risk is very high. To move up to the next level on the pyramid, project managers need to cross the legitimacy boundary. This means that they must show legitimacy towards the community and the project. If so, then the SLO will move up to acceptance. If the company manages to establish credibility, the SLO will rise to approval. Then, if trust is established, the SLO will move up to the top of the pyramid, where psychological identification reduces the socio-political risk significantly. The pyramid with its boundaries is illustrated in figure 2.13.

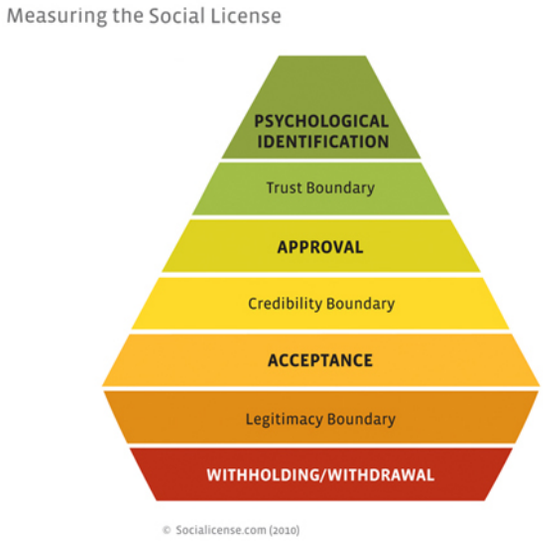

Figure 2.13: Measuring SLO with the pyramid model by Thomson and Boutilier (2011)

Figure 2.14 categorizes the different levels of the pyramid and displays the most common symptoms or indicators suggesting which level of social acceptance the project has. As we can see from figure 2.14, the symptoms are closely linked to the stakeholder theory presented earlier in this chapter.

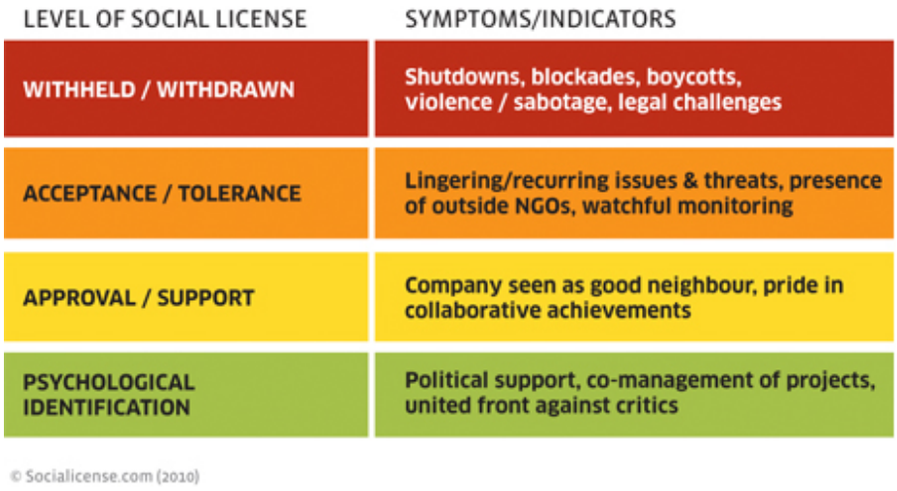

Figure 2.14: Symptoms/Indicators for each level from the pyramid model

The relationship between social license and stakeholder behavior is closely linked. If a project, development, or technology is untrustworthy, illegitimate, or dishonest towards the community, then stakeholders might actively or passively resist the project (Franks & Cohen, 2012). The link can be drawn back to what has been discussed in subsection 2.3.4 Stakeholder influence, about the harm/help matrix with stakeholders and the importance of engaging stakeholders to have a dialogue about their expectations and needs to avoid resistance to the project, as discussed in subsection 2.3.5 Stakeholder engagement.

2.6 Reasons for opposition from stakeholders

There exist different views and opinions for why people are opposed to onshore wind power development. To be able to handle and manage the opposition it can be valuable to know the reasons and motivations behind it. In table 2.4, we provide an overview of the literature and NGOs working to oppose wind power plants, consisting of the most common reasons people are opposing wind power. As the literature suggests, most of the arguments revolve around the loss of natural beauty, harm to wildlife, and visual and sound noise for the nearby living people (Enevoldsen, 2016; Enevoldsen & Sovacool, 2016; Horbaty et al., 2012; Ladenburg, 2008; Motvind Norge, 2023; NOW, 2022; NRK, 2023; Smith & Klick, 2007).

Table 2.4: Reasons people are opposed to wind power, according to literature, NGOs and media

Reasons for opposition	
Nature & wildlife	Wind turbines kills or injure thousands of birds during operation time
	Harming the wildlife and nature during construction an operation, due to e.g. service roads
Visual and auditory noise	Wind turbines are noisy, and living too close to a wind turbine can reduce quality of life
	Some people find wind turbines ugly and spoiling the scenic natural view
Value decreasing	Wind turbines close to a neighbourhood might lower local property values, harming local home owners
Unreliable energy supply	Only producing electricity when it is windy, and cannot be used as the base load for the grid

Although the literature supports these reasons for people to oppose wind power, Knopper and Ollson (2011) argue that the general public access information about wind power through popular, easy access, and probably less accurate sources than peer-reviewed scientific publications. In most cases, scientific studies and journals have more restricted access for the general public. It is also reasonable to assume that individuals without higher education probably will not seek information from scientific journals. Their information foundation is therefore at risk of being biased, influenced by other people's personal opinions, or inaccurate. Often, the information posted online is hard or impossible to trace back to a scientific source (Knopper & Ollson, 2011).

3. Methodology

This chapter presents the research design and process, giving an overview of the framework used and the methods applied to collect and analyze the empirical data. The purpose is to have the most suitable design to give an actual answer to the research question. The following sections in this chapter include the context of our single case study, research process, design, and approach, how and what kind of data was gathered, and lastly, how the data were analyzed.

3.1 Single case study context

Due to the strong opposition energy companies face in Norway regarding onshore wind energy projects, there has been an urgent need to extend the research on how to achieve social acceptance for these projects. Hydro and Eviny issued a press release on December 19, 2022, (Hydro & Eviny, 2022) announcing their intention to pursue wind power development in the municipality of Høyanger and Sunnfjord, specifically in the Snøheia area. The unique feature of this case is the early communication from the developers to the local communities. Usually, developers only initiate contact with the municipality board to get permission to send a notification to NVE. In this case, they have chosen a different approach, to create higher acceptance in the community. This thesis aims to look at social acceptance in an early-phase of a wind power development project, which makes Snøheia an ideal case to investigate in relation to our research question. Since the project differs from the usual approach to wind power development projects, there are no similar existing cases to our knowledge that would be relevant to our thesis. Therefore, a single case study approach seemed like the best option. By doing a single case study, we were able to follow one specific project in an early-phase to analyze the most crucial part of achieving social acceptance.

When working on this single case study, the purpose is to analyze one specific case to create theoretical constructs or propositions from the empirical evidence provided by the case (Eisenhardt, 1989; Mariotto et al., 2014; Yin, 2009). The research strategy aims to understand the dynamics within single settings where we will use typical methods such as interviews, questionnaires, and observations with qualitative and quantitative data (Eisenhardt, 1989). For this thesis, a single case study is concluded as the best approach.

3.1.1 An inductive research process

When we started looking at the problem of social acceptance of onshore wind energy projects, we had no expectations of how the theory was built. Therefore an inductive reasoning approach was conducted for this thesis. This "bottom-up" approach involves moving from specific observations to broader generalizations and theories. The approach is often used in qualitative research methods and is well suited to exploratory and discovery-oriented research. The theory emerges as patterns of relationships between constructs in the case (Busch, 2021; Mariotto et al., 2014). The research moves from empiricism to theory (Creswell, 2009; Given, 2008). For our case study, the process developed like this: making specific observations and collecting data through public hearings, interviews, and a survey, interpreting them, detecting patterns and regularities, and then developing some general conclusions and remarks with a suggested model based on theory and results.

3.1.2 Research design

With the defined research question for this thesis, it was natural to look at both an intensive (in-depth data from a few sources, e.g., interviews) and extensive (data from many sources, e.g., using a questionnaire survey) research design to give a deeper depth to our results (Oana-Ramona & Iulia, 2017). The problem statement is a complex problem with various stakeholders who must be accounted for. Therefore, we wanted to include both interviews and a survey in our research design to provide an in-depth understanding of the issue. Using both designs, we can provide results from both the developer and municipalities involved in the project and the local community to make the results cover a broader issue.

We used a multi-design of both extensive and intensive design, which also connects to the mixed-method of qualitative and quantitative research. Our quantitative research collects and analyzes numerical data to test hypotheses and make inferences about a population (Busch, 2021; Creswell, 2009). This method involved structured data collection with a survey given to the local community. The qualitative research design collects and interprets non-numerical data to understand the phenomenon and develop insights and theories about the experiences and perspectives through interviews with relevant project stakeholders (Busch, 2021; Oana-Ramona & Iulia, 2017). When using a mixed-method approach, our aim was to gain more insight where the combined use provides a comprehensive understanding of the research problem for this thesis.

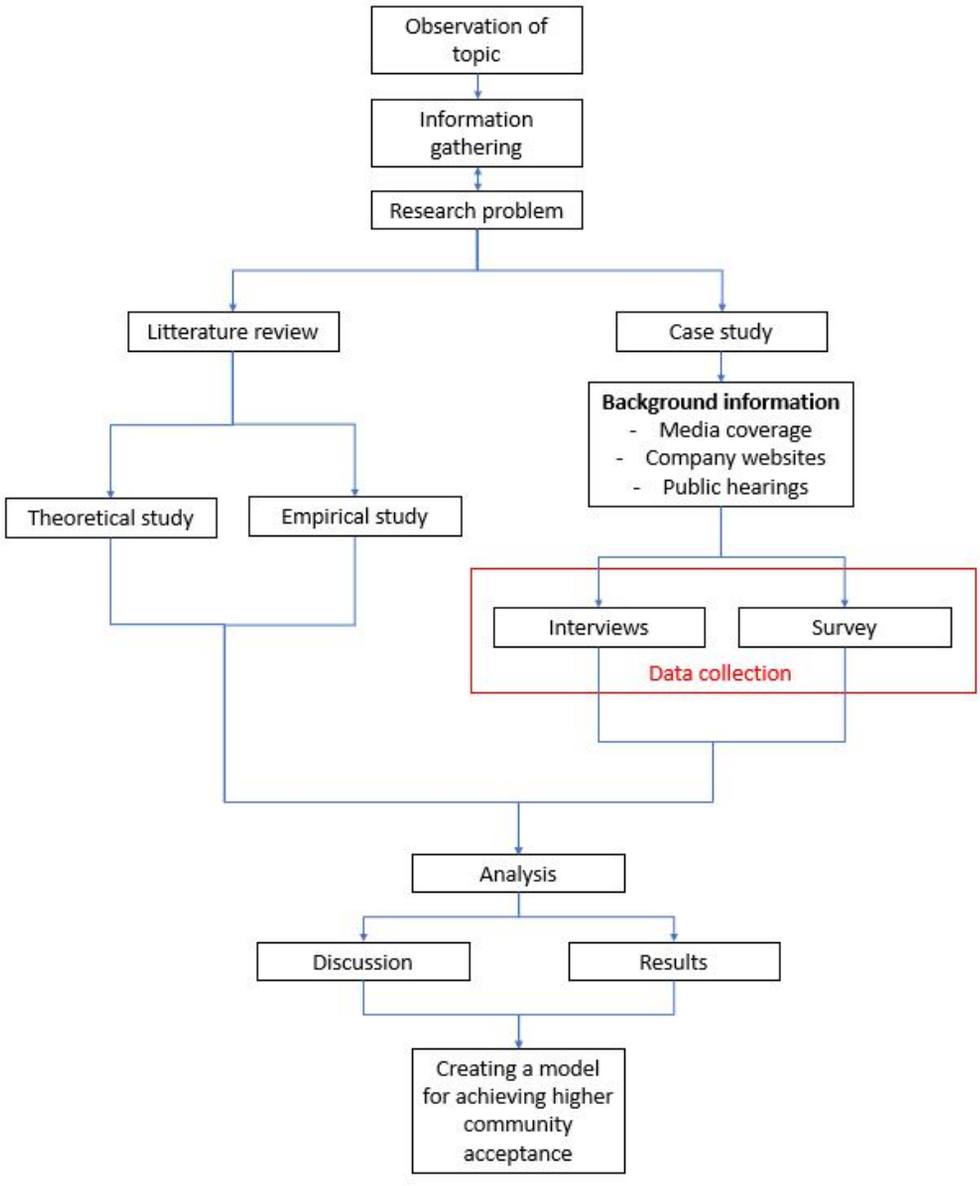

Figure 3.1: Research design

Figure 3.1 shows the research design chosen for this thesis. It describes our approach to this thesis, from the initial observation of the topic to the final result with recommendations. The approach is divided into two parts, one literature review, and one case study. During the literature review, the theoretical foundation for further work on the case study was laid by prioritizing relevant literature. The case study was conducted simultaneously with the literature review. While we were reviewing the literature, we gathered more background information about the case through media coverage, press statements, company websites, and public hearings in the middle of January 2023. After the background information was processed alongside the theory, it created a foundation for the interview guide and survey.

3.1.3 A mixed-method approach

For this thesis, we used the mixed-method approach called concurrent triangulation. Here the research collects the quantitative and qualitative data concurrently and then compares the two databases to determine if convergence, differences, or some combination is occurring (Creswell, 2009). This strategy typically employs different quantitative and qualitative methods to counteract the limitations of one method with the advantages of the other (or conversely, the strength of one adds to the strength of the other). This method simultaneously collects quantitative and qualitative data throughout one phase of the research project. The two methods are weighted equally when discussing the results as a side-by-side integration. This approach is chosen because of its convenience when it comes to a shorter research time period. Due to the time limitation of this thesis, investigating whether public opinion converges with the perception of the informants from the interviews concurrently is a more systematic and structured method.

3.2 Data collection

When using a mixed-method approach, the planning of data collection is essential where timing, weighting, mixing, and theorizing are four important aspects to consider (Creswell, 2009). The qualitative and quantitative data collected for this thesis were gathered concurrently, making the implementation simultaneous. This is due to the time frame for the thesis and a desire to collect the different data independently from each other. The qualitative data represents one person's view on the issue, and to control if their view correlates with public opinions, a quantitative survey was conducted. The survey provided us with insight into the local community's perception of wind power development. Analyzing the quantitative data and comparing it to the qualitative data gave a greater understanding of the current attitude within the community. The respondents represented a more significant portion of the local community and were a counterweight to the statements from interview objects. Using concurrent triangulation gave us a better foundation for drawing conclusions on the average public opinion on wind power development in affected communities. In a mixed-method approach, the final factor is whether a larger theoretical perspective guides the entire design (Creswell, 2009). In this case, the purpose was to create a model based on theory and results following the inductive research design.

For our data collection, we chose four topics of relevance in advance connected to our research question, see table 3.1. Because both the quantitative and qualitative data were collected concurrently, we wanted to use the topics as a

baseline for both the interview and survey questions to ensure a common thread throughout the data collection.

Table 3.1: Main topics of relevance

	Topics
1	Challenges related to the project
2	Perception of the public opinion
3	Developer's role and communication
4	How to create greater acceptance in early-phase

Topic 1: *Challenges related to the project* are connected to the main reasons for opposition to wind power development and stakeholder management, Topic 2: *Perception of the public opinion* is connected to social acceptance and NIMBY theory, Topic 3: *Developer's role and communication* are connected to stakeholder management and social acceptance and lastly, Topic 4: *How to create greater acceptance in early-phase* is more of a summary of all already mentioned theories.

For this thesis, we gathered background information and data collection as illustrated in figure 3.1. The following sections cover how the different data were gathered.

3.2.1 Collecting background information

To establish an overview of the case, public hearings, media coverage, and company websites provided us with a base knowledge of the case. From the company websites, the intention of Hydro and Eviny was stated alongside a sketch of how much land area the project would occupy. The media coverage provided us with a basic foundation of how public opinion amongst the local community was, as well as being a forum for the opposition through chronicles and letters to the editor. The public hearings were the most useful information foundation, as both the developers and the local community were represented. During the hearings from the host municipalities, in combination with a Q & A session with developers and the local community, made the foundation for most of the topics and questions formulated in the interview guide and survey. Concerns and insecurities from the local communities that emerged during the hearings contributed to topics we wanted to pursue and get a better understanding of. As a result, it laid the foundation for grasping the root problem of low acceptance.

3.2.2 Interviews

For this thesis, we wanted to do individual interviews to collect a comprehensive and reflected description of the topic from stakeholders related to the project.

In that way, we could gather their own reflections, experiences, and perceptions and use them as data. To get relevant quality data, the interview objects are an essential factor. We needed relevant respondents who had a relation to the Snøheia project or in some way had experience with onshore wind power development in Norway. As it is both time-consuming and resource intensive to facilitate interviews, we ended up interviewing six people with relevance to the Snøheia project as well as our research question. The representatives are displayed in table 3.2. We also chose to interview a representative from Fitjar municipality where they have already done a wind power development project for comparison. This has been done to collect a holistic and diverse data set.

Table 3.2: Interview objects with their respective organization, role, and interview duration

Organization	**Role**	**Duration**
Hydro	*Project manager*	1 hour
Eviny	*Senior advisory stakeholders*	1 hour
Hydro	*Social sustainability*	1 hour
Sunnfjord kommune	*Politician*	1 hour
Høyanger kommune	*Politician*	1 hour
Fitjar kommune	*Politician*	1 hour

We decided upon semi-structured interviews, which are characterized as a flexible structure while still including an interview guide (Johannessen et al., 2016). This was a suitable way of interviewing because we could move back and forth between the different topics and questions from the guide depending on our interview object. As the interview objects had different roles, we had one interview guide as a baseline which was adjusted in advance of each interview. The interview guide can be found in Appendix 6.2. To create a common thread during the interviews we focused on the four topics chosen for the data collection, as described in table 3.1. Within each topic, there were specific questions we wanted an answer to. We formulated 10 main questions as open-end questions, with background from the theory chapter and mainly around the topic of social acceptance. The formulation of the questions was adapted to fit the interview objects' role in the project, the chosen topics, and within our research question scope. Follow-up questions were asked during the interviews to either clarify an opinion or get an elaboration on a topic if needed. The interview guide was sent to all interview objects a few days in advance so they could be prepared and feel comfortable answering the questions.

During the interviews, the main focus was to allow the interview object to speak as freely as possible without interference from our side. Open-end questions allowed the interview object to interpret the question and answer in the way they see fit. This resulted in answers that were not affected by our biases and represented the opinion of the interviewees.

A registration form was sent to NSD - Norwegian centre for research data to ensure the ethical guidelines were taken care of when it came to arranging the interviews. We also created a consent form based on a standard template from NSD which included information about the purpose of the project, private policy, and participation as a voluntary. All interview objects signed the consent form to ensure confidentiality.

3.2.3 Online survey

The online survey was issued from March 21st, 2023, to April 17th, 2023, and aimed at affected communities concerning wind power development, but mainly aimed at the locals in Høyanger and Sunnfjord. We have chosen to involve both the directly affected communities from our case and previously affected communities like Fitjar municipality. This was to get a data set that will provide us with generalized data and not only specifically apply to the case study of this thesis. The online survey was distributed on Facebook to the following groups: *"Kva skjer i Høyanger"* - 1,9k members, *"Aktivitetar i Sunnfjord"* - 4,6k members, *"Oppslagstavlo Fitjar"* - 1,5k members, *"Kva skjer i Førde?"* - 3,7k members. In addition, the survey was distributed on Høyanger Municipality's official Facebook page with 2,3k followers. The data from the survey was then analyzed and put in context to create a valuable model for wind power development projects to achieve higher social acceptance within the local communities in future projects. In combination with the interviews, the survey created a better understanding of the public opinion on wind power development in host municipalities and local communities.

The questions were multiple-choice and metric questions. Multiple-choice questions made it easier to categorize sex, age, and demographic location. The metric questions were scaled from 1 to 5, where 1 strongly disagrees, and 5 strongly agree. In addition, the survey contained suggestions on how the information flow from developers should be and suggestions on how the community and municipality should be compensated for giving up natural resources to develop wind power in the area. Most of the questions were prepared with a background in theory from this thesis, public information, and statements emerging in the public and municipal council meetings.

3.3 Data analysis

The interviews were recorded and transcribed, with additional notes taken during the interviews to ensure that information from the interviews was correctly cited and available for backtracking. By recording, transcribing, and taking notes of the interviews as they were conducted, we ensure the most accurate reproduction of what the representatives said during the interview. This, in turn, strengthens the results section by presenting the representatives' opinions accurately. The data was then compared between all the informants to identify similarities and differences in their answers. From this, we created a table with a summary of the main findings from interviews with the developer and one from interviews with politicians. To make sure we presented the interview object's opinions, we collected quotes in relevance to our four chosen topics as mentioned in 3.1. These quotes were also collected to represent both the differences and similarities found during the data comparison.

4. Analysis and Results

This chapter provides an overview of the interview and survey results starting with a stakeholder analysis as a baseline. The data from the interviews have been put in context, and the data from the survey has been used to control whether or not the impression of the interview objects correlates with the public opinion of the local community. In addition, the streaming of public meetings from both host municipalities and the municipal council meeting from Høyanger regarding the Snøheia wind power development project has been used to identify concerns related to the local community and applied as a baseline for the interviews and survey. All this together will create our results and provide the foundation for our recommendations and discussion.

4.1 Stakeholder analysis

For the results in this thesis, we have defined stakeholders from the framework of Mitchell et al. (1997) shown in figure 2.4. The definition of internal and external stakeholders has also been defined (Aaltonen et al., 2008), where this thesis highlights the stakeholder management of local communities, meaning they are external. In the early-phase of a wind power development project like Snøheia, the local communities hold legitimacy and urgency, while the municipalities hold legitimacy and power. Therefore, given the early stage of the project, local communities are defined as dependent stakeholders respective to the project, and the municipalities are defined as dominant stakeholders. It is also important to note that we have defined the NGO Motvind as a separate stakeholder not included in local communities. This is due to their area of operation, which is at a national level.

In figure 4.1, a selection of stakeholders for the project at Snøheia has been identified. The stakeholders are identified based on the phase of the project and their relevance to the current state of the project. Stakeholder theory shows that stakeholders vary depending on the progress of the project, so for this section, we have identified the most relevant stakeholders at the current moment. The stakeholder landscape will change and has to be managed at the time new stakeholders emerge and old stakeholders are no longer relevant. Figure 4.1 is therefore based on which stakeholders we have identified in early-phase of wind power development for this case.

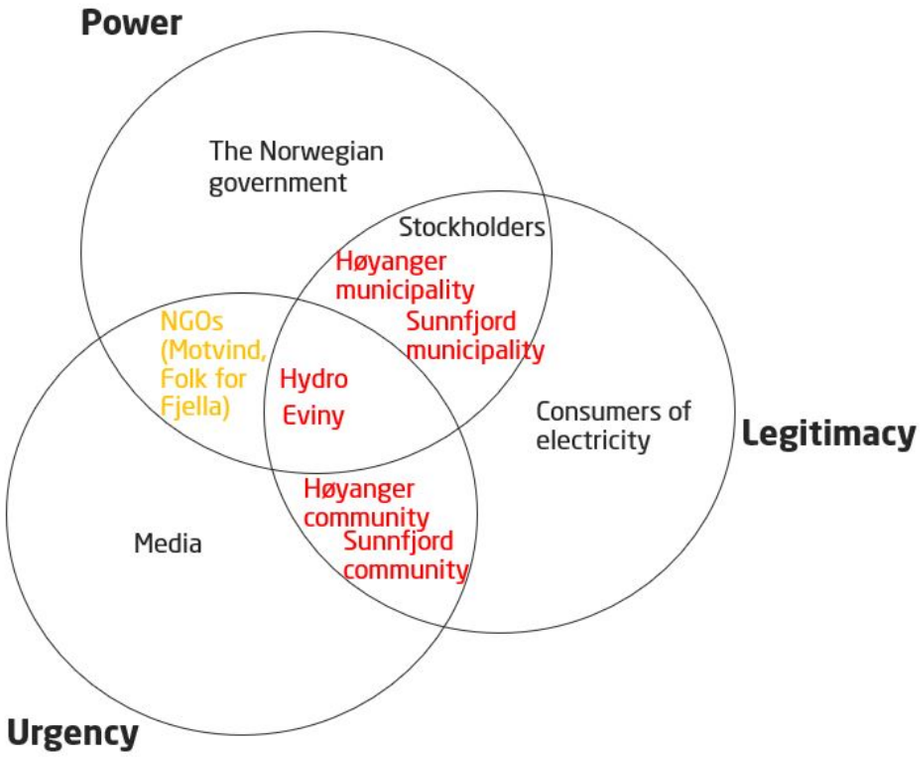

Figure 4.1: Overview of the involved stakeholders in the project at Snøheia. Stakeholders marked in red are within the scope of this thesis, yellow is indirectly involved in this thesis, and black is not included in the scope of this thesis.

As figure 4.1 shows, we have identified the stakeholders based on Mitchell et al. (1997) framework. Thereafter, we have divided the stakeholders into three different categories; red is stakeholders contributing directly to the results through interviews and a survey, yellow is indirectly contributing to the results, and black are stakeholders in the project without contributing to this thesis, but still present stakeholders in this case. NGOs are put in yellow because members of the local community are often engaged in environmental NGOs and NGOs working against onshore wind power development, such as Motvind and Folk for Fjella. This stakeholder group is not directly a part of the local community, but given the fact that they have high engagement in the local community, it is reasonable to believe that the organizational beliefs of the NGOs will affect both the project and the survey. Therefore, they have been included, even though they have no direct contribution to the results.

4.2 Interviews

The interviews conducted included representatives from Hydro and Eviny as the developer and interviews with politicians from both host municipalities, Høyanger and Sundfjord, as well as Fitjar municipality where wind power already is developed. The representative from Fitjar has been interviewed to compare the concerns and experiences of a similar project.

Below we present the main findings from the different interviews conducted in tables, separated between developers and municipalities. The tables have been arranged based on the main topics from table 3.1 in the Methodology chapter. These tables represent a mix of the different informants and are summarized in bullet points. All answers in the tables were obtained from the interviews, but they have been partially modified to represent the essence of the responses rather than direct quotations. Table 4.1 shows the concurring answers from the different informants representing developers based on the main topics covered during the interviews.

Table 4.1: Main findings from the informants representing the developer

	Developer
1 Challenges related to the project	• How to reach out to the younger generation and create a balanced and nuanced discussion. At the moment, the opposition is the most vocal • NGOs like Motvind have representatives not connected to the local community present at public hearings. Might create a distorted view of the situation • Translate technical information to be more understandable for the local community
2 Perception of the public opinion	• The actual situation is probably more 50/50, However, it is hard to get a hold of the positive voices • Some landowners claim the project has created divisions within the local community and between the landowners in the project • 80% of the participants at the public hearings have a negative opinion regarding the project However, the hearings might not be representative of the local community as a whole
3 Developer's role and communication	• Can never be enough information at the beginning of a project The problem is to find the balance between nice-to-know, need-to-know and how much detail about the project they have and are ready to share • Many questions from the public will probably be answered later in the process during the impact assessment
4 How to create greater acceptance in early-phase	• Try to engage the average person who might not attend public meetings or other forums where the project is discussed • Could spend a bit more time on the project before releasing a press statement Could have bought them some more time to have more answers to the local community • Different approaches to the affected communities; public meetings, open office, local representatives from the developer etc

The representatives from the developer identified gathering positive opinions on wind power development as the most challenging task in this early-phase of the project. In the public debate, the opposition is the one expressing themselves the loudest. Since wind power is a heated debate in Norway, the likelihood of hearing positive voices in a public meeting is small. To be the one standing out from the crowd in a small, local community can be challenging. Therefore, finding solutions to be able to hear the positive and negative opinions is important to create a balanced and nuanced debate, rather than the polarized debate that is happening now.

In comparison to statements from the developer, table 4.2 shows the concurring answers from the informants representing the municipalities. Their main concern is related to the amount of compensation they will receive for giving

up the land area to the wind power plant, and if it is worth the destruction of untouched nature and scenic beauty. In addition, their concerns are related to noise and visual intrusion, wildlife impact, and the actual placement of the turbines. The representatives reported skepticism within the local community, however, they find it hard to identify the root problem of the skepticism. A correlation between developer and municipality is the challenges related to the "silent majority". It seems equally difficult to separate the positive views from the loud negative views. Further findings are presented in table 4.2.

Table 4.2: Main findings from the informants representing the municipalities

	Municipality
1 Challenges related to the project	• Environment vs. Climate: The impact it has on the environment and nature, causing deforestation and disturbance in the landscape • The fact that the disturbance in the landscape is not 100% reversible and huge areas will be affected • Noise and visual intrusion • Uncertainty about the benefits to the municipality, does not seem enough to cover what they have to pay for in terms of environmental and natural loss
2 Perception of the public opinion	• Amongst the local community, there is a majority of sceptical people but difficult to sort out the actual root of the problem • Those against is more vocal and arrange big demonstrations to express their opinions such as NGOs • The ones positive to the project do not dare to speak up in a public setting • There is also the "silent majority" who have an understanding of the developers and especially Hydro's challenge and could consider supporting onshore wind power development if this means investments in new activities for their key company in the area (Hydro Aluminium Høyanger)
3 Developer's role and communication	• A lack of information regarding the project mostly in terms of wildlife, placement of the turbines, and icing Most of the information given is about the need for power supply and renewable energy, not much about the actual project other than the suited area for onshore wind • The locals express a concern about not being able to say no to the project if they say yes to sending a report to NVE • The benefits to Sunnfjord compared to Høyanger are not clearly communicated
4 How to create greater acceptance in early-phase	• Making sure the most relevant and important information about the project is possible to share from the moment the project is presented to the public •The new law and regulations should be able to create reasonable guidelines for both developers and municipalities • Being more open about the benefits to the municipalities from the start

For the main topics set for the interviews, we have outlined the most relevant opinions from the informants in the form of quotations. The aim of the quotations is to support the main findings within the topics. These findings are further explained in the next four subsections.

4.2.1 Challenges related to the project

There are many different challenges related to the Snøheia project. The challenges are of a wide range, from environmental to economic and political issues.

For example, one of the politicians explained in the interviews:

> *The compensation and the incentives are too low for them to have another attitude than negative at this point in time. Why is it their nature and land area which has to take the consequences? The mountain areas have already suffered because of hydropower plants and contributed to the green transition for over 100 years. (...) Also, what makes it difficult is to differ the personal and political opinions of a politician. On one side, there is opposition to wind power because of its environmental impact. On the other side, there is the importance of industrial development in their area where Hydro has the aluminum plant as the cornerstone company in the municipality.*

The politician also explains:

> *The mountains are used a lot, and some of the service roads are in even better condition compared to local roads in the municipality. Because of the hydropower development, the locals use the mountains a lot. Although areas have been disrupted, it has also given them a livelihood for over 100 years and is, therefore, more accepted. Right now, onshore wind power does not have the same legitimacy. Having some carrots for what the local community would benefit from wind power would help.*

From the developer's point of view, the main challenge is related to stakeholder engagement from the silent part of the local community, meaning those who are indifferent or pro the project. The negative part of the local community is very vocal, and being able to engage the rest, who might be positive about the project, can be difficult. One representative from the developer said during the interview:

> *The opposition (...) is well established. The difficulty lies in determining whether the opposition to the project is as significant as it may appear. In my opinion, I think it is not (as significant). (...) It can be difficult to be the one saying yes to such a project. Being able to resist the massive push (from the opposition) is a tough task.*

This perception of the opposition being most vocal and suppressing the indifferent or positive side is heightened by another representative:

> *The biggest challenge related to the project is the dialogue with local stakeholders. The dialogue must be kept at a factual and rational level. It is not necessarily a matter of being positive or negative, but rather a process where everyone can express their opinions.*

4.2.2 Perception of the public opinion

The perceptions of public opinion differ widely. Although, it is a common problem that the ones with the most opposition have the loudest voices, making those who are positive not want to speak up in public. One of the politicians explained the opposition like this:

> *A lot of people are against onshore wind power, but are they even aware of what they are turning down? (...) You also have the silent majority who see the dilemma of a power deficit and wish to develop their industry in the area. (...) More people would accept wind power development at Snøheia locally if that means industry development and new activities from Hydro in the area.*

During the interviews, all interview objects have the same impression of the NGOs, such as Motvind, as being very loud. The NGOs tend to get very stressed and immediately mobilize their power without having the right knowledge, and facts in place. With methods like demonstrating, trying to influence members of the government as well as being very active on social media both locally, regionally, and nationally. The politician further explains:

> *It is a dilemma that Motvind won't accept the energy deficit in 2027. Whereas their way of reversing the Energy Law from 1991 is cutting the undersea cables in the North Sea and making sure the power produced from the West won't contribute to the electrification of offshore oil production. This may not be the dumbest idea, but this is national politics which is controlled by Stortinget (Norwegian parliament, Ed).*

Also, the developer acknowledges the loud voices from the NGOs. One representative from the developers illustrated the massive network and mobilization that NGOs are capable of:

> *The majority of people expressing themselves during public hearings are negative to the project. Approximately 80-85% of the attendance at the meeting in Gaular (Sunnfjord) were opposed. Many of them were members of NGOs and not even residents of the municipality.*

4.2.3 Developer's role and communication

The developer's role in terms of communication seems to be an important aspect. Detailed information about the project is minimal, causing a lot of insecurities among the locals. Also, the new regulations, which are not yet in place, are of the locals' concern as they do not want to risk losing the right to decision-making. There are also different benefits to the different municipalities affecting the willingness to accept such a project.

One of the politicians expressed:

> *There has not been enough information. The developers have mostly talked about the need for power and renewable energy, where Snøheia has been a relevant area for wind power. There is a lack of details about the project, and difficult for the municipality to be positive to send a report without more project information. (..) In Høyanger, the Hydro Aluminium metal plant is very important, and the benefits to Sunnfjord are not clear. If someone is positive or negative depends on the benefits. With more detailed information from the developer, it would be easier to be either positive or negative to send the report to NVE.*

The new regulation for the concession of wind power is an important factor, as all the interview objects require the project to be handled by the new law, which is not yet in place. The developer has also confirmed that they will not proceed with the process before the new regulation is in place, which is scheduled to be processed by the Norwegian government during the summer of 2023.

One of the interview questions focused on how a CLO can contribute to more social acceptance for this kind of project. Here, one of the politicians stated:

> *It definitely helps not only the landowners but the local community when looking at other challenging issues for the municipality. (..) At this moment and time, they don't need to be present, but if the report is sent and the process starts, they need to be available and know details about the project.*

The other politician explained:

> *I think it is very important to have a representative present locally. It is possibly a lot more people positive to the project than what is being expressed. (...) Another advantage for Hydro and Eviny is that both being well established Norwegian companies.*

4.2.4 How to create greater acceptance in early-phase

During the interview questions, there were several suggestions on how to achieve greater acceptance in such an early-phase project. The suggestions mostly focused on more relevant and important project information to be available as soon as the project is presented to the public, having the project follow the new law and regulations, and lastly, being more open about the benefits to the municipalities from the start.

One of the politicians stated:

> *The most important would be to get the new law in place with regulations, so the municipality knows what kind of tools they can use. This will ensure reassurance when giving permission to send the report to NVE and making sure it's possible to say no to the project later on. (..) It must also be clear what benefits are there for the municipality, land owners, and the locals. It is crucial to get this clarity already before the report is sent to be able to weigh the benefits against the disadvantages of wind power.*

From the developer's point of view, they have started internal work on how they can/could create higher acceptance in an early-phase of the project. One representative said:

> *Communicate the process in a better way, explain what an impact assessment implies, and maybe get some input to the public from other participants, e.g. NVE. (...) Many answers are still yet to be unveiled. However, communicating the process and what it implies could be reassuring for the local communities.*

This could be a good approach to gaining a social license to operate. If the local community is familiar with the process, it becomes easier to accept and trust the process or ask the right questions regarding the project and process. From the developer, greater acceptance in early-phase was listed as one of the main challenges, which is also reflected in the response when asked questions about greater acceptance:

> *(...) think about how we can involve "average Joe" who does not attend public meetings, who, for example, only gets information through newspapers about the project(...). One possibility could be surveyed to map the opinion on what type of information they want and how they want to be informed. (...) Think outside of the box, not limited to formal meetings.*

4.3 Survey

The survey was provided to a broad specter of respondents focusing on residents in host municipalities of wind power plants from our case, Høyanger, Sunnfjord as well as Fitjar Municipality. The most valuable results from the survey are presented in this chapter, displaying the answers and how they are distributed.

Out of a total of 254 respondents, 175 completed the survey, 59 partially completed and 20 got it distributed. Since 59 partially completed the survey, some categories have more answers than others. The first category has between 210

and 212 responses for each question, while the second category has 202 responses.

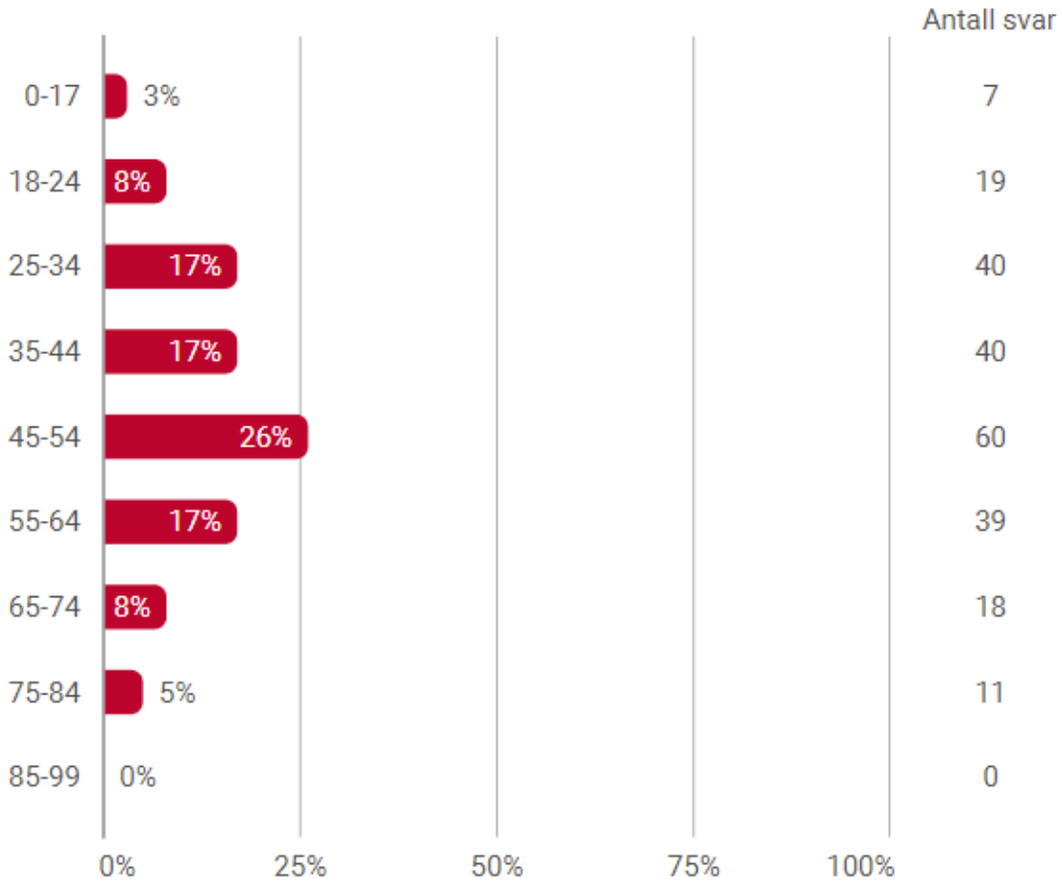

Figure 4.2: Overview of the different age ranges of respondents participating in the survey

The respondents range from the age below 17 to 84 and the survey shows a normal distribution within this age gap as presented in figure 4.2. 43% are males and 56% are females. 79% are from an urban area, 9% are from a small city, 2% are from a big city and 9% chose the option *"Other"*.

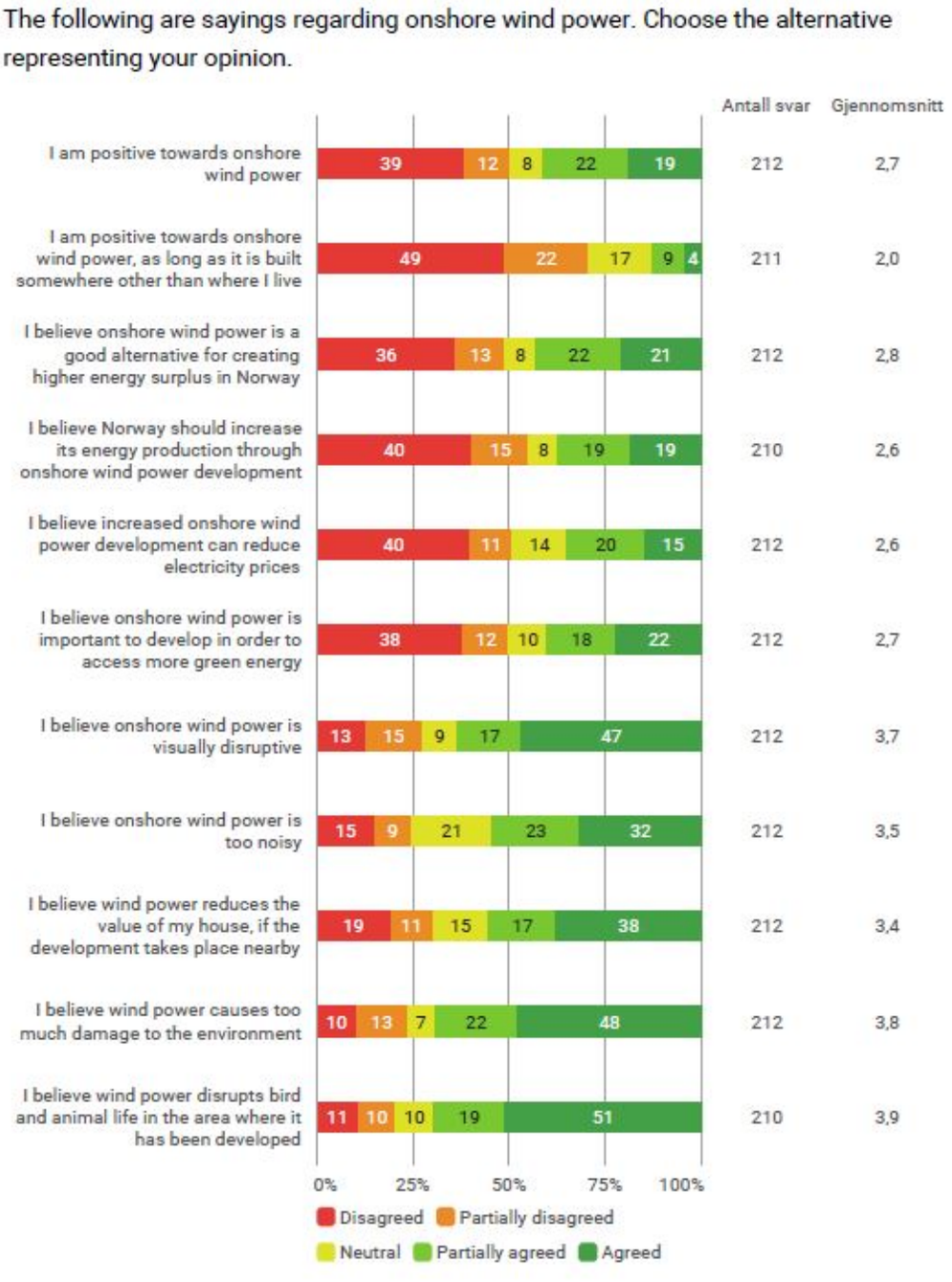

Figure 4.3: Response regarding statements related to onshore wind power. It shows the number of respondents and average rating, ranging from 1 being disagreed to 5 being agreed.

Figure 4.3 indicates the attitude towards wind power in the local communities. As we can read from the results, the community is somewhat divided, with 51% against and 41% in favor of onshore wind power. However, there is a slight majority that is negative towards onshore wind power. Interestingly, the second saying, which aims to investigate NIMBY, seems to generate a higher negative attitude. This is unexpected, considering NIMBY, where the theory suggests a higher percentage of positive attitudes. In fact, people are more negative towards onshore wind power if it is built somewhere other than where they live.

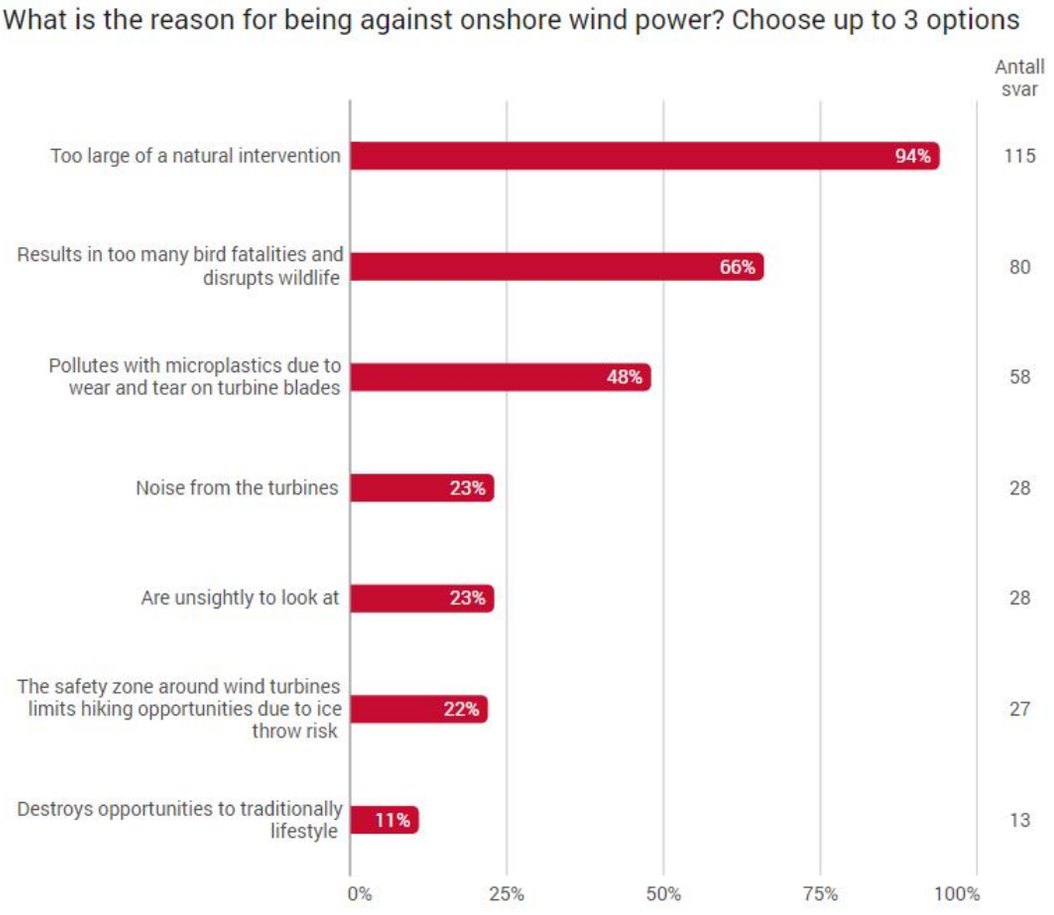

Figure 4.4: A set of factors presented to the respondents that were against wind power, where they had to choose a maximum of 3 options for why they are against wind power

Figure 4.4 displays the respondents answering "disagreed" or "partially disagreed" to the question *"I am positive towards onshore wind power"* and their main reasons for being against onshore wind power. It is clear that most of the respondents have concerns about natural interventions and to some degree irreversible natural interventions. Natural intervention, disruption to wildlife, and pollution from wear and tear are the main reasons why the respondents are against onshore wind power. Noise and visual disruption is not included as the overall main reasons, even though almost an equal percentage of respondents answered "Agreed" on wind power being too noisy and wind power causing too much damage to the environment (see fig 4.3).

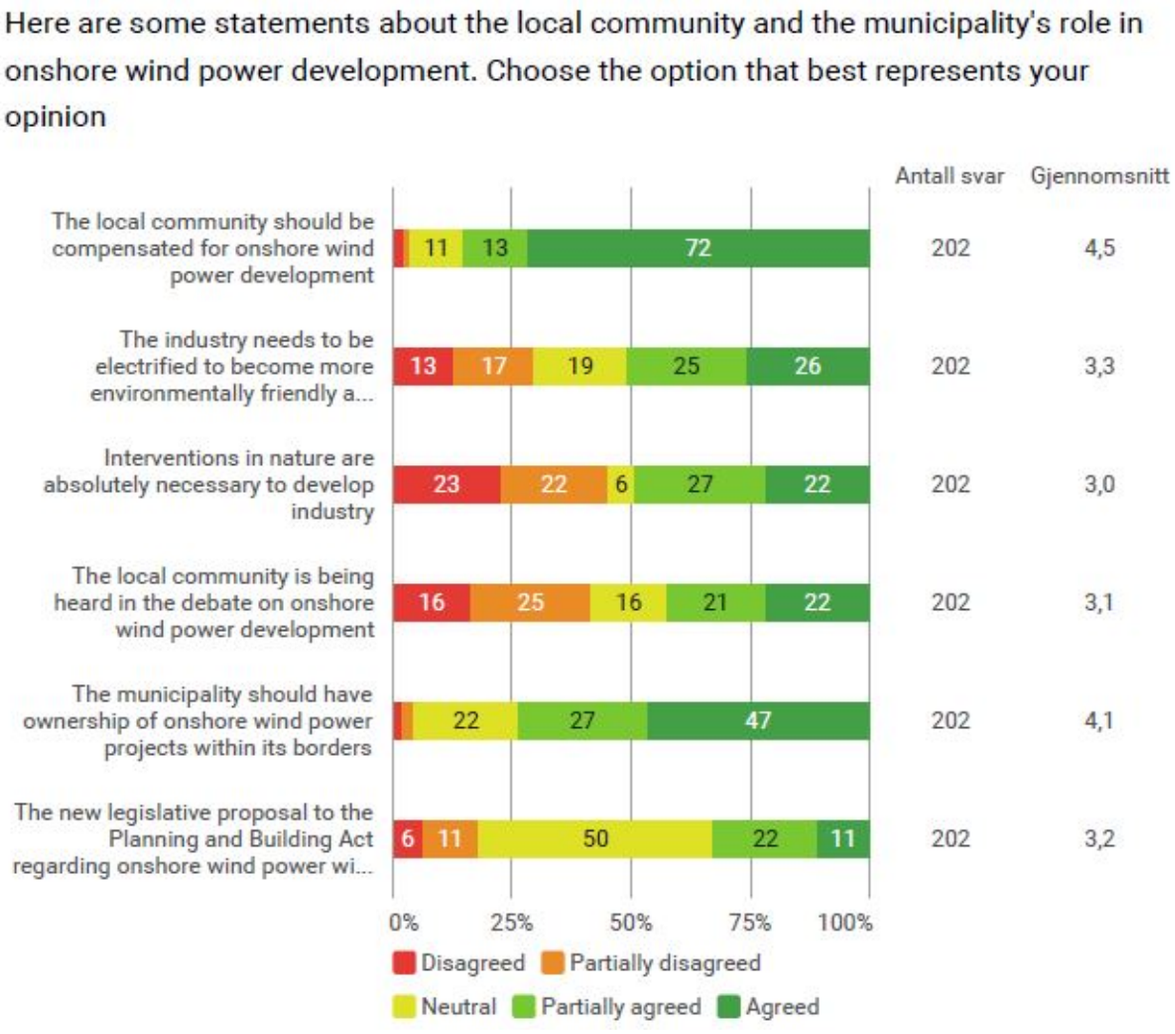

Figure 4.5: Set of statements about industry and municipality in relation to wind power development projects

Figure 4.5 shows the perceived opinion of the local community on the interaction between municipality, industry, and wind power development. There is no doubt that the local communities want compensation for onshore wind power development in their municipality. This correlates with information from the interviews, where the informants from the municipality also called for better compensation. Ownership of onshore wind power projects is also one that is highly requested, with a total of 74% agreeing to the statement to some extent. For the last question, there is no surprise that the respondents mostly are neutral, as the legislative proposal for the Planning and Building Act is technical and difficult to get a grasp on for the average person.

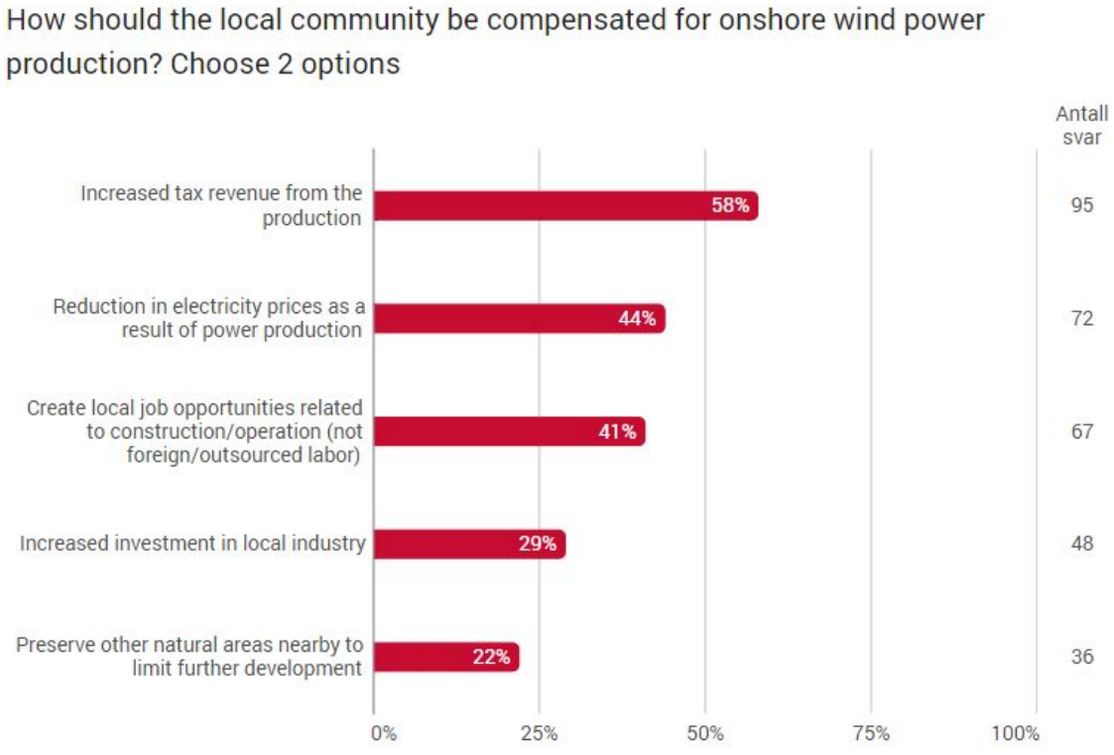

Figure 4.6: Set of statements provided to the respondents on which two statements are most important for compensating the local community

In figure 4.6 the respondents had to choose two options for how they think the local community should be compensated for onshore wind power production. The first option: *"Increased tax revenue from the production"* has 95 votes as the highest rated and the second option *"Reduction in electricity prices as a result of power production"* has 72 of the votes. Option four *"Create local job opportunities related to construction/operation (not foreign/outsourced labor)"* has 67 of the votes. It is clear that monetary benefits like higher tax revenue and reduction in electricity prices as well as creating local jobs are the most popular way of being compensated for onshore wind power. For this question, a few of the respondents added comments which are not shown in the figure. One of the comments mentioned that there should be a demand to have local ownership of the facility and not foreign or big-city investors involved in the project. Another comment also mentions the share of ownership to the municipalities.

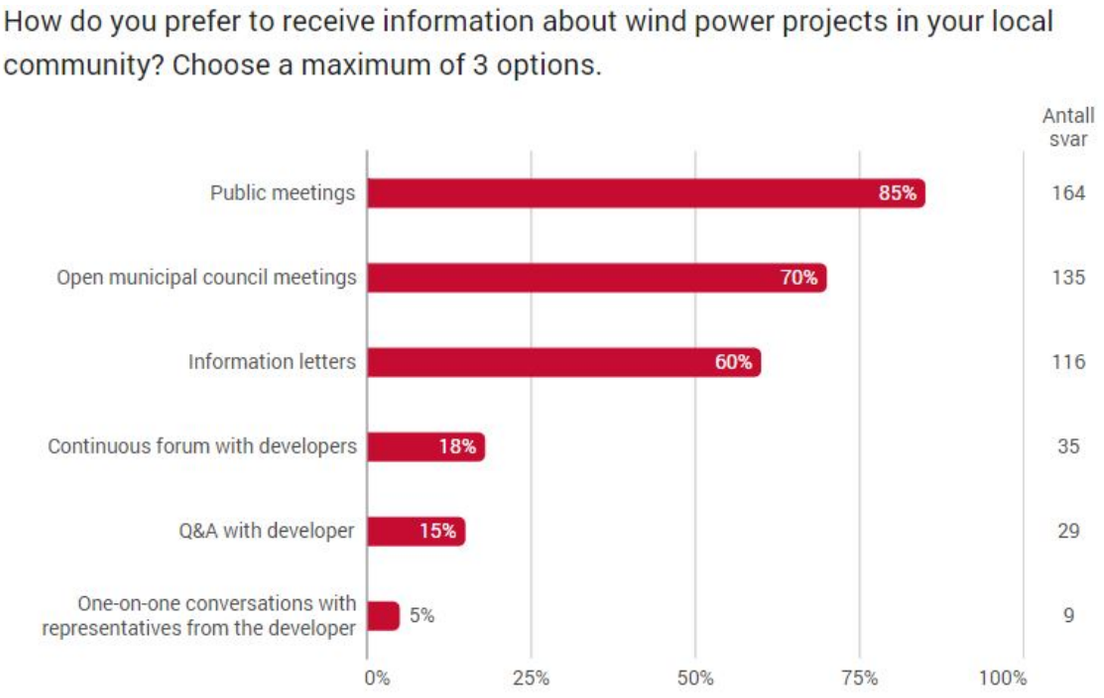

Figure 4.7: Overview of the response on how local communities want to receive information about the project.

Figure 4.7 concerns how the respondents prefer to receive information about wind power projects in their local community. Only 9 respondents wanted one-on-one conversations with representatives from the developer, which were proposed as a possible solution to get closer to the local community by the developer during the interviews. The majority of people wanted either public meetings, information letters, or open municipal council meetings which is what already has been done in the past. Only 29 people wanted a Q&A with the developer. Comparing this result to the interviews with the developers it shows a mismatch with the developers' perception of the CLO's importance and role. Based on these results, it appears that CLO will not be effective in creating higher acceptance within the local community, but rather work as a communication channel.

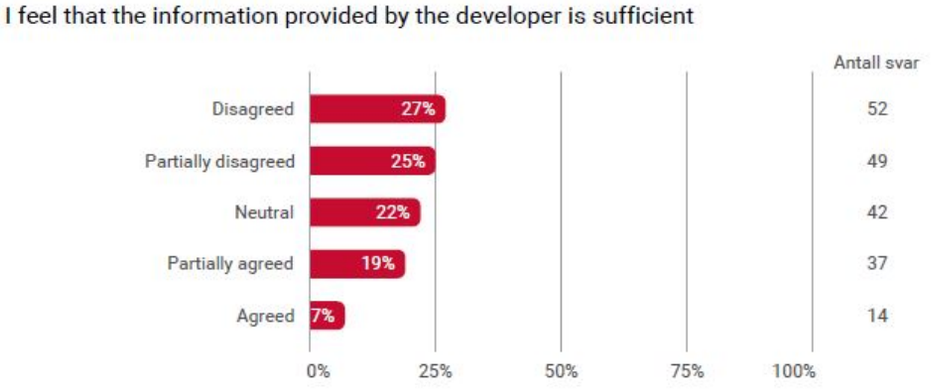

Figure 4.8: Percentage of the respondents that felt the information from the developer was sufficient

Figure 4.8 shows an overview of how the respondents feel about the information provided by the developer. Here, 7% "Agreed", 27% "Disagreed" and the rest is in between.

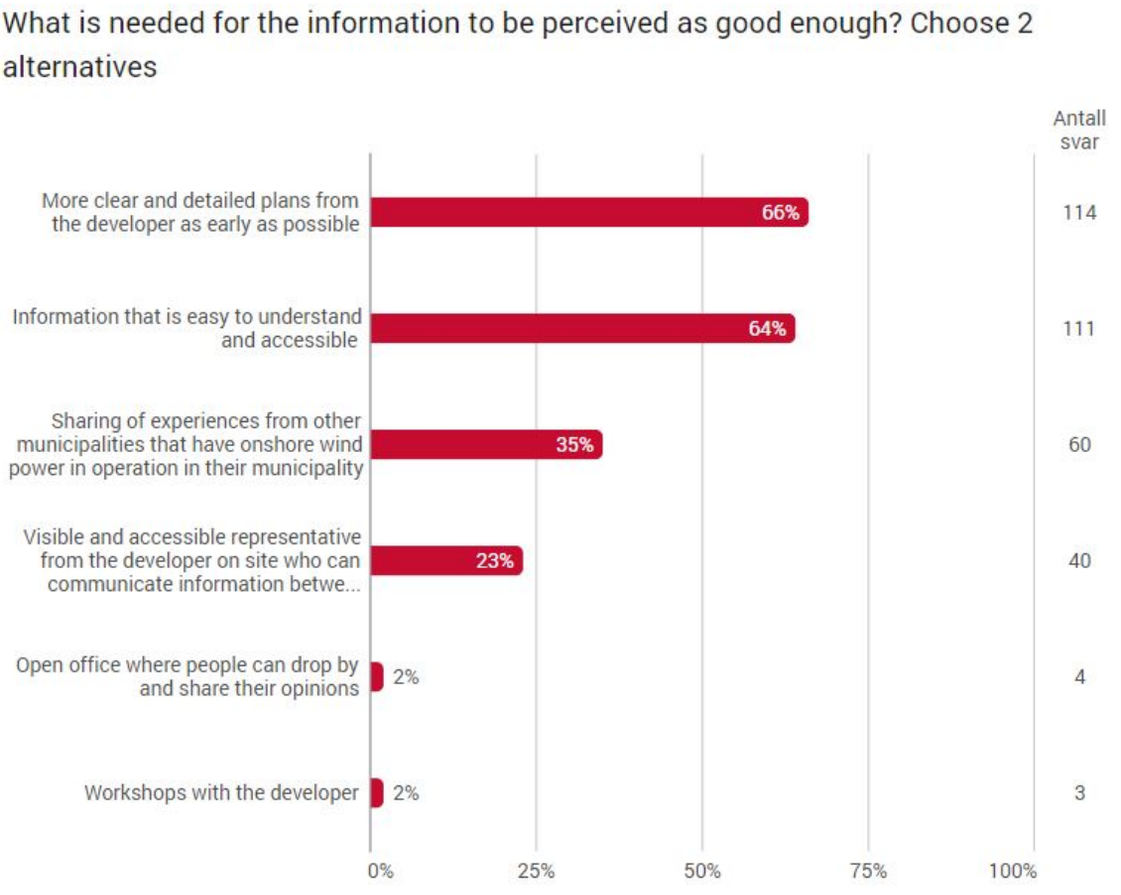

Figure 4.9: Preferred way of receiving information

In figure 4.9 the respondents had to choose two options as to how the information shared is perceived as good enough. Here it is clear to see that option *"More clear and detailed plans from the developer as early as possible"* with 114 votes and the option *"Information that is easy to understand and accessible"* with 111 votes are the most important aspects to consider. Options concerning *"having an open office for drop-in hours"* and *"workshops with the developers"* have received a minimal amount of votes and seem to be not as important for the locals. This is an interesting result considering the developers' answers in the interviews and what they think is a good way of sharing information with the locals.

5. Discussions

As mentioned in the introduction, the aim of this thesis is: *How can onshore wind energy projects in Norway successfully reach a higher degree of community acceptance during phase-zero?* This chapter will analyze and discuss the empirical findings based on the results and in relation to the existing theory to answer our research question. We have looked at the single case study of Snøheia Industrikraft and used interviews and a survey in combination with the theory to create a model for how to reach higher community acceptance. To create such a model we have put the empirical findings concerning the existing theory of social acceptance, SLO, and stakeholder engagement. Furthermore, the quantitative and qualitative results from the interviews and survey are compared to determine if convergence differences or a combination occurs based on our mixed-method approach. This is done to find out whether the public opinion from the survey converges with the perception of the informants from the interviews. Lastly, a model for establishing community acceptance at phase-zero is presented.

During the data collection, interviews, and public hearings, a recurring issue is the provision of sufficient details and information to the municipality and the local community to make an informed decision on whether to support the project or not. Simultaneously, it remains a matter of cost to gather the specifics and details at this early stage for the developer.

5.1 Handling the concept of social acceptance

During this case study, the target has been to find out how to create higher community acceptance for onshore wind power. From the findings during the interviews and survey, we found that the acceptance most likely is higher in the local community than first anticipated. Our findings suggest that community acceptance is the hardest category to gain acceptance. Community acceptance relates heavily to emotions and identity, which is harder to challenge with logical reasoning. As this is related to identity, it will be individual differences from community to community.

5.1.1 Underlying reasons for opposition

The findings from our data collection show that the local community expresses concerns related to community acceptance, such as visual intrusion, valuation

of ecosystems, and quality of life. Visual intrusion is substantiated in figure 4.3, where 47% agreed to wind power being visually disruptive. Furthermore, 94% of the respondents against onshore wind power had *too large of a natural intervention* as one of their three main reasons for being against onshore wind power. Again, this relates to community acceptance and valuation of ecosystems which needs to be addressed by the developers. Natural interventions are unavoidable when developing infrastructure, but striving to make the least impact on nature would be key for the developers in their planning phase to achieve higher community acceptance.

5.1.2 Information strategies and their cost

The three highest-scoring reasons for opposition towards wind power are all related to the environment and ecosystems. *Too much natural intervention*, *too many bird fatalities and disruptions to wildlife*, and *pollution with microplastics due to wear and tear on the turbine blades* were the three highest scoring categories for being against onshore wind power (see figure 4.4). For the developer to be able to create higher community acceptance, willingness-to-pay, and willingness-to-accept should be considered. Especially willingness-to-accept should be investigated within the local community to be able to come up with a compromise. Consultation and involvement, involved as a category of market acceptance, can be a good suggestion to achieve higher community acceptance. The results suggest that more detailed information about the project and transparency from developers is requested from the local community. Therefore, conveying the intention why developing wind power in the area and providing details as soon as possible would probably help create higher acceptance.

Due to the massive disruption of nature related to the construction period, it is understandable that the municipality wants to know as much as possible about the placement of the infrastructure. On the other hand, it is too early in the project for the developer to be able to spend time and money on a project that might not be realized. Since this early-phase is even before a report has been sent to NVE, the developer has only a sketch of the project. Further down the road, after the processing of the application, an impact assessment is to be conducted. During this phase, more details, specifications, possibilities, and limitations will be unveiled. At this stage, many of the questions are from the municipality and the local community will be answered, yet they want the details already in the early-phase. Therefore, it appears that we are faced with a chicken-and-egg problem. How much should the developer take on to figure out details that will be investigated later in the process anyway? And how much detail and specification is sufficient for the municipality to decide on

the question of development? Finally, what project details and promises are required to create local support and acceptance for the project?

5.1.3 Dynamics of social acceptance

The U-shaped relationship between acceptance and time from Dugstad et al. (2020), suggests a high acceptance of wind power development before being confronted with potential wind power development projects nearby. In this case, our impression, which is supported by the interview and survey, is that there is a portion of the local community that has a low acceptance level initially and regardless of the project. This is visualized in figure 5.1.

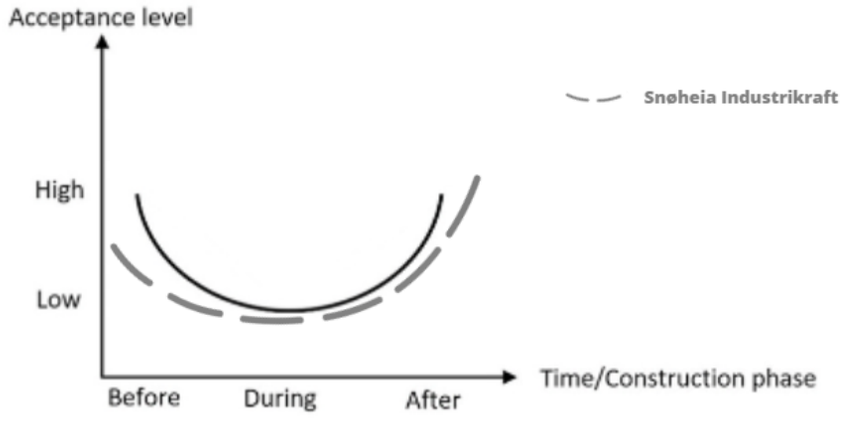

Figure 5.1: The relation of the project Snøheia Industrikraft to the U-shaped relationship between acceptance and time from Dugstad et al. (2020)

On the other hand, comparing Høyanger and Sunnfjord municipalities to Fitjar municipality, there is likely the local community in Høyanger and Sunnfjord will follow the same U-shape by Dugstad et al. (2020). The results from comments in the survey and the interview with the representative correlate with the U-shape except that it seems like it will start at a lower initial acceptance. At this moment, years after the completion of the wind power plant, the local community in Fitjar municipality has benefited from the development and accepts the presence of the wind power plant. With this observation and the other examples mentioned by Dugstad et al. (2020), it is reasonable to believe that the acceptance will increase over time in Høyanger and Sunnfjord. However, the effect will not be observable in a couple of years.

5.1.4 Legislative and political impacts on the acceptance

The socio-political acceptance involves policy and spatial planning. The new legislative proposal for the Planning and Building Act aims to give the municipality council a stronger position in the development of wind power through area zoning planning. As mentioned in section 1.1 Case background, the grant-

ing of concessions was put on hold in 2019 but has been resumed as of 2022. As of now there are pending legislative changes in the Energy Act and the Planning and Building Act which are scheduled to be treated by the Norwegian Government during the summer of 2023. Up until now, the municipalities have only had a voice during the consultation of the concession process, and The Norwegian Government aims to strengthen the municipalities' role in onshore wind power development without being overruled by the Government. The proposed change in the licensing process for wind power projects by the Norwegian Government involves the requirement for an area zoning plan to be in place before a license is granted. This would result in a significant restriction of the current access to exemptions.

From the interviews all informants wanted the project to be evaluated based on the new laws and regulations. This will hopefully create reasonable guidelines for both developers and municipalities but is as of now a work in progress. As a result, this will also help the municipality to be more in control of the project and locals may show more acceptance. Looking at figure 4.5 there is a 50% share of people neutral to the statement *"The new legislative proposal to the Planning and Building Act regarding onshore wind power will create better collaboration between the local community, developer, and municipality"*. 6% disagree and 11 % partially disagree, while 22% partially agree and 11% agree. This result is most likely due to most people not being aware or knowing to what extent the new law and regulations will affect such projects. To have a policy in place is an essential factor of socio-political acceptance. Knowing that the last word rests with the municipality may foster greater acceptance overall by creating reassurance.

5.1.5 The effect of NIMBY

As our survey shows with question two in figure 4.3, it seems that Nimbyism is not present. The survey shows an even higher percentage of respondents disagreeing with the statement than respondents disagreeing with the first statement *"I am positive towards onshore wind power"*. This is interesting, as some of the main reasons for the opposition are harm to nature and wildlife and visually disturbing for the neighboring residents to the wind power plant. Therefore, it would be reasonable to believe that the local community would want the wind power plant to be built somewhere else, yet they are more negative to wind power development elsewhere. On the other hand, this can be explained by one of our informants. During the interview with the informant, it emerged that there had previously been a proposal to develop wind power in the area that was intended for a power-intensive industry in another region. With the development of the project at Snøheia, the developer wants as much

as possible of the power to be used for the operation of the aluminum plant located in Høyanger. This may, in turn, lead to the residents preferring the power development in their own region since they can observe direct benefits of the power development through the continued operation of the plant and thus the possible preservation of jobs in the municipality. In addition, there is proposed potential plans to further expand industrial areas in the region, providing even more jobs and generating a possible relocation to the municipalities.

Even though NIMBY is not present in this case study, wind power plants are still categorized as NIMBY facilities. Therefore, to create higher acceptance for wind power development, Social Licence to Operate is a model suitable for NIMBY facilities.

5.1.6 Obtaining a Social Licence to Operate for project development

Given Hydro's position in Høyanger, through 106 years of operations in Høyanger, obtaining a SLO should be straightforward. Compared to foreign companies, Hydro, Eviny, and Zephyr will have a head start because of their Norwegian identity and affiliation. During their time in Høyanger, they should have a good understanding of local culture and history, especially Hydro with their long-lasting operation with the aluminum plant. Moreover, being a familiar player in the local community should make it easier to gain some level of understanding of the project at Snøheia. At the moment, based on figures 2.13 and 2.14 and results from figure 4.3, the developers' SLO is in the area of acceptance/tolerance, due to the divided opinion on wind power development in the local community. This means there are lingering issues and threats that need to be dealt with. The local community and NGOs are monitoring the process and if the stakeholder engagement fails to answer their questions and concerns, the risk of the SLO moving into the red area with shutdowns and blockades is present. By using proactive and interactive management methods, while being inclusive and prepared to change the plans, the SLO will maintain in the orange area of acceptance/tolerance and hopefully even move into the yellow area of approval/support.

It is important to note that the SLO can change during the course of the project. To obtain or maintain an SLO, developers have to ensure transparency and act within their promises toward the local community. If the developers should act illegitimate or untrustworthy before or during the project, it is likely the local community will withdraw their SLO and resist the project. Stakeholder engagement with an interactive, inclusive, and prepared-to-change mindset, could contribute to keeping the SLO.

The stakeholder analysis could be useful to identify which stakeholders are withholding the SLO and who are already accepting or supporting the project, hence providing SLO. With a combination of the model of Mitchell et al. (1997) and the matrices from Newcombe (2003), one can identify different aspects of the different stakeholders. By using the power/predictability matrix (see table 2.1) managers can define if the stakeholder will cause any problems or not. The power/interest matrix (see table 2.2) identifies where the developer's information can be aimed. For example, the local community has high interest, but low power and should therefore be kept continuously informed. If we also make use of the help/harm matrix from Eskerod and Jepsen (2013) (see table 2.3), it gets clearer which potential the different stakeholders hold regarding the project and also SLO.

Although the stakeholders can be defined in different ways and by different methods, defining stakeholders through a stakeholder analysis could help the developer obtain a SLO. Once the stakeholders are identified, it is easier to see which measures need to be taken to obtain SLO. If the developers can create acceptance or tolerance from the different stakeholders, SLO will be within reach and increase the probability of realization of the project. The acceptance can further be increased by combining stakeholder analysis and SLO with meaningful stakeholder engagement from Jeffery (2009). By including stakeholder engagement, developers will have clearer procedures and models to follow. It is possible to combine the stakeholder engagement handbook from IFC with the findings of Jeffery (2009) to strengthen the work. Following the recommendations under both IFC and Jeffery (2009), contextualized with the findings of this study, this could contribute to increasing acceptance of onshore wind power development in Norway.

5.2 Towards a model for establishing community acceptance

With the theory of social acceptance from Horbaty et al. (2012) and stakeholder engagement from Jeffery (2009), the aim is to create a model for establishing community acceptance. The following subsections will discuss the findings from the results in relation to encourage, including, interactive, and change from Jeffery (2009) and how to create acceptance within these categories.

5.2.1 How to Encourage

Encouraging the local community to participate in the debate is an important step toward activating the silent majority. Activating the silent majority could provide a more nuanced picture of the level of community acceptance of the

project. As of now, the opposition is most vocal, providing most likely a false picture of community acceptance at this early-phase. The survey conducted strengthens this statement by showing a closer 50/50 opinion as shown in figure 4.3. Looking at the quotes presented from the interviews, the developers express how the opposition is such an established group and how it can be difficult to be the one to stand out in the crowd and resist the massive opposition. A good reflection made by one of the representatives is the fact that it is not *(...) a matter of being positive or negative, but rather a process where everyone can express their opinions.*

From the survey (see figure 4.8), the majority of respondents answered that the information has been insufficient. Here, 27% disagreed, 25% partially disagreed compared to only 7% agreeing and 19% partially agreeing. Even though most people are neutral about being heard, the information they have received is not necessarily enough. Having an opinion when there is a lack of information can paint the wrong picture of the actual opinions and could also create mistrust toward the developer for not providing the needed information. When asked what is necessary for the information to be perceived as good enough, two categories stood out (see figure 4.9). The respondents wanted *clear and detailed plans from the developer as early as possible* and *information that is easy to understand and accessible*. The first one might be problematic, considering not even the developer knows the details at this stage. They could have done more calculations and planning before releasing the press statement to have more details to provide to the public, however, it is a question of investments and risk for a project that might fall through once the municipality council will treat the application. Therefore, more detailed plans early on could be an economic risk and lead to nothing.

The last category from figure 4.9, *information that is understandable and accessible*, is probably easier to fulfill. At public meetings, technical talk about TWh and necessary infrastructure makes little to no sense to the average person. To explain it in a more understandable way, using day-to-day terms and not technical terms could be a solution. Another solution could be to get a professor or expert that is not part of the project to attend the public meetings and explain independently what the technical terms mean and to what level the impact of the development will have on the local community. However, it is not only the technical information that needs to be explained in an understandable and accessible way. The process of the project could also need an explanation. It seems that many of the concerns and reasons for opposition towards onshore wind power are related to the huge natural interventions and the fear of destruction of nature is present. Therefore, the local community desires more information about the consequences of wind power development already

in the early-phase. If the process can be communicated effectively, it may be possible to help the community understand that developers are not permitted to conduct an impact assessment before submitting a notification to NVE. Effective communication could create an understanding of why the notification to the NVE must be sent and explain why the developers do not have the details of possible impacts in the early-phase of the project. In addition, from both the interviews and the survey it was clear that most people have an interest in sustaining the strong tradition of direct democracy. This is another reason why communication of the process is important because the local community needs to be familiar with how the project is managed further.

Providing sufficient and understandable information is one important aspect, but providing it in the right way is also crucial. Therefore, to have a perception of the public opinion and level of community acceptance towards those kinds of projects is beneficial for the developers. In that way, they can adjust how the wording of information is shared. Doing research on similar previous projects and how those were met by the public will give the developers a pinpoint to follow.

The informants from the municipalities also expressed the fact that the most relevant and important information should be shared the moment it is presented to the public. This is because the locals and the public will have questions about project details so this should be clear from the start to avoid uncertainty which can also create more opposition. One reflection made by the developers was the fact that looking back on their press release statement back in December they could have spent more time on the project before releasing a press statement. This would have bought them more time to have more precise answers to the local community. Considering the way of consulting and involvement as a part of market acceptance openness and transparency in the decision-making process are important. Full public engagement is a key priority where the developers must act as flexible and open to public opinion.

Another challenge the developers pointed out during the interviews is how they can reach out to the younger generation and encourage them to participate with their opinion in the debate. The younger generation is the one who will likely be more affected by projects like this in the future rather than the older generations. Therefore they are seen as a highly relevant stakeholder within the local community. In the public meetings in both Sunnfjord and Høyanger, there was a much larger representation of the older generation. The younger generation has an important voice but is more difficult to reach out to. While there may be variations within each generation within every country, several studies have found that younger generations such as Generation Z (born 1997-2012) and Millenials (born 1981-1996) are more positive towards renewable energy

sources like wind power (Leiserowitz et al., 2018; Tyson et al., 2021). They care more about climate change and the environment compared to previous generations and are more likely to support policies and practices promoting sustainable and clean energy. A survey provided by the Yale Program on Climate Change Communication presents data on attitudes towards renewable energy sources by generation. Here, the results are 77% of Millennials and 78% of Generation Z support the use of wind power compared to 70% of Generation X (born 1965-1980) and 57% of Baby Boomers (Leiserowitz et al., 2018).

5.2.2 How to be Interactive

Looking at figure 4.7, most people prefer public meetings, information letters, and open municipal council meetings rather than involvement with the developers. It seems like the public prefers discussions in groups rather than one-on-one with the developers, where the lack of trust towards the developers can be an explanation for this finding. The use of local representatives from the developer as CLO is proven from these results to be not as important for the community. On the other hand, it might be valuable for the developers in terms of having someone local who knows the history of the area and help them encourage the public in the right way. In the early-phase of a project, public meetings and meetings with everyone in the categorized stakeholder group is an approach that will ensure that the same information reaches all of the involved individuals in the stakeholder group. Also, after our own research, we discovered that a survey is a good option to investigate the local's attitudes towards wind power other than the local hearings. Interacting with the local community through a combination of public meetings provides the developer with an overview of the opinion, as well as shows transparency by meeting the local community at public meetings. If the developers are open to a Q&A session at the end of the meeting, the local community will get a chance to express concerns, opportunities, and uncertainties related to the project. Answering questions, listening to concerns, and being transparent about the project, could in turn help the developer gain trust and cooperativeness from the local community, which is crucial to obtain a Social Licence to Operate.

It was discussed during the interviews that the main issue related to public opinion is to get a balanced view of it. One solution discussed was conducting a survey or questionnaire to get a more balanced view than what is expressed at public meetings. As our survey show in figure 4.3, there are far more positive responses to onshore wind power than the perception from our informants showed during the interviews. As one of the informants said, *"Approximately 80-85% of the attendance at the meeting in Gaular were opposed"*. This statement is based on a perceived perception, however, from our own experience,

this seems about right. On the other hand, there were probably people attending who were positive toward onshore wind power but never expressed their opinion at the meeting.

The developers had a hypothesis about the public opinion being 50/50. Results from the survey conducted showed that the public opinion indeed was closer to 50/50, rather than the majority opposed to wind power development. In this case, we can see the qualitative data from the interviews and the quantitative data from the survey converges. The hypothesis from the developer seemed to check out and be more correct than what the perception was during the public meetings. One reason for a more balanced result from the survey could be due to a more diverse age range than at the public meetings. As mentioned in the previous section, the younger generation is more active on social media and therefore more likely to respond to a survey than attend a public meeting. The individuals who expressed their views at the public meetings, and based on appearance seemed to fit into Generation Z or Millennials, were mostly against wind power development. Including the reflection about not wanting to express your opinion if it does not fit the rest of the audience, can explain why fewer from the younger generations attended the public meetings. Providing them with an anonymous survey through social media could allow them to get an arena for expressing their opinion in a safer environment. Hence, the survey provided results where we can see that there are indeed people in the local community positive towards onshore wind power, even though they rarely express it in public.

5.2.3 How to be Inclusive

In this early-phase of the project, the developer has tried to provide as much relevant information as possible to the public at this stage. Even the developers do not have all the answers for the project themselves, due to the concession process which involves the impact assessment at a later stage. On the other hand, the local community and municipality request as much information as possible to be able to make sound decisions. The developer has conveyed a need for power supply and renewable energy but has not clarified what impact it will have on the local community in Sunnfjord. Høyanger's position is clearer communicated, considering the power supply is supposed to be a buffer for the increased demand for power at the aluminum plant. One of the suggested benefits to Sunnfjord municipality is the operation and maintenance of the wind power park, which will generate approximately 5-6 jobs. On the other hand, 5-6 jobs are nothing compared to the jobs related to the aluminum plant in Høyanger. The majority of the benefits that Sunnfjord municipality will derive from the wind power plant are through increased income from taxes and fees,

but the amount of this is at a national political level and therefore unclear. Providing clear benefits for the municipalities relates to market acceptance where the distribution of costs involves job creation, taxes, and revenue from shares. If the municipality were to get a share of the wind power plant, as the public wants according to the survey in figure 4.5, it could increase the market acceptance through a feeling of local control, hence overall acceptance for the project. This will give the developers more liability by showing they care for the community and giving something back in return.

In figure 4.5 the statement *"The local community is being heard in the debate on onshore wind power projects within its borders"* has an average of 3,1. This shows the fact that there are slightly more respondents who feel they are being heard in the debate. Although the results show a very neutral opinion, we see it as a positive result because there is only 16% who do not feel that they are being heard at all. This can indicate that the way the developers have handled the communication so far is not wrong nor right and have a great potential to improve even more to have everyone feel like they are being heard no matter their opinion.

The results from the survey show that the discussion around conducting a survey could be beneficial for the developer and municipality to encourage and include a bigger portion of the local community. It can be used to provide individuals who are positive towards wind power with a forum to express their opinion without fear of judgment from their peers. Allowing individuals who will not attend public meetings with an anonymous forum can be an inclusive measure. Distributing a survey on e.g. social media could reach the ones sitting at home, being a part of the silent majority. Also, as the younger generations are more active on social media than ever before, being more active and sharing important information for the project could be a good way of including them. From the survey, we got 106 responses from Generation Z and Millennials, compared to 128 from the older generations. This shows that a survey provided on social media pages like Facebook can include more people from the younger generations compared to public meetings.

Respondents from the survey mentioned a lack of trust towards the developers in general because of previous experiences where lies and secrecy puts the developers in the position of being untrustworthy. Also, articles in newspapers have raised questions about foreign ownership in Norwegian wind power, as well as numbers from NVE showing that out of the three largest owners, one is Norwegian and two are German (NRK, 2020; NVE, 2023b; Topdahl, 2021). As a result, the local community might feel some sort of lost control over wind power production in their own area and fear that economic benefits and revenues are being used abroad. On the other hand, the project owners

Hydro and Eviny are Norwegian companies where it is a higher probability for re-investments in Norway and the local communities. Re-investments could be a sign from the developers to the local community that the revenue gained from the energy production of the wind power plant will come back to the local area, hence providing a sense of local inclusion from the wind energy production.

When using the interactive methods mentioned earlier will include the local community within the project and the public opinion will also be more clear to the developers. Hence, the developers will be able to consider the opinions and obtain feedback. This will contribute to giving the local community power to their opinion. If the feedback is used a sense of local ownership may occur from the local community because they are feeling heard and included in the project.

5.2.4 Adopt changes to create acceptance

The results show that the local community feels like they are being heard in the debate revolving around onshore wind power development in their area, but they also feel like the information provided by the developer is not sufficient enough (see figure 4.8). This feedback should be dealt with by the developers and calls for an adjustment or change in their strategy. In combination with the result on how the local community wants to receive information for it to be better (see figure 4.9), they should make changes in their information flow. Trying to provide more details as early as possible, creating more understandable and accessible information, and using representatives from the developer could be reasonable changes based on the results from the survey.

Making changes and considering the local community's feedback, shows the value of the local community's opinion. This can in turn create higher acceptance for the project through market acceptance and local ownership (Horbaty et al., 2012). Exploring the new opportunities provided to the developer from the local community through their feedback and adapting changes accordingly, could also gain their trust within the local community. In addition, if the developers are prepared to change their behavior for one stakeholder, it could improve their stakeholder engagement work overall (Jeffery, 2009). Stakeholders are different and have different attitudes toward the project, but they all have a stake in the project that needs attention.

5.2.5 A model for establishing community acceptance

In the previous discussion sections, we have mostly focused on our four chosen topics; challenges related to the project, perception of the public opinion, developer's role and communication, and how to reach greater acceptance in early-phase as well as the theory of social acceptance, In combination with the

four categories from stakeholder engagement by Jeffery (2009), a model has been created to provide a tool for how to increase community acceptance in early-phase of wind power development. The model is displayed in figure 5.2.

By identifying concerns and opportunities through interviews and the survey, the results have been used to create the model. It is divided into four different categories based on Jeffery (2009) stakeholder engagement, where the first category aims to give the developers actions and purpose on how to *encourage* the local community to participate in the debate on wind power development in their area. The second category *interactive* provides the developer with methods on how to interact with the local community, while the third category *inclusive* aims to include as many as possible in the local community in the project. *Inclusive* provides developers with methods and purposes as to why they should include the local community, both in the discussion and in the project details. Lastly, *change* is the category where the developers have to use the feedback collected from the local community to adjust the plans and implement changes based on the feedback.

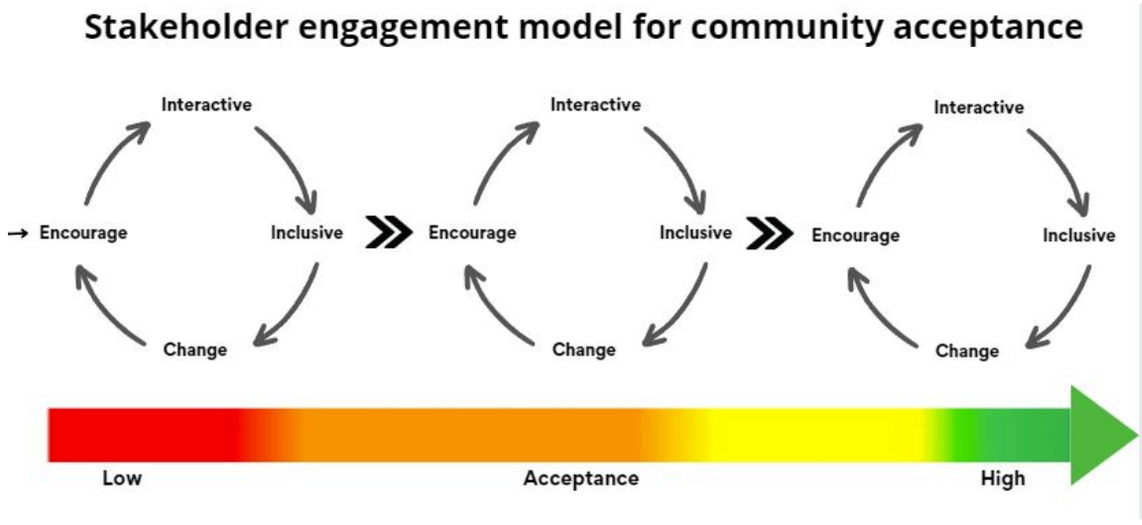

Figure 5.2: Model for stakeholder engagement to achieve community acceptance within onshore wind projects in Norway

From stakeholder engagement theory there are four important aspects mentioned: interactive, encourage, inclusive, and prepared to change (see figure 2.5). The model is therefore built upon those four aspects and adjusted into a loop. In addition, the model is also based on the four levels of SLO moving from withholding/withdrawal as the red color to acceptance in orange, approval in yellow, and lastly psychological identification in green. At the same time, the level of acceptance will increase while the loops are repeated through iterative processes.

Each loop starts with *encourage*. Here, the aim is to encourage stakeholders to participate in the project, through information and communication from

the developers. The information could be in the form of information letters, public information on web pages, and press statements. By communicating the intentions of the project, stakeholders will get a perception of why developers want to develop wind power. After encouragement, we move on to *interactive*. The interactive step aims to involve stakeholders in the project through different methods such as public meetings, hearings, and Q&A sessions. Interacting with the stakeholders will provide developers with a dialogue that can be beneficial for both parties. *Interactive* is closely linked to *inclusive*. By interacting with stakeholders, the stakeholders will feel included in the project. If the developers take the feedback from the interactive methods, it will give the stakeholders a sense of local ownership. The final step in the loop is to use the feedback to make changes to the project. In the *change* step, the developers have to make use of the feedback obtained from the *interactive* and *inclusive* to adjust the project. By implementing the feedback and executing the new plan, stakeholders will see that their opinion has value and the level of acceptance for the project will increase. If the developers fail to make adjustments to the project based on the feedback, they will be stuck in the first loop, where they have to start the process all over again. On the other hand, if they succeed in making adjustments, they will once again inform the stakeholders about the new details in the plan through *encourage* and then move on to the *interactive* and *inclusive* step to get feedback on the new details. This continues until the level of community acceptance is high enough to gain a Social Licence to Operate, but the model should be used throughout the whole duration of the project to ensure that the level of acceptance does not decrease.

The different steps of the loops are further described in table 5.1. In this figure, different suggested actions to achieve the desired outcome, are listed, as well as the purpose for executing the different actions. Table 5.1 is meant to be a guide on how to succeed with the stakeholder engagement model for community acceptance. It provides suggested actions and purpose to achieve higher acceptance, based on the results from this case study. The actions are created based on information from the interviews and the survey. The purpose is based on the discussion and theory behind acceptance. In combination, they provide a foundation of measures developers can take to achieve higher acceptance in early-phase.

The stakeholder engagement model described in this thesis will work as a supplement to the IFC standard, where this model provides managers with a step-based iterative process on how to achieve greater acceptance for the project. Depending on the scale, location, and importance of a project, actions mentioned in table 5.1 could be replaced or supplemented by actions suggested in the IFC standard. There are already similarities in the key components for

good stakeholder engagement from IFC's handbook for stakeholder engagement and changing or supplementing from the different models could be beneficial (see figure 2.3). Since the IFC handbook for stakeholder engagement already provides some examples of achieving good stakeholder engagement, it can be used to supplement the model proposed in this thesis where it lacks sufficient guidance. The difference between the model presented in this thesis and other models in the literature is that this model is developed based on Norwegian culture and identity through the case study. Therefore, it would be appropriate to use a combination of models when working on projects in other parts of the world.

Table 5.1: Steps with actions and purpose in accordance with the stakeholder engagement model for community acceptance

	Actions	***Purpose***
Encourage	• Information • Information letters • Public information on web pages • Press statement	• Communicate intentions, plans and objective of the project to all relevant stakeholders in the local community • Make the information easy to understand and accessible • Get a perception of the level of community acceptance at the the current stage of the project
Interactive **Inclusive**	• Public meetings • Open municipality council meetings • Hearings • Q&A sessions • Questionnaires/Survey • Obtain feedback	• Show transparency towards the local community to gain trust • Using interactive methods to include the largest possible amount of local community • Give the local community power to their opinion and a sense of local ownership
Change	• Use feedback • Adjust according to feedback • Implement • Execute	• Take feedback from the local community to give it value • Adjust and implement changes based on feedback to the project • Execute the new plan to achieve higher community acceptance

6. Conclusions

In this thesis, we have investigated and analyzed a single case study to look at how to reach higher community acceptance in the early-phase design of big onshore wind energy projects in Norway. The existing literature covering the topic is lacking in Norway and especially when it comes to community-level variables for support or opposition of wind power. Because of the unique Norwegian landscape, there will be variations of opposition in different areas.

This case study has been looking at the area between Høyanger and Sunnfjord called Snøheia. Our research question has been formulated as the following *How can onshore wind energy projects in Norway successfully reach a higher degree of community acceptance during phase-zero*? Through both qualitative and quantitative data including interviews and a survey, our analysis and discussion have concluded with a suggested model for stakeholder engagement to achieve higher community acceptance within onshore wind projects in Norway as seen in figure 5.2 in addition to table 5.1. The purpose of the model is to give guidelines for developers on how to move forward during phase-zero of an onshore wind project based on Norwegian conditions, where opposition towards onshore wind power has been a critical bottleneck for project realization. The model is based on extant literature and the results from small local communities in Norway and their desires for how to be included in a project and is, therefore, most applicable to the Norwegian environment. In addition, it is also possible to combine the model as a supplement to the International Finance Corporation (2012) Standard for projects elsewhere.

The model for community acceptance contributes to stakeholder engagement theory by providing a step-by-step approach to how to gain greater community acceptance. As a case study looking at communities where the valuation of ecosystems is strong, this model provides managers with an approach to communicate and collaborate with local community stakeholders to mitigate concerns and impacts on the local community by wind power development. The model aims to address stakeholder engagement specifically to increase social acceptance within a local community directly affected by wind power development. We believe this model will advance stakeholder engagement for onshore wind projects in Norway. As a result of this, more successful onshore wind energy projects can contribute to the reduction of GHG emissions and decarbonizing the world's energy system.

6.1 Limitations

This master thesis is limited to a single case study to look at achieving higher community acceptance in the early-phase design of big onshore wind energy projects in Norway. The thesis follows a live project in a very early phase called phase-zero. Therefore, the thesis is dependent on how far the project is in its process, as the thesis itself has a time limitation. Also in terms of the U-shaped relationship between acceptance and time as a phenomenon of social acceptance, we are not able to see how the acceptance is affected moving forward in the project. Another aspect of time limitation is the new laws and regulations from the Norwegian Government concerning the Energy Act and Planning and Building Act. As this will not be in place before the submission of this thesis. Having clear guidelines for how the process itself is managed is something we see as a crucial part to have in place before even starting the project's planning phase. If this had been in place before we started working on our thesis we assume there would be less skepticism towards the process itself and could contribute to less opposition.

As this is a specific case investigating a certain area in Norway, there will be variations when comparing the findings to other potential areas suited for onshore wind in Norway. Since the study explores a relatively unexplored research area for onshore wind projects in Norway, it can be challenging to generalize the empirical findings. On the other hand, there is reason to believe that some of the findings may be transferable to other similar projects that are planned for the future. The biggest limitation of this case study is providing a sound basis for the generalization of study findings and is even more difficult to get when looking at a single case. Although this single case study is unique, the possibility of drawing lines to similar projects in Norway will provide relevant and essential research.

Based on the current debate revolving around wind power development in Norway, there is a risk of bias in our survey. Given that the opposition is the most vocal, it is reasonable to assume that they will be the most motivated to conduct the survey. The survey will provide them with yet another forum to express their opposition, and the results will have to be analyzed to ensure whether or not the response is subject to bias. The objective of the survey is to gather all opinions as verification against the conducted interviews, ensuring that the picture of public opinion matches what was said during the interviews.

6.2 Future research

Taking the limitations of this thesis into consideration, we believe it would be interesting to look at this project even further with a bigger scope. It would be valuable to see the development when the laws and regulations are in place and to be able to determine if the U-shaped relationships between acceptance and time from Dugstad et al. (2020) can be confirmed for this project as it is for the project in Fitjar municipality. Looking at the effect of the new laws and regulations could help create more standardized guidelines for achieving community acceptance towards onshore wind projects in Norway. Furthermore, a new legal framework for wind power development could be beneficial for creating trust in the process and hence creating greater acceptance in early-phase.

Since Norway is such a rich country in terms of nature it would also be interesting to look at similar projects in different areas, as there will naturally be variations of opinions based on the area of land. Therefore, it is recommended to do a multiple case study to highlight these differences and compare the empirical findings. This thesis is focused specifically on the early-phase of onshore wind projects, thus it would be valuable for future research to look at all the phases of such projects. Knowing the value created from successful onshore wind projects would hopefully make the uncertain early process more clear and more straightforward for the developers, politicians from the municipalities, and the local community.

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Appendix

IND590-G Master Thesis
Lennertzen, M. and Stormoen, Y – Spring 2023

UiA Universitetet i Agder

Questionnaire Sheet

Intervjuspørsmål

Semi-structured interview with representative from/Førstegangsintervju med representant fra:

Attendee/Deltakende:

Date/Dato:

1. Hva er din rolle/stilling relatert til Snøheia-prosjektet?
   What is your role/position in relation to the project Snøheia?

2. Hvordan påvirker din rolle dette prosjektet?
   How does your role affect this project?

3. Hva ser du på som den største utfordringen vedrørende et slikt prosjekt?
   What is the biggest challenge for a project like this?

4. Hvordan opplever du støtten/motstanden til dette prosjektet?
   In your opinion, how do you find the support/opposition for this project?

5. I hvilken grad føler du at det er tilstrekkelig informasjon om prosjektet i denne tidlige fasen for å gi gode nok svar til lokalbefolkningen?
   Is there adequate information about the project in this early-phase stage to give good enough answer to the locals?

6. Hva tror du kunne vært med for å skape større aksept tidlig i prosjektet, og er det noe som kunne blitt gjort annerledes?
   What do you think would create more acceptance in the early-phase of the project, and what could be done differently?

7. Opplever du at utredningen av dette prosjektet har skapt en negativ holdning/stemning innad i lokalsamfunnet, sammenlignet med før det ble snakk om prosjektet?
   Compared to pre-exploration of this project, has the exploration of this project created a negative attitude/climate within the local community?

8. Hvordan vil det nye lovverket gi lokalsamfunnet tilstrekkelig makt i vindkraft-prosjekter, og er du enig i påstanden om at lokalsamfunnet vil få mer makt?
   How will the new regulations give the local community adequate influence in wind energy projects, and do you agree with the statement concerning the local community getting more power?

9. Hvordan bidrar CLO til større sosial aksept for dette prosjektet?
   How does the CLO contributes to more social acceptance for this project?

10. Har du noe mer å tilføye?
    Do you have something to add?

Master

UiA University of Agder