

Public opposition to wind power projects in Norway

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Acknowledgements

This thesis marks the conclusion of my master's degree in energy, environment and society at the University of Stavanger. The original plan for this thesis was to do a field study that was interview based, while focusing only on one wind farm, and supplement this with secondary sources.

However, due to the Covid-19 pandemic, this made it difficult to go through with. The solution was then to change the methods of the thesis from an interview based field study, to a case study where the sources that are being looked at are online based, while at the same time being secondary sources that shed light into the ways in which demonstrators are feeling and experiencing the buildings of wind farms.

I would like to thank my supervisor Reidar Staupe Delgado for helping me by giving me tips as well as constructive criticism which helped me a lot within the writing process. I would also like to thank my friends and family for keeping me motivated throughout the process.

Abstract

The wind power debate is ongoing in Norway with many different opinions regarding the issue. This thesis will focus on three wind power projects in Norway; Vardafjell wind farm, Frøya wind farm, and Kvitfjell and Raudfjell wind farm. While the wind farms are being approved, and also started to be built, there has been a strong opposition to the projects. The forms of protests have been different amongst the opposition of wind projects, where some protesters simply show up during planned, peaceful, in person protests, while others take it a step further. Both the equipment as well as human lives have been endangered while protesters have been showing their disapproval. Their reasonings for being opposed to the projects are also different, but research shows that some of the most common explanations are the fact that they ruin the nature where the windmills are built, endanger the lives of animals in the area, and also accusations of contamination.

The method that has been used in the thesis is a multi-case study which consists of three wind projects that have gained significant opposition amongst the Norwegian public. There have been secondary sources used to look into these three; Vardafjell wind park, Frøya wind park, and Raudfjell and Kvitfjell wind park. As for the purpose of the thesis, it was to look at possible explanations to tell why a large number of the public is against planned wind power projects. Further, the thesis will examine factors that can explain why people are against them, as well as the strategies used to try to make the projects fail before they are finished, and lastly the commonalities and differences between the three cases are the focus of the research.

The research conducted in this thesis uncovered that there are many similarities between the three Norwegian wind farms and the motives and strategies behind peoples' oppositions. The main factors as to why people are against the wind power projects are that they do not want a place that holds special meaning to them to change, not wanting any possible contamination from the building

site, and lastly to not disrupt the nature for the birds and animals in the area.

As for strategies used to stop the wind projects from further developing there are in person protests as well as protests online, complaining to authorities that are higher up in the decision making, ruining equipment on the construction sites, and putting their own as well as other people's lives in danger. When it comes to commonalities between the three wind power projects there are quite a few; the ways in which people complain about the farms and ruin the property. However, there are not many differences, the only notable one is the fact that a protest group used derogatory descriptions of the workers of Vardafjell wind farm. This has not been reported in news articles for the other cases.

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1.Introduction

1.1 Background

There is a common consensus, politically and also scientifically, that the usage of fossil fuel needs to be lowered. This is because the effects that pollution has on the world and the environment. New challenges are emerging with the transition to newer, more sustainable, methods to convert energy. One of these challenges are local area planning and requirements. Another is the degradations that are happening to the environment. However, one aspect that is especially important is for the public to have a positive view of different energy technologies, this is in order to make it easier to implement these new technologies without the demonstration from the public (Karlstrøm & Ryghaug, 2014, p. 656). Without the approval of the public regarding new energy technologies, there are going to be issues in the implementation phase as well as when the new renewable ways are up and running.

Looking at Norway, their approach when it comes to renewables is considered “technology neutral.” What this means is that there is support given from the Norwegian government in favor of any kind of production of renewables energy sources. It is also stated that the geography of Norway is something that will make it the most ideal country in Europe regarding resources of wind. This is the case both for onshore and offshore wind. Because of this, the question of wind power in Norway is an important but contested one (Karlstrøm & Ryghaug, 2014, p. 657). Because of the ideal opportunities and promising technologies, one would think that the implementation would happen without much hassle. However, this is not the case for the Norwegian public. There are a large number of people who are for these changes, but on the other hand, there are also a significant number of the public who are against the wind farms all together.

2019 was the year of a new record for Norwegian wind power production. It increased with 43 percent from the previous year, making the number from 2019 5,5 TWh. This made it so that wind

power made up 4,1 percent of all power produced by Norway (Øvrebø, 2020). With this increase of power produced by windmills, there is doomed to be differences in opinions from the Norwegian public. More production calls for more developments and buildings of wind farms across the country, which is sure to stir controversy amongst opponents of the farms.

Power that comes from wind is getting increasingly popular for people all across the world. It is therefore natural that the use of this kind of power will have an impact on different people as well as for institutions (Ackermann, 2005, p. 1). Different people will have different opinions on the technologies that are placed upon them, so the fact that there are both resistance and acceptance is to be expected. The technology that is associated with generating wind power is more developed and more advanced when it is being compared to other resources, therefore it is one of the renewable energy sources that is used the most frequently. Because of the advancement in technologies, it makes it more beneficial economically for society (Devine-Wright, 2005, p. 125). There is evidence supporting the fact that in order to develop more sustainable options of gathering energy, there is a need to understand the perception of the public. This will in turn result in an adoption in the communities that are more efficient (Zaunbrecher & Ziefle, 2016, p. 307).

Evidence suggest that renewable energy, such as wind power, will have a higher number of credibility amongst the public when it is being compared to energy which is not renewable, such as oil and gas (Krohn & Damborg, 1999, p. 954). Regarding the policy makers in different countries, the acceptance, or lack of acceptance, is something that is seriously going to affect them. They are relying on new renewable ways to meet the energy needs for the population, without the pollution that comes with oil and gas (Devine-Wright, 2011, p. 336). With more focus and acceptance of renewable energy sources, it is only natural that there will be debates about which technology is best suited for the country in question. Even though the gains that comes with wind power production seems to be in Norway's favor, the public disagrees. It is interesting to understand just

why members of the Norwegian public have such strong feelings of negativity towards a technology which seems to be beneficial both for the country, as well as for the environment.

Because of the importance of public opinion, it is therefore essential to better understand why a significant share of the public hold negative perceptions of wind power projects. Further the research questions for the thesis will be as following:

1. What factors can explain the Norwegian public's opposition to wind power projects?
2. What strategies are being employed by opponents of wind power in order to try to stop the projects?
3. Are there any commonalities and differences amongst the opponents for the three wind projects?

Even though a big number of polls within the UK and Europe asking for the public's support shows mostly a positive outcome, this has not been the case when the projects are actually being conducted. The response from the public is then much more negative than it was originally (Devine-Wright, 2011, p. 336). Since the 1970s, there has been evidence through opinion polls that says the public is generally in favor of wind energy as well as other renewable technologies. On the other hand, when looking at the issue from a local level, it is another story; there has been recurring resistance (Devine-Wright, 2005, p. 126). However, a problem that can occur when discussing the opinions people have of wind power is whether the surveys being used to measure their views are of similar quality. This has been shown to not always be the case, and therefore it is difficult to compare the opinions on the different surveys (Krohn & Damborg, 1999, p. 954). If these surveys do not paint the real picture of the opinions of the public, this will cause problems when the people in charge think the majority of the public is for the wind farms, but will then turn around and protest when the farms are actually being installed.

Looking at an example of the acceptance of wind power in Greece, studies have shown that the acceptance of wind power by the public is considered high. On the other hand, there have been instances of public demonstrations and resistance that have been made by the local communities, which has resulted in the process of installing new wind parks having to be pushed back (Kontogianni, Tourkolias, Skourtos & Damigos, 2014, p. 170). This can be seen as a case of how resistance by even a small number of people can contribute to changes regarding wind power. Even though the majority of the public are accepting of wind farms, if the opposition is strong enough chances are that there will be delays and maybe even cancellations of the installment happening. When it comes to acceptance, it is not just interesting to look at what kind of factors that are able to have an impact on acceptance, it is also beneficial to look at when it is happening, as well as what kind of methods acceptance are able to be integrated, and also measured during the process of planning (Zaunbrecher & Ziefle, 2016, p. 308).

There have been arguments stating that the opinions of wind power have seen a shift. It used to be seen from the point of view that wind power was good for the environment, but now it is being seen as something that is instead disturbing the nature where the wind farm is placed (Rygg, 2012, p. 167). This is a crucial changing point. The whole acceptance of wind power relays on the fact that they are beneficial to nature. Once this argument is being twisted into the windmills actually disturbing the nature, there will be a decrease in positivity for them. At the same time the opposition to wind power is mostly seen from the local population. However, the supporters of wind power can be seen more from either global or national interests, that will cause an increase in sustainable ways to convert energy (Rygg, 2012, p. 167). Research has found that the population of Europe are generally positive to wind power projects. However, the explanation of why so many projects do not go through is because there are often some very strong opinions in the public against them (Brannstorm, Jepson & Person, 2011, p. 840).

The reason why it is interesting to look into the question of why some people have such strong opinions against the building of wind farms, is because this gives an opportunity to be able to look at the case from their point of view. It might also bring forward important views and opinions that are not previously known or understood by the people who have a positive view of wind farms, as well as it stirs a discussion. Looking into the ways in which people are trying to sabotage projects, as well as finding out the exact reason why they are doing it, is also interesting.

The cases that are chosen for this thesis are the Vardafjell wind park in Sandnes, Frøya wind park at Frøya, and Kvitfjell and Raudfjell wind park in Troms. This is because the people living in these areas have shown a lot of resistance against the decisions and the development of the projects, and have on multiple occasions tried to sabotage the building of the wind farms. These cases will therefore be able to paint a good picture of why people living in the close areas are against the building of these particular projects. And the opportunity for being able to look into their point of view and their reasonings for wanting these particular projects to fail is present. By looking into these cases, there will also be a possibility to speak their case and analyze the cases further from a different point of view than what a large number of the public share. All the cases are from wind parks based in Norway. This will give a form of consistency in the thesis, because they are within the same country. What will be interesting is that they are, however, located in different areas within Norway. The reason why this choice is made is in order to see if there are any local differences, or if the resistance and tactics being used are the same regardless of where it is located in the country. The expectations for this thesis are finding evidence that will give one or more reasons as to why a significant number of people in the close proximity to the three wind farms are against them, and explore this question further.

2. Research context and background

This chapter is going through the different cases that are selected for this thesis. There are going to be three wind park projects that are being looked into. These are Vardafjell wind park in Sandnes, Frøya wind park on the island of Frøya, and lastly Kvitfjell and Raudfjell wind parks in Troms. For this chapter there will be given more insight into the processes and also the background for the decision of building the wind farms. There will be different facts about the wind projects and location. More insight will be given into the ways in which the public has reacted to, and tried to protest against and stop, these three wind projects in later chapters.

2.1 Vardafjell wind park

After the wind park at Vardafjell in Sandnes municipality was approved, there has been a number of people who are trying to sabotage the building. Sandnes municipality has expressed that they think a number of mistakes has been made in the process where the wind park was approved. They therefore wanted the case to be reopened and reconsidered. Another argument from the municipality is that the NVE, as well as the company responsible for the building of the wind park, have had too few private hearings regarding the issue (Norheim, 2019).

The wind park at Vardafjell is going to have an effect of about 30 MW, which again will result in an amount of 90 GWh during one year. The wind park is being built from the spring of 2019 (NVE, 2019b). NVE gave Vardafjell Vindkraft AS permission to start building the wind farm in 2014, however this decision has since been appealed on multiple occasions. There has also been attempted sabotages on machines that have occurred on the building site, but this did not accomplish any form of delay. The municipality of Sandnes has also sent formal complaints about the wind park. The municipality is complaining about multiple offenses against the law (Moe, 2019).



Figure 1. «Map that shows Vardafjell wind farm» (NVE, 2020)

2.2 Frøya wind park

In 2002 NVE received a request for the building of a wind park in Frøya municipality (Frøya kommune, 2020). The permission to start building the wind park was given in 2012.

Already in 2004 there was an application for the wind turbines to be able to have the power of 200 MW, however this was decreased to 60 MW. There was also a complaint made after the permission was given, but the oil and energy department did in 2013 give the final permission to be able to build the wind park (Trønderenergi, 2020).

There was a local referendum made regarding the wind project where it showed that 78 percent were against the wind park on Frøya. This was a drastic increase from 2005, where the number of people who said they were in favour of the wind project were at 51,4 percent (Moe & Hovland, 2019). There has therefore been a significant change in opinion amongst the population living on Frøya during the years from the first referendum to the last one taking place. There have also been protests made regarding the wind park. One protest was from a group called “No to wind power plant on Frøya,” where over 300 people showed up on the island in the beginning of 2019 with signs in order to show their opposition. A main reason for the resistance is the fact that they are scared that the wind turbines are going to ruin the nature, landscape, as well as act dangerous for the animals living there (Bjørntvedt, 2019).



Figure 2. «Map that shows Frøya wind farm» (NVE, 2020)

2.3 Kvittfjell and Raudfjell wind park

Raudfjell wind park was approved by NVE May 11th 2012. This decision was appealed, but the oil and energy department agreed with NVE and the wind park was officially approved May 26th 2015 (NVE, 2020c). Kvittfjell wind park was approved February 16th 2001. Contrary to Raudfjell, this decision did not get appealed (NVE, 2020d).

Kvittfjell and Raudfjell wind parks will both lie in very close proximity, they will therefore use the same roads as well as the same infrastructure. Because of this, the plan is to make these two wind parks into the same project (NVE, 2020c). Therefore, these wind parks will be treated as one in the thesis. The wind park started producing power in 2019, however, it is not yet finished (NVE, 2020a).

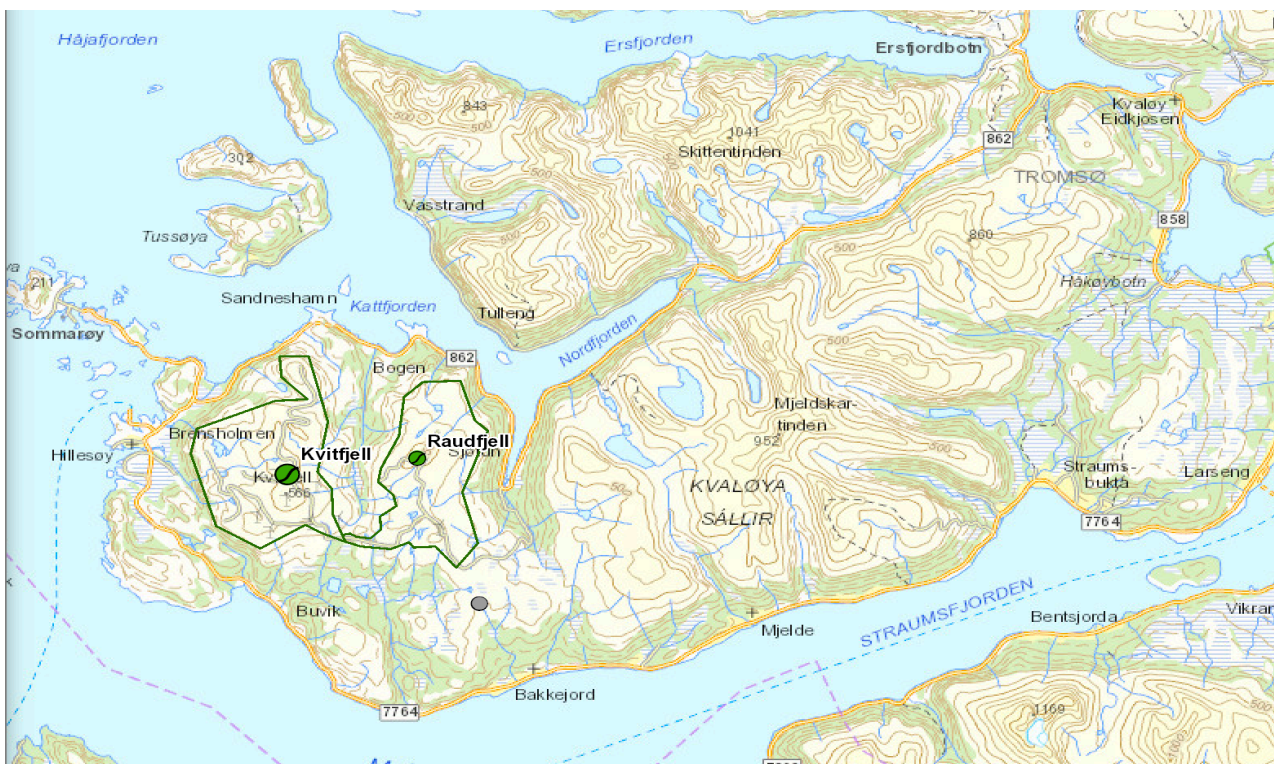


Figure 3. «Map that shows Raudfjell and Kvittfjell wind farm» (NVE, 2020)

3. Theoretical framework/literature review

This chapter will contain different theoretical approaches that will be relevant and beneficial for the thesis. These are chosen in order to give a good indicator for the research, and it will in turn make it possible to approach the issue more thoroughly and in greater depth. The term “not in my backyard” is one that is used frequently when discussing resistance to change, and will therefore be relevant when exploring the different ways in which people are opposed to wind farms being built. The theory of “place attachment” is also one that can give some beneficial insight into the reasons of opposition seen from the public. Whereas political ecology will be able to explain more the political aspect of why there is a resistance. They also give room for analysis when used in light of the cases that are chosen for the thesis. There are some findings about general public opinion that is not tied specifically to the three selected cases that has been included, but rather research that is done about opposition to wind power projects in general. This was done in order to give some comparison outside of the country. Even though this is not the focal point of the thesis, it is beneficial to see what is the common consensus regarding wind power in the world, and then see if the three Norwegian cases are specific to the country, or if they can be more generalized outside of the country as well. All these theories are able to give context and insight to possible reasons as to why certain members of the public are protesting wind power projects and what they are trying to achieve by doing this.

3.1 General findings about public opinion

There are a higher number of people who report wind turbines being loud amongst the people who have not actually been exposed to the noise, compared to the people who live in close proximity to one. Other factors that have been reported to have an impact on the public feelings are gender and

age. Women think the wind turbines make less sound compared to men, and the group who are the most critical are the middle aged (Krohn & Damborg, 1999, p. 955).

Studies have shown that the main argument amongst the public against building wind farms is the fact that they think the windmills are ruining the view of the nature where they are being placed. Other arguments that are being made are the fear of the engines being noisy and therefore a disturbance, and the fact that they can be dangerous to birds (Ellis, Barry & Robinson, 2007, p. 519). A common factor is the mistrust that people have to the government, but also to the agencies in charge of regulation, the people developing wind energy, and people who are supportive of these technologies. The level of mistrust that is present goes all the way from mild to severe (Barry, Ellis & Robinson, 2008, p. 75).

There are two different positions that normally occur when discussing what role the public has regarding the acceptance of technologies. On one hand there is the position where the argument is that the public themselves want to be a part of the process planning. They then state that it is, in fact, them that are dealing with the consequences of the new technologies. Therefore, they see it as their right to be able to be a part of the decisions. On the other hand, there is the opposite view which states that the public does not have the required knowledge to be able to make the right decisions regarding the new technologies. There is also the argument here that it is difficult to be able to predict or pattern (Zaunbrecher & Ziefle, 2016, p. 308).

The first position that is being discussed here is normally the one in which the public identifies with, they want to have their voice heard and be able to influence the choices being made around them. The other one is the position where the focus is on experts in the field and their measures and opinions. There has been evidence found to suggest that members of the public have high levels of skepticism towards commercial developers, and this can result in difficulty for them to put their

trust into these kinds of actors (Aitken, 2010, p. 6066). Clearly, this will pose as a problem if the wind farm in question is run by these kinds of developers. Getting members of the public to support a project run by someone they already mistrust sounds very difficult, if not almost impossible. By not giving members of the public a chance to be a part of the planning, it is only natural that this is causing an increase in mistrust that will be difficult to ease as the building process is starting.

3.2 Not in my backyard

When it comes to introducing more renewable options to conduct energy in Europe, the opinions of the public seems to be mostly positive. The problem, however, seems to emerge when the farms are actually being built. The otherwise positive opinions regarding the concept of introducing wind power as a more renewable way to conduct energy, becomes more negative when it comes to actually building the wind farms (Wolsink, 2007, p. 1188).

The concept of not in my backyard, often shortened to NIMBY, can be defined as a person being for an idea as a concept, which in this case will be wind power being used more in their country, however, they become overwhelmingly more negative to the idea once they realize that it is actually going to be implemented in their own country (Wolsink, 2007, p. 1199). The whole concept of not in my backyard is being characterized to think that if the project was not happening in close proximity to the area where the person live, they would still be supporting the building of the wind farms (Wolsink, 2007, p. 1199). Their whole view change as soon as they are the ones who have to live with the wind farms right next to them.

Even though the explanation of NIMBY often is seen as the obvious explanation on why people are against wind farms, it has been criticized for being an outdated concept (Wolsink, 2000, p. 52). One argument against the use of NIMBY as a concept is the fact that it may not correctly represent the

reason why people living in close proximity of a planned wind farm do not support it (Smith & Klick, 2007, p. 4). There can be other factors than location that can explain why the public are opposed to the wind farms, but it is easy to write them off with the concept of not in my backyard.

On the other hand, a more positive way of looking at the concept is the suggestion that the public's view can be more well thought out than the people in charge. This is because people of the public may be more likely to take into consideration the potential risks that can occur regarding their welfare and health (Kraft & Clary, 1991, p. 301). Taking this argument into consideration, the opposition can be beneficial in order to help making the right decisions. It can also lead to the experts being forced to look at the issue from a different perspective, and possibly reveal flaws that might otherwise have been overlooked (Kraft & Clary, 1991, p. 301).

One argument of why people seem to be on the fence about changes made on places that are close to them is according to Devine-Wright (2009) because of place attachment. The meaning is that people will have positive associations with a place they are familiar with, and therefore they will be less willing to accept changes that are suggested for these places (Devine-Wright, 2009, p. 427). This is something that will be looked further into in the next chapter.

There are different critical views of the concept of not in my backyard. One of them is the fact that the concept has been used to explain the resistance that occurs. This will in turn result in the fact that the proximity between where people live and the place in question is the main reason why people are responding the way that they do. There are in fact people who actually want the changes to happen in their close region compared to somewhere else. There are also people who are opposed to these changes taking place anywhere, not just in their close area (Devine-Wright, 2009, p. 431). Not everyone who protests against a planned wind farm will be living in the close area, there are also

people who are very engaged in protests happening on the other side of the country. This is something that would go against the theory and can serve as a criticism.

According to Zografos & Martínez-Alier (2009) there have been studies that have not found much evidence supporting attitudes supporting NIMBY, however, there have been made other important findings. This includes the fact that it is important to distribute the rights of property, both for the wind and also for the land in which the wind farms are going to be built. Another part that is included here is institutional structures when it comes to making decisions, which will be used in order to describe the occurring disagreement regarding the siting of the wind farm (Zografos & Martínez-Alier, 2009, p. 1727).

Another issue is the fact that most of the studies that have been published does not look at the public's attitudes towards wind farms that have already been made. Instead they focus on the ones that are planned on being built and how the public's feelings are towards them (Kontogianni, Tourkolias, Skourtos & Damigos, 2014, p. 170-171). This can give a skewed picture of reality, and the people who are against the ones being built might not be against the already existing ones. Therefore, it can give a false sense of the public's view on wind farms.

3.3 Place attachment

A different theory with some similarities to the 'not in my backyard' concept is the theory of place attachment. In this theory, instead of talking about backyards, the term places is used in order to describe the locations in question. The theory takes into consideration the emotional connections people can have to a certain location, and that when this place is in danger of being changed, this will spark a sort of protectiveness of the place. This protectiveness will make the person try to stop the changes that are being made, because they want the place to stay the same as they have always

known it (Devine-Wright, 2011, p. 337). One possible way in order to describe place attachment is by referring to the way in which people form emotional bonds with the environment that are positive (Brown & Raymond, 2007, p. 90).

Trying to find explanations for the attachment that people find to certain spaces is not something that is new, however, the research of this topic is on the narrow side. Researchers have not yet found any indicators for which places in particular that have a higher chance of awakening these emotions. Another problem that seems to occur is the fact that there is no agreement of what name to use for this phenomenon. Some call it place attachment, others call it community attachment, and also place identity, and place dependence, as well as other names (Hidalgo & Hernández, 2001, p. 273). It can therefore be difficult to find relevant research that has been done on this phenomenon, which either can hinder more research from being conducted, or at least slow down the process.

While there is a recognition within the research that there is an existing link when it comes to the feelings people have towards certain places and environmental problems, there is no proper way in which the ones responsible for natural area planning are able to make a full assessment to understand the value a person holds to a natural area. There have, on the other hand, been multiple attempts to make various scales that can shed some light to this issue (Brown & Raymond, 2007, p. 91). The research regarding place attachment can therefore be said to be on the narrow side, but the fact that the bonds people have to places is something that exist is the important factor for the thesis.

3.4 Political ecology

Different philosophers such as Adam Smith, Hobbes and Marx are thought to be some of the people responsible for the start of political ecology thoughts (Greenberg & Park, 1994, p. 1). It can be said

that the term “political ecology” will include different ways in which both social and political aspects will have an impact on different issues regarding the environment (Forsyth, 2004, p. 2). Another way to explain the term is that it looks at how the relation that exists between nature and society is regarding power (Escobar, 1996, p. 325). It can therefore be understood as a concept of how people are adjusting to nature, and to the green change that is happening in the world rapidly and increasingly today. It is important to look into the concept of political ecology in order to get a better understanding of why exactly there is a difference in opinion regarding the question of wind power. This will in turn make it easier to understand, as well as answer, the question of this thesis.

A recurring problem that appears is the fact that a big number of publications regarding the term does not give a clear definition of the word “ecology.” This has, in turn, caused the authors writing about it to not have the same perspective, and therefore there have been differences in the ways in which they interpret it (Forsyth, 2004, p. 2). One of the challenges that political ecology is trying to address is the fact that multiple actors are trying to take ownership over different resources that occur in nature. The people who are often sided with are the land users, for example people who are doing farming. The strong opponents from the state, or those who have a lot of capital, are often trying to take the land from these people and make it profitable. More questions and issues are being included in the term. Examples of this are issues related to managing waste, different questions regarding production of food, and also policies regarding climate change. The main focus does, however, remain on the core issues regarding politics and nature and the relationship that exists between them (Karlsson, 2018, p. 22).

One comparison that can shed light to the meaning of ecology is by comparing environmental justice to ecological justice. While the environmental side will be limited to distribution of environments to humans that is considered fair, the ecological side includes all inhabitants on earth. There are nonhumans that exist in an environment as well as humans, and it is important to take

them into consideration under the term. This category will consist of living creatures like plants and animals, but will also include different landscapes and ecologies. An important aspect is that an environment is shared, it is not someone's property. What recognizes a bad environment according to this aspect is the fact that it is dead, falling apart or that it can cause damage to the health of those living there. What recognizes a good environment, on the other hand, according to this aspect is the opposite of the bad environment; the fact that it is healthy, alive and that has integration (Gleeson & Low, 2002). It is therefore beneficial to also take a closer look into the effects that this point of view will provide regarding the theory of political ecology.

For the purpose of the thesis, political ecology will be a main focus because it is able to describe huge viewpoints for the opposition of the wind farms. They do not agree with the fact that the state, as well as the people responsible for developing the wind projects, are making decisions to alter the nature when a significant number of the public are against it. The opposition's voices are not being heard, even when there are protests happening. This makes them go further with their protests in order to get the attention of the media and the people in charge of making decisions regarding the projects in hope of changing their minds.

By making political ecology one of the focal points it can help bring light to this issue, as well as show the reason why a large number are feeling negative towards wind power projects being developed. The main reason political ecology has been used in the thesis is to further analyze the issue that comes with commercializing untouched land in order to develop wind power production. There are different sides to the argument of political ecology, due to the fact that some people think no one should be able to take ownership over nature because it belongs to everyone, including the animals and birds who live in the area. They believe they have the same right to have a place to live without being disturbed by building sites and loud machines. Because of this, it is a complex theory which will be beneficial to look into regarding the research questions that are chosen for the thesis.

4. Methodology

4.1 Research method

The method used to examine the research questions in this thesis is a qualitative multi-case study. When it comes to case studies, it focuses on the reason why and how something happens. They are also focused on studying certain aspects as opposed to looking at the whole picture (Noor, 2008, p. 1602-1603). A case study is a good research method when the aim of the study revolves around questions of “why” and “how”. Further, it is also a good option when the participants’ behavior is not able to be changed (Baxter & Jack, 2008, p. 545). A concern when it comes to qualitative methodology is keeping the study objective. It is after all the author of the study who is responsible for the choices that are made all throughout the paper. Their subjective values and interpretations are present in these choices, and therefore it is important to recognize this and keep it in mind (Ratner, 2002).

There are three wind power projects that are being looked into, these are Vardafjell wind park in Sandnes, Frøya wind park at Frøya, and Raudfjell and Kvitfjell wind park in Troms. The three cases that have been selected are done so in order to give a broad understanding of the ways in which the population in Norway are feeling towards wind power, and the different ways that are being used to try to demonstrate and sabotage the building of new wind farms. The method was changed from an interview based single case study, to the multi-case study during the writing process due to the Covid-19 pandemic. This was done because the pandemic made it difficult to do a field-based interview study.

The thesis is looking into the reason why people in Norway have shown such resistance to multiple wind projects, and the cases of choice are used to go more in depth in order to get a comparison. By

only choosing cases from Norway there will be more of a consistency in the findings, this is because they all occur within the same country. There is more of a consistency both culturally and politically by choosing cases within the same country. Further, the differences that could have occurred by choosing cases from different countries are not of relevance to this thesis, and will not be looked closely into to avoid taking away the focus from the research questions. At the same time, the cases are spread across different sides of the country which gives more of a variety regarding the public by them not living in a very close proximity. By doing this, there are opportunities to analyze if there are any local differences that are occurring throughout the different cases. Because all of the cases selected are located in Norway, it is only natural that the case will be of the Norwegian public and their resistance to implementing new wind farms across the country. The cases serve as examples of several wind farm projects that are controversial and highly protested, but this controversy can also be seen in other wind projects in the country.

In this thesis, the data that is being used is secondary sources, mainly from news articles from online newspapers, but some of the data is also found on facebook, that describe the struggle, demonstrations, and overall resistance that is present in the wind projects at Vardafjell, Frøya, and Kvitfjell and Raudfjell. As the data is obtained from secondary sources, it means that the incidents are being observed, there is no opportunity to be able to intervene into any of the actions that are taking place, but simply describing and analyzing them. This makes it easier to look at these cases in the eyes of the public that are against the projects, and the opposers opinions will be clearer and better understood throughout the thesis. These articles used to obtain information for the thesis are ones that cover well known incidents that have occurred, and who have also gotten media coverage, while the planning process, or building process, have been ongoing. The articles have been carefully collected in order to use them in comparison with each other to look into similarities and differences for the three cases that are selected. They have also been chosen in order to show the different ways in which people are showing their resistance.

Norwegian news site	Amount of articles gathered
NRK	5
VG	3
E24	3
Stavanger Aftenblad	2
NTB Nyhetsbyrå	1
Adresseavisen	1
Dagsavisen	1

Table 1: Frequency of Norwegian news sources used.

Above is an overview over the different Norwegian news sites that have been used in the thesis in order to gather information about the different wind power parks, and show which sites have been used most frequently to gather articles. As shown in the table, NRK is the news source from where most articles were obtained and used to research the different wind power projects, 5 articles to be exact. VG and E24 have been used the same number of times with 3 articles from each site. Stavanger Aftenblad has been used to read 2 articles, and NTB Nyhetsbyrå, Adresseavisen and Dagsavisen have been used with 1 article from each. The three most frequently used news sources are from newspapers that cover news from the whole country, as opposed to the ones least frequently used, which are local newspapers that cover mostly news from the close area where they are being published.

As for the facebook groups, they are being included in order to show an estimation of how many people are actively involved on social media to protest. Even though they do not give an accurate number of how many people are actually opposed to the wind farms in question, they give a good indicator on how many people who are taking the extra step into actually protesting, not just stating their opposition when they are being asked. On facebook there is also the opportunity for protesters to say exactly how they are feeling without being censored or edited by journalists in the news articles. They can therefore get their point across much more direct and without holding back. The people who are members of the protest facebook groups are also most likely the same people who are the most vocal about their disapproval for the wind farms, and who would go to the length of actually protesting in person like what is being described in the findings of the thesis.

4.2 Validity and reliability

Qualitative methods have been criticized for not being thorough enough when it comes to the research. This is largely because of the lack of a common standard of how the judgement of these types of work should be done. There are also discussions of whether terms like reliability and validity are even fitting terms to use in the evaluation of qualitative research (Noble & Smith, 2015, p. 34).

Even though it can be more difficult to ensure validity and reliability in qualitative research compared to quantitative research, there are steps that can be taken in order to be more trustworthy. Some of these steps are being aware of personal biases, as well as biases that exist in the sampling, that might have had an effect on the findings, correspond with other researchers in order to have a smaller amount of research bias, and give clarity into the process of finding the results, to name a few (Noble & Smith, 2015, p. 34-35).

In order for data to have high validity, it is necessary with a high level of reliability. This is because the treatment as well as the collection of the data that is going to be used cannot contain mistakes or be inaccurate. The other way around is another story. In order for there to be validity, there is no demand for the reliability to be high as well (Hellevik, 2002, p. 53).

4.2.1 Validity

Attempts to demonstrate high validity is made in this thesis. Personal opinions of the involved parties in the wind power debate have been collected through the secondary sources that have been used, and they are therefore able to speak for themselves in a way that will ensure that their own views and thoughts are being brought to light. At the same time, the exact actions of the involved parties of the three cases are being discussed, which ensures that the demonstrations are being looked into as a part of the thesis. Because the opinions and actions will do a good job of speaking for the opponents, there will be less room left for personal bias of the researcher when analyzing the cases.

Because the aim of the thesis is to look at the wind power argument from the side of the opponents, this is what is being focused on, and will therefore give a good indicator of why exactly a number of people are against wind power projects. Conclusions might be more easily drawn when the cases are being analyzed from the actions and opinions of opponents, rather than just looking at the cases from a purely theoretical standpoint from various scientific articles.

In order to increase the validity of the research in the thesis, all the data is chosen from sources that are highly reliable. This is both in the form of scientific research done on the particular theories

being used, and also in the form of well-known credible news sources in Norway. All sources that did not have any science or interviews backing it up was excluded from the thesis.

4.2.2 Reliability

When it comes to reliability, all of the data exists online, which made it possible to look at the same sources that are being used in this thesis, in similar case studies. Compared to for example interviews, these online sources are easier to trace, because they are not anonymous, and they exist on the internet for anyone to see. In person interviews might have gotten different answers and data all depending on who is being asked, which questions are being asked, and how the answers are collected and interpreted. Therefore, the online resources are more reliable when the aim is to look at the same, or similar, research questions, because the steps are easy to trace.

In the study the steps that have been taken have been described as thoroughly as possible in order to make it easier to follow the same steps, and therefore do the same type of study. When it comes to generalization in order for the study to be applied to other countries and other cases, there are definitely parts that are interesting to look further into when applied to a different case study, like seeing if the opponents in other countries are using the same strategies as the ones that are being described in this thesis. It would also be interesting to make a comparable case study with other countries compared to Norway to look at similarities and differences at an international level.

5. Findings

In this chapter, the findings from the secondary sources will be presented and analyzed. There are multiple different news articles that are talking about the protesters and the measures they have gone to in order to demonstrate. There are also Facebook groups that are made in order to show

resistance and connect people who are sharing their views regarding wind farms in particular areas. These are the main sources that are going to be discussed in the discussion part of the thesis, alongside with the theories from chapter 3.

5.1 Vardafjell wind park

5.1.1 Findings

Norges miljøvernforbund has written an article on their website where they talk about how they want the building of Vardafjell wind park to stop. They state that the power that will be produced there is not necessary, because Norway produces more power than what we are using. They argue that what is being built is simply going to be utilized to transportation in order for the rest of Europe to get a few more kilo watt. They also argue in this article about the fact that the wind farm on Vardafjell will ruin not only the nature around where they are being built, but will also ruin the local area for the many farms and houses that are in close proximity. This will include both noise from the windmills and also in the form of visual contamination (Norges miljøvernforbund, 2019).

In October of 2019, Stavanger Turistforening as well as the protest group Motvind Sørvest lit cairn fires in protest of the wind park at Vardafjell in different places all over the county of Rogaland. The one with the most participants was the one at Dalsnuten in which Stavanger Turistforening were in charge of. An estimation of participants is said to be between 250 to 300 for this one cairn fire alone. The engagement for the protest did however spread all across the country, and about 130 cairn fires were said to be lit all in different places (Johnsen, 2019).

In November of 2019, there was an instance where an organization called Motvind Sørvest tried blocking the road to the wind park building site. This was done in an attempt to stop the wind farm project in Vardafjell. The protesters were asking the people responsible for building the wind farm,

Nordisk Vindkraft, to temporarily pause the project while waiting for NVE to come to a conclusion on a complaint that was made by Sandnes municipality (NTB Nyhetsbyrå, 2019). A Facebook group called “Stop the building of wind power on Vardafjellet, Rogaland” is protesting against the wind farm by posting sources to news articles as well as discussion of protests and their personal opinions. The group has around 3000 members (Stopp vindkraftutbygging på Vardafjellet, Rogaland, 2020).

A group of opponents of the building of Vardafjell wind park called Motvind Norge did in early 2020 complain about the planned wind park and tried to stop the entire project. The background for the complaint was that Motvind Norge claimed that procedural errors had occurred regarding the approval from the government. In court, however, Nordisk Vindkraft won the case, and can therefore continue as planned with the project. This led to Motvind Norge being responsible for paying the court fees of 1,27 million Norwegian kroner. The Norwegian oil and energy department have also shown their support to Nordisk Vindkraft and do not think any rules or regulations have been broken (Hovland, 2020).

Another way that Motvind has tried to show their opposition towards building of wind farms are by using strong phrasings and methods that have negative associations. One example is by calling the workers of the wind farms “parasites”. They also compare them to nazis as well as using war rhetorics. In addition to these extreme measures they use actions as well as words. They are making their own control posts on public roads, and they evict the people who are working on the wind farm site. There has also been reported that demonstrators from the group have stormed the area in which helicopters are using to land. This is seen as a dangerous act, and can potentially endanger the lives of not only themselves, but also the ones who are working on the site. However, there are no indicators that suggest that this is something that is affecting the demonstrators from Motvind (Isachsen, 2020).

5.2 Frøya wind park

5.2.1 Findings

Already the first day that the machines were brought to the site where the wind farm is being installed there were problems. An opponent group of the project were demonstrating and blocking the way for the machines. It went as far as getting the police involved in order to remove the demonstrators. However, the group's response to this was to press charges against Trønderenergi, the corporation in charge of developing the wind farm. Their reasoning for the charges was the fact that they had discovered sea eagles that were nesting close by the site. A local referendum on Frøya was done, and it showed that 78,7 percent of the voters were against the development, whilst only 19,8 percent were for it. The decision had, however, already been made. The permission to build was given before the referendum (Rasmussen, 2019). When such a high percentage of the population on the island were negative to the project it does not look promising in favor of the developers.

In an article from July 2019 in Dagsavisen, there is a description of protesters at the site of Frøya where around 30 people were showing their resistance against the building on the island. Amongst these 30 people, there were people from different areas than just Frøya, some had travelled simply to participate in the protest (Solberg, 2019).

There has also been an incident where people wearing masks have broken into the site in order to try to sabotage the cameras that are put up for surveillance. The 4 people in question covered the cameras in plastic. The reason why the cameras were put up in the first place is due to other incidents that occurred where people have broken into the building area. The machines that are

placed there have been subjected to sabotage. Someone has on at least one occasion covered them in a substance that made them unable to perform (Nærbø & Arnesen, 2019). Another similar incident occurred in the beginning of the year, January of 2020, there was an incident at the building site at Frøya where an excavator, as well as two different blasting mats, were destroyed in a fire. The police that were inspecting the scene believe that it was arson in an attempt to sabotage the building of the highly contested wind farm (Thoresen, Woll, Wolden & Pettersen, 2020). A third incident that has happened on the site was that the wind farm workers noticed that someone had tampered with another excavator. Someone had broken into it and there was a liquid left inside of it. It has been reported to have smelled like fecal matter (Egge & Toftaker, 2019). There has also been a serious incident where a worker for Trønderenergi was tried pushed off the road while driving home after work. Not long after the first incident, the same car also changed into the wrong lane and came towards her, causing a huge amount of distress for the worker. The car got out of the road just in time before a collision could occur (Egge & Toftaker, 2019). A man was later arrested for the incident (Stranden, 2020).

On social media there are also protests. A Facebook group called “No to wind power plant on Frøya” has almost 15 000 members. In this group there are discussions and sharing of news sources against the wind park (Nei til vindkraftverk på Frøya, 2020). This number is significantly higher than the other cases that are being looked into in this thesis. For some reason it seems like this one wind farm has gained a particular amount of resistance, not only from the local population, but from all across the country. Also to be noted, a Facebook group called “Yes to wind power on Frøya” also exists. This is the opposite of the protest groups, a group that is in favor of the building. Around 800 people are members of the group, so compared to the opposition group, this is a very low number (Ja til vindkraft på Frøya, 2020).

5.3 Kvitfjell og Raudfjell wind park

5.3.1 Findings

In the end of 2018, a woman named Risten Turi chained herself to a machine on the premises of the building site of the wind park. In the area where the building is happening, her reindeer are pasturing during the winter. The reason why she did this was in order to protest against the wind parks. She wanted the wind park building to stop. In her opinion, the wind site poses a challenge for their reindeers. Other protesters are supporting Risten Turi and said that they feel like the processing of the case was faulty. They also say that they have never wanted a wind park in the area (Rypeng & Eilertsen, 2018).

Another protest comes from Tromsø municipality, they have pressed charges due to what they mean are illegal contamination. The police have stated that they are going to investigate, however, the cooperation in charge of the wind park stated that they have not found any indicators of there being any emissions (Rypeng & Eilertsen, 2018). The municipality claims that they fear for the safety of the public due to contamination of the drinking water. An instance occurred where the water was visibly dirty which stemmed from the wind park building site. The people responsible for the building did, however, claim that there were no health risks associated with the site (Rypeng & Jensen, 2018).

A different approach than what has been seen in the two previous cases are the Facebook groups made for the wind farm on Kvitfjell and Raudfjell. There is a Facebook group made for information regarding the wind park rather than protest. This is called “Kvitfjell-Raudfjell Wind Farm” with around 500 members (Kvitfjell-Raudfjell Wind Farm, 2020). There is also a group called “Against wind power industry on Kvaløya” with around 1000 members. This group is a protest against the

wind farms, similar to the ones made for the other cases in this thesis (Mot vindkraftindustri på Kvaløya, 2020).

6. Discussion

From the findings, it is clear that there is a significant number of people who are opposed to the wind farms from the cases chosen for the thesis. The opposers have different reasonings as of why they are against it. What seems to be a common theme is the fact that the nature is being disrupted. This seems to tie in with the theory of place attachment that is being discussed in Devine-Wright (2011), where the protectiveness that the individuals are feeling towards the place where the wind park is being built might be one of the determining factors for the resistance they are experiencing. Throughout the cases there are examples of resistance due to not wanting to change the area where the projects are being developed.

As previously mentioned, Brown & Raymond (2007) argue for the fact that there are challenges tied to identifying how exactly individuals feel regarding a certain place. The areas where the three wind parks cases are located can be argued to be somewhere that a number of people have ties to. This can be because they live in the close area and maybe even have grown up there. Another reason might be because they have visited the areas and enjoyed the nature and therefore feel a special connection to it. A third reason can simply be that they like the nature around the area, and do not want there to be any changes made to it. It can be argued that this bond individuals are feeling will increase the possibility to resist change, exactly because they have one certain relationship and view of the area, and therefore they will feel like adding wind turbines will change it and make it something new and unrecognizable. It might then lose its special meaning according to the public. They might not be able to visit the place again and feel the memories and nostalgia that they once

felt there, and they will then no longer feel the connection to the area that they once had. This can be a reason why they have such a resistance to change of the particular areas that has been discussed in the thesis.

Looking at the not in my backyard theory, there are certain indicators to suggest that there is some truth to it. From the local referendum at Frøya mentioned in Rasmussen (2019), the evidence shows that a vast majority of 78,7 % of the locals are against the wind farm. This speaks in favor of the theory. They do not want the wind project to be developed so close to the area where they live, in this case the island of Frøya. However, it is mentioned in Rasmussen (2019) that the decision had already been made before the referendum, meaning that it served more as a symbol referendum rather than actually taking the public's opinion into consideration of the decision making regarding the wind project. There was, on the other hand, a difference in opinion in the referendum from 2005, where 51,4 percent was in favor of developing the wind farm. An explanation for this could have been the fact that it was then only a hypothetical situation. Devine-Wright (2011) argues that even though the public originally has a positive attitude when asked about the projects, however, changes to a more negative view once they are actually being conducted. This seems to be exactly what has happened in this case. The article from Rypeng & Eilertsen (2018) mentions that the municipality of Tromsø has made a complaint against the wind farm on Kvitfjell and Raudfjell. This is also something that can speak for the theory. The municipality in which the project is happening is very much a part of the close area, and can therefore be counted under the "not in my backyard" theory.

On the other hand, there are also some evidence that will suggest otherwise. Looking at the example from Frøya where the protesters showed up to the site as described in Solberg (2019), there were around 30 people who showed up. Among these were also people from other places than the local

area, meaning that there are individuals who opposed the wind park are also from other places in the country. The case from Vardafjell as described in Johnsen (2019) where Stavanger turistforening started making cairn fires in protest and this spread across the country to about 130 other cairn fire protests is also relevant here, because it spread to the rest of the country as well. It can therefore be argued that the not in my backyard theory has some faults. If the theory was correct, only people from the immediate area would be fighting against it, and everyone else would be welcoming of the wind projects, simply due to the fact that it was not happening in their local area. Therefore, the fact that other people from different parts of the country also make an effort to try to stop the development of the farms, may give the theory less credibility. It might suggest that the theory has some significance and indicators that people from the close area are more likely to be against the projects. On the other hand, the fact that such a large number of Frøya's population changed their minds and voted against the wind farm on the island after the project were already started, can give some credit to the theory. The full reason of resistance and opposition is, however, not necessarily limited to the NIMBY theory only, but also other factors. Here the theory of place attachment can serve as an alternative. If these two theories are combined, it might give a more thorough explanation, however, there are most likely other factors that will also play a part in deciding who are for and who are against a certain wind project.

As previously mentioned, Kraft & Clary (1991) argue that the public might look into the risks regarding their health as well as their welfare in a more thorough way than what the authorities and the corporations in charge of building the wind farms are doing. Previously overlooked issues can come to light and make a more comprehensive decision than if the potential issues were ignored or simply not thought of. It is after all the public who has to live in close proximity to the projects for the most part, and they are the ones most likely to be affected negatively if the issues have not been accounted for. It is just natural that they will have a different point of view than the ones who are only making the decisions, but do not have to live close to the farms. It is probably easier to look

only at the positive sides of wind power when you are not directly affected on a daily basis, compared to being affected in multiple areas of your life all throughout the day. The public might also be more skeptical because they are thinking of the possible side effects that can happen, no matter how small the risk, because they are the ones who have to deal with the consequences on a close hold if something does go wrong. This can be easily pushed to the side in favor of the positive outcomes for someone who lives in a different part of the country and who only will benefit from the projects.

Throughout the cases, it is shown that the opponents are also willing to go to extreme risks in order to try to stop the projects, even as far as endangering the lives of themselves and others to fight for what they believe is right. This goes to show that they are very invested, as well as willing to go to great lengths in order to stop the wind farm from further developing and being finished. An example is the case from Vardafjell where the group Motvind trespasses into the helicopter landing spot reported by Isachsen (2020). Other examples are the incident at Frøya described in Thoresen, Woll, Wolden & Pettersen (2020), where blasting mats and an excavator was burned by protesters. This could have serious consequences for the people involved if something went wrong with the fire and it got out of control, or if something exploded while they were still on the site. Another scenario is that someone else could have gotten hurt if they came to the area while this was happening to try to stop the fire.

One of the most serious protests were, however, described in Egge & Toftaker (2019) where a wind farm worker on Frøya was tried pushed off the road, and almost crashed into, by someone who was opposed to the building of the farm. The worker, as well as the man doing this, could have been seriously injured, or in the worst-case scenario even have been killed. This particular incident shows a lack of regard for human safety, and all their anger regarding the farm was taken out on

one single worker. It can here be argued that the demonstrators who are part of the group feel so strongly about their case that they are willing to hurt themselves and others, which is a clear indicator that stopping the wind farms is seen as a more important issue than the wellbeing and possible health risks to all involved parties that comes with these actions.

Another interesting factor when it comes to the discussion of wind power is the theory of political ecology. As reported in Karlsson (2018) this might cause a clash. On one hand there are the public population who feel like the nature where the wind farm projects are being worked on is something that belongs to everyone, and that there are no actors that have the right to take ownership over it and make altering decisions. On the other hand, the actors who are working on the wind projects feel like they have the right to make changes to the nature where they feel like it is in the greater good of the public. The reasoning is because wind power will help lower carbon emissions and therefore not further ruin the nature in the long run. The main problem is the mismatch in feeling of ownership over the nature seen here.

Looking at the question of ownership from the perspective of environmental justice as described in Gleeson & Low (2002) will give yet another side to the argument. This opens up for the fact that there are not only human voices to be heard, but that nonhumans are also a part of the world, and are entitled to a voice. In this case the focus is particularly on animals and plants due to them living in the areas where the wind projects are being developed. Building the wind farms will have huge consequences for the animals living in the area, their source of food might be limited, and the noise and maybe even unfamiliarity of the environment, can scare them away or possibly kill them. Plants will also have to be removed in order for the building process to proceed. One of the main arguments protesters of wind farms have is exactly regarding animals, and particularly birds in the area, according to Ellis, Barry & Robinson (2007). If animals and plants have a right to the nature

where the projects are being worked on, then it will be difficult to come up with an argument strong enough to justify taking the nature away from them like what is being done in the three cases.

However, it is all about perspective, and not everyone will agree that animals and plants have any rights or ownership over land. Therefore, this is something that might be difficult to discuss, because there are so many different stances regarding the issue.

The main goal from the protesters throughout the cases seems to be to slow down the building process enough for there to be legal action that will stop the wind farms from being finished. This looks like it is the case either by sabotaging equipment (Nærbø & Arnesen, 2019; Moe, 2019) or blocking the roads or site (Rypeng & Eilertsen, 2018). Even though the permission has already been given, the opponents might still hope that slowing the building process down will give them room for complaints that can change the status of the decision from approved to denied. As seen previously, there have been cases throughout the three projects of complaints where protesters have hoped would deny further development of the farms.

NTB Nyhetsbyrå (2019) reported that Motvind Sørvest blocked the way for builders to enter the site of Vardafjell. This was done while NVE were looking into a complaint from Sandnes municipality. Assumptions can therefore be made to suggest that the timing for the blockage was done so that the time would be stalled while the complaint were being treated. Motvind Norge also filed a complaint about Vardafjell wind park in order to try to stop the project, but as described in Hovland (2020), this did not go the way that they were hoping for. Links might also be drawn here that the aim was to stall the building with the court case. Their mission failed however, and they were not able to stop the project, but they did buy themselves some time.

Another way of showing resistance is by the Facebook groups that are made. Even though they are another way of showing resistance, the groups are able to give an idea of how big of an amount of

people who are actually against the wind farms. The numbers of members vary throughout the three cases, with the protest of Frøya wind farm clearly being the biggest one with around 15 000 members. The groups are made in order to protest, but they are also a way for the members to share news, as well as plan and inform about different protests that are going to take place in person, not just online. Regardless, the Facebook groups are a good way to come into contact with people who share the same views, to further share information with likeminded individuals, and to organize the protests in person.

Looking at the three wind farm cases there are both similarities and differences. When it comes to similarities, they all have groups that show resistance, both through social media and also in person protests. These protests are done either by organizations trying to stop the building, or by individuals doing the same. The tactics are also very similar, they focus on either complaints to higher up authorities to try to delay, or possibly stop, the projects or by physically trying to block the path and building site. When it comes to the differences, Isachsen (2020) mentions that the demonstration group Motvind uses words in order to create negative associations towards workers of the project at Vardafjell. This is something that is reported in this particular case, and even though negative language most likely happens online in the other cases as well, the fact that an organization is using these words instead of individuals is something that stands out. Another difference is the fact that Raudfjell and Kvitfjell were originally two different projects, but were combined because of their closeness in proximity. Both Vardafjell and Frøya were one project from the start, and have not been combined with any other. The people living at Frøya also got the chance to state their opinion through a referendum, even if it was a more symbolic one, it is more than what the people living near Vardafjell and Raudfjell and Kvitfjell got. Overall, the cases have many similarities, and there are only small details that differ between them.

7. Conclusion

7.1 Summary

There are different reasons why people of the public are opposed to wind farm projects. It can be due to place attachment, because they are feeling a sort of protectiveness over the area in question. It can then lose its meaning for them if a wind farm is being placed there. The not in my backyard theory is also an indicator that holds some significance. Throughout the cases it has been shown that people living in close proximity to the projects have a higher chance of being opposed, however, there are people from other locations that are also protesting.

Another side of the argument is explained by political ecology, where the public are against the fact that some actors are taking ownership over nature and making altering decisions that a large number of people disagree with. This will also extend to the fact that wildlife is being chased away or endangered because of the building process, or even the finished windmills. The presence of possible health risks regarding the building is something that is also concerning for the public, and a reason that some people are against the projects. The risks that the public are willing to go to in order to protest the farms are also varying in both size and degree of danger. The similarities that are present amongst the three cases also outweighs the very few differences that occur.

As seen throughout the thesis, there are different reasons as to why members of the public are protesting the planned wind farms, and they are willing to go to extreme lengths to show their disapproval. The common goal throughout the cases are all in all to get the projects stopped either by intimidation, complaints or sabotage. Even though none of the wind farms that have been examined in the thesis has been successfully stopped, there is still a will to try amongst opponents.

7.2 Answering the research questions

When it comes to the first research question “what factors can explain the Norwegian public’s opposition to wind power projects?”, there are a few explanations that can be drawn. Firstly, the fact that they do not want a place that has a special meaning for them to be changed, and therefore unrecognizable. This makes the place lose its significant meaning for the individual. Secondly, the fear of putting their health at risk if there is any contamination happening on the building site. This is especially the case for the people living close by a building site, they naturally are more worried than the people living further away who will not be affected if there is any contamination happening. And thirdly, there is the argument of not ruining nature for other nonhumans living in the area, animals and birds are the main focus here. The opponents do not want the animals and birds to be chased away from their homes or in the worst case, killed by the building or by the finished windmills.

The second research question is “what strategies are being employed by opponents of wind power in order to try to stop the projects?”, and there are also here a few different answers. There are people doing peaceful protests either online or in person. Multiple people have joined the Facebook opposition groups to show their stance on the case. There are also people who go to protests on the building site with signs. Another method that is commonly used is making complaints to higher authorities in order to stop the projects. There are also some people who take it a step further. Some ruin equipment that is needed in order to build the wind farms, others chain themselves to the equipment making it impossible to use. There are also a few that are putting their own lives, and the lives of the wind farm workers, in danger.

The final research question is “are there any commonalities and differences amongst the opponents for the three wind projects?” First looking at commonalities; all three wind farms have people protesting against them using different methods like complaints to higher authorities, or simply taking the action into their own hands by trying to destroy property or scare the workers. When it comes to differences there are not many. The only notable difference is the fact that the protest group Motvind used words with negative associations towards the workers at Vardafjell. The fact that an organization used these words, not individuals, is what is notably different.

7.3 Implications

As for implications of the thesis, it is able to shine light on some of the possible reasons why there is a strong opposition to wind power projects. Understanding the reasons for the protest is an important factor regarding policy making of future wind power projects. This can be crucial in deciding where to place new windmills. If there is an area in which the population is particularly connected, it might be beneficial not to choose this exact spot to build the windfarm. A better alternative would rather be an area which has already been altered, and therefore not have as many people feel the same close connection to it, and the nature preservative argument will likely not be as big of an issue.

This thesis can help people understand the reasons why people choose to protest or even sabotage wind power projects. This understanding can make it easier to prevent these scenarios. Dangerous situations can then be avoided, like the ones mentioned in the thesis. There is room for educating the opposition if the reasons are clear as to why they protest in the first place.

7.4 Limitations of the study

One significant limitation of the study is the fact that all the data is secondary sources. This makes it impossible to ask follow up questions to the actions and statements made in the articles that have been used. This will leave more room for the researcher to draw their own conclusions when the information is missing. The risk of drawing conclusions based on their own biases and connection of data and logic will in greater amounts be present throughout the study.

The fact that only three wind projects have been looked into in this study is something that gives limited cases to compare, and therefore it makes it harder to generalize the findings that are found to be similar between them. Even though there are similarities that are found between these particular cases, that does not mean that there are no other wind projects in Norway that show different characteristics when it comes to opposition. Had there been more cases to analyze the chances of finding differences would be higher, and might have given a more accurate picture of the protesters and further evidence to look into.

The Facebook groups could have been used more in order to get the unfiltered opinions of the protesters. In the news articles, there is more room for miscommunication between the parts, as well as censoring or exclusion of wordings and opinions that the journalists do not see fit for the article they are writing. By looking into specific posts in the groups, there could also have been other opinions that would have come to light and that could have benefited the thesis by giving more variation.

There could also have been more focus on local news sources in the thesis. The main focus has been on newspapers that cover news from the whole country, which means that important local cases

from the three locations could have been overlooked. It could also have been interesting to compare the way in which local news sources covered the cases compared to the ones from the whole country.

7.5 Further research

For further research it would be interesting to do an interview-based study where the opponents could go more into depth about their reasonings for being against wind farm projects than what has been done in this thesis. Another angle would be to do a comparative case study with cases from other countries than Norway, and then look at the possible commonalities and differences that exist amongst opponents of the countries. This would give a more broad perspective into the research and make it possible to look at generalizations between countries. It could also be beneficial to compare the public opinions that exist in countries that are far apart from each other and have different cultural values. For example using countries from different continents and see how their views differ from each other.

There could also have been made a survey made with questions related to oppositions adapted from the theories mentioned in the thesis, to reveal which theory best describes the point of view that the majority of the demonstrators relate with.

References:

Ackermann, T. (Ed.). (2005). *Wind power in power systems*. England: John Wiley & Sons

Aitken, M. (2010). Wind power and community benefits: Challenges and opportunities. *Energy policy*, 38(10), 6066-6075

Barry, J., Ellis, G., & Robinson, C. (2008). Cool rationalities and hot air: a rhetorical approach to understanding debates on renewable energy. *Global environmental politics*, 8(2), 67-98

Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The qualitative report*, 13(4), 544-559

Bjørntvedt, H. (2019, January 27th). Trøndere kjemper mot vindmøller på Frøya. *VG*. Retrieved from <https://www.vg.no/nyheter/innenriks/i/8w4Q0W/troendere-kjemper-mot-vindmoeller-paa-froeya>

Brannstrom, C., Jepson, W., & Persons, N. (2011). Social perspectives on wind-power development in West Texas. *Annals of the Association of American Geographers*, 101(4), 839-851

Brown, G., & Raymond, C. (2007). The relationship between place attachment and landscape values: Toward mapping place attachment. *Applied geography*, 27(2), 89-111

Devine-Wright, P. (2005). Beyond NIMBYism: towards an integrated framework for understanding public perceptions of wind energy. *Wind Energy: An International Journal for Progress and Applications in Wind Power Conversion Technology*, 8(2), 125-139

Devine-Wright, P. (2009). Rethinking NIMBYism: The role of place attachment and place identity in explaining place-protective action. *Journal of community & applied social psychology*, 19(6), 426-441

Devine-Wright, P. (2011). Place attachment and public acceptance of renewable energy: A tidal energy case study. *Journal of Environmental Psychology*, 31(4), 336-343

Egge, J. H., & Toftaker, J. (May 15th, 2019). Vindkraftarbeider skal ha blitt forsøkt presset av veien: – Følte livet var i fare. *NRK*. Retrieved from https://www.nrk.no/trondelag/vindkraftarbeider-skall-ha-blitt-forsokt-preset-av-veien_-_-folte-livet-var-i-fare-1.14552332

Ellis, G., Barry, J., & Robinson, C. (2007). Many ways to say 'no', different ways to say 'yes': applying Q-methodology to understand public acceptance of wind farm proposals. *Journal of environmental planning and management*, 50(4), 517-551

Escobar, A. (1996). Construction nature: Elements for a post-structuralist political ecology. *Futures*, 28(4), 325-343

Forsyth, T. (2004). *Critical political ecology: the politics of environmental science*. London: Routledge

Frøya kommune. (2020, March 9th). Fakta - Dette har skjedd - Frøya vindkraftverk 2002 - d.d.

Retrieved from <https://www.froya.kommune.no/tjenester/naring/froya-vindkraftverk/>

Gleeson, B., & Low, N. (2002). *Justice, society and nature: An exploration of political ecology*.

Abingdon: Routledge

Greenberg, J. B. & Park, T. K. (1994). Political ecology. *Journal of Political Ecology*, p. 1-12

Hellevik, O. (2002). *Forskningsmetode i sosiologi og statsvitenskap*. (7th ed.). Oslo: Universitetsforlaget

Hidalgo, M. C., & Hernández, B. (2001). Place attachment: Conceptual and empirical questions.

Journal of environmental psychology, 21(3), 273-281

Hovland, K., M. (2020, June 5th). Må betale 1,3 millioner i saksomkostninger: Motvind fikk ikke stanset Vardafjell. *E24*. Retrieved from <https://e24.no/olje-og-energi/i/BRgVRE/maa-betale-13-millioner-i-saksomkostninger-motvind-fikk-ikke-stanset-vardafjell>

Isachsen, Ø. (2020, June 15th). Ekstreme metoder i vindkraftdebatten. *VG*. Retrieved from

https://www.vg.no/nyheter/meninger/i/g7b4QB/ekstreme-metoder-i-vindkraftdebatten?fbclid=IwAR1Y5H_YFvRSn8luOV1mmNVEqb8tV0Vv_WoOkv7F17LvhzMdvpXmC03pUHs

Ja til vindkraft på Frøya. (2020, July 20th). Ja til vindkraft på Frøya [Facebook group]. Retrieved

from <https://www.facebook.com/groups/2013639028761988/>

- Johnsen, C. A. (October 8th, 2019). Tente varde på Dalsnuten mot vindkraftanlegg. *Stavanger Aftenblad*. Retrieved from <https://www.aftenbladet.no/lokalt/i/rA3nka/tente-varde-pa-dalsnuten-mot-vindkraftanlegg>
- Karlsson, B. G. (2018). AFTER POLITICAL ECOLOGY. *Anthropology Today*, 34(2), 22-24
- Karlstrøm, H., & Ryghaug, M. (2014). Public attitudes towards renewable energy technologies in Norway. The role of party preferences. *Energy Policy*, 67, 656-663
- Kontogianni, A., Tourkolias, C., Skourtos, M., & Damigos, D. (2014). Planning globally, protesting locally: Patterns in community perceptions towards the installation of wind farms. *Renewable Energy*, 66, 170-177
- Kraft, M. E., & Clary, B. B. (1991). Citizen participation and the NIMBY syndrome: Public response to radioactive waste disposal. *Western political quarterly*, 44(2), 299-328
- Krohn, S., & Damborg, S. (1999). On public attitudes towards wind power. *Renewable energy*, 16(1-4), 954-960
- Kvitfjell/Raudfjell Wind Farm News. (2020, July 20th). Kvitfjell/Raudfjell Wind Farm News [Facebook group]. Retrieved from <https://www.facebook.com/groups/149724569112749/>
- Moe, S. (2019, October 19th). Sandnes kommune klager på vindpark-konsesjon: Flere lovbrudd. *E24*. Retrieved from <https://e24.no/olje-og-energi/i/JoGw6R/sandnes-kommune-klager-paa-vindpark-konsesjon-flere-lovbrudd>

Moe, S. & Hovland, K., M. (2019, April 13th). Frøya-konsesjonen ligger fast: Vil ikke stanse omstridt vindpark. *E24*. Retrieved from <https://e24.no/olje-og-energi/i/MRA12J/froeya-konsesjonen-ligger-fast-vil-ikke-stanse-omstridt-vindpark>

Mot vindkraftindustri på Kvaløya. (2020 July 20th). Mot vindkraftindustri på Kvaløya [Facebook group]. Retrieved from <https://www.facebook.com/motvira/>

Nei til vindkraftverk på Frøya. (2020, July 20th). Nei til vindkraftverk på Frøya [Facebook page]. Retrieved from <https://www.facebook.com/groups/111043015716925/about>

Noble, H., & Smith, J. (2015). Issues of validity and reliability in qualitative research. *Evidence-based nursing*, 18(2), 34-35

Noor, K. B. M. (2008). Case study: A strategic research methodology. *American journal of applied sciences*, 5(11), 1602-1604

Norges miljøvernforbund. (2019, May 13th). Stopp utbyggingen på Vardafjellet i Sandnes, Rogaland. Retrieved from <https://www.nmf.no/2019/05/13/stopp-utbyggingen-pa-vardafjellet-i-sandnes-rogaland/>

Norheim, H. J. (2019, October 9th). Sandnes klager på Vardafjell vindkraft – vil at arbeidet skal stanses. *Stavanger Aftenblad*. Retrieved from <https://www.aftenbladet.no/lokalt/i/vQywJ4/sandnes-klager-pa-vardafjell-vindkraft-vil-at-arbeidet-skal-stanses>

NTB Nyhetsbyrå. (2019, November 11th). Demonstranter sperrer veien til vindkraftanlegg i Rogaland. Retrieved from <https://enerwe.no/vindkraft/demonstranter-sperrer-veien-til-vindkraftanlegg-i-rogaland/340749>

NVE. (2020a, March 5th). Mye vindkraftproduksjon i 2019, selv med mindre vind enn normalt. Retrieved from <https://www.nve.no/nytt-fra-nve/nyheter-energi/mye-vindkraftproduksjon-i-2019-selv-med-mindre-vind-enn-normalt/>

NVE. (2020b, April 21st). Vardafjellet vindkraftverk. Retrieved from https://www.nve.no/konsesjonssaker/konsesjonssak?type=A-6&id=147&fbclid=IwAR3mopgZl-LoP4_fJnah1VuYYq0gduA5ndusMPgTM7jJzJf3c0DYgK4otw-U

NVE. (2020c, May 8th). Raudfjell vindkraftverk. Retrieved from <https://www.nve.no/konsesjonssaker/konsesjonssak?id=90&type=A-1>

NVE. (2020d, May 11th). Kvitfjell vindkraftverk. Retrieved from <https://www.nve.no/konsesjonssaker/konsesjonssak?id=23&type=A-1,A-6>

NVE. (2020). Map over Frøya wind farm. Retrieved from <https://temakart.nve.no/tema/vindkraftverk>

NVE. (2020). Map over Raudfjell and Kvitfjell wind farm. Retrieved from <https://temakart.nve.no/tema/vindkraftverk>

NVE. (2020). Map over Vardafjell wind farm. Retrieved from <https://temakart.nve.no/tema/vindkraftverk>

Nærebø, A., F. & Arnesen, M. (2019, July 12th). Maskerte personer tok seg inn på vindkraftverket på Frøya. *VG*. Retrieved from <https://www.vg.no/nyheter/innenriks/i/9vxgz9/maskerte-personer-tok-seg-inn-paa-vindkraftverket-paa-froeya>

Rasmussen, E. (2019, April 2nd). 78,7 prosent sier nei til vindkraft i folkeavstemning. *Adresseavisen*. Retrieved from <https://www.adressa.no/nyheter/trondelag/2019/04/02/787-prosent-sier-nei-til-vindkraft-i-folkeavstemning-18784391.ece>

Ratner, C. (2002, September). Subjectivity and objectivity in qualitative methodology. In *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research* (Vol. 3, No. 3)

Rygg, B. J. (2012). Wind power—An assault on local landscapes or an opportunity for modernization?. *Energy Policy*, 48, 167-175

Rypeng, L. & Eilertsen, M. (2018, November 8th). Lenket seg fast: – Vindmølleparken må stoppes. *NRK*. Retrieved from <https://www.nrk.no/tromsogfinnmark/lenket-seg-fast-til-anleggsmaskin-i-protest-mot-vindkraftutbygging-1.14283498>

Rypeng, L. & Jensen, T. (2018, November 7th). Nord-Norges største vindmøllepark anmeldt for miljøkriminalitet. *NRK*. Retrieved from <https://www.nrk.no/tromsogfinnmark/tromso-ordforer-en-meget-alvorlig-sak-1.14280670>

Smith, E. R. A. N., & Klick, H. (2007, August). Explaining NIMBY opposition to wind power. In *Annual Meeting of the American Political Science Association* (pp. 1-19)

Solberg, K. (2019, July 25th). Vindmølleprotesten tar av. *Dagsavisen*. Retrieved from <https://www.dagsavisen.no/nyheter/innenriks/vindmolleprotesten-tar-av-1.1559002>

Stopp vindkraftutbygging på Vardafjellet, Rogaland. (2020, July 20th). Stopp vindkraftutbygging på Vardafjellet, Rogaland [Facebook group]. Retrieved from <https://www.facebook.com/groups/346565012662508/>

Stranden, I. L. (April 21st, 2020). Tiltalt for å ha skremt vindkraftarbeider. *NRK*. Retrieved from <https://www.nrk.no/trondelag/tiltalt-for-a-ha-skremt-vindkraftarbeider-1.14823151>

Thoresen, K. S., Woll, V., Wolden, O. R., & Pettersen, J. (April 21st, 2020). Sprengningsmatter og gravemaskin nedbrent på Frøya: – Minner om scener fra Libanon. *NRK*. Retrieved from https://www.nrk.no/trondelag/sprengningsmatter-og-gravemaskin-nedbrent-pa-froya_-_minner-om-scener-fra-libanon-1.14874018

Trønderenergi. (2020, May 5th). Frøya vindpark. Retrieved from <https://tronderenergi.no/vind/froya>

Wolsink, M. (2000). Wind power and the NIMBY-myth: institutional capacity and the limited significance of public support. *Renewable energy*, 21(1), 49-64

Wolsink, M. (2007). Wind power implementation: the nature of public attitudes: equity and fairness instead of 'backyard motives'. *Renewable and sustainable energy reviews*, 11(6), 1188-1207

Zaunbrecher, B. S., & Ziefle, M. (2016). Integrating acceptance-relevant factors into wind power planning: A discussion. *Sustainable cities and society*, 27, 307-314

Zografos, C., & Martínez-Alier, J. (2009). The politics of landscape value: a case study of wind farm conflict in rural Catalonia. *Environment and Planning A*, 41(7), 1726-1744

Øvrebø, O. A., (2020, March 6th). Opp 43 prosent: Enda en rekord for norsk vindkraft. *Energi og Klima*. Retrieved from <https://energiogklima.no/nyhet/datakilder/status-for-vindkr>